

# INNOVATION, UNCERTAINTY, AND STABILITY IN ANTITRUST LAW

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## ABSTRACT

This Article discusses challenges courts face in assessing antitrust claims in which a party alleges that a defendant's conduct limited the rate or extent of innovation. The Article first establishes that we know little about the optimal length and scope of intellectual property protection, or about the relationship between market structure and innovation. Uncertainty on these points makes it difficult to predict the economic consequences of decisions in antitrust cases in which a defendant who possesses intellectual property rights is alleged to have harmed innovation.

The Article then briefly surveys the history of the Sherman Act and the Cellar-Kefauver Amendments to the Clayton Act. The history of the former suggests that Congress failed to resolve conflicts among economic interests affected by the antitrust laws, leaving such a resolution to the courts. The history of the latter suggests that Congress eventually chose to use merger policy to protect small firms. The Supreme Court tried to implement this policy choice in merger cases during the 1960s. The Court ultimately failed to create a body of cases that satisfied the minimum standards of common-law adjudication, however. In particular, the Court was unable to decide cases using reasons that lawyers and clients could apply to future transactions with reasonable reliability. The interests of particular firms were not a reliable proxy for the interests of consumers, or social welfare generally, and the Court eventually had to return to a more context-based approach.

The Article draws a limited analogy between the merger cases of the 1960s and the problem courts face in innovation cases. Both types of cases require projections about future market conditions. Though economic analysis and antitrust policy have evolved significantly since the merger cases of the 1960s, innovation cases will require courts to take into account the interests of particular firms or institutions whose innovative work is alleged to have been harmed through anticompetitive acts.

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Without particular innovators to provide concrete evidence of the alleged harm, innovation cases are likely to be unmanageable. Courts must therefore take such interests into account without returning to a version of antitrust policy that seeks to protect particular firms.

The Article offers several recommendations to assist in this effort. The first is that courts should not attempt to use the antitrust laws to limit the economic power Congress has granted in intellectual property rights. In practical terms, this means that unilateral, unconditional refusals to license protected works should not be held to be a violation of the antitrust laws. Joint or conditional refusals should be subject to antitrust scrutiny where the facts warrant it. Courts should also interpret antitrust laws to advance the goal of maximizing total surplus, also to reduce the chance of doctrinal conflicts between the antitrust and intellectual property laws.

In addition, in all but exceptional cases courts should require evidence of harm to innovation generally, rather than only to particular firms. In considering the question of causation in monopoly maintenance cases, courts should take into account the structure of the market, the type of claim advanced, and the feasibility of tailored remedies. The degree to which technology facilitates transitions among products and product generations is also relevant to such claims. Last, remedies in antitrust innovation cases should be tailored to reflect market structure and the strength of the evidence on causation.

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## I. INTRODUCTION

What should we do when we are not sure what to do? With slight variations, this question could describe many of the choices lawyers and judges must make. Uncertainty about the consequences of judicial decisions is the norm, not the exception. Dealing with such uncertainty is at the heart of the relationship between antitrust law and innovation in intellectual property markets. In greatly simplified terms, there are two ways of looking at this problem.

The first way to approach the problem is to focus on how little we know either about the returns necessary to induce investment in creative works or the market structure most congenial to innovation. We do not know the optimal term or scope of the patent or copyright laws.<sup>1</sup> Congress has decided that some protection, implying the possibility of some market power, is necessary to give persons and firms the incentive to create and market works. Some of these works will be innovations.

Absent intellectual property protection, other firms could free ride on the innovator's work.<sup>2</sup> For much intellectual property, most costs are incurred in perfecting the initial copy of the work. Copying the original is cheap, implying low marginal costs and also implying that free-riding would be easy, possibly undercutting incentives to innovate. Intellectual property has also traditionally been classified as a public good; intellectual property rights provide the legal basis for excluding others from a creator's work, which in turn allows the creator to charge for the work.<sup>3</sup>

Probably no single term or scope of rights is best for the wide range of works covered by the relevant intellectual property statutes. We do not know enough about each category of works to derive multiple optimal

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1. In this context, optimal intellectual property rights are those for which the term and scope are such that the marginal gains in creative work exceed the marginal social costs of excluding the public from access to innovative work plus the administrative costs of the rights system.

2. ROBERT P. MERGES ET AL., INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE 12-13 (2d ed. 2000).

3. *Id.*

terms, however, and laws must be enforced by administrators and judges. A menu of different terms would create problems of classification, increase the cost of administration, and decrease the certainty of the return structure from the perspective of a potential investor. These effects would increase the risk associated with work protected by intellectual property rights and thereby reduce investment. Uncertainty on these topics is probably going to persist.

Nor are we certain about which market structure best facilitates innovation.<sup>4</sup> Schumpeter argued persuasively that some market power is necessary for innovation.<sup>5</sup> Innovation requires investment. Competition increases the riskiness of the investment by reducing the probability of successful exploitation. Market power enables innovators to reap significant returns from investment, coordinate work and the use of the innovation, and have a ready source of capital (retained earnings) to fund research and development ("R&D"). All this allows the innovator with market power to amortize R&D costs and align investment incentives and returns.

In contrast, Arrow argued persuasively that competition promotes innovation better than monopoly.<sup>6</sup> Monopolists may resist innovation that would supplant their monopoly. Firms in competitive markets maximize profits at higher levels of output than monopolists, thereby spreading the benefits of innovation more broadly through society. Other analysts, such as F.M. Scherer, have argued that monopolists prefer incremental innovation to radical improvement, and tend to innovate mostly in reaction to new ideas from smaller firms.<sup>7</sup> On balance, as Gilbert and Sunshine say,

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4. Opinions vary on how much progress a work must embody before it is considered an innovation, or even creative enough to warrant intellectual property protection. Debates over what level of progress is necessary for a work to receive intellectual property protection highlight a point made more fully in Part III.C.1: antitrust and intellectual property laws rest on different methodologies. Antitrust has no tools to measure what amount of progress is necessary to justify the social costs of intellectual property protection. In this Article, I use innovation broadly, to refer both to incremental advances over existing technology and radical improvements in existing technology. In both cases, the term designates the creation of new capabilities or steps that allow for the more efficient use of existing capabilities.

5. JOSEPH A. SCHUMPETER, CAPITALISM, SOCIALISM AND DEMOCRACY, ch. VIII (3d ed. 1950).

6. Kenneth J. Arrow, *Economic Welfare and the Allocation of Resources for Invention*, in THE RATE AND DIRECTION OF INVENTIVE ACTIVITY: ECONOMIC AND SOCIAL FACTORS 609 (1962).

7. E.g., F.M. Scherer, *Antitrust, Efficiency, and Progress*, 62 N.Y.U. L. REV. 998 (1987). For a recent survey of the debate, see Richard J. Gilbert & Stephen C. Sunshine, *Incorporating Dynamic Efficiency Concerns in Merger Analysis: The Use of Innovation Markets*, 63 ANTITRUST L.J. 569, 574-81 (1995).

theories of the relationship between market structure and innovation "provide a wide range of predictions, making it difficult to make strong conclusions . . . . The impact of competition on innovation furthermore depends on many firm and industry-specific factors that complicate the task of making such predictions."<sup>8</sup>

By focusing on our lack of knowledge, this first approach implies minimalist antitrust enforcement. Because antitrust is about market structure, and the manner in which property rights are exploited, ignorance of how these variables are related to innovation is fatal to intelligent analysis. Courts might arrive at correct decisions, but it would be through luck rather than determinate analysis. Judges (or juries) also might be wrong, which would reduce welfare by prohibiting efficient practices. Judge Easterbrook has argued for many years that costs from bad decisions (efficient conduct condemned) are higher than benefits from good decisions (inefficient conduct condemned).<sup>9</sup> On this view, perhaps judges should borrow from the Hippocratic oath and dismiss antitrust cases in which the plaintiff alleges nothing more than harm to innovation.

There is something to these arguments, though perhaps not as much as is sometimes claimed. We indeed know very little about the operation of the variables most important to the intelligent analysis of innovation and competition in works protected by intellectual property rights. Uncertainty is even more acute when courts attempt to measure harm by a reduction in the likelihood that innovation will succeed, a harm that was central to the analysis in *United States v. Microsoft Corp.*<sup>10</sup> The conclusion that courts should do little or nothing is debatable for a variety of reasons, but its premises are certainly defensible.

The second way to approach the problem also recognizes that information about market structure, intellectual property rights, and innovation is imperfect. The essence of this argument is that imperfect information cuts both ways. We may not be confident that antitrust suits enhance innovation, but we cannot be confident that they retard it either. We may not be confident that a particular innovation would have succeeded absent anti-competitive conduct, but neither can we be confident that it would have failed. To decide for or against the use of antitrust law to promote innova-

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8. Gilbert & Sunshine, *supra* note 7, at 576.

9. E.g., Frank H. Easterbrook, *Allocating Antitrust Decisionmaking Tasks*, 76 GEO. L.J. 305 (1987); Frank H. Easterbrook, *On Identifying Exclusionary Conduct*, 61 NOTRE DAME L. REV. 972 (1986); Frank H. Easterbrook, *The Limits of Antitrust*, 63 TEX. L. REV. 1 (1984).

10. 87 F. Supp. 2d 30 (D.D.C. 2000).

tion, either in general or in particular cases, requires more analysis than simply pointing to our lack of knowledge.

Indeed, it is not fair to compare the uncertainty facing courts in antitrust cases with an imagined world of certainty in other fields of law. We do not know marginal deterrence rates of criminal penalties either, or whether the value created by marginal disclosures induced by the attorney-client privilege exceeds the harm caused by protecting the information from discovery. Because uncertainty is the rule, not the exception, it does a poor job of distinguishing between cases in which the law should defer to private ordering and cases in which laws should be enforced aggressively.<sup>11</sup>

Antitrust law presents a special case, not because we have better knowledge about the consequences of other rules, but because the language of the antitrust laws is expansive enough to sustain a wide range of interpretations. That the statutory language will accommodate a large degree of judicial risk aversion does not imply that the language compels it, however. Nor does the capacious language imply that judges should place risk aversion ahead of other values the language might embody. The risk aversion approach outlined above rests ultimately on the empirical claim that markets correct market failure more quickly and surely than courts. Though this is an empirical question, we are unlikely to get conclusive answers.

As a general matter, markets almost certainly do correct market failures faster and more surely than courts. General statements about average outcomes imply, at a minimum, a healthy degree of skepticism in the ability of judges to better market outcomes. But general propositions rarely decide particular cases. One would hope that judges trying to craft a sensible and coherent body of law within the broad confines of the antitrust statutes would at least keep an open mind to data and analysis relevant to the possibility of welfare-enhancing judicial intervention. Where the facts of a particular case suggest that the general statement may not hold, it certainly should not bar further inquiry.

The claim that markets fix market failures better than courts rests on some premise about individual contracting behavior. If individual contracting behavior resembles the model of perfect competition, markets do better than courts almost by definition. Increased prices will induce substitution, or entry followed by substitution, and market power will evaporate. But few markets resemble the model very closely. Externalities are the

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11. For a similar argument, see Herbert Hovenkamp, *Rhetoric and Skepticism in Antitrust Argument*, 84 MICH. L. REV. 1721 (1986).

norm, not the exception.<sup>12</sup> What happens when contracting decisions are not atomistic and economies of production and consumption are high?

For example, network effects suggest that individual contracting decisions are influenced by the choices or expected choices of others. One might prefer the MacOS to Windows but choose Windows anyway because of the greater array of applications available for it, and that greater array exists because software developers write first for the largest installed base of consumers. Judicial intervention might be worse than judicial abstention in this sort of feedback-influenced contracting, but the conclusion is at least not self-evident. Comparing imperfect judicial decisionmaking unfavorably with hypothetical contracting under conditions of perfect competition is little more than a variation on the Nirvana fallacy.<sup>13</sup>

Perhaps we know enough about market structure to make some informed judgments. A monopolist might readily fund R&D through retained earnings, for example, but there is no reason why that is a better source of funding than venture capital. If anticompetitive conduct is allowed to run free without any check from competition policy, we have to worry about capital markets as well as product markets. Will investment flow only to firms that do not compete with a dominant player, or to firms that wish only to be acquired by a dominant player, rather than focusing on radically innovative technology? Might not rigorous enforcement of the antitrust laws be necessary to give confidence to investors in a way similar to the confidence we attribute to the disclosure and antifraud provisions of the securities laws?<sup>14</sup> Perhaps we do not know that such claims are right, but neither do we know that they are wrong. They are at least grounded in economic analysis of irrelevant variables.

Anecdotal evidence suggests that innovation from dominant firms has tended to be in reaction to new ideas from new entrants.<sup>15</sup> Should we be sanguine about the rate of progress if entrants may be drawn and quartered at the will of an incumbent firm? There is wide consensus that antitrust

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12. MICHAEL J. TREBILCOCK, THE LIMITS OF FREEDOM OF CONTRACT 58 (1993) ("The problem of third-party effects from exchange relationships is pervasive and not aberrational.").

13. The Nirvana fallacy occurs when an advocate tries to support a claim only by pointing out the flaws in an institution, system, or procedure without also comparing the subject of the criticism to available alternatives. Put differently, it is the fallacy of forgetting that comparative advantage is the only kind.

14. *E.g.*, United States v. O'Hagan, 521 U.S. 642 (1997).

15. Scherer, *supra* note 7, at 1014-15. By durable monopoly in the present context, I have in mind a firm with market power that persists across multiple product generations or types of products performing particular functions.

policy exists to promote the efficient use and allocation of resources, including through innovation. This goal implies that antitrust does not exist to aid competitors, including new firms that may be radical innovators. But if we believe there is at least some relationship between market structure and the rationality of various forms of conduct, can competition policy remain totally indifferent to structure? Should we not at least consider whether structural elements present opportunities for welfare-reducing strategic behavior?

On this view, imperfect information does not imply total ignorance, nor does it imply that all choices based on imperfect information are equally risky. While one might not be able to choose, in theory, between perfect competition and monopoly as the structure most conducive to innovation, there is a loose consensus that something short of durable monopoly is likely to produce the best results.<sup>16</sup> Judgments on such matters may be difficult and uncertain, but someone will make them. Flat assertions either way are likely to rest as much on ideological predisposition as on evidence. What is required is the articulation of a theory on which antitrust intervention may be said to have a positive net present value.

The rejoinder to this defense of antitrust is that it is based on wishful thinking and hubris only slightly less flawed than the Nirvana fallacy. Capital markets might assign a positive value to the antitrust laws, but then again they might not. Are we sure that more business plans are funded on the theory that the new firms will out-innovate a dominant firm than receive funding on the theory that they will be bought by the dominant firm? Perhaps the dominance of a firm increases venture money by decreasing risk. When a leading student of the problem confesses with admirable candor that his fears that strong incumbent responses to entrant innovation would eventually deter entry "have been more wrong than right,"<sup>17</sup> we must ask how much cost we should let judges inflict to as-

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16. For an overview of the debate, see F.M. SCHERER & DAVID ROSS, INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE 660 (3d ed. 1990). For an overview linking efficiency considerations to antitrust policy, see Scherer, *supra* note 7. For some useful studies, see, for example, Glenn C. Loury, *Market Structure and Innovation*, 93 Q.J. ECON. 395 (1979); F.M. Scherer, *Research and Development Resource Allocation Under Rivalry*, 81 Q.J. ECON. 359 (1967); Oliver E. Williamson, *Innovation and Market Structure*, 73 J. POL. ECON. 67 (1965).

17. Scherer, *supra* note 7, at 1015. The statement is worth quoting in full:

The principle is simple: if a market-dominating incumbent regularly reacts with all guns blazing to interlopers offering improvements over its own products' performance, sooner or later would-be challengers will get the message and stop trying. When that happens, pace-forcing challenges will cease and progress will slow. I have long feared that

suage the suspicions of regulators or satisfy the rent-seeking of competitors.

A reply might be that aggressive responses by incumbent firms mean that the rate and direction of innovation will continue to be influenced, if not controlled, by the incumbent. Such control might lead to stagnation and a reduction in output compared to what could be achieved by innovation outside the incumbent's domain. The rejoinder to this is, of course, that unless prospective entrants are in fact intimidated into quiescence, the risk of such losses is lower than the risk that antitrust enforcement will impede innovation by the incumbent through antitrust enforcement. Why would a rational incumbent forego a profitable innovation? The anecdotal history is more of incumbents aggressively embracing new technology than of suppressing it to protect an existing position.

Is society any worse off if a dominant firm buys innovations rather than producing them internally? Society still gets the innovation, and consumers arguably benefit from whatever efficiencies, such as economies of scale in production or consumption, the dominant firm enjoys. Whether to innovate in-house, acquire a firm that owns an innovation, or license technology without acquiring the firm is a decision dictated by the relative costs of the different types of transactions. To complain that an IBM or a Microsoft acquires innovations rather than produces them is simply to mistake firms for persons rather than the complex nexus of contractual relations that they really are.<sup>18</sup>

And what about bargaining? Increasing the strength of intellectual property rights might have ambiguous results for innovation; subsequent innovation might not occur because it would infringe on earlier work. Bargaining is at least possible, however, particularly if an entrant has a valuable but potentially infringing innovation. Strategic behavior might render bargaining costly, though, eating up the gains from innovation or even causing negotiations to fail. Ex ante contracting might alleviate these problems, as in a profit sharing or joint venture relationship, but these

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IBM's "fast second" behavior would cause this to happen. But at least thus far, I have been more wrong than right. Probably because the underlying knowledge base is so rich, constantly spewing forth new possibilities, the stream of would-be challengers has not dried up. They keep coming and coming. If my fears continue to be unfounded, then the courts probably made the "right" decisions in the plug-compatible peripherals and computer leasing cases. Yet nagging doubts remain.

*Id.*

18. See Ronald H. Coase, *The Nature of the Firm*, in THE FIRM, THE MARKET, AND THE LAW 33 (1988).

types of ex ante contracts present antitrust questions of their own.<sup>19</sup> If antitrust makes ex ante bargaining over subsequent innovation difficult, it might do more harm than good.<sup>20</sup>

So imperfect information and logical indeterminacy are hard problems that antitrust law has to confront if it wishes to enhance welfare by facilitating innovation. What, then, should we do? An advocate of the first approach would say that, since both sides admit at least some level of ignorance on variables both sides agree are vital to sensible analysis, then those who claim that antitrust intervention may promote innovation bear the burden of proof. Plain-vanilla enforcement is all that is warranted, and it has little to say on most innovation questions.

Skepticism about the ability of antitrust to promote innovation is warranted by the difficulty of the problem and the uneven history of courts and enforcement officials in enhancing welfare through antitrust. But skepticism is not surrender. It instead demands nothing more than a clear-eyed look at evidence of market structure and behavior, and rigorous analysis of the implications of both for social welfare.

As a practical matter, debates about judicial enforcement of the antitrust laws boil down to debates on the presumptions, heuristics, filters, rules of thumb, or whatever term the reader may prefer, that judges use to make sense of the conduct before them and to assess the likely consequences of their decisions. Judges have no choice but to economize on the cost of information posed by the complex relations among market structure, strategic behavior, the financial economics behind intellectual property rights, and the marginal-cost pricing emphasis of antitrust. Judges' time and other resources are scarce as well.<sup>21</sup>

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19. See U.S. Dep't of Justice & FTC, Antitrust Guidelines for the Licensing of Intellectual Property § 1.0 (1995), <http://www.usdoj.gov/atr/public/guidelines/ipguide.htm> (Apr. 1995) [hereinafter IP Licensing Guidelines]; U.S. Dep't of Justice & FTC, Antitrust Guidelines for Collaborations Among Competitors § 2.1 (1995), <http://www.ftc.gov/os/2000/04/ftcdojguidelines.pdf> (Apr. 2000).

20. E.g., Suzanne Scotchmer, *Cumulative Innovation in Theory and Practice*, at [http://socrates.berkeley.edu/~scotch/cum\\_r&d.pdf](http://socrates.berkeley.edu/~scotch/cum_r&d.pdf) (Feb. 1999).

21. Professor Llewellyn discussed the point in typically insightful terms. See K. N. Llewellyn, *The Effect of Legal Institutions Upon Economics*, 15 AM. ECON. REV. 665 (1925). It is true that most judges probably will not grasp the complexity of game-theoretic models of behavior, which some have argued are not useful to policy analysis because they yield no strong predictions. E.g., Sam Peltzman, *The Handbook of Industrial Organization: A Review Article*, 99 J. POL. ECON. 201, 208-09 (1991). For better or worse, however, the point is generalizable. Most busy district court judges would have little interest in the relatively straightforward graphs of price theory, which might seem as exotic to them as any game-theoretic analysis. (I do not mean this as a criticism. A judge

Regardless whether one believes that economics is a science, law is not. It is a social discipline, or perhaps more precisely, a combination in applied form of various social disciplines, and rests ultimately on theories of human behavior. Judges tend to cope with the variety of behavior they see, and the different contexts in which they see it, by invoking strong rational actor assumptions. Antitrust in the courtroom involves explaining incentives and rational behavior in particular economic contexts, and drawing inferences from the predictions the rational actor assumption generates.<sup>22</sup> Antitrust is not formal modeling, but it is consistent with approaches that emphasize strategic behavior, which courts concerned about applying the antitrust laws will therefore take into account.

Judicial presumptions and rules of thumb are influenced not only by the varied purposes of the antitrust laws and the complexity of the cases, but also by the demands of the judicial office and the requirements of coherent common-law decisionmaking. The interesting legal questions having to do with antitrust and innovation, therefore, involve the articulation of principles and standards judges can apply to evaluate information relevant to the purposes of the antitrust laws in a way that allows judges to develop a body of law that is consistent with the goals of antitrust and is internally consistent as well.

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who hears arguments in an antitrust matter during the hour or two each week she can devote to law and motion practice, and who has thirty other matters in different fields of law to hear during the same time span, cannot be expected to be an expert in each field. A law professor or economist asked to rule on a question of criminal law, trademark law, contract law, corporate law, immigration law, employment law, a habeas petition, and a social security dispute within the space of forty-five minutes would be hard-pressed to do better, on average, than a district judge.) That judges have limitations on their ability to grasp formal economic theory is too strong an argument to be useful in distinguishing among claims and cases.

22. Most practicing lawyers will understand this point. For a good example, see *United States v. Microsoft Corp.*, 87 F. Supp. 2d 30, 37 (D.D.C. 2000) ("[O]ver the past several years, Microsoft has comported itself in a way that could only be consistent with rational behavior for a profit-maximizing firm if the firm knew that it possessed monopoly power, and if it was motivated by a desire to preserve the barrier to entry protecting that power."); *id.* at 38 ("Proof that a profit-maximizing firm took predatory action should suffice to demonstrate the threat of substantial exclusionary effect; to hold otherwise would be to ascribe irrational behavior to the defendant."); *id.* at 42 ("[T]hese sacrifices could only have represented rational business judgments to the extent that they promised to diminish Navigator's share of browser usage and thereby contribute significantly to eliminating a threat to the applications barrier to entry."); *id.* at 44 ("Microsoft has expended wealth and foregone opportunities to realize more in a manner and to an extent that can only represent a rational investment if its purpose was to perpetuate the applications barrier to entry.").

In this Article, therefore, I focus on the questions of law and policy that must be resolved if courts are to deal coherently with the concept of innovation as a theory of harm sufficient to state an antitrust claim. My main point is that the analytical tools judges use to assess innovation claims have to be reasonably consistent over different types of claims and cases. At a minimum, this requires that judges evaluate such claims using a total surplus standard, meaning that they are indifferent as between the welfare of consumers and producers, preferring only the set of rules that maximizes welfare overall. The particular doctrines relevant to assessing innovation claims, such as doctrines of causation and the fit between violations and remedies, must also be governed by a total surplus mandate.

The coherence requirement and the total surplus mandate together imply several things for particular cases. In particular, they imply: (1) antitrust should not penalize unilateral refusals to license technology but should review conditional refusals generally under the rule of reason; (2) courts applying antitrust regulation should explicitly seek to increase total surplus; (3) courts evaluating innovation claims should demand evidence of harm beyond harm to particular firms; (4) causation analysis in innovation cases should take into account the structure of the market, the type of claim advanced, and the feasibility of tailored remedies; (5) technology facilitating transition among products and product generations should be favored; and (6) remedies should reflect market structure and the strength of the evidence on causation.

The last four recommendations describe questions that judges should ask in order to develop a coherent body of antitrust innovation law. The recommendations embody analytical approaches, not bright-line rules. Real world antitrust litigation is too complex and messy for bright-line approaches to such difficult issues as causation. These recommendations, which I discuss in detail in Part III, are designed to help judges analyze claims that welfare has suffered because innovation has been impeded.

Taken together, these recommendations suggest that courts in innovation cases reject the protection of particular firms and traditional populist notions under which harm to such firms either establishes or nearly establishes antitrust liability. In other words, courts should not try to protect innovators in the name of protecting innovation. To do so both contradicts an emphasis on overall welfare and is likely to undermine the stability antitrust needs to function as a viable common-law system of regulation.

Part II of this Article traces some antitrust history relevant to the problem of judicial predictions of future harm based on current market structure. Part II.A shows that the Sherman Act was not passed to promote innovation, may in fact have been prompted by a fear of innovation, and

does not give judges clear policy choices among the interests that trade off in the relevant cases. Part II.B discusses the Cellar-Kefauver Amendments to the Clayton Act, in which Congress attempted to protect small firms but did not embody that mandate in the relevant statutory language. Part II.C explains how the Supreme Court's effort to make sense of small-firm antitrust policy led to costly and counterproductive decisions that undermined the status of the antitrust laws as a respectable body of common-law rules.

In particular, Part II draws a limited parallel between the merger cases of the 1960s, particularly the doctrine of incipency, and the structure of antitrust innovation claims today. I emphasize at the outset that the parallel is a limited one. Among other differences, the economic analysis brought to bear on modern cases is more sophisticated and better-suited to the judicial process than was the case with the approach enforcement officials took in the 1960s, which focused largely if not exclusively on market structure. Competition policy as a whole has benefited from the unhappy experience of that decade. But the problem of predicting future performance from current structure and conduct persists, as do the risks that undermined the Court's effort to develop a coherent body of antitrust law aimed at protecting the welfare of small firms.

Part III draws on this historical discussion to offer some recommendations to assist in the development of a coherent body of innovation-based antitrust law. Part III.A summarizes some of the difficulties in correlating market structure and innovation. Part III.B discusses some particular points in the context of the district court's findings in *United States v. Microsoft*. Part III.C discusses the recommendations listed above.

## II. A BRIEF AND HIGHLY STYLIZED HISTORY OF SOME OF ANTITRUST'S PURPOSES

It is the unlawful combination, tested by the rules of common law and human experience, that is aimed at by this bill, and not the lawful and useful combination.<sup>23</sup>

The Sherman Antitrust Act and the cases interpreting it are an interesting mixture of statutory interpretation and common-law decisionmaking. The legal process and its constraints strongly affect the way judges can and will approach claims of harm to innovation. I therefore begin with a brief discussion of the Act's legislative history and purposes. This conventional, if not retrograde, approach is a reminder of the ambivalence the

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23. 21 CONG. REC. 2460 (Mar. 21, 1890) (speech of Sen. Sherman), reprinted in 1 KINTNER, FEDERAL ANTITRUST, LAWS AND RELATED STATUTES 116 (1978).

Sherman Act embodies. I do not contend that this history answers any questions about how to treat modern innovation claims. I do believe that a brief review of the context surrounding the Sherman Act and the Cellar-Kefauver Amendments to the Clayton Act will focus our attention on the challenges courts face in applying the antitrust laws to innovation claims.

The Sherman Act's history suggests that the open-ended language of that statute embodies a wide array of interests a court might choose as the purpose the law seeks to advance. This familiar point contrasts with Congress's relatively clear intention in the Cellar-Kefauver Amendments to advance the interests of small firms, and to do so by trying to stop market concentration in its "incipiency." Courts trying to implement this intention found themselves imposing significant costs on consumers and small firms that were not mandated by the statutory language. These same courts found themselves unable to write opinions that collectively satisfied the minimal standards of coherence and predictability necessary to sustain a regime of common-law adjudication.

#### A. Senator Sherman's Act

The Sherman Act was not passed to promote innovation. At the most general level, Congress passed the Act because Congress was concerned that large firms or groups of firms were doing bad things. That the Act was passed does not imply as much consensus as one might expect on what those bad things were, or even on what sort of things counted as "bad." It does not follow that Congress had nothing on its collective mind when it took up the Act, however.<sup>24</sup>

Considerable evidence supports a public-choice explanation of the statute. This theory holds that Congress was worried that farmers and small firms were being squeezed by the market position and superior efficiency (lower costs) of larger firms and combinations. Congress intended

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24. Richard Hofstadter offers one perspective on this point:

Men who used the vaguest language when they talked about "the trusts" and monopolies, who had not thought through the distinction between size itself and monopolistic practices, who had found no way of showing how much competition was necessary for efficiency, who could not in every case say what competitive acts they thought were fair or unfair, or who could not state a rational program that reconciled their acceptance of size with their desire for competition, were reasonably clear about what it was that they were trying to avoid: they wanted to keep concentrated private power from destroying democratic government.

Richard Hofstadter, *What Happened to the Antitrust Movement?*, in THE PARANOID STYLE IN AMERICAN POLITICS 205-06 (1965).

the Sherman Act to protect these small players from more efficient competitors.<sup>25</sup> Congress also was concerned that large firms might raise prices to consumers. This concern may have been less keen than congressional concern for farmers or small dealers, however, because consumer interests were more diffuse and less-well represented in congressional counsels. And there is reason to question the degree to which concern over prices actually mattered. As Professor Hovenkamp says, "the firms against which Congress directed its wrath, big oil and big sugar refining, showed extreme reductions in cost and prices during the previous decade, making it almost certain that the intent was to protect small business from more efficient competitors."<sup>26</sup> Lower consumer prices were a constant theme of the debates, however, and there is no basis for concluding that Congress was hostile or even truly indifferent to consumer welfare.<sup>27</sup>

Because Congress focused on economic effects and their political implications, the legislative history relevant to innovation is as ambiguous and infused with ideology and interest-group politics as it is on most other points.<sup>28</sup> The groups advocating a federal law to complement the several state statutes passed in 1889 and 1890 were complaining of economic conditions caused largely by innovation and the increasing adoption and widening influence of technology.<sup>29</sup> For example, expansion of rail lines

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25. See, e.g., Herbert Hovenkamp, *The Robinson-Patman Act and Competition: Unfinished Business*, 68 ANTITRUST L.J. 125, 130 (2000) ("The legislative histories of the Sherman Act, the Clayton Act, and certainly the 1950 Amendments to Section 7 of the Clayton Act were fairly dominated by a fear of big business that we would today regard as exaggerated, and by a strong desire to protect small business from the ravages of excessive competition.").

26. *Id.* at 131.

27. A term I use in the conventional sense of consumer surplus and not in the manner employed by Judge Bork, which corresponds better to the welfare concept of allocative efficiency than to the narrower concept of consumer surplus. Some members of Congress appeared to believe that low prices in industries controlled by "trusts" were a temporary phenomenon, and that the trusts would raise prices once small-firm competition had been stamped out. *See id.* at 131 ("[M]any of these members of Congress may have believed that low prices by large firms would eventually drive out small business and produce higher prices. But their fears were exaggerated and, in any event, the phenomenon that triggered their concern was low prices, not high ones.").

28. *See generally* Robert H. Lande, *Wealth Transfers as the Original and Primary Concern of Antitrust: The Efficiency Interpretation Challenged*, 34 HASTINGS L.J. 65 (1982); George J. Stigler, *The Origin of the Sherman Act*, 14 J. LEGAL STUD. 1 (1985); *see also* Robert H. Lande, *Chicago's False Foundation: Wealth Transfers (Not Just Efficiency) Should Guide Antitrust*, 58 ANTITRUST L.J. 631 (1989).

29. On state adoption of antitrust laws, see Donald J. Boudreaux et al., *Antitrust Before the Sherman Act, in THE CAUSES AND CONSEQUENCES OF ANTITRUST: THE PUBLIC CHOICE PERSPECTIVE* 250 (Fred McChesney & William F. Shughart II eds., 1995).

and innovations such as refrigeration subjected farmers and ranchers to competition from distant firms, which could take advantage of innovation to capture economies of scale and undercut relatively inefficient local production.<sup>30</sup>

Congress would not disavow the benefits of technological progress, but several representatives condemned its adverse effects on those whose production methods were outdated or who faced new competition in previously isolated markets.<sup>31</sup> Neither the legislative history nor the statutory language explain how to resolve conflicts between innovation and other interests, such as the protection of inefficient firms or farmers.<sup>32</sup> Congress instead left this and other concrete problems to the courts, appearing to believe that it had enacted an interstate version of the common law of restraints of trade.<sup>33</sup>

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30. See HERBERT HOVENKAMP, ENTERPRISE AND AMERICAN LAW: 1836-1937, at 241-42 (1991) (noting the relationship between technology, economies of scale, and threats to small firms). One of Professor Baxter's hypotheses to explain the enactment of the antitrust laws posited that some degree of localized market power has been common historically. As technology has improved, this hypothesis posits, transportation and economies of scale and scope allow efficient firms to expand their production and reach, thus encroaching on the domains of smaller, less efficient firms that had benefited from the localized power. Professor Baxter hypothesized that the antitrust laws might have been prompted by inefficient firms seeking legislative protection of their localized market power. WILLIAM BAXTER, THE POLITICAL ECONOMY OF ANTITRUST: PRINCIPAL PAPER BY WILLIAM BAXTER 8-11 (Robert D. Tollison ed., 1979).

31. See HOVENKAMP, *supra* note 30, at 246-49.

32. On the legislative history of the Sherman Act in general, and on innovation in particular, one is reminded of nothing so much as the candidate who, when asked for his views on prohibiting whiskey, answered that if by whiskey the questioner meant the demon that addicted the youth and plagued the elderly, then he was for it. If by whiskey the questioner meant the glass of solace and relaxation awaiting a man after a hard day's work, then he was against it.

33. Senator Sherman stated several times that he intended the statute to embody the common law principles used to evaluate alleged restraints of trade. *E.g.*, 20 CONG. REC. 1167 (Jan. 25, 1889) (speech of Sen. Sherman), *reprinted in* 1 KINTNER, *supra* note 23, at 69 (arguing that Senate Bill 3445, a precursor to the Sherman Act, "sets out in the most specific language the rule of the common law").

The purpose of this bill is to enable the courts of the United States to apply the same remedies against combinations which injuriously affect the interests of the United States that have been applied in the several States to protect local interests. . . This bill . . . has for its single object to invoke the aid of the courts of the United States . . . and in this way to supplement the enforcement of the established rules of the common and statute law by the courts of the several States . . .

21 CONG. REC. 2455 (Mar. 21, 1890) (speech of Sen. Sherman), *reprinted in* 1 KINTNER, *supra* note 23, at 115-16; *id.* at 116 ("It is the unlawful combination, tested by the rules of

Perhaps Congress as a whole did not perceive a conflict between consumers and small businesses, perceived it only dimly, or chose to paper over the conflict through the general language of the statute and trust the courts to arrive at sensible results consistent with the evolving common law of restraints of trade. Either way, in the vague language of the Act the legislative branch failed to resolve a conflict inherent in the economic activity at which the statute aimed.

The floor debates over Senate Bill 1 in the 51st Congress confirm that Congress did not resolve conflicts among the principle economic groups affected by the Act. A few brief examples illustrate the point. Senator George of Mississippi, who opposed the bill on constitutional grounds, pointed out that its language would apply “to an agreement, a combination, not of a business character . . . [but] to such as is purely moral and defensive.”<sup>34</sup> His examples?

If this bill passes as it now stands, the farmers and laborers of this country who are sending up their voices to the Congress . . . will find that they themselves in their most innocent and necessary arrangements, made solely for defensive purposes against the operation of these trusts will be brought within the penalty provisions of this bill. . . .

By this provision is drawn within the punitive provisions of this bill every agreement made by farmers not to sell any particular article of their production unless they receive a certain price for it, for that would be an agreement which . . . would tend to advance the cost to the consumer . . . .<sup>35</sup>

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common law and human experience, that is aimed at by this bill . . . .”); *id.* at 126 (“what is this bill? A remedial statute to enforce by civil process in the courts of the United States the common law against monopolies.”); *see also* 21 CONG. REC. 3145 (Apr. 8, 1890) (speech of Sen. Hoar), *reprinted in* 1 KINTNER, *supra* note 23, at 293 (“The great thing that this bill does, except affording a remedy, is to extend the common-law principles, which protected fair competition in trade in old times in England, to international and interstate commerce in the United States.”).

34. 20 CONG. REC. 1457 (Feb. 4, 1889) (speech of Sen. George), *reprinted in* 1 KINTNER, *supra* note 23, at 78.

35. *Id.* To this point, directed at farmers as consumers, Senator George added an example of farmers organizing as consumers. Referring to a “trust” involved in manufacturing the jute bagging used by many farmers, Senator George pointed out that

[u]pon the formation of this bagging trust the cotton farmers of the South, many of them in their granges and in their alliances, agreed that they would not purchase jute bagging, and by that agreement to a very large extent the rich rewards anticipated by the men who formed that trust were defeated.

The Senator's reference to pleas from farmers demanding antitrust legislation points to one of the main groups pressuring Congress to protect their interests.<sup>36</sup> Professors Boudreax, DeLorenzo, and Parker examined the wave of state antitrust statutes adopted in 1889 and 1890 and concluded that “[t]he political impetus for some kind of antitrust law came primarily from the farm lobbies of the Midwestern agricultural states such as Missouri. Rural cattlemen and butchers were especially eager for statutes that would thwart competition from the newly centralized meat processing facilities in Chicago.”<sup>37</sup> Centralized slaughtering technology and refrigerated railroad cars resulted in lower beef prices for ranchers and a slightly smaller reduction for consumers.<sup>38</sup> In sum, many agrarian producers had more reason to fear innovation than to favor it, even though consumers were better off.

When the 51st Congress again took up the statute over a year after Senator George's comments, the risk that the statute could be used against farm cartels was raised again. This time Senator Teller pointed out that “there has been recently organized all over the country what is called the Farmers' Alliance. What is the object and what is the purpose of it? The very purpose of it is to increase the price of farm products, and that I regard as a most desirable thing to be done . . . .”<sup>39</sup> Teller went on to denounce the bill as interfering with the Knights of Labor, and with labor organizing more generally. We may infer from his argument that Teller believed appeals to farmer and labor interests were useful, presumably because those groups were politically powerful.<sup>40</sup>

What is particularly interesting about these arguments, both topical and timeless in American history, is Senator Sherman's response. It is economically hollow even for the time, but politically prudent. From either a legal or economic perspective, it offered no resolution:

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*Id.* It is possible to read this statement as implying that the Sherman Act should not apply to monopsony, but it is better read as a paean to the strong agricultural interests weighing in on the statute.

36. See, e.g., Boudreax et al., *supra* note 29, at 250.

37. *Id.* at 270.

38. *Id.*

39. 21 CONG. REC. 2556 (Mar. 24, 1890) (speech of Sen. Teller), *reprinted in* 1 KINTNER, *supra* note 23, at 159.

40. The power of agrarian interests probably explains Senator Vest's statement that “[t]he Farmers' Alliance are cooking now, and there is no dish that can be put on this Senatorial table which will not go down with a gusto that will astonish any gourmand from the restaurants of Paris.” 21 CONG. REC. 2639 (Mar. 26, 1890) (speech of Sen. Vest), *reprinted in* 1 KINTNER, *supra* note 23, at 229.

The bill as reported contains three or four simple propositions which relate only to contracts, combinations, agreements made with a view and designed to carry out a certain purpose, which the laws of all the States and of every civilized community declare to be unlawful. . . . It does not interfere with the Farmer's Alliance at all, because that is an association of farmers to advance their interests and to improve the growth and manner of production of their crops and to secure intelligent growth and to introduce new methods. No organizations in this country can be more beneficial in their character than the Farmers' Alliances and farmers' associations. They are not business combinations. They do not deal with contracts, agreements, etc. They have no connection with them. And so the combinations of workingmen to promote their interests, promote their welfare, and increase their pay, if you please, to get their fair share of the division of production, are not affected in the slightest degree, nor can they be included in the words or intent of the bill as now reported.<sup>41</sup>

As a prediction of how courts would interpret the statute ultimately passed, this statement was wrong.<sup>42</sup> Twelve of the first thirteen reported decisions finding liability under the Sherman Act went against labor unions.<sup>43</sup> But that was only partly Senator Sherman's fault. The day after this exchange he proposed an amendment excluding agreements among laborers or agricultural producers to raise their prices.<sup>44</sup> The Senate binged on amendments the next two days, however,<sup>45</sup> and the bill was eventually

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41. 21 CONG. REC. 2556 (Mar. 24, 1890) (speech of Sen. Sherman), *reprinted in* 1 KINTNER, *supra* note 23, at 162.

42. See, e.g., *Bedford Cut Stone Co. v. Journeyman Stone Cutters' Ass'n*, 274 U.S. 37 (1927) (holding that refusal to work on stone that had been cut by non-union workers violated antitrust laws); *Duplex Printing Ass'n v. Deering*, 254 U.S. 443 (1921) (holding that refusal by union workers to work on printing presses violated antitrust laws); WILLIAM E. FORBATH, *LAW AND THE SHAPING OF THE AMERICAN LABOR MOVEMENT* 60-61 (1991); HOVENKAMP, *supra* note 30, at 207-38.

43. HOVENKAMP, *supra* note 30, at 229.

44. 21 CONG. REC. 2597 (Mar. 25, 1890) (speech of Sen. Sherman), *reprinted in* 1 KINTNER, *supra* note 23, at 206.

45. By March 26, 1890, the bill had sixteen sections and imposed a punitive tax and regulatory scheme on options and futures. The end of section one of the March 26 version is eloquent testimony for the public-choice explanation of the Act and for congressional fence-straddling on consumer welfare. That version of section one provided that

[T]his act shall not be construed to apply to any arrangements, agreements, or combinations between laborers made with a view of lessening the number of hours of their labor or of increasing their wages; nor to any arrangements, agreements, associations or combinations among persons engaged in horticulture or agriculture made with the view of enhancing the price of their own . . . products: Provided further, That

sent to the Judiciary Committee, which produced the leaner form with which we are familiar.

This conflict between increasing farm prices and lowering consumer costs was not the only conflict whose resolution the statute avoided. Senator Edmunds commented that at least some trusts had lowered consumer prices demonstrably,<sup>46</sup> a contention supported by some authors at the time<sup>47</sup> and by subsequent research.<sup>48</sup> Senator Edmunds thought the reduction a short-run illusion, however, and opposed trusts on the ground that they were tyrannical. At the same time, Senator Edmunds reassured Senator Kenna that a dealer in shorthorn cattle who, "by virtue of his superior skill in that product" has a monopoly for orders coming from Mexico,<sup>49</sup>

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this act shall not be construed to apply to or to declare unlawful combinations or associations made with a view or which tend, by means other than by a reduction of the wages of labor, to lessen the cost of production or reduce the price of any of the necessities of life; nor to combinations or associations made with a view or which tend to increase the earnings of persons engaged in any useful employment; nor to any arrangements, agreements, associations, or combinations among persons for the enforcement and execution of the laws of any State enacted in pursuance of its police powers. . . .

*Id.* at 256. The language in the last sentence was the result of Senator Wilson's desire to exempt the Woman's Christian Temperance Union and Temperance Alliance. *Id.* at 251-52.

46. Senator Edmunds stated:

I am in favor of the scheme in its fundamental desire and motive . . . directed to the breaking up of great monopolies which get hold of the whole of a particular business or production in the country and are enabled, therefore, to command everybody, laborer, consumer, producer, and everybody else, as the sugar trust and the oil trust and whatever. *Although for the time being the sugar trust has perhaps reduced the price of sugar, and the oil trust has certainly reduced the price of oil immensely, that does not alter the wrong of the principle of any trust . . .* in the long run, however seductive they may appear in lowering prices to the consumer for the time being, all human experience and human philosophy have proved that they are destructive of the public welfare and come to be tyrannies, grinding tyrannies, that have sometimes in other countries produced riots, just riots in the moral sense, and so on.

21 CONG. REC. 2723 (Mar. 27, 1890) (speech of Sen. Edmunds), reprinted in 1 KINTNER, *supra* note 23, at 264-65 (emphasis added); see also 20 CONG. REC. 1167 (Jan. 25, 1889) (statement of Sen. Hoar), reprinted in 1 KINTNER, *supra* note 23, at 69 (noting that some mergers reduced costs and were therefore desirable).

47. E.g., George Gunton, *The Economic and Social Aspects of Trusts*, 3 POL. SCI. Q. 385, 403 (1888).

48. See Boudreaux et al., *supra* note 29, at 257-61; Hovenkamp, *supra* note 25.

49. Senator Kenna's cattle monopolist was probably not a monopolist in the sense that we currently use that term. Senator Kenna instead had in mind a cattle dealer who "is

would not be penalized under the statute. The reason? “[I]n the case stated, the gentleman has not any monopoly at all. He has not bought off his adversaries. He has not got the possession of all the horned cattle in the United States. He has not done anything but compete with his adversaries in trade, if he had any, to furnish the commodity for the lowest price.”<sup>50</sup>

As this exchange suggests, senators were not very clear on what they meant, in practical terms, by either “monopoly” or “competition.” Although senators tended to use “competition” in contexts suggesting that it referred to the process of rivalry among firms,<sup>51</sup> such a reading would be at odds with Senator Edmunds’ benign view of the cattle “monopolist” and with the notion that some mergers were beneficial because they reduced costs. For both terms, however, as for the statute in general, a dominant theme was that the courts would clear up ambiguities in the language and apply the statute sensibly to concrete facts. As Senator Sherman put it, “I admit that it is difficult to define in legal language the precise line between lawful and unlawful combinations. This must be left for the courts to determine in each particular case.”<sup>52</sup>

## B. The Cellar-Kefauver Amendments to the Clayton Act

Congress was not always happy with the way the courts used the power it gave them. The Supreme Court originally held that the Sherman Act did not apply to tying arrangements, for example.<sup>53</sup> And the turn of the century saw a great increase in the number and size of mergers, in part to escape Sherman Act scrutiny of combinations of different firms.<sup>54</sup> For

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the only one in the United States to whom an order comes from Mexico for cattle of that stock for a considerable period. . . .” 21 CONG. REC. 3145 (April 18, 1890) (statement of Sen. Kenna), *reprinted in* 1 KINTNER, *supra* note 23, at 292.

50. *Id.* (statement of Sen. Edmunds).

51. E.g., 21 CONG. REC. 1765 (Feb. 27, 1890) (statement of Sen. George), *reprinted in* 1 KINTNER *supra* note 23, at 97.

If we may, as this bill does, apply the action indicated by the verb ‘to compete’ to inanimate and insensible subjects, . . . we can only do it in the sense that the separate owners of these articles are maintaining a contest . . . that is, each is striving to sell his own article, as against the other, in the same market and to the same set of customers or buyers.

*Id.*

52. 21 CONG. REC. 2455 (March 21, 1890) (statement of Sen. Sherman), *reprinted in* 1 KINTNER, *supra* note 23, at 122; *see also* 21 CONG. REC. 4088 (May 1, 1890) (statement of Rep. Culbertson), *reprinted in* 1 KINTNER, *supra* note 23, at 300 (“[J]ust what contracts, what combinations in the form of trusts, or what conspiracies will be in restraint of trade or commerce mentioned in the bill will not be known until the courts have construed and interpreted this provision.”).

53. *Henry v. A.B. Dick & Co.*, 224 U.S. 1 (1912).

54. *See, e.g., Hovenkamp, supra* note 30, at 241-42.

these and other reasons, Congress adopted the Clayton Act in 1914. Section 3 of the Act condemned tying and exclusive dealing, and section 7 condemned stock acquisitions where the effect of the transaction “may be to substantially lessen competition” that otherwise would occur “between the company whose stock is so acquired and the corporation making the acquisition.”<sup>55</sup>

The Clayton Act’s “substantially to lessen competition” language could have been clearer. Among other things, it did not explicitly choose between producer or consumer interests, or between the interests of large producers and small ones where the interests of large producers aligned with the interests of consumers. Congress found some judicial interpretations of the Clayton Act problematic as well, particularly the Supreme Court’s determination that the Act did not apply to asset acquisitions.<sup>56</sup> Over time many observers became dissatisfied with the scale of transactions the Court permitted under the Act.<sup>57</sup>

Traditional fears of large corporations led Congress in 1950 to pass the Cellar-Kefauver Amendments to the Clayton Act. Though eliminating the asset-acquisition loophole, the Act substantially retained the original statutory language. The amendment cured the split infinitive in the original and prohibited mergers where “the effect of such acquisition may be substantially to lessen competition, or tend to create a monopoly.”<sup>58</sup>

Though the Cellar-Kefauver Amendments did not clarify what the antitrust laws mean by “competition,” the legislative history suggests the protection of small firms was an important aim of the statute. For example, in supporting the bill in the House, Representative Cellar argued that

Small, independent, decentralized business of the kind that built up our country . . . first, is fast disappearing, and second, is being made dependent upon monster concentration. It is very difficult now for the small business to compete against the financial, purchasing, and advertising power of mammoth corporations. . . . Bigness does not mean efficiency, a better product, or lower prices.<sup>59</sup>

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55. 15 U.S.C. § 18 (1950).

56. Fed. Trade Comm'n v. W. Meat Co., 272 U.S. 554 (1926).

57. See United States v. Colum. Steel Co., 334 U.S. 495 (1948) (rejecting challenge to acquisition by United States Steel of largest West Coast producer of fabricated steel ).

58. 15 U.S.C. § 18 (1950).

59. 95 CONG. REC. 11484, reprinted in 4 KINTNER, FEDERAL ANTITRUST, LAWS AND RELATED STATUTES 3476 (1980).

Cellar also rejected what he described as the big-business argument that the Amendments would hurt small firms by preventing them from merging to gain the scale they needed to compete. “[S]everal small business associations interested in the welfare of small business and the maintenance of free enterprise testified very vigorously in support of this bill,” he said. “No small-business group appeared against it.”<sup>60</sup>

In the Senate, Senator O’Conor began the debate by saying that “the passage of this bill will go far to curb further growth of monopoly. In achieving this desirable objective, the interests of small business as an important competitive factor in the American economy will be advanced.”<sup>61</sup> He later stressed that post-war merger activity had been highest in markets traditionally populated by small firms, and that “the outstanding characteristic of the current merger movement has been the absorption of smaller independent enterprises by larger concerns.”<sup>62</sup> Senator Kefauver reinforced the point with a rhetorical question:

[W]ould not this bill . . . be of assistance to small business enterprises, to keep them from being gobbled up? We all know that some of the great corporations, which are the producers of some of our basic products, have a substantial monopoly over some products. Unfortunately, if those big corporations are led to think that perhaps by depriving small business of contracts and subcontractors, or by depriving them of necessary raw materials, they are going to be able to force them to sell their outfits, then the temptation would be present to do so; whereas, if the smaller firms had the protection of this bill, it seems to me the temptation would not be so great for the big corporations to bring about conditions under which the small fellow would be forced to sell out to him.<sup>63</sup>

Perhaps the most succinct summary of the purpose of the bill is found in the Senate Judiciary Committee report: “[t]he purpose of the proposed bill

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60. *Id.* at 3477; *see also id.* at 3482 (“There can also be little doubt that if this trend of mergers and acquisitions continues, small business will ultimately disappear as an important factor in American industry.”) (statement of Rep. Keating).

61. *Id.* at 3540.

62. *Id.* at 3542.

63. *Id.* at 3572. Senator Kefauver also emphasized the political aspects of concentration: “If our democracy is going to survive in this country we must keep competition, and we must see to it that the most basic materials and resources of the country are available to any little fellow who wants to go into business.” *Ford Motor Co. v. United States*, 405 U.S. 562, 569 n.5 (1972) (quoting Sen. Kefauver).

. . . is to limit future increases in the level of economic concentration resulting from corporate mergers and acquisitions.”<sup>64</sup>

Cellar-Kefauver gave courts that cared about legislative history a relatively clear mandate: protect the interests of small firms. Small-firm interests trumped the interests of larger firms, and were presumed to be consistent with the interests of consumers on the ground that maximizing rivalry maximized consumer welfare. Unfortunately, this premise turned out not to be true. Courts trying to apply the Clayton Act according to Congress’s intent ultimately found themselves unable to create a body of law that could be applied consistently across cases, and which could serve as a reliable basis on which lawyers could advise clients. Courts failed, in other words, to produce a body of decisions worthy of being called “law” at all.

### C. Antitrust and Common-Law Adjudication

Debates over the origins and original meaning of the Sherman Act are a notorious quagmire; debates over the congressional purposes behind the Cellar-Kefauver Amendments are a little clearer,<sup>65</sup> but the grammatical change in the original section 7 language left the statute as open-ended as it had been before.<sup>66</sup> That left it to the courts to discern which mergers threatened to limit competition substantially. The highlights of legislative history we have seen in the last two sections illustrate a problem for courts interpreting the antitrust laws. The statutes emerged from political struggles involving conflicting economic interests, but the statutory language does not resolve the conflicts. This lack of direction in the statutory language has both by congressional design and by default given considerable power and responsibility to courts to choose among a range of interests. The upshot is that neither the statutory language nor the legislative history provides courts with a clear rule of decision for evaluating innovation claims or weighing innovation as against other considerations.

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64. 95 CONG. REC. 11484, reprinted in 4 KINTNER, *supra* note 59, at 3522.

65. Judge Bork has argued that the legislative history of the Cellar-Kefauver Act is less clear than I suggest in the text. ROBERT H. BORK, THE ANTIRUST PARADOX: A POLICY AT WAR WITH ITSELF 200 (1979) (Apart from extending the Clayton Act to cover asset acquisitions as well as stock acquisitions “the diffuse legislative history of the bill give remarkably little guidance.”). For an analysis supporting that in the text, see HERBERT HOVENKAMP, FEDERAL ANTITRUST POLICY: THE LAW OF COMPETITION AND ITS PRACTICE 500 (2d ed. 1999) (“In 1950 protection of the ‘viability’ of small businesses who were being ‘gobbled up’ by larger companies was much more on Congress’s mind than low consumer prices or high product quality.”).

66. The amended language did extend the reach of section 7 of the Clayton Act to asset acquisitions and to vertical and conglomerate mergers. *Brown Shoe Co. v. United States*, 370 U.S. 294, 317 (1962).

Judges have long concluded that the Sherman Act gives them common-law authority to interpret the statute in a dynamic manner, taking changes in economic practices and understanding into account. Chief Justice Hughes's famous dictum that “[a]s a charter of freedom, the [Sherman] act has a generality and adaptability comparable to that found to be desirable in constitutional provisions” is a strong, but representative statement.<sup>67</sup> In the modern era, the Court has said that “the general presumption that legislative changes should be left to Congress has less force with respect to the Sherman Act in light of the accepted view that Congress ‘expected the courts to give shape to the statute’s broad mandate by drawing on common-law tradition,’” and that “the term ‘restraint of trade,’ as used in § 1, also ‘invokes the common law itself, and not merely the static content that the common law had assigned to the term in 1890.’”<sup>68</sup>

Antitrust scholars have tended to agree with this assessment. Judge Posner has written that “[t]he body of antitrust doctrine is largely the product of judicial interpretation of the vague provisions of the antitrust laws and thus can be changed by the courts within the very broad limits set by the language and what we know of the intent behind it.”<sup>69</sup> Judge Easterbrook gave the Sherman Act as an example of a law that “effectively authorizes courts to create new lines of common law”<sup>70</sup> and has elsewhere said that the statute “does not contain a program; it is a blank check.”<sup>71</sup> Professor Baxter analogized antitrust courts to Congress,<sup>72</sup> and Professor Hovenkamp has suggested that we regard the Sherman Act as “‘enabling’ legislation—an invitation to the federal courts to learn how businesses and markets work and formulate a set of rules that will make them work in socially efficient ways.”<sup>73</sup> This position is reasonable,<sup>74</sup> particularly because the statute adopted common-law terminology and its

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67. *Appalachian Coals, Inc. v. United States*, 288 U.S. 344, 359-60 (1933).

68. *State Oil v. Khan*, 522 U.S. 3, 20-21 (1998) (quoting Nat'l Soc'y of Prof'l Eng'rs v. United States, 435 U.S. 679, 688 (1978), and *Bus. Elecs. Corp. v. Sharp Elecs.*, 485 U.S. 717, 732 (1988)); *see also* *Continental TV, Inc. v. GTE Sylvania, Inc.*, 433 U.S. 36, 53 n.21 (1978).

69. RICHARD A. POSNER, *ANTITRUST LAW: AN ECONOMIC PERSPECTIVE* 7 (1976).

70. Frank H. Easterbrook, *Statutes' Domains*, 50 U. CHI. L. REV. 533, 544 (1983).

71. Frank H. Easterbrook, *Workable Antitrust Policy*, 84 MICH. L. REV. 1696, 1701 (1986).

72. William F. Baxter, *Separation of Powers, Prosecutorial Discretion, and the "Common Law" Nature of Antitrust Law*, 60 TEX. L. REV. 661, 672 (1982).

73. HOVENKAMP, *supra* note 65, at 52.

74. For criticism of this view, see Thomas C. Arthur, *Farewell to the Sea of Doubt: Jettisoning the Constitutional Sherman Act*, 74 CALIF. L. REV. 266 (1986).

leading proponent insisted that the bill merely enacted into federal law the existing common law of each state.

Most commentators who note the common-law nature of Sherman Act interpretation emphasize the flexibility of the common-law approach, as does the Court.<sup>75</sup> From the judicial perspective, this emphasis is useful to explain to readers why opinions in a field resting nominally on statutes spend so little time on the statutory language. Where the statutory command is to engage in common-law analysis, that analysis is itself a proper form of statutory interpretation.

But the common-law method is not about flexibility alone. A reasonable degree of stability and a high degree of reasoned evolution are at least as important as flexibility, though any serious participant in common-law adjudication will acknowledge that perfect certainty is neither achievable nor required.<sup>76</sup> Lawyers cannot advise clients, and clients cannot obey the law, if the “dynamic potential” of common-law antitrust decisionmaking is not balanced by constraints that render the decisions reasonably predictable.

Reasonable predictability requires that each decision rest on reasons that identify the purposes the law seeks to advance, orders them to resolve conflicts, and classifies the behavior at issue relative to those purposes in an analytically rigorous manner that can be understood and replicated by attorneys advising clients. The clarity with which purposes are identified and ranked and the rigor of the analysis of behavior relative to those purposes are what allow lawyers operating in the real world to advise clients with a degree of confidence that, while not reaching certainty, allows business to get done.

The need for reasonable stability and coherence of purpose in common-law adjudication has in the past caused the Supreme Court some difficulty in developing its antitrust jurisprudence. Much criticism has been levied against antitrust decisions handed down during the 1960s and early 1970s;<sup>77</sup> from an efficiency point of view, much criticism has been warranted. The failures of the period were not due to a willful ignorance of economics, however, and the change was not due to a newfound appreciation of economics. At least part of the story of antitrust during this time has to do with the efforts of courts to reconcile irreconcilable policy goals,

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75. See *State Oil v. Khan*, 522 U.S. 3 (1998); *Continental TV, Inc. v. GTE Sylvania, Inc.*, 433 U.S. 36 (1978).

76. See, e.g., MELVIN A. EISENBERG, THE NATURE OF THE COMMON LAW 44-49 (1988); KARL N. LLEWELLYN, THE COMMON LAW TRADITION: DECIDING APPEALS 4-5; 17-18 (1960).

77. E.g., BORK, *supra* note 65, chs.9-15, 19.

the dissatisfaction of courts with the garbled and inconsistent jurisprudence these efforts produced, and the efforts of courts to produce decisions that satisfied the judicial conception of the minimum standards of common-law adjudication.

The lesson of this history for modern innovation cases is that antitrust policy that pursues sharply conflicting purposes, or that uses the welfare of particular firms as a proxy for total welfare, is unstable and likely to be self-defeating. Consider the question of consumer surplus. In legislative debate, it might be possible to argue that consumers benefit from competition defined as a process of rivalry, which implies an antitrust policy that seeks to sustain a large number of competitors. The standard version of this argument is that competition benefits consumers but requires competitors, so protecting competitors protects consumers as well. The argument allowed legislators to avoid confronting trade-offs while appealing both narrowly to focused producer groups and broadly to consumers. Then-current industrial organization models predicting supracompetitive profits from concentrated markets, implying a shift in wealth from consumers to producers, supported this approach.<sup>78</sup>

Politically advantageous as it might be, this approach was unstable for courts because the assumption that the interests of small producers were invariably aligned with the interests of consumers was not true. Conduct that harmed competitors sometimes benefited consumers, and could enhance total welfare even if consumer surplus was not maximized. Legislators could ignore or paper over such conflicts, but judges could not. When called upon to decide cases, one of the competing groups must lose, and for reasons that, when stated in an opinion, will create general categories of winners and losers. Against this background, antitrust in the 1960s and early 1970s is easier to understand.

### 1. *The Merger Cases*

In *Brown Shoe Co. v. United States*, Chief Justice Warren noted that the Cellar-Kefauver Amendments “culminated extensive efforts over a number of years, on the parts of both the FTC and some members of Congress, to secure revision of a section of the antitrust laws considered by many observers to be ineffective in its then-existing form.”<sup>79</sup> His review of

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78. See Joe S. Bain, *Relation of Profit Rate to Industry Concentration: American Manufacturing 1936-1940*, 65 Q. J. ECON. 293 (1951).

79. 370 U.S. 294, 311 (1962) (affirming order that Brown Shoe divest itself of its interest in Kinney Shoes following a merger with both vertical and horizontal aspects). The efforts to which Chief Justice Warren referred date back at least to 1938, when President Roosevelt attacked monopoly as a threat to democracy akin to fascism:

the legislative history suggested to him that “[t]he dominant theme pervading congressional consideration of the 1950 amendments was a fear of what was considered to be a rising tide of economic concentration in the American economy,”<sup>80</sup> and he noted that “the desirability of retaining ‘local control’ over industry and the protection of small business” were particular arguments advanced in support of the Act.<sup>81</sup>

Chief Justice Warren concluded from this review that “a keystone in the erection of a barrier to what Congress saw was the rising tide of economic concentration, was its provision of authority for arresting mergers at a time when the trend to a lessening of competition . . . was still in its incipiency.”<sup>82</sup> The incipiency concept was important precisely because “Congress saw the process of concentration in American business as a dynamic force; it sought to . . . brake this force at its outset and before it gained momentum.”<sup>83</sup> As emphasized later in the opinion, Congress used the words “may be substantially to lessen competition” because “its concern was with probabilities, not certainties.”<sup>84</sup> Thus, “the very wording of § 7 requires a prognosis of the probable effects of the merger,”<sup>85</sup> and it is these effects “upon the *future* as well as the present which the Clayton Act commands the Courts and the Commission to examine.”<sup>86</sup>

The Court’s approach in *Brown Shoe* is interesting because the Court gave effect to what it reasonably believed was Congress’s purpose in amending the Clayton Act, even though the amendment did not change the

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[T]he liberty of a democracy is not safe if the people tolerate the growth of private power to a point where it becomes stronger than their democratic state itself. That, in its essence, is fascism—ownership of the government by an individual, by a group, or by any other controlling private power.

S. DOC. NO. 173, 75th Cong. 3d Sess. 1938, *reprinted in* 4 KINTNER, *supra* note 59, at 3404.

80. *Brown Shoe*, 370 U.S. at 315.

81. *Id.* at 315-16.

82. *Id.* at 317-18.

83. *Id.*

84. *Id.* at 323.

85. *Id.* at 332. In *Ford Motor Co. v. United States*, 405 U.S. 562, 567 n.4 (1972), the Court quoted legislative history adding further support to its interpretation of the incipiency concept in *Brown Shoe*. The relevant history stated that the use of the words “may be” in the statute indicated that “the concept of reasonable probability . . . is a necessary element in any statute which seeks to arrest restraints of trade in their incipiency and before they develop into full-fledged violations of the Sherman Act. A requirement of certainty and actuality of injury to competition is incompatible with any effort to supplement the Sherman Act by reaching incipient restraints.” *Id.* (quoting S. Rep. No 1775, at 6) (emphasis added).

86. *Brown Shoe*, 370 U.S. at 333 (emphasis added).

substance of the relevant statutory language. The incipency concept, and the practice of inferring likely harm to competition from even modest trends toward concentration, produced a merger policy that treated efficiencies as harmful because increased efficiency of large firms hurt the small firms Congress wished to protect. On this point the Court was explicit: "Congress appreciated that occasional higher costs and prices might result from the maintenance of fragmented industries and markets."<sup>87</sup>

The results of this approach were not happy.<sup>88</sup> *Brown Shoe* itself condemned a merger with vertical as well as horizontal aspects, and for which plausible efficiency justifications could be advanced.<sup>89</sup> The more interesting question was how long that approach could last when the Court encountered conflicts for which Congress provided no resolution and found itself imposing costs not clearly compelled by the statutory language.

*Brown Shoe* was followed a year later by *United States v. Philadelphia National Bank*,<sup>90</sup> in which the Court said explicitly that the "intense congressional concern with the trend toward concentration warrants dispensing, in certain cases, with elaborate proof of market structure, market behavior, or probable anticompetitive effects."<sup>91</sup> This statement elevated market structure from an important fact to an essentially conclusive presumption that certain levels of concentration were illegal because they necessarily entailed suboptimal performance.<sup>92</sup> As in *Brown Shoe*, the Court was admirably candid in stating that it was willing to accept costs in reduced efficiency to achieve what it perceived as Congress's goals. The Court said that

a merger the effect of which "may be substantially to lessen competition" is not saved because, on some ultimate reckoning of social or economic debits and credits, it may be deemed beneficial. . . . Congress determined to preserve our traditionally competitive economy. It therefore prescribed anticompetitive

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87. *Id.* at 344.

88. For a summary of the cases and their place in the evolution of antitrust jurisprudence, see Daniel J. Gifford, *The Jurisprudence of Antitrust*, 48 SMU L. REV. 1677, 1685-86 (1995).

89. *Brown Shoe*, 370 U.S. at 304 n.8; *see also* BORK, *supra* note 65, at 212-13; HOVENKAMP, *supra* note 65, at 500.

90. 374 U.S. 321 (1963).

91. *Id.* at 363.

92. Professor Hovenkamp makes this step an important part of his analysis of the Court's use of the structure-conduct-performance approach to antitrust problems. HOVENKAMP, *supra* note 65, at 43-46; *see also* *infra* text accompanying notes 134-36.

mergers, the benign and malignant alike, fully aware, we must assume, that some price must be paid.<sup>93</sup>

The Court also said that horizontal mergers involving combined market share of 30% or more were presumptively unlawful, though it cautioned that smaller levels of concentration might be vulnerable too.<sup>94</sup> This statement was somewhat curious, for the Court in *Brown Shoe* had read the legislative history of the Clayton Act as reflecting "a conscious avoidance of exclusively mathematical tests."<sup>95</sup> Further, the Court there had focused on combined market shares as low as 5% in some geographic markets, warning that if a merger achieving even 5% market share "were now approved, we might be required to approve future efforts by Brown's competitors seeking similar shares."<sup>96</sup>

The *Philadelphia National Bank* Court expressed concern that business officials be able to plan their affairs with some predictability, however, and it therefore sought to "simplify the test of illegality" in a manner it believed was "fully consonant with economic theory."<sup>97</sup> The Court believed the consensus view in economics held "[t]hat '(c)ompetition is likely to be greatest when there are many sellers, none of which has any significant market share.'"<sup>98</sup> By 1966, the Court was condemning post-merger market shares of 7.5% in *United States v. Von's Grocery Co.*<sup>99</sup> and 4.49% (nationally) in *United States v. Pabst Brewing Co.*<sup>100</sup>

By 1968, the Justice Department's merger guidelines defined a highly concentrated market as one with four-firm concentration levels of 75% or more.<sup>101</sup> Even mergers between small firms in such a market were suspect,<sup>102</sup> with the result that small dealers could not sell their businesses to large firms and exit the market (a trend suggested by the facts in *Von's*); nor could they merge themselves to achieve economies that were making larger firms more competitive. They would instead be left with a depreciating asset, to wither until they could qualify as a failing company and be

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93. 374 U.S. at 371.

94. *Id.* at 364.

95. 370 U.S. at 321 n.36.

96. 370 U.S. at 344.

97. 374 U.S. at 362-63.

98. *Id.* at 363.

99. 384 U.S. 270 (1966).

100. *United States v. Pabst Brewing Co.*, 384 U.S. 546 (1966). For a description of this evolution see Gifford, *supra* note 88, at 1684-86.

101. Gifford, *supra* note 88, at 1685 n.46.

102. *Id.*

bought out under the limited defense available for such acquisitions, or simply to give up and let the bankruptcy trustee lease their old store and other assets to a larger firm.<sup>103</sup>

## 2. Non-Merger Cases

Antitrust policy in non-merger cases was troubling as well. The small grocer who could not sell out under *Von's* also could not band together with other small grocers to back a brand that would compete with the in-house brands of larger stores, or nationally known brands, if they also allocated exclusive selling areas to each grocer.<sup>104</sup> Building the brand required advertising, however, and exclusive dealing was a way to promote local advertising by eliminating free rider incentives. The Court had no time for such arguments, deeming such "horizontal" arrangements to be unlawful per se.<sup>105</sup>

Even vertical territorial restrictions over resale were condemned as unlawful per se in *United States v. Arnold Schwinn & Co.*,<sup>106</sup> perhaps the most frustrating case of the period. *Schwinn* held that it was "unreasonable without more for a manufacturer to seek to restrict and confine areas or persons with whom an article may be traded after the manufacturer has parted with dominion over it."<sup>107</sup> Though dealing with section 1 of the Sherman Act rather than section 7 of the Clayton Act, the Court's rule expressed a strong preference for distribution by resale to independent firms rather than franchisees.<sup>108</sup> The Court appeared to stop short of condemning

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103. See HOVENKAMP, *supra* note 65, at 500-01; POSNER, *supra* note 69, at 105.

104. *United States v. Topco Assocs.*, 405 U.S. 596 (1972) (holding territorial licensing restrictions unlawful per se, though no price fixing was involved and despite plausible claim that restrictions increased competition); *see also United States v. Sealy, Inc.*, 388 U.S. 350 (1967) (holding unlawful per se a set of restrictions, including exclusive territories, ancillary to sale of Sealy-brand mattresses by manufacturers who were joint venturers in Sealy).

105. The *Topco* and *Sealy* cases involved joint ventures, and the restraints at issue in both were, in effect, ancillary. Characterizing the cases as involving "horizontal" restraints detracts more from the analysis than it adds. *See William F. Baxter & Daniel P. Kessler, Toward A Consistent Theory of the Welfare Analysis of Agreements*, 47 STAN. L. REV. 615, 626-30 (1995).

106. 388 U.S. 365 (1967).

107. *Id.* at 379.

108. The Court's language reflected a fairly intrusive conception of antitrust as industrial policy:

If the manufacturer parts with dominion over his product or transfers risk of loss to another, he may not reserve control over its destiny or the conditions of its resale. To permit this would sanction franchising and confinement of distribution as the ordinary instead of the unusual method which may be permissible in an appropriate and impelling

all vertical restraints under the per se rule only because such a rule "might severely hamper smaller enterprises resorting to reasonable methods of meeting the competition of giants and of merchandising through independent dealers, and it might sharply accelerate the trend towards vertical integration of the distribution process."<sup>109</sup>

### *3. The Failure to Create a Common-Law Incipency Rule for the Protection of Small Firms*

In part the merger cases reflected the view that in the Cellar-Kefauver Amendments Congress wanted to toughen the antitrust laws to protect small firms, particularly small retailers who might be threatened by cost-reducing mergers. From this "traditional" angle, competition meant the process of rivalry, not the state of affairs in which resources were allocated most efficiently and total surplus maximized. These decisions can be criticized from an efficiency point of view, but the Court read congressional intent correctly and applied it in at least a defensible manner to the facts in each case.<sup>110</sup> Congress wanted the antitrust laws to protect small firms, and that is what it got. In non-merger cases, however, even small firms lost out to flat statements that "horizontal" actions harmed "competition" in the sense of conduct that produced lower prices for consumers. That the rule emerging from cases such as *Schwinn*, *Topco*, and *Sealy* harmed both producers and consumers is interesting, but the main jurisprudential point is that the Court's decisions pursued incompatible goals both within and among different categories of cases.

Trying to advance both small-firm and consumer welfare was untenable for a policy that sought a consistent approach across types of cases, and was largely untenable within categories of cases as well. Justice Stewart's statement in *Von's* that "the sole consistency that I can find is that in litigation under § 7, the Government always wins"<sup>111</sup> is best read as expressing frustration that no coherent rule of law had emerged from the Court's merger cases or was available to guide parties or the Court in future cases. The problem in merger cases was that the Court focused almost exclusively on the degree and trend of concentration and disregarded other

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competitive setting, since most merchandise is distributed by means of purchase and sale.

*Id.*

109. *Id.* at 380.

110. A firmer ground of criticism is that Congress has never decreed that small dealers must be protected at any cost, and the costs inflicted by these decisions were far higher than the Court seemed to anticipate.

111. 384 U.S. 270, 301 (1966).

facts relevant to competition within the relevant market.<sup>112</sup> In terms of the then-prevailing structure-conduct-performance model,<sup>113</sup> the problem was that the Court took structure as an adequate indicator of performance, and chose to ignore conduct and economic facts that might have put the structural analysis in a context in which efficiency implications could be assessed. This was not an accident, for the analytical leap across conduct was given explicit sanction in *Philadelphia National Bank*, partially for the sake of simplicity and predictability, partially out of deference to what the Court thought was the prevailing economic wisdom.

Focusing on structure without regard to conduct or market context destabilized merger law in three ways. First, by treating productive efficiency as a harm, it imposed costs in the form of lost opportunities for profitable expansion. This cost harmed both consumers and producers—in some cases the small firms the policy was supposed to protect. Because it divorced efficiency considerations from the protection of small firms, the Court's approach was self-defeating from the start. Second, because rational actors in real markets would see profit opportunities in mergers the Court would condemn, the merger doctrine was under constant assault by creative lawyers and business officials trying to get around the rules to realize the value the rules declared off limits. The Court's merger jurisprudence was therefore under stress precisely because of its weaknesses, and the stress only made the weaknesses more evident.

Third, and most importantly, the Court's efforts to rank Congress's desire to help small firms higher than any other antitrust goal detached the structure of a law concerned with economic behavior from the economic costs and benefits of that behavior. The economic article of faith associated with the political purpose was that the preservation of small firms necessarily enhanced "competition" and thus necessarily enhanced either total or at least consumer welfare. Because this article of faith was false, the Court's decisions could not satisfy the minimum conditions of coherence and predictability necessary for common-law adjudication to produce something recognizable as, and usable as, law.

In this light it is no surprise that in *United States v. General Dynamics Corp.*,<sup>114</sup> the case most often cited as a harbinger of a new approach to merger cases and perhaps antitrust in general, the Court signaled its changed priorities by returning to *Brown Shoe*'s caution against relying on mathematical tests. The Court instead reaffirmed the statement in *Brown*

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112. See HOVENKAMP, *supra* note 65, at 42-46, 493-94.

113. See *infra* text accompanying notes 134-36 (discussing this model).

114. 415 U.S. 486 (1974).

*Shoe* that “Congress indicated plainly that a merger had to be functionally viewed, in the context of its particular industry.”<sup>115</sup> Adding contextual factors to the purely structural inquiry gave the Court breathing room to consider common-sense facts bearing on efficiency, as well as to think about what sorts of behavior would be rational in the relevant market. This more contextual approach eventually allowed the Court and antitrust enforcers to move toward a more efficiency-based approach to mergers, reversing the policy choice expressed in *Brown Shoe*. Though the Court in *General Dynamics* did not claim to be adopting a new form of economic analysis, its unwillingness to jump from market structure to a holding represented a partial retreat from its strong-form use of the structure-conduct-performance approach.

Doctrinal confusion and instability also drove changes in non-merger cases. The best evidence for this claim is the widespread resistance to *Schwinn* by lower courts who found its implications too much at odds with both consumer and producer interests, and the Court’s relatively rapid overruling of *Schwinn* in *GTE Sylvania*. The *GTE Sylvania* Court began its analysis by saying “we are convinced that the need for clarification of the law in this area justifies reconsideration” of *Schwinn*, which the Court characterized as an “abrupt departure” from earlier cases.<sup>116</sup> The result of the departure in *Schwinn* had been “continuing controversy and confusion, both in the scholarly journals and in the federal courts.”<sup>117</sup> The Court cited with approval one commentator who said that lower courts had “struggled to distinguish or limit *Schwinn* in ways that are a tribute to ingenuity.”<sup>118</sup> And the Court rejected the argument of a lower-court dissent that the Sherman Act was intended to prohibit restrictions on the autonomy of independent businessmen even though they have no impact on “price, quality, and quantity of goods and services,”<sup>119</sup> on the ground that “an antitrust policy divorced from market considerations would lack any objective benchmarks.”<sup>120</sup>

The Court could shift its approach to both merger and non-merger cases so significantly because the open-ended language of the relevant statutes did not prevent it from doing so. But precisely because it was so

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115. *Id.* at 498 (quoting *Brown Shoe Co. v. United States*, 370 U.S. 294, 322 (1962)).

116. *Continental TV, Inc. v. GTE Sylvania, Inc.*, 433 U.S. 36, 47 (1978).

117. *Id.*

118. *Id.* at 48 (quoting Robinson, *Recent Antitrust Developments: 1974*, 75 COLUM. L. REV. 243, 272 (1975)).

119. *Id.* at 54 n.21 (quoting *GTE Sylvania, Inc. v. Continental TV, Inc.*, 537 F.2d 980, 1019 (Browning, J., dissenting)).

120. *Id.*

capacious, the language did not compel the Court to change, either. So what explains the changes? To some degree the changes can be explained by the Court's acceptance of Chicago criticisms of its cases. *GTE Sylvania* extensively cited Judge Posner's criticism of *Schwinn*, for example, and the analytical approach of *Matsushita* can safely be said to reflect a Hyde Park influence.<sup>121</sup> But the notion that judges adopted a particular price-theory approach to antitrust seems both too strong and incomplete. Too strong because the justices did not say they were embracing a particular economic approach to antitrust,<sup>122</sup> and have not done so to this day.<sup>123</sup> Incomplete because efficiency-based criticisms had been around for some time before 1977,<sup>124</sup> and because the Court on occasion continues to deviate from the outcomes a Chicago-style analysis would predict.<sup>125</sup>

At least in part, courts altered their approach to antitrust cases because they needed to build a body of precedent that satisfied the minimum requirements of a law. Such a subjective assertion is difficult to prove, but this one enjoys at least reasonable evidentiary support. Justice Stewart's frustration in *Von's* and the lower-court rebellion against *Schwinn* are prominent examples. In 1976, Judge Posner wrote that "the course of judicial interpretation has been so marked by contradiction and ambiguity as to leave the law in an exceedingly uncertain and fluid state."<sup>126</sup> In the *Antitrust Paradox*, Judge Bork summarized the law as "pull[ing] in opposite

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121. *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574 (1986) (affirming summary judgment dismissing claim that Japanese firms had conspired to price consumer electronics at predatory levels).

122. See Louis Kaplow, *Antitrust, Law and Economics, and the Courts*, 50 LAW & CONTEMP. PROBS. 181 (1987).

123. The Supreme Court has decided several recent cases in a manner consistent with the goal of efficiency. See, e.g., *State Oil v. Khan*, 522 U.S. 3, 20-21 (1998); *Brooke Group, Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209 (1993); *Bus. Elecs. Corp. v. Sharp Elecs.*, 485 U.S. 717 (1988); *Matsushita*, 475 U.S. 574; *GTE Sylvania*, 433 U.S. 36. The Court has also decided recent cases arguably at odds with the goal of efficiency. See, e.g., *Eastman Kodak Co. v. Image Technical Servs.*, 504 U.S. 451 (1992); *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585 (1985).

124. See Robert H. Bork, *The Rule of Reason and the Per Se Concept: Price Fixing and Market Division Part I*, 74 YALE L. J. 775 (1965); Robert H. Bork, *The Rule of Reason and the Per Se Concept: Price Fixing and Market Division Part II*, 75 YALE L.J. 373 (1966); Robert H. Bork, *Vertical Integration and the Sherman Act: The Legal History of an Economic Misconception*, 22 U. CHI. L. REV. 157 (1954); Ward S. Bowman, Jr., *Tying Arrangements and the Leverage Problem*, 67 YALE L.J. 19 (1957); John S. McGee, *Predatory Price Cutting: The Standard Oil (N.J.) Case*, 1 J.L. & ECON. 137 (1958); Richard A. Posner, *The Chicago School of Antitrust Analysis*, 127 U. PA. L. REV. 925, 926 (1979) (discussing earlier work).

125. See, e.g., *Eastman Kodak*, 504 U.S. 451; *Aspen Skiing*, 472 U.S. 585.

126. POSNER, *supra* note 69, at 3.

directions, producing a pattern of results without policy coherence.”<sup>127</sup> He also recounted a meeting of the American Bar Association’s Antitrust Section, at which he listened to the views of a leading antitrust practitioner (whom Bork did not name) who later became an associate justice of the Supreme Court. According to Bork, this practitioner argued that it was fruitless to worry over the intellectual problems of antitrust and analogized antitrust law to the method of a frontier sheriff: “he did not sift evidence, distinguish between suspects, and solve crimes, but merely walked the main street and every so often pistol-whipped a few people.”<sup>128</sup>

These statements portray the antitrust jurisprudence of the time as, in the most fundamental sense, lawless. Decisions cohere by virtue of their relationship to common purposes. Fragmented or shifting purposes fracture coherence and make the law less certain. During the period in question, courts became dissatisfied with their application of the laws because they could not provide reasons supporting reasonably consistent outcomes, both of which are necessary to allow lawyers to make reasonably accurate predictions when advising clients.

Courts dealing with antitrust innovation problems can draw useful lessons from the history of antitrust merger problems. Merger cases are inherently forward-looking, as will be cases in which a party alleges harm to innovation as antitrust injury. In each case a court must examine existing market structures and the conduct they support to predict future economic performance. What does this history imply for modern innovation cases? Antitrust policy that pursues sharply conflicting purposes, or which uses the welfare of particular firms as a conclusive proxy for total welfare, foregoing the factual analysis of markets that provides the context needed to interpret behavior, is unstable and likely self-defeating.

Innovation cases will be slightly easier than merger cases, because the allegedly actionable conduct will already have occurred. With respect to the effects of those actions on the rate or path of innovation, however, both types of cases require projections about the unknown. The history of merger analysis is therefore useful for thinking about harm to innovation as antitrust injury. As we see in Part III, innovation cases will require some analysis of how allegedly unlawful conduct affects particular firms. The experience of the 1960s merger policy is useful because the Court in those cases interpreted the laws to promote the interests of small dealers. The difficulty this mandate produced for common-law decisionmaking provides a caution for antitrust courts facing claims of harm to innovation.

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127. *Id.* at 405.

128. BORK, *supra* note 65, at 6.

### III. HARM TO INNOVATION AS ANTITRUST INJURY

Clearly, this is not the kind of question which is susceptible of a ready and precise answer in most cases. It requires not merely an appraisal of the immediate impact . . . upon competition, but a prediction of its impact upon competitive conditions in the future<sup>129</sup> . . .

In this Part, I first examine these problems with particular reference to deciding what “competition” should be interpreted to mean in antitrust cases. That term has been interpreted in different ways by different courts in different contexts, some examples of which we saw in Part II. It cannot mean “perfect competition” in the sense of the model that bears that name,<sup>130</sup> and cases that have attempted to enforce rivalry for its own sake, such as *Von's Grocery*, stand as warnings against such a reading. But at what point do deviations from that model violate the law and, however such a point may be stated conceptually, how do courts identify that point in concrete cases with complex facts? The last section in this Part takes up that question, and offers suggestions for courts to follow in analyzing claims alleging harm to innovation as antitrust injury.

#### A. Innovation and Concentration

Economic theory in its pure form provides little help to judges who might wish to relate market structure to innovation. Consider two excerpts from testimony given by two of the Justice Department’s economic experts in *United States v. Microsoft*. First, from Frederick Warren-Boulton:

If Microsoft were to simply rest on its laurels and not innovate, to simply shut down its R&D version and say, “here is Windows 98, we are never going to change it,” that should it do that, it would probably los[e] its monopoly power within a reasonable time period. It’s just that why would you expect them to do that? It’s not a rational thing. . . . There is not an economic theory that tells you that a monopolist will not innovate. The economic theory is really simple on this. It say[s] the monopolist charges higher prices and makes a lot of money and has a big profit margin. There is nothing in economic theory that says if an industry is monopolized, the rate of technological change will either speed up or slow down. It may do either, but there is no particular bias here. And so, if you ask the question, would I expect a

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129. *United States v. Phila. Nat'l Bank*, 374 U.S. 321, 362 (1963).

130. See George Stigler, *Perfect Competition Historically Contemplated*, 65 J. POL. ECON. 1 (1957).

monopoly of the operating system to continue to innovate, the answer is, not only would I expect it to continue to innovate if it's a profit-maximizing firm, but I wouldn't expect the fact that it was a monopoly to particularly systematically affect the rate of innovation.<sup>131</sup>

Not surprisingly in light of this testimony, the district court concluded that Microsoft's "efforts at technical innovation" were not "inconsistent with the possession of monopoly power."<sup>132</sup>

The indeterminacy of pure theory is further complicated when the acts in question appear both to have threatened innovation in the future and to have increased the adoption and use of innovation in the present. As Franklin Fisher, another of the Justice Department's economic experts, explained:

Q. At the present time, have—in your analysis—consumers been hurt by Microsoft's conduct?

A. On balance?

Q. Yes.

A. That's very hard to know. The reason that it's mostly hard—on balance, I would think the answer was no, up to this point. The reason for that is that Microsoft has used its power to protect its operating system monopoly from a threat that might not have

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131. Testimony of Frederick Warren-Boulton at 42, *United States v. Microsoft Corp.*, 97 F. Supp. 2d 59 (D.D.C. 2000) (Nos. 98-1232, 98-1233), available at <http://www.microsoft.com/presspass/trial/transcripts/nov98/11-19-pm.asp> (Nov. 19, 1998).

132. *Microsoft*, 87 F. Supp. 2d at 37. The court's finding of fact on this point states that:

The fact that Microsoft invests heavily in research and development does not evidence a lack of monopoly power. Indeed, Microsoft has incentives to innovate aggressively despite its monopoly power. First, if there are innovations that will make Intel-compatible PC systems attractive to more consumers, and those consumers less sensitive to the price of Windows, the innovations will translate into increased profits for Microsoft. Second, although Microsoft could significantly restrict its investment in innovation and still not face a viable alternative to Windows for several years, it can push the emergence of competition even farther into the future by continuing to innovate aggressively. While Microsoft may not be able to stave off all potential paradigm shifts through innovation, it can thwart some and delay others by improving its own products to the greater satisfaction of consumers.

Findings of Fact, ¶ 61, *United States v. Microsoft Corp.*, 84 F. Supp. 2d 9, 26 (D.D.C. 2000) [hereinafter Microsoft Findings of Fact].

materialized by this time anyway. And, in doing that, it has given away a lot of things.<sup>133</sup>

Together, these quotations frame two problems that judges in antitrust innovation cases are likely to face: how to assess trade-offs between the conduct that confers present benefits but poses a risk of future costs, and whether to infer anything about this subject from the existing market structure. These are the first two elements of the well-known structure-conduct-performance method of analysis that has been either famous or infamous depending on one's point of view.<sup>134</sup> The model held that certain market structures induce profit-maximizing firms to engage in conduct that would produce inefficient outcomes. Concentrated markets, for example, make oligopoly pricing easier, harming consumers and benefiting producers.<sup>135</sup>

Because the objectionable conduct flowed from conventional rational actor assumptions in the context of particular market structures, this model

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133. Testimony of Franklin M. Fisher at 29-30, *United States v. Microsoft Corp.*, 97 F. Supp. 2d 59 (D.D.C. 2000) (Nos. 98-1232, 98-1233), available at <http://www.microsoft.com/presspass/trial/transcripts/jan99/01-12-am.asp> (Jan. 12, 1999). Professor Fisher qualified this testimony when the trial recommenced in June, 1999, stating:

That has been much misquoted. As I explained the last time, that was in the context of a question about the pricing of the browser at zero. And as in any predatory campaign, it is the case that, while the predatory campaign is going on, consumers are not injured by the low prices involved. But any injury to competition is an injury to consumers . . . And in the meantime, consumers have been injured by having their choices restricted.

Direct Testimony of Franklin M. Fisher at 19, *United States v. Microsoft Corp.*, 97 F. Supp. 2d 59 (D.D.C. 2000) (Nos. 98-1232, 98-1233), available at <http://www.microsoft.com/presspass/trial/transcripts/jun99/06-02-am.asp> (June 2, 1999). The point remains, however, that determining the net effect of Microsoft's conduct is at best a difficult and complex task. Since the trial, Professor Fisher has co-authored a paper arguing that Microsoft's conduct has in fact harmed consumers. Franklin M. Fisher & Daniel L. Rubinfeld, *United States v. Microsoft, An Economic Analysis* at 74 (Univ. of California at Berkeley School of Law, Public Law & Legal Theory Working Paper No. 30, 2000).

134. This method of analysis is of course most famously associated with Professor Bain. *E.g.*, JOE S. BAIN, *BARRIERS TO NEW COMPETITION* (1956); Bain, *supra* note 78. For a succinct history of the approach, see HOVENKAMP, *supra* note 65, at 42. For an argument that the older version of the structure-conduct-performance model was dead as of 1986, see Easterbrook, *supra* note 71, at 1698.

135. *E.g.*, BAIN, *supra* note 134; HOVENKAMP, *supra* note 65, at 43; Edward S. Mason, *Price and Production Policies of Large Scale Enterprise*, 29 AM. ECON. REV. 61, 61-74 (1939); Edward S. Mason, *The Current State of the Monopoly Problem in the United States*, 62 HARV. L. REV. 1265 (1949).

recommended filing claims designed to alter the structures themselves rather than to analyze and attack anticompetitive behavior, which was presumably inherent in the structure. This model implied that courts should keep markets fragmented, which fit well with the Court's understanding of Congress's desire to keep small firms from being gobbled up. As noted above, however, keeping markets fragmented sometimes hurts small firms, and concentration sometimes helps them.<sup>136</sup>

The small-dealer view of antitrust has a story to tell about innovation. On this account, small firms are presumptively more creative than big firms, in part because small firms do not spend their time looking backward at their successes or trying to preserve existing market power. As Professors Fox and Sullivan put it, the "realist/traditionalist" view of market structure and innovation holds that "[e]ffective innovation is more likely to come from highly entrepreneurial firms and from a system that promotes diversity in the size, shape, and character of firms than from bureaucratic enterprise and an environment that encourages homogeneity and concentration."<sup>137</sup> This view is supplemented by the further claim that innovative "efficiencies have a much greater potential to increase social wealth than do allocative efficiencies obtained by preventing output limitation."<sup>138</sup>

In one sense, this view of innovation simply states a position on the empirical question whether innovation is more likely to originate with small dealers than to be opposed by them. One gets the sense, however, that it is something of an article of faith as well. The political purposes of traditionalist antitrust thinking focus on the constraint of private power as against the government, the diffusion of economic resources and decisions throughout the economy, and the provision of a level playing field for entrepreneurs. All these purposes are served regardless whether decentralized markets out-innovate concentrated ones.

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136. Oligopoly might facilitate collusion, for example, but that would benefit smaller firms by giving them a price umbrella to work under. See *Atl. Richfield Co. v. USA Petroleum, Co.*, 495 U.S. 328 (1990).

137. Eleanor M. Fox & Lawrence A. Sullivan, *Antitrust—Retrospective and Prospective: Where Are We Coming From? Where are We Going?*, 62 N.Y.U. L. REV. 936, 976 (1987). For a historical perspective on the populist fear that concentration would reduce innovation, see Hofstadter, *supra* note 24, at 216-17.

138. Fox & Sullivan, *supra* note 137, at 976; see also Joseph Brodley, *The Economic Goals of Antitrust: Efficiency, Consumer Welfare, and Technological Progress*, 62 N.Y.U. L. REV. 1020, 1026 (1987) ("Of the three types of efficiencies, innovation efficiency provides the greatest enhancement of social wealth, followed by production efficiency, with allocative efficiency—the main focus of current enforcement efforts—ranking last.").

Denying any conflict between the political purposes of antitrust and innovation makes the traditionalist view more appealing, but gives little guidance in the event a conflict appears. Lack of guidance is a problem. Relatively large firms have been innovative, and many small firms have demanded antitrust protection because they were threatened by innovation. As noted above, economic theory provides no strong reason to believe that fragmented markets are inherently more innovative than concentrated ones, and the small-dealer account of antitrust might require us to sacrifice innovation for the protection of smaller firms if forced to choose. Here as elsewhere, strong presumptions about the relationship between market structure and performance are risky. They may lead courts to ignore evidence and jump to conclusions, risking efficiency losses in the name of a presumption that is more an article of political faith than the product of economic analysis.

As applied to antitrust, modern industrial organization work relies heavily on game theory to investigate strategic behavior. This work fits well with the tendency of judges to think through problems using rational actor assumptions to test the plausibility of a litigant's claim.<sup>139</sup> Aggressive or even below-cost pricing to gain market share rapidly in an early round of competition for a market characterized by network effects is one example,<sup>140</sup> as would be the announcement of products well in advance of their release (vaporware), which a dominant firm might use to lower the demand for an entrant's product.<sup>141</sup> Other classic examples include the expansion of productive capacity to deter entry,<sup>142</sup> various means of raising the costs of rival firms,<sup>143</sup> and various means of exploiting an installed customer base.<sup>144</sup>

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139. Cf. *supra* note 22 (noting some of the district court's uses of rational actor assumptions to interpret conduct in the *Microsoft* case).

140. Both Netscape and Microsoft gave browsers away for free in the early stages of their competition, for example. MICHAEL E. CUSUMANO & DAVID B. YOFFIE, COMPETING ON INTERNET TIME 6-10 (1998).

141. See Joseph Farrell & Garth Saloner, *Standardization, Compatibility, and Innovation*, 16 RAND J. ECON. 70 (1985); Michael L. Katz & Carl Shapiro, *Network Externalities, Competition, and Compatibility*, 75 AM. ECON. REV. 424 (1985); Michael L. Katz & Carl Shapiro, *Technology Adoption in the Presence of Network Externalities*, 94 J. POL. ECON. 822 (1986).

142. E.g., DOUGLAS G. BAIRD ET AL., GAME THEORY AND THE LAW 57-63 (1994) (discussing game theoretic analysis of predatory commitments).

143. E.g., Fisher & Rubinfeld, *supra* note 133, at 42; Thomas G. Krattenmaker & Steven C. Salop, *Anticompetitive Exclusion: Raising Rivals' Costs to Achieve Power Over Price*, 96 YALE L.J. 209 (1986).

144. See Eastman Kodak Co. v. Image Technical Servs., 504 U.S. 451, 451 (1992) ("Kodak adopted policies to limit the availability to ISO's of replacement parts for its

Game-theoretic analysis of differing market structures is useful because it helps direct the attention of antitrust enforcers and judges to facts and probabilities relevant to the purposes of the antitrust laws. It is also useful because it helps judges explore the most probable actions in particular circumstances and to assess the possible welfare effects of such actions, rather than simply presuming that welfare losses will follow from certain structures. Clear-eyed analysis of economic facts and incentives is essential to sensible antitrust analysis. The risk is not that game theory is too technical for judges. As noted at the outset, most judges are not going to work through the mathematics of any model from any field of economics. The risk is instead that judges will let the moves and options of the players distract them from the purpose of the game.

### B. Some Ambiguities in the District Court's Opinion in *Microsoft*

As we saw in Part II, Congress's failure to choose among possible goals of antitrust left the courts with the unhappy task of reconciling aims that sometimes conflict. The cases thus include ambiguous strands of decisions and dicta supporting a variety of goals, sometimes contradictory, and sometimes in the same opinion. Below-cost pricing of a web browser, for example, is a short run boon to consumers and a disaster for competitors. The standard response to such points is that consumers might lose in the long run, but it is hard either to demonstrate that such future losses will occur or to separate such consumer interests from the short-run interests of competitors. After all, on the logic of the standard response it is harm to competitors in the short-run that causes harm to consumers in the long run.

The district court's findings of fact and conclusions of law in *United States v. Microsoft* are to a degree troubled by this ambiguity. Consider the court's factual finding on the prospects for Navigator and Java to become viable platform competitors:

The actions that Microsoft took against Navigator hobbled a form of innovation that had shown the potential to depress the applications barrier to entry sufficiently to enable other firms to compete effectively against Microsoft in the market for Intel-compatible PC operating systems. That competition would have conduced to consumer choice and nurtured innovation. The campaign against Navigator also retarded widespread acceptance of Sun's Java implementation.

This campaign, together with actions that Microsoft took with the sole purpose of making it difficult for developers to write

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equipment and to make it more difficult for ISO's to compete with it in servicing such equipment."); CARL SHAPIRO & HAL R. VARIAN, INFORMATION RULES 142-71 (1999).

Java applications with technologies that would allow them to be ported between Windows and other platforms, impeded another form of innovation that bore the potential to diminish the applications barrier to entry.

There is insufficient evidence to find that, absent Microsoft's actions, Navigator and Java already would have ignited genuine competition in the market for Intel-compatible PC operating systems. It is clear, however, that Microsoft has retarded, and perhaps altogether extinguished, the process by which these two middleware technologies could have facilitated the introduction of competition into an important market.<sup>145</sup>

Judge Jackson states with admirable candor that he cannot conclude that but for Microsoft's actions, either Netscape or Sun would have perfected and introduced competition-enhancing innovation. He does say that Microsoft "hobbled," "impeded," "retarded," and "perhaps extinguished" the process by which Sun and Netscape might have enhanced competition through innovation. The last phrase has to be discounted somewhat in light of Judge Jackson's statement that the facts do not warrant the conclusion that Microsoft's monopoly could not have been maintained without its objectionable conduct.

One is left wondering, however, what these adjectives mean. On the scale between a trivial and insignificant effect and a but-for cause of the extension of monopoly power, where do "hobbled," "impeded," and "retarded" lie? At what point on that continuum do an incumbent firm's acts violate the law? Are the acts alone a violation, or must the effects be proved as well? This background highlights the importance of the district court's conclusions of law. The most important of these conclusions with respect to innovation is as follows:

In essence, Microsoft mounted a deliberate assault upon entrepreneurial efforts that, left to rise or fall on their own merits, could well have enabled the introduction of competition into the market for Intel-compatible PC operating systems. While the evidence does not prove that they would have succeeded absent Microsoft's actions, it does reveal that Microsoft placed an oppressive thumb on the scale of competitive fortune, thereby effectively guaranteeing its continued dominance in the relevant market. More broadly, Microsoft's anticompetitive actions

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145. Microsoft Findings of Fact, *supra* note 132, ¶ 411, at 111-12.

trammelled the competitive process through which the computer software industry generally stimulates innovation and conduces to the optimum benefit of consumers.<sup>146</sup>

Judge Jackson's language is suggestive but ambiguous. To the earlier list of adjectives the court adds "trammelled," and says that absent such trammeling the innovation of entrants "could well have" resulted in a competitive marketplace for platform technologies. The court's use of the term "competition" is interesting as well. Familiar questions present themselves at once. Is "competition" solely a process of rivalry among firms, a state of affairs in which the resources are allocated efficiently and total surplus is as high as it can be, or something else?<sup>147</sup> The court's reference to "competitive process" tends toward the former definition. Describing the process as a means of benefiting consumers tends, though perhaps less strongly, toward the latter. If by "competition" one means the process of rivalry among firms rather than the state of affairs in which social welfare is maximized, perhaps the placing of an oppressive thumb is actionably anticompetitive. But if one reads "competition" as a means to the ultimate end of maximizing total surplus,<sup>148</sup> then the oppressive thumb may serve mostly to distract attention from more relevant facts, such as the economic effects the thumb does or does not produce.

More concretely, it is possible to read Judge Jackson as straddling a conflict between consumer and producer surplus. From an entrant's point of view, probably the worst thing Microsoft did to tilt the scales of competitive fortune was to give its browser away for free and require hardware manufacturers to include it on personal computers. These actions reduced Netscape's revenues and, under certain assumptions, raised its distribution costs relative to a world in which manufacturers could select which browser to install.<sup>149</sup> Microsoft's pricing hurt Netscape and, at least in the

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146. *United States v. Microsoft*, 87 F. Supp. 2d 30, 44 (D.D.C. 2000). This conclusion was slightly weaker than, though consistent with, the court's finding that "Microsoft's refusal to offer a version of Windows 98 in which its Web browser is either absent or removable, however, had no such purpose. Rather, it had the purpose and effect of quashing innovation that exhibited the potential to facilitate the emergence of competition in the market for Intel-compatible PC operating systems." *Microsoft Findings of Fact*, *supra* note 132, ¶ 194, at 57.

147. Judge Bork identified five different meanings of the term in antitrust jurisprudence. *BORK*, *supra* note 65, at 58-61.

148. *Cf. Morrison v. Murray Biscuit Co*, 797 F.2d 1430, 1437 (7th Cir. 1986) ("The purpose of antitrust law, at least as articulated in the modern cases, is to protect the competitive process as a means of promoting economic efficiency.").

149. The validity of the cost-raising point depends on particular facts. If Microsoft were prevented from requiring manufacturers to install its browser, that would simply

short-run, helped consumers by giving them valuable technology for free. Which effect is more important? If the question is a trade-off between short-term gains and possible long-term losses, how do we discount the losses to determine the present cost of the activity?

Because the court could not conclude that innovative entrants would have succeeded in displacing Microsoft's monopoly position, its findings did not establish that but for Microsoft's actions innovations would have reduced market power in the monopolized market. Consumers may or may not have received less sophisticated technology because of Microsoft's actions.<sup>150</sup> The court criticized Explorer as not being superior to Navigator,<sup>151</sup> and pointed to particular instances in which it found that Microsoft

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give OEMs a choice of browsers to install. If consumers strongly preferred Netscape's browsers, OEMs would have an incentive to load Navigator even if they also loaded Explorer. OEMs might be able to pass their installation cost on to Netscape, which would value the installed base that preinstallation would help build, so in this scenario Netscape's costs might be increased by Microsoft's licensing practices. But even if Microsoft were prohibited from requiring OEMs to load Explorer, if consumers were indifferent as between the browsers, or became indifferent at some point in the evolution of technology, OEMs might sell preinstallation rights to the highest bidder. It is therefore not obvious that freeing OEMs to choose between suppliers would have lowered Netscape's distribution costs, implying that Microsoft's practices might not have raised those costs relative to the most likely alternative state of affairs. For a discussion of this point in the context of causation, see infra text accompanying notes 241-43.

150. Both Explorer and Navigator traced their roots to the development of the Mosaic program at the University of Illinois. CUSUMANO & YOFFIE, *supra* note 140, at 3, 95-99. After an initial sharp disparity in performance, strongly favoring Netscape, the two browsers reached rough parity in the eyes of many analysts. Mark A. Lemley & David McGowan, *Could Java Change Everything? The Competitive Proprietary of a Proprietary Standard*, 43 ANTITRUST BULL. 715, 740-43 (1998).

151. The court said that

Internet Explorer is not demonstrably the current "best of breed" Web browser, nor is it likely to be so at any time in the immediate future. The fact that Microsoft itself was aware of this reality only further strengthens the conclusion that Microsoft's decision to tie Internet Explorer to Windows cannot truly be explained as an attempt to benefit consumers and improve the efficiency of the software market generally, but rather as part of a larger campaign to quash innovation that threatened its monopoly position.

*Microsoft*, 87 F. Supp. 2d at 40. This statement should be read in light of the more guarded finding of fact that

product evaluations generally compare Internet Explorer with Navigator by identifying the beneficial and detrimental features of each. Because the evaluations disagree as to which features are most important, there is no consensus as to which is the best browser overall. When read together, the evaluations also do not identify any existing Web

slowed innovation by other firms,<sup>152</sup> but drew no general conclusion on platform-level innovation other than the one quoted above.

The district court's method of analysis was very different from the analysis of the merger cases we have examined. Rather than inferring suboptimal performance from market structure and ignoring conduct, the court analyzed the conduct within the market using the rational actor assumption to make sense of what it saw. This change is probably due in large part to the greater economic sophistication of the government's case-in-chief compared to the suits of the 1960s. Courts are better able to deal with probable human behavior in light of particular market structures than with the fact of the market structures themselves. There are similarities to those cases as well, however. Even though Judge Jackson did not necessarily equate consumer welfare with the notion of competition as rivalry, he saw the two as bound very tightly together: it is "the competitive process through which the computer software industry generally stimulates innovation and conduces to the optimum benefit of consumers."<sup>153</sup>

Judge Jackson's focus on the process of rivalry created some tension with the economic theories the government advanced. The government's contention that network effects created an applications barrier to entry into the operating systems market, combined with significant economies of scale, implied that a significant degree of concentration was to be expected in an efficient operating systems market.<sup>154</sup> The desirability of maintaining and improving software standards has similar implications.<sup>155</sup> Congress's decision to grant intellectual property protection to software implies a decision to tolerate some degree of market power in Microsoft's products. These facts suggest that the "competitive process" to which Judge Jackson referred has to be analyzed carefully, in the context of the economic characteristics of the market at issue. A small number of operating systems vendors does not necessarily imply welfare losses.

Also worth noting is the district court's decision to infer, as a finding of fact, that Microsoft had suppressed innovation by deterring rational en-

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browser as being "best of breed" in the sense of being at least as good as all others in all significant respects.

Microsoft Findings of Fact, *supra* note 132, ¶ 195.

152. E.g., Microsoft Findings of Fact, *supra* note 132, ¶ 101, at 35 (concluding that Microsoft slowed Intel's research into Native Signal Processing Software, though recognizing that Intel did not intend this software to become a substitute platform).

153. *Microsoft*, 87 F. Supp. 2d at 44.

154. Mark A. Lemley & David McGowan, *Legal Implications of Network Economic Effects*, 86 CALIF. L. REV. 479, 502 (1998); Mark A. Lemley, *Antitrust and the Internet Standardization Problem*, 28 CONN. L. REV. 1041, 1068 (1996).

155. See Lemley & McGowan, *supra* note 150, at 744-45.

trants from investing in innovations that might compete with Microsoft. The court said that, of all the harms it found,

[m]ost harmful of all is the message that Microsoft's actions have conveyed to every enterprise with the potential to innovate in the computer industry. Through its conduct toward Netscape, IBM, Compaq, Intel, and others, Microsoft has demonstrated that it will use its prodigious market power and immense profits to harm any firm that insists on pursuing initiatives that could intensify competition against one of Microsoft's core products. Microsoft's past success in hurting such companies and stifling innovation deters investment in technologies and businesses that exhibit the potential to threaten Microsoft. The ultimate result is that some innovations that would truly benefit consumers never occur for the sole reason that they do not coincide with Microsoft's self-interest.<sup>156</sup>

There is a complex relationship between the goals of antitrust, incumbent conduct, and entrant expectations. Modeling the investment decision of a prospective entrant is a delicate task, because an entrant would take into account the risk to its expected returns from both competitive and anticompetitive acts. For instance, the Justice Department conceded in its submission to the D.C. Circuit that if Microsoft had only offered “[Internet Explorer] to OEMs in a bundle with Windows at no extra charge” then “it would not have violated the antitrust laws.”<sup>157</sup> The Justice Department probably conceded this point because Microsoft’s free-browser policy unambiguously enhanced short-term consumer welfare. Potential entrants would view the emergence of a viable zero-cost competitor as unambiguously bad, however, and there is little question that the risk of facing such competition would make entry much less likely from an *ex ante* perspective. Basing decisions on the preferences of innovative entrants is therefore a risky endeavor, and the inferences drawn from rational actor assumptions applied to such entrants must be treated with care.

Judge Jackson’s decision illustrates the complexity of harm to innovation as a theory of antitrust injury. Innovation may fail to reduce market power regardless of an incumbent’s actions, and the incumbent’s actions may benefit consumers in the short run. How is a judge to weigh the benefits against the costs? Must a plaintiff show that an innovation was likely

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156. Microsoft Findings of Fact, *supra* note 132, ¶ 412, at 112.

157. Brief for Appellees United States and the State Plaintiffs at 63-64, United States v. Microsoft Corp., 87 F. Supp. 2d 30 (D.D.C. 2000) (Nos. 00-5212, 00-5213), available at [http://www.usdoj.gov/atr/cases/ms\\_index.htm](http://www.usdoj.gov/atr/cases/ms_index.htm) (Feb. 9, 2001) [hereinafter Brief for United States].

to have reduced market power absent the defendant's acts? If so, how can it do that, and how strong must the showing be? How is a judge to distinguish harm to a particular innovator from harm to innovation generally? If a judge cannot do that, how is innovation-based antitrust policy different from antitrust policy that seeks to protect competitors? If high-technology markets are likely to be highly concentrated, with one dominant firm supplanting another in leapfrog competition, how do we prevent antitrust law from becoming a code of business conduct for such markets, indistinguishable from state tort law or unfair business practice statutes? If antitrust seeks to safeguard the efficiency of markets rather than to police bad acts, judges must have some way of distinguishing acts that harm welfare from acts that are merely mean.

### C. Recommendations for a Stable Antitrust Approach to Innovation

Pointing out that harm to innovation is a difficult concept for antitrust courts to work with is easy. Coming up with analytical approaches that courts can use to develop a coherent body of law pertaining to innovation cases is considerably harder. In this section, I offer six recommendations for how courts should deal with innovation cases. These recommendations are driven primarily by the institutional demands of courts and the purposes of the antitrust laws. While a purely economic analysis might differ from these recommendations at some points, the institutional decision to administer the antitrust laws through the courts requires modes of analysis that allow judges to satisfy the constraints of common-law adjudication. Judges in antitrust innovation cases must develop a reasonably predictable body of law that coheres around purposes explicitly stated and rests on reasoning that can be understood and replicated by lawyers advising clients. The recommendations in this section are analytical tools that will be useful in that effort.

I begin with a cautionary note on navigating the intersection between the antitrust laws and the intellectual property laws. Judges must give effect to congressional decisions about the scope, term, and substance of intellectual property rights as well as to the decisions embodied in the antitrust laws. The language of the intellectual property statutes implies a core of behavior that should not be considered to violate the antitrust laws, with behavior outside that core being subject to antitrust scrutiny in cases where the facts warrant it. I suggest that unilateral, unconditional refusals to license are the relevant core behavior to which antitrust liability should not attach, and that joint or conditional refusals are proper subjects of antitrust analysis. I then suggest that courts analyzing claims of harm to inno-

vation seek to maximize total, rather than consumer, surplus, a suggestion that will help courts better align the purposes and structure of the antitrust laws and intellectual property rights.

My last four recommendations offer analytical tools to help judges determine when application of the antitrust laws will enhance innovation. I suggest that courts require evidence of harm to innovation or welfare generally, rather than to particular firms claiming to be innovators. I also suggest three analytical approaches for dealing with the very difficult question of determining when an incumbent's conduct should be deemed to have extended the duration of its monopoly—the question of causation. This question is difficult because different types of conduct with different and sometimes contradictory effects are likely to be present in many cases. The question is important, however, because causation serves an important role in defining what is and is not lawful under the antitrust laws. I conclude with recommendations for tailoring remedies in innovation cases to the degree of confidence with which answers to these other questions can be given, as well as to the structure of the relevant markets.

*1. Notwithstanding Rent-Seeking in Intellectual Property Protection, Antitrust Claims Should Not Be Used to Limit the Economic Power Conferred by Congress in Intellectual Property Rights*

Reconciling intellectual property rights and the antitrust laws requires careful analysis. As noted above, we do not know the optimal term or scope of intellectual property rights. For many reasons, we are not likely to find out. Some reasons for this difficulty are economic, such as the different costs and economies of production and consumption for different goods covered by the same rights. Others are legal, such as the ability of one work to be protected under multiple rights (e.g., software code might be copyrighted, might be a trade secret, or might be patented). As Professor Kaplow emphasized, the returns that can be obtained from intellectual property rights depend to a degree on the surrounding legal terrain, including such fields as contract and antitrust law.<sup>158</sup> We do not even know for sure that the gains from some rights outweigh the costs. Typically, however, we also do not know whether eliminating a system in place would be worse than keeping it.<sup>159</sup> As Mark Lemley has put it, “[t]he problem is, quite frankly, that we don't have a clue how innovation works.”<sup>160</sup>

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158. Louis Kaplow, *The Patent-Antitrust Intersection: A Reappraisal*, 97 HARV. L. REV. 1813, 1817 (1984).

159. See STAFF OF SENATE SUBCOMM. ON PATENTS, TRADEMARKS & COPYRIGHTS, 85TH CONG., AN ECONOMIC REVIEW OF THE PATENT SYSTEM: STUDY NO. 15, at 80

One can argue that the intellectual property laws have, or have recently acquired, a ratchet-like quality.<sup>161</sup> Benefits to increases in the scope and term of intellectual property rights are relatively concentrated, while costs are relatively diffuse. Rent-seeking by producers, such as software firms, recording companies, and movie studios, means that terms always get longer, exceptions always get narrower, and penalties for infringement always get higher.<sup>162</sup> There is evidence to support this theory.<sup>163</sup> If it is true, what does it imply about innovation?

Suppose one believes that intellectual property rights and innovation are positively correlated for any level of protection, i.e., that increasing the scope, term, and penalties of intellectual property rights always increases innovation. If one believed that, then the ratchet theory describes a desirable state of affairs, at least from an innovation point of view. Or suppose one believes that strengthening intellectual property rights increases innovation only up to a certain (unascertainable) level, but causes no harm beyond that point because bargaining will result in allocative efficiency through licensing to future innovators.<sup>164</sup> From that point of view, a ratchet to intellectual property rights would seem at worst neutral.

There are problems with the bargaining solution, though. Even with a strong rational-actor assumption—the incumbent firm is willing to license

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(Comm. Print 1958) (prepared by Fritz Machlup) (cited in Mark A. Lemley, *Reconceiving Patents in the Age of Venture Capital*, 4 J. SMALL & EMERGING BUS. LAW 137, 139 (2000)).

160. Lemley, *supra* note 159, at 139.

161. See Pamela Samuelson, *Copyright, Commodification, and Censorship: Past as Prologue—But to What Future?*, at [http://www.sims.berkeley.edu/~pam/papers/haifa\\_priv\\_cens.pdf](http://www.sims.berkeley.edu/~pam/papers/haifa_priv_cens.pdf) (2000); Mark A. Lemley, *Romantic Authorship and the Rhetoric of Property*, 75 TEX. L. REV. 873, 886-87 (1997) (book review).

162. See Frank H. Easterbrook, *Cyberspace Versus Property Law*, 4 TEX. REV. L. & POL. 103, 108 (1999).

Recent amendments to the copyright statutes provide special rules (and benefits) for semiconductor chip producers, management systems, and digital audio devices. . . .Industry-specific rules are the playgrounds of interest groups, and once factions get to work it is predictable that at least some of the laws will favor concentrated groups at the expense of the broader public.

*Id.*

163. E.g., Copyright Term Extension Act of 1998, Pub. L. No. 105-298, § 102(b)(1), (d), 112 Stat. 2827 (1998) (extending copyright term for both future and existing works); Digital Millennium Copyright Act, Pub. L. No. 105-304, 112 Stat. 2860 (1998) (codified at 17 U.S.C. § 1201) (prohibiting circumvention of measures that control access to copyrighted works and providing relatively narrow exceptions for research or reverse engineering).

164. Easterbrook, *supra* note 162, at 110-11.

subsequent innovations so long as the license maximizes its profits— incentives for both the initial and subsequent innovators may be misaligned.<sup>165</sup> Strategic behavior is also possible. If an incumbent cannot produce the innovation, the entrant has an incentive to hold out for a high division of profits. If the innovation is certain to infringe on an intellectual property right, the incumbent has an incentive to make credible threats that might cause the entrant to abandon the project. Chicken, in other words, is a costly game with considerable variance in possible outcomes.<sup>166</sup>

If one doubts that bargaining will lead to efficiency, either because of deviations from rational behavior or because of a divergence between conduct that maximizes a firm's profits and conduct that maximizes social welfare, then the ratchet may be desirable in some cases and neutral or undesirable in others. If one believes that strengthening intellectual property rights eventually results in negative correlations with innovation, as might be the case if reverse-engineering were prohibited, for example, then the ratchet is undesirable. Even this belief, however, does little to tell us what the optimal scope and term for any given right might be.

A ratchet in intellectual property protection might make antitrust litigation look like a promising way to reduce the social cost of rent-seeking by intellectual property producers. Arguments for that position are easy to make. The antitrust laws are more general than the intellectual property laws, they tend to view intellectual property rights as analogous to other forms of property,<sup>167</sup> and the variables relevant to antitrust enforcement map imperfectly onto the economic position of rights holders. Intellectual property producers therefore have less of a sense of whether they would favor or oppose antitrust action in general (though they will know where they stand on particular issues) and are therefore less likely to pursue changes in the antitrust laws, or to be successful if they make the attempt, than they are in lobbying for intellectual property rights.<sup>168</sup>

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165. Suzanne Scotchmer, *Standing on the Shoulders of Giants: Cumulative Research and the Patent Law*, 5 J. ECON. PERSP. 29 (1991).

166. Mark A. Lemley, *The Economics of Improvement in Intellectual Property Law*, 75 TEX. L. REV. 989, 1052-61 (1997); Scotchmer, *supra* note 20.

167. IP Licensing Guidelines, *supra* note 19, at § 2.1 ("An intellectual property owner's rights to exclude are similar to the rights enjoyed by owners of other forms of private property.").

168. There are limits to this principle, of course. Rights holders may lobby intensively for antitrust action against particular firms, as occurred when Netscape and other Silicon Valley firms lobbied the Justice Department to pursue Microsoft. See, e.g., William H. Page, *Microsoft and the Public Choice Critique of Antitrust*, 44 ANTITRUST BULL. 5 (1999).

Some lawyers and clients appear to favor this strategy. An energetic plaintiffs' antitrust bar does its best to keep interest alive in aftermarket cases and insists in all available fora that courts are interpreting intellectual property rights to allow too much anticompetitive behavior.<sup>169</sup> Thus we have private aftermarket cases based on software and patented parts,<sup>170</sup> and essential facilities cases based on a refusal to license,<sup>171</sup> in addition to the Justice Department's monopolization claims based in part on Microsoft's refusal to allow alteration to a first screen displayed when its work is run.<sup>172</sup>

There is nothing inherently wrong with such claims, so long as courts do not use them to truncate the scope of rights granted by an intellectual property statute, or to limit the means of exploiting those rights implied in the statutory structure. As an institutional matter, courts cannot and should not try to use the antitrust laws to reign in what may appear to a judge to be excessive congressional grants of economic power through the intellectual property laws. The lack of knowledge of the optimal scope or term of intellectual property rights implies the lack of a reliable baseline for making such judgments. If there is a ratchet to intellectual property protection, that is an issue for Congress.<sup>173</sup>

Some legal doctrines limit the economic power of intellectual property rights working within the structures of the rights themselves. Examples of such doctrines include patent and copyright misuse, and copyright fair use.<sup>174</sup> Such doctrines work directly with the statutory language Congress

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169. E.g., Ronald S. Katz et al., *Intellectual Property vs. Antitrust: A False Dilemma*, SD72 ALI-ABA 1 (1999); Ronald Katz & Adam J. Safer, *Why Is One Patent Court Deciding Antitrust Law for the Whole Country?*, SF37 ALI-ABA 219 (2000).

170. E.g., Alcatel USA, Inc. v. DGI Techs., Inc., 166 F.3d 772 (5th Cir. 1999); Image Technical Servs., Inc. v. Eastman Kodak Co., 125 F.3d 1195 (9th Cir. 1997); PSI Repair Servs., Inc. v. Honeywell, Inc., 104 F.3d 811 (6th Cir. 1997); Digital Equip. Corp. v. Uniq Digital Techs., Inc., 73 F.3d 756, 761 (7th Cir. 1996) (holding that a tie between operating system and hardware would not be unlawful absent market power); Data Gen. Corp. v. Grumman Sys. Support Corp., 36 F.3d 1147 (1st Cir. 1994); Serv. & Training, Inc. v. Data Gen. Corp., 963 F.2d 680, 687 (4th Cir. 1992).

171. Intergraph Corp. v. Intel Corp., 195 F.3d 1346 (Fed. Cir. 1999) (reversing district court finding of liability on essential facility and other theories).

172. United States v. Microsoft Corp., 87 F. Supp. 2d 30, 40-41 (D.D.C. 2000).

173. E.g., Richard A. Posner, *Antitrust in the New Economy* (John M. Olin Law & Econ. Working Paper No. 106, 2000).

174. On patent misuse, see Mark A. Lemley, Comment, *The Economic Irrationality of the Patent Misuse Doctrine*, 78 CALIF. L. REV. 1599 (1990) (commenting on the odd codification of the patent misuse doctrine). On copyright misuse, see *Alcatel USA*, 166 F.3d 772; *Lasercomb Am., Inc. v. Reynolds*, 911 F.2d 970 (4th Cir. 1990). On fair use, see 17 U.S.C. § 107 (1994).

used to define the rights and limitations that it thought necessary to induce investment in creative work. Neither the antitrust statutes, the case law interpreting them, nor the economic models on which modern decisions rest have this benefit.<sup>175</sup>

Because intellectual property laws tolerate market power, which is an economic fact that might contribute to a finding of liability under the antitrust laws, judges must reconcile the demands of the two systems in the context of particular cases. The intersection between the two statutory schemes and economic methodologies is notoriously contentious. At worst, cases involve antitrust plaintiffs (or infringement defendants) insisting that intellectual property rights provide no exemption from the antitrust laws, and antitrust defendants (or infringement plaintiffs) insisting that the antitrust laws cannot truncate a valid congressional grant of power. Nothing could be drearier.

Judges have traditionally tried to reconcile the two sets of laws by looking to the scope of intellectual property rights granted by statute. This approach implies that the exercise of validly obtained intellectual property rights cannot, standing alone, support an antitrust claim.<sup>176</sup> When rights holders do no more than refuse to license protected work, for example, courts are almost invariably hostile to antitrust claims.<sup>177</sup> This hostility is wise; compulsory dealing under the antitrust laws would strike at the heart of the right to exclude and would require some sort of judicial supervision over price.<sup>178</sup> Judges are ill-equipped for this task, which Congress implicitly addresses in the combination of rights and limitations in the various intellectual property statutes.<sup>179</sup>

This approach is desirable, but it needs to be stated a bit more precisely. A unilateral refusal to license a work protected by a lawfully acquired intellectual property right is nothing more than the exercise of economic power that Congress has granted, and it should not be made the

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175. For more on this, see David McGowan, *Networks and Intention in Antitrust and Intellectual Property*, 24 J. CORP. L. 485, 485-86, 493-95 (1999).

176. E.g., *In re Indep. Serv. Orgs. Antitrust Litig.*, 203 F.3d 1322 (Fed. Cir. 2000); *Intergraph*, 195 F.3d 1346; *SCM Corp. v. Xerox Corp.*, 645 F.2d 1195, 1206 (2d Cir. 1981), cert. denied, 455 U.S. 1016 (1982) (stating that conduct legally permitted under a lawfully acquired patent cannot establish antitrust liability); see also *Data Gen. Corp. v. Grumman Sys. Support Corp.*, 36 F.3d 1147, 1182 (1st Cir. 1994) (creating a rebuttable presumption that unilateral refusals to license intellectual property rights have a legitimate business justification).

177. The exception is *Image Technical Services Inc. v. Eastman Kodak Co.*, 125 F.3d 1195 (9th Cir. 1997).

178. For a more detailed discussion of these points, see McGowan, *supra* note 175.

179. *Id.*

basis for a claim under the antitrust laws.<sup>180</sup> Conditional refusals are different; they may extend a patentee's economic power beyond the scope of an intellectual property right.

Conditional refusals therefore pose a risk of welfare-reducing strategic behavior that goes beyond the scope of power granted by Congress and which therefore may require antitrust analysis.<sup>181</sup> For example, suppose a rights holder supplies technology to a firm for use in one market but competes with that firm in another. A refusal to license the input unless the other firm agreed to fix prices in the market where the two competed would be a conditional refusal, but it should not be immune from antitrust scrutiny on the ground that intellectual property rights were involved.<sup>182</sup>

The Federal Circuit's recent *In re Independent Service Organizations* ("ISO") decision, which held that refusals to license lawfully acquired patents do not violate the antitrust laws,<sup>183</sup> is best read as affirming the distinction between pure exclusion and conditional refusals. The court there recognized that tying agreements involving patented works might be subject to antitrust liability.<sup>184</sup> This exception was compelled by the Supreme Court's *Image Technical Services* opinion, which said that a rights holder might incur antitrust liability if it extended the economic power of a patent beyond the scope of the patent grant.<sup>185</sup>

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180. With respect to patent rights, the Patent Misuse Reform Act, 35 U.S.C. § 271(d)(4) (1994), states that unilateral refusals to deal are not misuse. The language does not say that unilateral refusals cannot support antitrust claims, but that conclusion is consistent with the purposes of that Act. McGowan, *supra* note 175, at 493-94. The Federal Circuit has cited the statute as one reason for holding that unilateral refusals to license a lawfully acquired patent do not violate the antitrust laws. *Indep. Serv. Orgs.*, 203 F.3d at 1326.

181. See PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW: AN ANALYSIS OF ANTITRUST PRINCIPLES AND THEIR APPLICATION ¶ 704.2, at 234 (2d ed. 2000); McGowan, *supra* note 175, at 496-97.

182. McGowan, *supra* note 175, at 497; IP Licensing Guidelines, *supra* note 19, § 3.1 ("A restraint in a licensing arrangement may harm . . . competition, for example, if it facilitates market division or price-fixing.").

183. *Indep. Serv. Orgs.*, 203 F.3d at 1326. With respect to copyright, the court endorsed the First Circuit's rebuttable presumption that unilateral refusals to license do not violate the antitrust laws. *Id.* at 1329 (citing *Data. Gen. Corp. v. Grumman Sys. Support Corp.*, 36 F.3d 1147, 1182 (1st Cir. 1994)) (creating a rebuttable presumption that unilateral refusals to license intellectual property rights have a legitimate business justification)).

184. *Id.* at 1326-27.

185. *Eastman Kodak Co. v. Image Technical Servs.*, 504 U.S. 451, 480 n. 29 (1992) ("[P]ower gained through some natural and legal advantage such as a patent, . . . can give rise to liability if 'a seller exploits his dominant position in one market to expand his empire into the next.'").

In discussing this exception, the Federal Circuit's opinion mentions only the tying agreements that were at issue when *Image Technical Services* was before the Supreme Court.<sup>186</sup> But the Federal Circuit rightly read the *Image Technical Services* language "as restating the undisputed premise that the patent holder cannot use his statutory right to refuse to sell patented parts to gain a monopoly in a market *beyond the scope of the patent*."<sup>187</sup> This reading suggests that the exception the Federal Circuit explicitly recognized for tying arrangements includes conditional agreements that have the same possible economic effects—extending the economic power of a patent beyond the scope of the patent grant—as the *Image Technical Services* Court attributed to tying.<sup>188</sup>

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186. Because the opinion mentions only tying agreements by name, it is possible to read its exception from the per se legality of unilateral refusals to deal as applying only to tying claims. Such a reading would make little economic sense, however, because some conditional agreements are analytically equivalent to tying. See Posner, *supra* note 173, at 7. Such a reading would also bring the opinion into tension with, if not direct conflict with, the Supreme Court's precedent. The reading of *ISO* advocated in the text is therefore preferable.

187. *Indep. Serv. Orgs.*, 203 F.3d at 1327.

188. The Federal Circuit went on to note that "absent exceptional circumstances, a patent may confer the right to exclude competition altogether in more than one antitrust market." *Id.* This statement is best read as saying that unconditional unilateral refusals to license are lawful even if they exclude competition in several antitrust markets, as might be the case in the sort of single-firm aftermarkets at issue in *Image Technical Services*. To read the statement more strongly, as applying to conditional refusals as well, would create a conflict within the opinion and at least a tension between the Federal Circuit's and the Supreme Court's opinion. Professors Lopatka and Page rightly point out that both tying and monopolization claims in the *Image Technical Services* context involve allegations that a rights holder attempted to extend the economic power conferred by an intellectual property right practiced in one market to gain revenues in another market. (In that case the extension was from parts to service.) Because the conduct and economic effects are substantially equivalent, it makes little sense to treat the two claims differently. John E. Lopatka & William H. Page, *Monopolization, Innovation, and Consumer Welfare*, 69 G.W. UNIV. L. REV. (forthcoming 2001).

With respect to either patents or copyright, the only notable exception to the legality of unconditional refusals to license is the remand decision in *Image Technical Services, Inc. v. Eastman Kodak Co.*, 125 F.3d 1195 (9th Cir. 1997). The Ninth Circuit there accepted the rule the First Circuit stated in *Data General Corp. v. Grumman System Support Corp.*, 36 F.3d 1147, 1187 (1st Cir. 1994), under which the exercise of intellectual property rights is a presumptively valid justification for allegedly anticompetitive behavior. But the court then allowed that presumption to be rebutted by evidence that Kodak did not genuinely intend its refusal to license as an exercise of its IP rights and had asserted the rights only as a pretext to cover its anticompetitive intentions. *Image Technical Services*, 125 F.3d at 1219-20. As I have argued elsewhere, the notion that a refusal to license a work covered by an IP right can violate the antitrust laws if the rights holder was motivated by a desire to restrain trade rather than to earn revenues from its

In short, judges assessing antitrust innovation claims may give proper effect to the congressional choice to confer (at least potentially) some degree of market power on rights holders by holding that unconditional unilateral refusals to license protected works do not violate the antitrust laws. Judges may give effect to both the antitrust and intellectual property laws by analyzing joint or conditional refusals under the antitrust laws where the facts warrant such analysis. In some cases, this may require courts to assess the degree of economic power the intellectual property laws imply. Judge Jackson's conclusion (in denying summary judgment) that software enjoys only relatively "thin" copyright protection is one example of this fact.<sup>189</sup> So long as such determinations are based on the language and purposes of the intellectual property laws, they are as desirable as they are necessary. Courts should not use antitrust principles to measure or truncate the strength of the legislative grant, however.

## 2. *Courts in Innovation Cases Should Seek to Advance Total Surplus*

The Supreme Court has not specified a single purpose to guide antitrust decisions. In some areas, standard tools of statutory construction might argue against an efficiency standard and in favor of small firms as against large firms and consumers. Our current doctrine, however, is a triumph of experience over hope. Development of an efficiency defense in merger cases,<sup>190</sup> the diminishing scope of the per se rule,<sup>191</sup> the greater emphasis on market power as necessary to establish liability,<sup>192</sup> and the establishment of a dangerous probability requirement for attempted monopolization cases,<sup>193</sup> all suggest that efficiency should be considered the principal goal of antitrust across a broad range of cases.

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work is unsound and should not be followed. McGowan, *supra* note 175, at 511-18. The Federal Circuit was right to reject this approach in *Indep. Serv. Orgs.*, 203 F.3d at 1329; *see also* AREEDA & HOVENKAMP, *supra* note 181, at ¶ 704.1, at 231.

189. *United States v. Microsoft Corp.*, Nos. 98-1232, 98-1233, 1998 WL 614485 at \*16 (D.D.C. Sept. 14, 1998) ("whatever policy justifications that may exist for a moral right of integrity in works of art are substantially weaker when the work at issue is a computer program, whose value lies in its functionality, not its artistry.").

190. E.g., U.S. Dep't of Justice and FTC, Horizontal Merger Guidelines § 4, available at [http://www.usdoj.gov/atr/public/guidelines/horiz\\_book/hmg1.html](http://www.usdoj.gov/atr/public/guidelines/horiz_book/hmg1.html) (Apr. 8, 1997).

191. *State Oil v. Khan*, 522 U.S. 3, 20-21 (1998); *Bus. Elecs. Corp. v. Sharp Elecs.*, 485 U.S. 717, 731 (1988); *Broad. Music, Inc. v. Columbia Broad. Sys.*, 441 U.S. 1 (1979); *Continental TV, Inc. v. GTE Sylvania, Inc.*, 433 U.S. 36 (1978).

192. *Jefferson Parish Hosp. Dist. No. 2 v. Hyde*, 466 U.S. 2, 38 (1984) (O'Connor, J., concurring).

193. *Spectrum Sports, Inc. v. McQuillan*, 506 U.S. 447 (1993).

Saying that efficiency trumps small-firm protection does not answer every question. As a doctrinal matter we do not know whether the interests of consumers trump those of producers even where a decision in favor of consumers would reduce total welfare.<sup>194</sup> The Supreme Court has not said which interest trumps in case of a conflict, and the Court's *Image Technical Services* opinion may be read as making a reduction in consumer surplus actionable even where total surplus is not likely to have been reduced. While the economic case for a total surplus standard probably seems obvious to many observers, it is not clear that this standard is binding as a doctrinal matter, and a significant portion of the political history of the antitrust laws, born of small firms seeking protection from large innovators, cuts against this view.

The unhappy history of antitrust during periods when conflicts in its purposes were sharply posed and put under pressure by litigants suggests that if innovation is to be a manageable theory of harm in future antitrust cases, antitrust courts assessing claims of harm to innovation must apply a total welfare standard. Most, if not all, cases in which innovation is at issue will also involve intellectual property rights, which deliberately give producers some economic power to extract from consumers the revenues necessary to induce investment in innovation.<sup>195</sup> The power intellectual property rights confer is not invariably or even often monopoly power, and in competitive markets may not be much power at all. If one presumes that the rights are necessary to induce creation in the first place, intellectual property rights do not shift existing wealth from consumers to producers. Nevertheless, the ability of producers to use intellectual property rights to extract revenues from consumers suggests that innovation cases are likely to pose conflicts between consumer and producer welfare.

Explicit recognition of a total surplus standard does not entail major changes in antitrust law, because many judges apply the standard already, and in most cases there is no conflict between consumer and total surplus.

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194. See Peter J. Hammer, *Antitrust Beyond Competition: Market Failures, Total Welfare, and the Challenge of Intramarket Second-Best Tradeoffs*, 98 MICH. L. REV. 849, 869-70 (2000).

195. E.g., *Harper & Row Publishers, Inc. v. Nation Enters.*, 471 U.S. 546 (1985) ("The rights conferred by copyright are designed to assure contributors to the store of knowledge a fair return for their labors."); *Diamond v. Chakrabarty*, 447 U.S. 303, 307 (1980) ("The patent laws promote this progress by offering inventors exclusive rights for a limited period as an incentive for their inventiveness and research efforts."); *Mazer v. Stein*, 347 U.S. 201, 219 (1954) ("The economic philosophy behind the clause empowering Congress to grant patents and copyrights is the conviction that encouragement of individual effort by personal gain is the best way to advance public welfare through the talents of authors and inventors in 'Science and useful Arts.'").

Some cases, such as both the Supreme Court and Ninth Circuit opinions in *Image Technical Services*, might have to be reconsidered, or limited to their facts, but at least at the circuit level, judges have been limiting the scope of those decisions already.<sup>196</sup>

### 3. Courts Assessing Harm to Innovation Should Require Evidence of Harm Beyond Injuries to Particular Firms

Antitrust innovation cases walk a fine line between general efficiency concerns and the welfare of particular firms. In order to make harm to innovation a concrete enough prospect to state a plausible claim, a plaintiff will have to introduce evidence of the type of innovation it has in mind, explain why it would enhance efficiency if successfully exploited, and explain how the defendant's conduct frustrates the innovation. The only realistic way to do that is to point to firms or other institutions (universities, perhaps) presently working on efficiency-enhancing innovation. Without the example of individual competitors to illustrate the nature of innovation allegedly harmed by wrongful conduct, and to show that the innovation promises some concrete chance of real social benefits, innovation claims will be unmanageable. With such examples, innovation claims present the risk that the antitrust laws might once again be interpreted to benefit individual firms. The experience with using particular firms as proxies for larger antitrust policy goals suggests that such efforts would lead to doctrinal incoherence and, for jurisprudential reasons if no other, would ultimately be unsustainable.

Consider the browser wars, for example. Both Netscape's Navigator and Microsoft's Explorer descended from the development of the University of Illinois' Mosaic program.<sup>197</sup> Suppose that Microsoft had discovered

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196. See, e.g., PSI Repair Servs., Inc. v. Honeywell, Inc., 104 F.3d 811 (6th Cir. 1997); Digital Equip. Corp. v. Uniq Digital Techs., Inc., 73 F.3d 756, 761 (7th Cir. 1996).

197. See CUSUMANO & YOFFIE, *supra* note 140, at 3, 95-99. Netscape, originally named Mosaic Communications, hired nine of the eleven students who had worked on the Mosaic browser at the University of Illinois National Center for Supercomputing Applications ("NCSA") including, of course, Marc Andreessen. Netscape paid the University of Illinois approximately two million dollars to settle claims the university asserted based on Netscape's use of the Mosaic name and technology. Netscape's Navigator browser did not use any Mosaic code, however. Testimony of Jim Barksdale, United States v. Microsoft Corp., 97 F. Supp. 2d 59 (D.D.C. 2000) (Nos. 98-1232, 98-1233), available at <http://www.usdoj.gov/atr/cases/f1900/1999.htm> (Oct. 13, 1998) [hereinafter Testimony of Jim Barksdale]. Roughly twenty other firms produced web browsers when Netscape was founded. *Id.*; see also CUSUMANO & YOFFIE, *supra* note 140, at 95-96. In early 1994, the NCSA began licensing Mosaic for a \$100,000 flat fee and a royalty of \$5 per copy. In August 1994, Spyglass, an NCSA spin-off firm, became the master licensee for Mosaic.

the Mosaic team before Jim Clark did, hired them away from Illinois, as Netscape (originally Mosaic Communications) did, and had introduced a competent browser in 1994. Suppose further that no other firms were working on the technology. If a consumer filed a complaint alleging that Microsoft's bundling of browser code with Windows was unlawful because it would discourage other firms from browser-related innovation, how should a court respond? I suspect that Microsoft would file a motion to dismiss, and that it would (and should) win. Such an abstract claim would not give the court any way to estimate the alternative path of innovation or its probable success, and permitting such claims to go forward would discourage desirable innovative work by incumbents.

Adding Netscape and Sun to the Microsoft case takes care of this problem, but it introduces another one. How are we to separate the path, rate, and probable success of innovation from the welfare of these particular firms?<sup>198</sup> The Justice Department used Netscape and Sun to represent middleware innovation that might have evolved into substitutes for Windows by exposing interfaces to application writers that could compete with the Windows application programming interfaces ("API") set. This may or may not have been a plausible business model; it appears not to have been the business model that Netscape had.<sup>199</sup> The claim is more plausible with respect to Sun's Java technologies. But moving the industry standard API set up a notch in the computing hierarchy would not obviously result in more firms offering the standard technology, particularly because Sun insisted on retaining intellectual property rights in Java itself. (It was this insistence that ultimately doomed its efforts to have Java recognized as an international standard by the International Organization for Standardiza-

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Microsoft licensed the Mosaic code in December 1994. *Id.* Netscape's settlement with the NCSA gave it a cost advantage; while firms that licensed Mosaic from Spyglass paid a \$5 per copy royalty, Netscape did not. *Id.* at 99.

198. The intellectual property laws are no help here, for they see no conflict. They actively seek to advance the welfare of rights holders in general, presuming that the benefits will outweigh the costs. But all the firms in the hypothetical are rights holders, or at least licensees, and they all innovate.

199. See Testimony of Jim Barksdale, *supra* note 197.

Q. Did you believe in 1995 that it was possible for Navigator to serve as a substitute for at least the platform characteristics of Windows?

A. No.

Q. And Netscape, as a company, did not hold that belief? A. We have always believed, and we still believe, that it can substitute for some of the characteristics. But we have never maintained in any serious way that it could substitute for all of it.

Q. Platform characteristics? A. Platform characteristics.

*Id.*; see also CUSUMANO & YOFFIE, *supra* note 140, at 210.

tion.)<sup>200</sup> Judicial backing of Sun over Microsoft might result in higher output or lower costs, but such an outcome is at least not self-evident.

History is instructive here. Antitrust innovation claims are risky to the extent particular firms cast as innovative entrants are used as a proxy for innovation generally. The protection of particular (small) firms has in the past been an unstable basis on which to rest any competition policy that is also concerned with efficiency. For antitrust decisions to amount to a workable rule of law, they must cohere around an identifiable purpose or purposes. The reasoning for the decisions must be explained sufficiently for lawyers and clients to understand and replicate it. If antitrust courts embrace theories of harm to innovation that cannot transcend the interests of particular firms, they run the risk that their decisions will fail to create a workable body of law. Firm-specific antitrust innovation policy would not only be worse than total welfare antitrust innovation policy, there is a risk that it could discredit efforts to use the antitrust laws to promote innovation altogether.<sup>201</sup>

In most cases, therefore, theories of harm to innovation should rest upon more than the welfare of particular firms. A plaintiff who could show only that another firm with its own intellectual property rights had been hampered should not prevail absent additional evidence or analysis providing a reasonable basis to conclude that the swapping of one dominant firm for another would enhance social welfare net of litigation and related costs. For example, if an entrant firm could make credible commitments that limited its ability to engage in strategic behavior if it became dominant, a court evaluating an innovation claim should take such commitments into account. If such commitments were concrete enough for courts to enforce in the future, through either estoppel or antitrust theories,<sup>202</sup> a court might reasonably consider harm to a particular firm a sufficient basis to state a claim. If no such evidence existed, a court should treat the claim with great skepticism.

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200. See Lemley & McGowan, *supra* note 150; David McGowan, *The Problems of the Third Way; A Java Case Study, in REGULATING THE GLOBAL INFORMATION SOCIETY* 243 (Christopher T. Marsden ed., 2000).

201. In addition to these legal institutional considerations, the switching of one dominant firm for another is not self-evidently superior to other, less costly, methods of bringing innovations to market, such as licensing. An exclusively firm-based innovation policy in an era of serial monopoly poses the risk of invoking the judicial power to do nothing more than swap one dominant firm for another based on judicial assessments of welfare. Maybe such swaps would, on average, enhance welfare, but that is at least not a foregone conclusion.

202. See Lemley & McGowan, *supra* note 150, at 771.

Some firm-independent theories of harm to innovation are easy to articulate. Claims based on conduct aimed at channels of distribution are the most obvious example. To borrow again from the *Microsoft* case, at least in theory Microsoft's exclusive dealing agreements with Internet service and content providers had the potential to extend the duration of its operating system power.<sup>203</sup> This potential existed regardless of the identity of particular innovators, or the precise nature of their innovations. These claims, on which Microsoft partially retreated at the outset of the case,<sup>204</sup> are good examples of the manner in which strategic antitrust enforcement can help maintain market conditions congenial to innovation.<sup>205</sup> Microsoft's requirement that original equipment manufacturers ("OEM") include Internet Explorer with Windows is another example of a general claim, because it would affect any firm wishing to distribute browsers through OEM installation. That Netscape was the most obvious of the browser competitors does not vitiate this fact. Preventing firms from blocking the distribution of competitive products through conduct that cannot be justified on efficiency grounds moves up the date at which an uncompetitive market becomes competitive.

Other claims of harm are harder to articulate without blurring significantly with the welfare of particular firms. The Java-related theories in the litigation were unquestionably firm-specific theories of harm; Sun clung tightly to its intellectual property rights in Java and its position as the official sponsor and maintainer of the Java technologies. In the litigation Java was characterized as only one form of "middleware," albeit a particularly interesting form because of its cross-platform aspirations and its backing by a major firm. But Java was never a legally "open" technology, in the sense that some open-source software projects may be.<sup>206</sup> Sun's determination to maintain control of Java and the failure of the government to

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203. Cf. Posner, *supra* note 173, at 6-7; Eric B. Rasmusen et al., *Naked Exclusion*, 81 AM. ECON. REV. 1137 (1991).

204. See Defendant Microsoft Corporation's Answer to the Complaint Filed by the U.S. Department of Justice, §§ 31, 34; Fifth Defense (1998), United States v. Microsoft Corp., 87 F. Supp. 2d 30 (D.D.C. 2000), available at [http://www.microsoft.com/presspass/doj/7\\_28answerdoj.asp](http://www.microsoft.com/presspass/doj/7_28answerdoj.asp) (July 28, 1998).

205. It is therefore ironic that these are the only claims on which the district court found in Microsoft's favor, on the ground that the agreements did not foreclose enough channels of distribution to establish a claim for violation of section 1. United States v. Microsoft Corp., 87 F. Supp. 2d 30, 50-54 (D.D.C. 2000). The Justice Department did not appeal this ruling, because the relief granted on the section 2 claims effectively prohibited such agreements. See Brief for United States, *supra* note 157, at 5.

206. See David McGowan, *Legal Implications of Open-Source Software*, 2001 U. ILL. L. REV. (forthcoming 2001) (discussing the open-source structure).

identify enforceable commitments limiting Sun's ability to engage in strategic behavior makes it hard to classify the Java aspect of the litigation as anything other than a theory of firm-specific harm.

There may be cases in which it makes sense for harm to a particular firm to count as harm to innovation in general even without a commitment constraining strategic behavior. In general, one might argue that no entrant will ever displace an incumbent unless the entrant's technology represents a big enough advance over the incumbent's to justify consumers in incurring the cost of switching to the new technology. This is a logical prediction, but its implications are ambiguous. Does it mean that every firm should be treated as a potentially radical innovator, such that harm to any firm counts as harm to innovation? Judicial history in dealing with forward-looking antitrust claims by seeking to protect small firms so that they could compete in the future counsels strongly against such an approach. Not only would courts probably wind up maximizing the welfare of particular firms, with the attendant risk of imposing serious costs and possibly retarding innovation, but the logic of winner-take-most markets does not support such a result. That logic says that an entrant will not supplant an incumbent unless the gains to consumers outweigh switching costs; it does not imply that every firm that tries to leapfrog the incumbent has the same likelihood of success, or even any likelihood of success.

At the other end of the spectrum, one could also infer from this premise that antitrust actions are superfluous in winner-take-most markets, because we need only wait for a sufficiently radical entrant to come along for market dominance to change, and nonradical innovations can be licensed through the dominant firm in the interim. This inference is as unwarranted as the first. Even if some level of innovation would displace an incumbent, that fact does not imply that the incumbent has no ability to extend its dominant position and delay the date at which the transition occurs.<sup>207</sup> On balance, it is best to say that firm-specific harm should not be enough to sustain antitrust innovation claims in most cases, leaving open the possibility of establishing a claim solely through firm-specific harm in extraordinary cases where the facts demonstrate that the welfare of a particular entrant could serve as a reliable proxy for total surplus.

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207. Some entry-delaying acts would be desirable. Improvements in the incumbent technology, for example, would narrow the gap between the two and make consumers less willing to incur switching costs. Such improvements would not violate the antitrust laws, however.

#### 4. A Coherent Approach to Causation in Monopoly Maintenance Cases Must Be Developed

Many have argued that the economics of the “New Economy,” generally meaning software and Internet-related lines of business, imply sequential monopolies in which dominant firms leapfrog each other’s market position.<sup>208</sup> To the extent this argument is correct, entrants will challenge incumbents through innovation, incumbents will respond aggressively, and antitrust courts will be called upon to evaluate claims that dominant incumbent firms extended monopolies through anticompetitive acts. To evaluate such claims, courts will have to develop analytical tools to answer the question of causation: What does it mean to say that a dominant firm’s aggressive acts “maintained” a monopoly?<sup>209</sup>

Apart from a defendant in current litigation, it is hard to find anyone willing to say that a monopoly maintenance claim should require proof that monopoly power would have been eroded but for the allegedly unlawful acts. It is not clear why this should be so. Assuming the defendant acquired market power legally, the only wrong in such cases is the extension of that power by anticompetitive acts. If a plaintiff cannot show by a preponderance of the evidence that market power would have been reduced but for a defendant’s anticompetitive acts, on what basis can a court hold the defendant liable under the antitrust laws?

Perhaps theories of causation used in tort cases can answer this question. Tort law sometimes imposes liability for a known wrong even though the plaintiff could not identify which of several defendants caused the harm.<sup>210</sup> Tort law also sometimes imposes liability for a known wrong if the plaintiff can prove the defendant’s conduct was a “substantial factor” in causing the harm.<sup>211</sup> This standard, adopted by the *Restatement*,<sup>212</sup> “generally produces the same results as does the ‘but for’ rule of causa-

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208. E.g., SHAPIRO & VARIAN, *supra* note 144, at 173 (“The industrial economy was populated with oligopolies . . . the information economy is populated by temporary monopolies.”).

209. E.g., PHILLIP E. AREEDA & HERBERT HOVENKAMP, 3 ANTITRUST LAW: AN ANALYSIS OF ANTITRUST PRINCIPLES AND THEIR APPLICATION ¶ 650(c), at 69 (rev. ed. 1996) (“there is much doubt about how clear and significant the causal relation must be between reprehensible conduct and monopoly power.”).

210. E.g., Sindell v. Abbott Labs., 26 Cal. 3d 588 (1980) (imposing market share liability on producers of fungible drug that harmed plaintiff, who could not identify which firm produced the drug she took); Summers v. Tice, 33 Cal. 2d 80 (1948) (imposing joint and several liability on two hunters who fired at plaintiff, who could not identify whose bullet hit him).

211. E.g., Bird v. Saenz, 103 Cal. Rptr. 2d 131, 136-37 (Cal. Ct. App. 2001).

212. RESTATEMENT (SECOND) OF TORTS § 431(a) (1965).

tion" but reaches beyond the but-for test "to satisfactorily address other situations, such as those involving independent or concurrent causes in fact."<sup>213</sup> Under either the but-for or substantial factor test to establish causation-in-fact, the harm suffered by the plaintiff is generally taken as a given. The question of causation involves only the relationship of the defendant's conduct to that harm.

The causation issue in monopoly maintenance cases is harder, however, because the harm in question is not so readily apparent as the death or injury of a tort plaintiff. Assuming the legality of market power in the first instance, if that power has not been preserved by anticompetitive means a court cannot assume that any harm to welfare has occurred. The question whether harm exists depends in significant part on whether the defendant's anticompetitive actions caused the extension of power that otherwise would have been eroded. Harm therefore cannot be taken as a given for purposes of causation analysis. This problem is particularly acute in markets where dominance by an incumbent firm is to be expected and does not itself imply welfare losses. As this analysis suggests, the standard of causation a court applies in monopoly maintenance cases plays a fundamental role in defining what conduct the antitrust laws condemn.

The interesting problem for courts in monopoly maintenance cases is to develop a standard of causation that reflects the goals and assumptions of antitrust policy, the institutional limitations of courts, and the relative risk and cost of error.<sup>214</sup> A strict standard of causation, for example, reduces the chance that liability will be found where welfare has not been reduced and increases the chance that liability will not be found where welfare has been reduced. A low standard does the opposite.

Analyzing these variables is a complex process that is hard to separate from one's background beliefs, such as how strongly one prefers market ordering to regulation, or vice versa. Approaches to causation in the past

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213. *Rutherford v. Owens-Illinois, Inc.*, 16 Cal. 4th 953, 1214 (1997).

214. The same is true in tort law. *Summers*, for example, imposed joint and several liability on two hunters who had shot toward the plaintiff on the ground that both had acted negligently and the two were in a better position than the plaintiff to identify whose bullet hit the plaintiff in the eye. *Summers*, 33 Cal. 2d at 86.

When we consider the relative position of the parties and the results that would flow if plaintiff was required to pin the injury on one of the defendants only, a requirement that the burden of proof on that subject be shifted to defendants becomes manifest. They are both wrongdoers—both negligent toward plaintiff. They brought about a situation where the negligence of one of them injured the plaintiff, hence it should rest with them each to absolve himself if he can.

appear to have been driven in significant part by the assumption that monopoly is aberrational and inherently bad. From that assumption, it follows that the acts of monopolists should be treated with great skepticism, and doubts about the evidence should be resolved against the monopolist. As Areeda and Hovenkamp state the point, “because monopoly will almost certainly be grounded in part in factors other than a particular exclusionary act, no government seriously concerned about the evil of monopoly would condition its intervention solely on a clear and genuine chain of causation from exclusionary act to the presence of monopoly.”<sup>215</sup>

The assumption that monopoly is an evil aberration implies to some that monopolists should bear the risk of uncertainty. The Areeda-Hovenkamp treatise gives a qualified endorsement to this concept, stating that in some cases it may be appropriate to presume that an exclusionary act is causally related to monopoly power, with the defendant being “made to suffer the uncertain consequences of its own undesirable conduct.”<sup>216</sup> In part through the influence of this treatise, risk allocation has played an important role in setting the standard of causation in monopoly maintenance cases.<sup>217</sup>

The gist of the uncertainty argument is that it is better to place the risk of error on monopolists who engage in ambiguous conduct, and who have the power to steer clear of the ambiguity, than to err in the other direction. The effect of this approach is to deter monopolists from competing as aggressively as the law would allow in a world of perfect information. Perhaps overdeterrence to compensate for informational deficiencies would be a good thing in a world where monopoly was an evil aberration, though even there the concept is inconsistent with cases saying that a monopolist is allowed to compete as aggressively as any other firm,<sup>218</sup> and it is at least not obvious that the benefits of overdeterrence are greater than the costs. But even setting such questions aside, why is systematic overdeterrence desirable in markets where monopoly is the rule rather than the exception?

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215. AREEDA & HOVENKAMP, *supra* note 209, at 77. Such assumptions probably explain the oft-heard objection that setting the level of causation too high will put an end to monopoly maintenance cases. From an efficiency perspective, that objection seems to miss the point that whether monopoly maintenance cases are desirable depends on whether the behavior they condemn actually reduces welfare, which in turn depends on what behavior is deemed sufficient to establish causation.

216. *Id.* at 78.

217. See *infra* note 221.

218. E.g., Olympia Equip. Leasing Co. v. W. Union Tel. Co., 797 F.2d 370, 375 (7th Cir. 1986) (“A monopolist, no less than any other competitor, is permitted and indeed encouraged to compete aggressively on the merits . . .”) (quoting Foremost Pro Color, Inc. v. Eastman Kodak Co., 703 F.2d 534, 544 (9th Cir. 1983)).

What are we to say of causation in a world in which monopoly is the norm and the only question is who will possess it?

At this point in the analysis, background assumptions and ideological commitments play a relatively large role. Analysts who favor intervention will look at the serial monopoly structure and see a reason for enforcement officials to intervene more aggressively than they have in the past. This view implies setting the standard of causation relatively low, so that incumbent firms face a greater risk of antitrust suits. The argument is roughly that monopoly power in winner-take-most markets will tend to be more durable than in more traditional markets, and worries about monopoly maintenance are therefore higher because incumbent firms will find it easier to suppress leapfrogging innovation than they have in the past. Antitrust intervention may be necessary, on this account, to ensure that the dominant firm is the one with the best technology. The Justice Department's fairly explicit view that platform-independence through Java would enhance welfare relative to a Windows-dominated world tends to confirm this implication.

Analysts who view antitrust intervention skeptically will look at the same structure and conclude that monopoly is no longer inherently suspicious but has been normalized. According to this view, because there is no reason to consider monopoly aberrational there is no reason to lower the standard of causation to increase the risk, and therefore the deterrent effect, of antitrust suits. This view would also argue that incumbents will be replaced when the advantages of entrant technology justify switching costs, and that enforcement officials and judges have little if any ability to measure the costs or benefits of technology adoption decisions.

Whatever one's antitrust predilections, the serial monopoly concept, and the models of winner-take-most markets on which much discussion of competition in high-technology markets has rested, suggest that the traditional assumptions driving causation doctrine need to be reconsidered when these models apply. Perhaps the only suggestion for a modification of traditional theory that might gain widespread support would be to tie remedies strictly to the strength of the plaintiff's proof of causation. Under this approach, if an incumbent's conduct could not be justified on efficiency grounds but also could not support a finding that market power would have been eroded but for the conduct, then any finding of liability under section 2 could support only tailored damages or injunctive relief,

but not structural remedies such as divestiture.<sup>219</sup> In such a world, for example, Microsoft could be enjoined from threatening Intel in order to deter that firm from supporting Netscape or Sun—an act with virtually no competitive justification but which also probably did little to extend or maintain market power—without the liability finding being used to rearrange the structure of the market.<sup>220</sup>

It makes sense to tailor remedies in such cases to take account of uncertainty. But that approach still does not come to grips with the question of causation, which both logic and precedent require judges to analyze. Competing assertions of contrary background assumptions and beliefs are not likely to advance that analysis very much. More importantly, background assumptions form an uneven basis for the reasoned elaboration of a coherent body of causation doctrine in innovation cases. Such assumptions tend to be very broad, cutting across markets and types of conduct. To the extent they rest on ideological underpinnings, they make it harder for judges to develop an antitrust innovation doctrine through reasoned discussion that can be understood and replicated by lawyers and clients. At least where the plaintiff's economic theory implies that sequential monopoly is a likely market structure, judges need more tailored approaches and analytical methods that allow them to test such background assumptions against the facts of particular cases.

The first practical question for judges is what level of evidence should be required to support a finding of causation and how the evidence should be analyzed. Verbal formulations of a causation standard seem unlikely to help judges very much. For example, the First and Tenth Circuits have endorsed the test suggested by Areeda and Hovenkamp, in which exclusionary conduct is defined as acts that "reasonably appear capable of making a significant contribution to creating or maintaining monopoly power."<sup>221</sup> In its brief to the D.C. Circuit, Microsoft cited the Areeda and Hovenkamp treatise to argue that a plaintiff alleging monopoly maintenance should be required to show "that reprehensible behavior has contributed significantly

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219. See Part III.C.6. (proposing this result as a limitation on remedies); see also AREEDA & HOVENKAMP, *supra* note 209, at 67-68, 91-92 (discussing relationship between remedies and strength of findings on causation).

220. See Daniel J. Gifford & David McGowan, *A Microsoft Dialog*, 44 ANTITRUST BULL. 619, 651-53 (1999) (discussing Microsoft's threats against Intel).

221. Data Gen. Corp. v. Grumman Sys. Support Corp., 36 F.3d 1147, 1182 (1st Cir. 1994); see also Multistate Legal Studies, Inc. v. Harcourt Brace Jovanovich Legal & Prof'l Publ'n's, Inc., 63 F.3d 1540, 1550 (10th Cir. 1995).

to the achievement or maintenance of the monopoly.”<sup>222</sup> The Justice Department cited the test adopted by the First and Tenth Circuits, which is stated at a later point in the treatise.<sup>223</sup> It is hard to see how debating the difference between these two standards, even on the nonobvious assumption that there is one, will help judges decide cases.

A more contextual approach is only slightly more helpful. If an innovation has virtually no chance of succeeding, or of increasing welfare if it does succeed, how does harm to that innovation “maintain” monopoly power? To punish an incumbent firm for squashing an entrant that had no real hope of displacing it would be to adopt a theory of antitrust in which “bad acts” create liability even where there is virtually no reason to believe they cause any economic harm. Such an approach would be in tension with Supreme Court authority.<sup>224</sup> In addition, both the total welfare mandate advocated above and our experience with antitrust enforcement divorced from economic consequences counsels against adopting a standard in which “bad acts” are unlawful without regard to the evidence (or lack thereof) of their economic effects. Causation analysis therefore has to consider whether the entrant’s technology would actually have succeeded in increasing welfare.<sup>225</sup>

At the same time, it would be unrealistic to require a plaintiff to prove conclusively that an entrant would have displaced an incumbent but for the incumbent’s alleged misconduct. There is always a risk that an innova-

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222. Brief for Defendant-Appellant, *United States v. Microsoft* at 72-73, *United States v. Microsoft Corp.*, 165 F.3d 952 (D.C. Ct. App. 1999) (Nos. 98-5399, 98-5400), available at <http://www.microsoft.com/PressPass/doj/9-1finalcourt.asp> (Sept. 1, 1998).

223. Brief for United States, *supra* note 157, at 51-52.

224. See *Brooke Group, Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 225 (1993) (“Even an act of pure malice by one business competitor against another does not, without more, state a claim under the federal antitrust laws; those laws do not create a federal law of unfair competition or ‘purport to afford remedies for all torts committed by or against persons engaged in interstate commerce.’”) (quoting *Hunt v. Crumboch*, 325 U.S. 821, 826 (1945)).

The purpose of the Act is not to protect businesses from the working of the market; it is to protect the public from the failure of the market. The law directs itself not against conduct which is competitive, even severely so, but against conduct which unfairly tends to destroy competition itself. It does so not out of solicitude for private concerns but out of concern for the public interest.

*Spectrum Sports, Inc. v. McQuillan*, 506 U.S. 447, 458 (1993)

225. As noted above, one might argue that this concern is irrelevant because no entrant would displace an incumbent unless its technology was good enough to induce consumers to incur switching costs. Assuming that this point is correct, it should be relatively easy to explain to a court why the entrant technology in question fits that model.

tion will fail to fulfill its promise, and perhaps fail to produce any useful advances at all. If any risk of failure is enough to break the causal connection between anticompetitive conduct and unlawful “maintenance” of monopoly power, then antitrust innovation claims would always fail because there is always a risk that an entrant will fail. Unless we are confident that the antitrust laws could not enhance welfare unless a plaintiff met his standard, then a lower causation requirement is necessary.

Such conceptual analysis of the causation doctrine does little to help courts interpret actual evidence in real cases, which is the most important part of the problem. If we accept that monopolists should be allowed to compete as vigorously as anyone else,<sup>226</sup> particularly in winner-take-most markets where monopoly is not an aberration, then how are judges to decide cases involving a mixture of aggressively competitive and anticompetitive acts? Because courts cannot measure very well the probability that an innovator would succeed in displacing a dominant firm, judges will have to resort to rules of thumb, presumptions, and proxies for this information. These rules of thumb, presumptions, and proxies will become vitally important to the evolution of harm to innovation as an antitrust theory. The first step in developing such approaches is to eschew labels in favor of analytical tools—questions to ask and rebuttable presumptions to impose.

One presumption-based approach is to use the incumbent firm’s actions as a proxy for the probability of an entrant’s success and, by extension, the probability that the incumbent’s market power would have been eroded absent the misconduct at issue. Judge Jackson employed this approach to a degree in his conclusions of law, noting that “[p]roof that the defendant’s conduct was motivated by a desire to prevent other firms from competing on the merits can contribute to a finding that the conduct has had, or will have, the intended, exclusionary effect.”<sup>227</sup> His findings of fact also relied heavily on motivation. Though he could not conclude that Netscape or Java would have introduced competition, he thought it important that the “sole purpose” of some of Microsoft’s Java-related conduct was to frustrate Sun’s cross-platform efforts.<sup>228</sup> The Justice Department advanced a similar argument on appeal. The gist of the argument is that a rational

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226. Olympia Equip. Leasing Co. v. W. Union Tel. Co., 797 F.2d 370, 375 (7th Cir. 1986).

227. United States v. Microsoft Corp., 87 F. Supp. 2d 30, 37 n.1 (D.D.C. 2000) (“consideration of intent may play an important role in divining the actual nature and effect of the alleged anticompetitive conduct”) (citing United States v. United States Gypsum Co., 438 U.S. 422, 436 n.13 (1978)).

228. United States v. Microsoft, 84 F. Supp. 2d 9, 106 (D.D.C. 1999).

incumbent would not take action to combat an entrant technology unless that technology had a significant likelihood of succeeding and, therefore, of displacing the incumbent.<sup>229</sup> On this view, defensive actions imply causation.

Logical inferences may be drawn from incumbent responses, and anyone who believes that firms understand market realities better than lawyers or judges should be inclined to give some weight to incumbent perceptions. But there are problems with such analysis, too. The incumbent firm might be wrong about the entrant's abilities or intentions, for example. Microsoft may have feared that Netscape planned to expand its API set to become a true substitute for Windows, but Netscape appears not to have had such plans.<sup>230</sup> Microsoft might fear that the GNU/Linux operating system, or some other Unix variant, will become a viable operating system substitute. Maybe so, but if it happens it will be because of the nature of the entrant technology and market conditions. In some cases the incumbent's fears may be the best evidence of the probabilities these other facts imply, but it is not obvious that this is the case.<sup>231</sup> After all, the stereotypical monopolist is bad for innovation precisely because it has its eye on the past and does a poor job of analyzing new developments.

More fundamentally, focusing exclusively on the fact of incumbent responses is both indeterminate and unrealistic. If one knew nothing other than that an incumbent had reacted aggressively to a prospective innovative entrant, one would logically conclude both that the incumbent believed the prospective entrant had at least a reasonable likelihood of displacing the incumbent and that the incumbent's ability to exercise whatever market power it had was constrained, perhaps substantially, by the prospective entrant's threat. Without further facts, one could not say how likely the entrant was to succeed nor how significant a constraint—if any—it placed on the incumbent.<sup>232</sup>

Arguments based solely on incumbent responses will always suffer from this dual nature. That analysis of an incumbent's beliefs and inten-

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229. See Brief for United States, *supra* note 157, at 85.

230. See *supra* note 199.

231. At oral argument, counsel for the United States and State plaintiffs appeared to concede that the test of causation was objective rather than a subjective inquiry into the beliefs of an incumbent. Trial Transcript, United States v. Microsoft Corp., 87 F. Supp. 2d 30 (D.D.C. 2000) (Nos. 00-5212, 00-5213), available at <http://207.46.230.218/presspass/trial/transcripts/feb01/02-26.asp> (Feb. 26, 2001).

232. The latter point is not directly relevant to causation, but is relevant to the degree of harm to welfare and to the remedy that might be justified in the event liability was established.

tions will always support contradictory inferences, however, does not imply that the competing inferences will be equally strong. It does imply that an incumbent's beliefs and intentions have to be analyzed in a broader factual context in order to decide whether one inference is stronger than another, or whether one effect (i.e., maintenance of monopoly or constraint on power) is likely to be greater.

It is therefore the combination of the analysis of incumbent beliefs with a close analysis of other market-related facts that makes those beliefs and intentions useful at all. Indeed, because the point at which a court believes that causation has been established defines the type of conduct the law regulates, and therefore is closely related to the purposes the law seeks to advance, there is every reason to engage in an integrated analysis on the question of causation as well. At least to some degree, the nature of the technology and market conditions can be analyzed directly, and there is no reason to use incumbent beliefs to the exclusion of such analysis.<sup>233</sup>

Opinions will vary on how much weight to give incumbent beliefs in an integrated causation analysis. I am content to say that an incumbent's beliefs and actions may be used to interpret ambiguous evidence, and an incumbent's beliefs might be used to tip the scales toward a finding of causation if other evidence is almost evenly balanced. In that case, however, there will by definition be a substantial independent evidentiary and analytical basis for concluding that the conduct at issue reduced either the rate at which innovative technology advanced or was adopted. Any inferences a judge draws from incumbent beliefs, however, should be subject to rebuttal by hard evidence, such as the testimony that Netscape did not in fact seek to become a full platform substitute for Windows.

Reserving the incumbent firm's intention for these purposes, we face squarely the problem of how to analyze incumbent conduct and its probable effects in winner-take-most markets where there is no reason to believe that monopoly is aberrational. This is, of course, the hard part. The best we can do is to adopt a flexible standard of causation that takes into account structural facts about the market, the nature of the claim being asserted (e.g., whether the conduct at issue is directed at a single firm, a type of technology, or at access to a channel of distribution), and whether a

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233. Indeed, it is difficult, if not impossible, to imagine any enforcement official or antitrust plaintiff bringing a case solely on the basis of incumbent responses alone. Explicitly or implicitly, any party bringing such a claim will consider facts in addition to incumbent beliefs, and will use those facts to test and try to make sense of the beliefs. The key is to make the reasoning explicit so it can be tested by courts and, potentially, adopted by courts in a way that lawyers can understand and replicate in advising clients.

remedy tied to the conduct at issue could reasonably be expected to increase welfare.

Market structure is relevant to causation in an innovation claim to the extent the standard of causation expresses background assumptions about whether monopoly is inherently evil and aberrational. A model of winner-take-most competition implies that monopoly is not aberrational and that traditional doctrines designed to do away with monopoly and facilitate a return to "normal" market structure need to be rethought. As suggested above, that rethinking may do no more than reflexively express the same background assumptions in a different way. That outcome is not inevitable, however, and one hopes that rigorous analysis can avoid it. Either way, market structure is relevant to causation analysis and has to be taken into account for that reason.

At a more detailed level, market structure is relevant because it tells us something about how secure the incumbent's market position is and, by implication, how difficult it would be for an entrant technology to displace the incumbent. If the incumbent's market is characterized by large economies in production and consumption, for example, or by barriers to entry created by the incumbent's possession of de facto standard technology, then the incumbent's market position is likely to be durable. Assuming that consumers would incur costs in adopting an entrant's technology, then even without any illegal action by the incumbent one would expect displacement to be difficult. An entrant's innovation would run a significant risk of failure unless it was a truly significant improvement that could entice the incumbent's installed base of users to bear the cost of (and overcome collective action problems associated with) switching to the entrant's product. Entrant efforts to lower transition costs, are of course, relevant as well.

As noted above, in an ideal world the standard of causation would be tied to the available remedies, so that liability based on ambiguous acts could not support structural remedies. Setting that possibility aside for the moment, however, and envisioning a binary world in which any liability finding justified any remedy, then courts generally should demand stronger evidence of the connection between specific acts and the maintenance of market power in cases where the economic facts suggest that such power would be durable. Where the market structure implies durable power, it also implies a relatively low probability that ambiguous acts extended or increased power that would have eroded but for the defendant's acts.

In at least some cases, this recommendation implies that the stronger and more stable a firm's market position is, the more "bad acts" it can en-

gage in without fear of being found to have maintained its monopoly by unlawful means. Many analysts would view this implication as very odd (at best) and as reason enough to reject the recommendation. Any rule that says the more dominant a firm is, the meaner it can be, the argument would go, has got to be wrong. This sort of reaction is understandable, but the reasoning behind it is less solid than one might think. For example, this criticism rests implicitly on the notion that monopolists are forbidden from doing things that a firm in a competitive market could do, a position for which there is support in the cases.<sup>234</sup> But why might this be? If the antitrust laws are designed to punish “bad acts,” defined without regard to economic effects, then it should not matter whether the firm that commits them is a monopolist.

Holding a monopolist to a higher standard is consistent with the view that antitrust is not a code of fair business conduct and is instead concerned with the effects of that conduct on social welfare.<sup>235</sup> The reflexive objection to allowing any “bad acts” of a monopolist to go unpunished rests on an implicit definition that would allow an act to be deemed “bad” without regard to its economic consequences.<sup>236</sup> Such a definition of prohibited conduct divorces antitrust law from the requirement of harm to welfare that distinguishes antitrust from generic unfair business practice statutes and run-of-the-mill business torts. Taking market structure into account as part of the causation inquiry is an important step in maintaining the economic consequences of behavior as the primary focus of antitrust. If and to the extent that antitrust is about economic harm rather than “bad acts,” then “bad acts” that cause no appreciable harm should not be held to violate the antitrust laws.

The alternative basis for this objection is a variation on the overdeterrence theme we examined earlier. The argument here would be that we cannot know enough about the consequences of a monopolist’s actions to safely excuse any conduct that might plausibly, possibly (or under some

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234. *E.g.*, *Eastman Kodak Co. v. Image Technical Servs.*, 504 U.S. 451, 488 (1992) (Scalia, J., dissenting) (“Where a defendant maintains substantial market power, his activities are examined through a special lens: Behavior that might otherwise not be of concern to the antitrust laws—or that might even be viewed as procompetitive—can take on exclusionary connotations when practiced by a monopolist.”).

235. See *Brooke Group, Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209 (1993); *Spectrum Sports, Inc. v. McQuillan*, 506 U.S. 447 (1993).

236. No doubt some acts condemned under this approach would have adverse economic consequences. My point is only that the reflex objection to which I am responding would not require a showing of such consequences in order to condemn the acts. It is to that extent, whatever it may be, that the objection detaches antitrust from its concern with welfare and moves it toward a code of fair business practices.

other such term) reduce welfare. Knowledge of the economic consequences of a monopolist's actions is indeed imperfect, so there is something to this point. But imperfect knowledge is not total ignorance; still less is it a reason to ignore evidence that might increase our knowledge and make our inferences sharper. It is true that causation analysis requires courts to draw inferences about the likely effects of actions, but the inferences will better reflect the goals of antitrust policy if they take market structure into account because that structure is relevant to the purposes of the inquiry. We should not ignore evidence relevant to the question whether monopoly power has been maintained by unlawful conduct simply because that evidence might suggest that conduct that has traditionally been unlawful in fact has little if any economic consequence.

Adding structure to the causation inquiry might tend to favor defendants, but there is no reason to expect this tendency to be universal. In some cases taking market structure into account might lead courts to give greater weight to conduct than they otherwise would. For example, in and of itself, Microsoft's insistence that Intel not publicly support Netscape and Sun's Java technologies might appear trivial. Those acts appear more significant when one considers the importance of consumer expectations in markets where network effects are strong, and the role Intel plays in the hierarchy of personal computing competition. Such concerns would be relevant to analysis of an immature market as well.<sup>237</sup>

The nature of the claim being asserted is relevant because incumbent actions that block any entrant firm, as through exclusive dealing arrangements that make distribution more expensive for entrants, pose greater risks of foreclosing innovation in general than do acts directed at particular firms, such as allegations that the incumbent "polluted" an entrant technology or intimidated other firms into not supporting a particular entrant's technology. In part this is for the reasons stated above. With respect to causation, the nature of the claim is relevant because any particular firm may fail for any number of reasons—including a host of firm-specific risks such as poor management. The variance associated with the success of Netscape's browser alone, in other words, is higher than the variance associated with the success of browser technology in general. The generality of the claim probably should be given less weight than either the market structure or the ability to devise a remedy, but it is a relevant point and therefore should be considered.

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237. See David Dranove & Neal Gandal, *Network Effects, Standardization and the Internet: What Have We Learned from the DVD vs. DIVX Battle?* (2000) (unpublished manuscript, on file with author).

Asking whether a remedy directed solely at objectionable conduct could reduce the incumbent's market power is a hypothetical question designed to serve as a sort of acid test for causation. If putting a stop to the objectionable conduct would leave the incumbent in the same position, then some explanation should be given as to why that conduct "maintained" the defendant's monopoly. If no explanation can be given, a court should be less willing to find that the conduct caused market power to persist artificially.

This is not to say that no explanation can be given for any particular case or sort of claim. My only point is that the thought experiment of analyzing the effects of tailored remedies will make causation analysis more precise. Once again let us use the Microsoft case as an example. Suppose the argument is made that forcing computer manufacturers to install Explorer was anticompetitive because it raised Netscape's cost of distribution.<sup>238</sup> Presumably this is because Netscape would have to pay OEMs a fee to cover their costs of installing Navigator in addition to Explorer, including the cost of customer support.<sup>239</sup> A rational OEM would demand such a fee and would take it when offered, assuming some level of demand for Navigator. (In fact, Netscape appears to have paid such a fee to Compaq in 1999.)<sup>240</sup> Suppose further that Microsoft is enjoined from requiring OEMs to preinstall Explorer. What happens next?

Enjoining Microsoft from requiring OEMs to install Explorer might lower Netscape's cost of distribution, but that conclusion is not self-evident and might be unlikely. Enjoining the practice would leave OEMs free to install whatever browser they chose. Two situations are possible. In the first, consumers have strong preferences for either Navigator or Explorer, presumably because one or the other offers decisively better performance. In the second, consumers are indifferent between the two because any difference in performance is worth less than the cost of downloading whatever browser is not preinstalled. In the first case, OEMs would install the browser consumers demanded. In the second, however, consumer indifference would imply a profit opportunity for OEMs, who could sell exclusive preinstallation rights to the highest bidder.

Netscape's distribution cost would be lower if Navigator were the preferred browser in the first case; they would not be lower if Explorer were the preferred browser. Netscape's distribution cost also would not be lower in the second case, characterized by consumer indifference, because

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238. See Fisher & Rubinfeld, *supra* note 133, at 48-49.

239. *Id.*

240. *Id.* at 49 n.67.

then OEMs would demand preinstallation fees. These fees might be higher (and would not be lower) than OEMs' cost of installation, a cost Netscape would face whenever consumers were indifferent as between browsers, regardless of Microsoft's policies.<sup>241</sup>

The concept of raising rivals' costs requires a benchmark for measurement. If one asks whether Microsoft's OEM policies raised Netscape's costs relative to an assumed world of free OEM preinstallation, then the answer is obviously yes. That benchmark is plausible only with respect to a market in which consumers express a clear preference for Navigator over Explorer, however. Consumers did in fact express such a preference in 1995 and part of 1996, when even Microsoft acknowledged that Explorer was a poor product.<sup>242</sup> During this period, Microsoft's ability to insist that OEMs install Explorer can plausibly be read as the exercise of market power in a manner calculated to maintain that power.<sup>243</sup>

In a world in which consumers are largely indifferent between browsers, the assumption of free OEM distribution is not plausible. In that situation, OEMs would rationally exact preinstallation fees from either Netscape or Microsoft, and it would be an error to say that Netscape's costs had been raised. Analyzing the consequences of a tailored injunction therefore allows us to focus the causation inquiry more precisely. For some period of time, Netscape's superior quality implied that it could obtain free OEM distribution. If it had to pay fees or was denied preinstallation during this period, then its costs were raised by anticompetitive acts. (If OEMs installed Navigator without charge during this period, however, then the opposite conclusion would of course follow.) After that period of time, the presumption of free distribution is not plausible, and the conclusion that Netscape's costs had been raised is harder to maintain.

The causation question then boils down to whether the economic effects of the period during which Netscape's costs were increased due to Microsoft's defensive exercise of market power were significant enough to "maintain" Microsoft's monopoly. That question does not answer itself. Analyzing market behavior on the assumption that a tailored remedy is in

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241. And if the OEM distribution channel were not valuable enough to warrant such payments, then one would reasonably question how much welfare would be reduced by increasing the cost of using that channel.

242. See Lemley & McGowan, *supra* note 150, at 768 (describing the temporal aspect of the browser wars).

243. In a world in which consumer preferences were reversed, no market power would be necessary and Microsoft's policies would be surplusage. In that case, one would not want to say the policies had caused its market power to be maintained, even if one gave Microsoft's insistence on the terms some weight in favor of such a finding.

place, however, allows us to analyze the question of causation more clearly than do general arguments about the raising of rivals' costs

These suggestions do not establish a comprehensive approach to causation in monopoly maintenance cases based on harm to innovation. Most glaringly, the suggestions deal poorly with the fact that markets are messy arenas of human behavior in which many variables work together, and might work very differently if only small changes were made in any one of them. What about a series of acts each of which, on its own, could not extend the monopoly? Could their cumulative effect have caused market power to be maintained? Maybe so, and the possibility of cumulative causation should not be ignored. My suggestions do not provide much help in summing such effects.

Perhaps all that can be said on the problem of cumulative effects and mixed conduct is that acts by which an incumbent innovates or distributes innovative technology more rapidly—think here of Microsoft's improvement of Explorer and its Java Virtual Machine (“JVM”)—should not count against the incumbent. If anything, the effects of such acts should be offset against the cumulative effects of anticompetitive acts.<sup>244</sup> But at this point measurement problems are likely to be insurmountable, as a practical matter, and we must leave it to judges to exercise their best judgment after analyzing the relevant facts as rigorously as possible.

Lastly, theories of causation that rest on rational actor predictions that incumbent conduct will scare off potential entrants, thereby reducing consumer choice, should be viewed skeptically. By this I mean that before accepting such arguments as establishing causation, courts should require evidence and analysis linking rational entrant behavior directly to an incumbent's anticompetitive actions and should, to the extent possible, weigh against a finding of causation the deterrent effect of any incumbent actions the court finds to have promoted efficiency. If lawful incumbent conduct would have been sufficient to deter entry by a rational firm, then the argument from entrant expectations should not weigh in favor of a finding of causation.

It is easy to say that a rational entrant will not bother to take on a powerful incumbent if the entrant expects to get squashed. But a rational entrant would consider the risk posed by any incumbent response, including

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244. For a detailed discussion along similar lines, which argues that in antitrust innovation cases where the conduct at issue “produced immediate and significant consumer benefits” courts should “create a presumption in favor of the defendant” that could be rebutted only by “compelling evidence that the expected cost of future consumer harm exceeds the immediate benefits,” see Lopatka & Page, *supra* note 188, at 9-10.

responses the antitrust laws view as desirable and seek to promote. Improved product quality and free upgrades from an incumbent, for example, increase the risk associated with the entrant's revenues and therefore make entry less likely. More concretely, why would any firm bother making a Java Virtual Machine for a particular platform when everyone knows Microsoft will pour enough resources into its effort to have the best JVM in the market? Why would anyone bother introducing a browser when they know that Microsoft will pour enormous resources into making its own browser that will quickly become roughly as good as the entrant's? Perhaps no rational entrant would bother, but it does not follow that such efforts are anticompetitive—quite the contrary. That the Justice Department did not challenge Microsoft's free-browser policy adds further weight to this point.

In addition, the entrant-deterrence argument is hard to assess. Even though firms such as Sun, Netscape, and, at an earlier date, Microsoft, continue to emerge, one can always assert that more entry would have occurred with less aggressive incumbent firms. That being said, the argument has difficulty accounting for the rate of progress we have seen, a point Professor Scherer made in his assessment of how the argument has fared over time.<sup>245</sup> Finally, the argument poses a risk of confusing the welfare of particular firms with social welfare generally. An entrant who wishes to introduce a product and then license or sell it to an incumbent still produces innovation that is dispersed quickly and at low cost. What is the social value differential between incumbent ownership and exploitation, and entrant ownership and exploitation? Perhaps an incumbent would suppress the technology, but in a world of strong rational actor assumptions and network effects, how likely is this to happen?

By saying such arguments should be viewed skeptically, I mean no more than that. I do not say that the entrant-deterrence argument is always wrong, or that courts should reject it out of hand as too speculative. The entrant-deterrence argument distinguishes poorly among different types of responses that contribute differently to welfare and which therefore should be treated differently by the antitrust laws, however. For that reason, it should be treated skeptically and scrutinized closely when it is advanced.

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245. Scherer, *supra* note 17.

##### 5. *Measures That Lower the Cost of Entry or Transition Among Technologies Should Be Favored, So Long As Intellectual Property Rights Are Not Truncated*

The serial monopoly thesis also suggests that antitrust courts should look favorably on measures that make it cheaper for consumers to switch from an incumbent technology to a new technology. This contention is more debatable than one might think, but in at least some circumstances interoperability seems desirable as a matter of antitrust policy. First the critique.

Several analysts have explored the trade-offs between competition within a standard—competition in a market—and competition to supplant an existing standard with a new one—competition for a market.<sup>246</sup> Compatibility trades off with the incentive for radical innovation. Within a firm, for example, the desire to make new products compatible with earlier versions (backwards compatibility) may counsel against introducing the greatest possible improvement in the product. From the firm's point of view, the decision sacrifices some degree of innovation for the security of an installed base of users, which might be up for grabs if each user had to incur costs to adopt either the new product version or a competitive product. Backwards compatibility over product generations may be of interest to antitrust enforcers in some circumstances—the need for it may, for example, constrain strategic behavior—but it is less interesting than the question of compatibility between programs that are actual or potential substitutes.<sup>247</sup>

The main criticism of compatibility from an innovation point of view is that adopting legal rules that allow firms to compete within a standard may divert R&D resources away from competition to establish a new standard. This diversion might result in a larger number of modest improvements and fewer radical improvements than would occur in a regime of incompatibility. To this may be added the point that competition within a standard, such as producing more video games for an existing dominant hardware architecture, should at least lower the cost of compatible games and might increase their number, both effects tending to strengthen the existing standard by increasing the losses incurred (cost) in switching to a new one.

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246. E.g., SHAPIRO & VARIAN, *supra* note 144, at 227-33, 236-37, 285-87; Joseph Farrell & Michael L. Katz, *The Effects of Antitrust and Intellectual Property Law on Compatibility and Innovation*, 43 ANTITRUST BULL. 609 (1998).

247. See Michael L. Katz & Carl Shapiro, *Antitrust in Software Markets* 38, at <http://www.haas.berkeley.edu/~shapiro/software.pdf> (1998) (analyzing this distinction).

The innovation effects of the rule of cases such as *Sega v. Accolade*<sup>248</sup> and *Sony v. Connectix*<sup>249</sup> are thus at least in theory ambiguous. Against the tendency of reverse-engineering to reinforce an existing standard one would have to compare not only lower prices and greater choice of games, but also the relationship between learning and innovation. Reverse-engineering tends to facilitate the dispersion of knowledge, which anecdotal evidence<sup>250</sup> and legal doctrines such as fair use and the idea-expression dichotomy suggest is positively correlated with innovation.<sup>251</sup>

Not all forms of compatibility pose equivalent risks, however. Technology that allows users to transfer their own learning investments to a new standard program, for example,<sup>252</sup> or allows them to convert data inexpensively, or to continue to use applications written for one platform on another, would more clearly favor innovation. Consumers evaluate adoption decision on a cost-benefit basis. Whether consumers switch from an incumbent standard to an entrant depends not only on the degree of improvement the entrant represents but also on the cost of switching.<sup>253</sup> While there in theory exist levels of innovation that would justify almost any cost, as a practical matter legal rules that lower transition costs make it more likely that innovations will be adopted and widely used by lowering the degree of improvement required to make switching cost-effective.

Though lowering the cost of transition would make more modest improvements viable, and therefore is to a degree vulnerable to the criticism that cost reductions will cause firms to forego research into radical improvements in favor of safer, incremental change, this effect is not a foregone conclusion. Ignoring transition costs for a moment, innovations that represent radical improvement over existing technology will allow the innovator to charge higher prices. Because consumers make adoption decisions on a total cost basis, transition costs lower the price the innovator can charge. Innovators who can lower those costs should be able to capture the difference in higher prices for the innovation. It is therefore at least not obvious that transitional technologies would divert the innova-

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248. *Sega Enters. Ltd. v. Accolade, Inc.*, 977 F.2d 1510 (9th Cir. 1992).

249. *Sony Computer Entm't, Inc. v. Connectix Corp.*, 203 F.3d 596 (9th Cir. 2000).

250. See Ronald J. Gilson, *The Legal Infrastructure of High Technology Industrial Districts: Silicon Valley, Route 128, and Covenants Not to Compete*, 74 N.Y.U. L. REV. 575 (1999).

251. See MERGES ET AL., *supra* note 2, at 15-18.

252. *Lotus v. Borland*, 49 F.3d 807, 821 (1st Cir. 1995), *aff'd*, 516 U.S. 233 (1996).

253. See, e.g., SHAPIRO & VARIAN, *supra* note 144, at 184-86; McGowan, *supra* note 175, at 521-22.

tor's efforts away from more radical spreadsheet design, for example, and there is good reason to believe that they would not.

Various doctrines support interoperability. Within copyright, fair use and the developing defense of copyright misuse get at the issue most directly. Within antitrust, interoperability has played a role in merger enforcement. The FTC's open interface order in Silicon Graphics' acquisition of Alias and Wavefront is an example of interoperation playing a role in antitrust policy;<sup>254</sup> a requirement that Microsoft commit to an open interface policy for Windows has often been suggested as one remedy in that case.<sup>255</sup>

In addition to these relatively conventional uses of interoperability, when antitrust courts analyze causation in innovation claims they should consider the degree to which transitional technology is legal and feasible. The lower the cost of transition from an incumbent to an entrant, the more likely the entrant's technology is to be adopted. By parity of reasoning, of course, this inquiry affects the court's view of the degree of incumbent market power as well. In some cases, requiring an incumbent to take steps to lower transition costs—such as by distributing source code, allowing unimpeded access to interfaces, allowing copying for user interface compatibility, and similar measures—might be an appropriate remedy to insure that choices within a market occur on the basis of price and performance.

#### *6. Remedies Should Reflect Market Structure and the Degree of Confidence in the Finding of Causation*

The normalization of monopoly implied by winner-take-most models of competition implies a cautious approach to remedies. The notion that divestiture should be favored to return a market to a "normal," competitive state is at least more questionable in such markets than it has been in the past. Even in more traditional markets, as the Areeda-Hovenkamp treatise maintains, equitable relief beyond enjoining anticompetitive acts, "particularly remedies such as divestiture designed to eliminate monopoly altogether . . . require a clearer indication of a significant causal connection between the conduct and creation of maintenance of the market power."<sup>256</sup>

A practical approach to innovation-based antitrust cases would seek tailored remedies that take into account the market structure implied by factors relevant to investment in research and development and the pro-

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254. Katz & Shapiro, *supra* note 247, at 23; Lemley & McGowan, *supra* note 154, at 537-38.

255. See Ken Auletta, *Final Offer*, NEW YORKER, Jan. 15, 2001, at 40.

256. AREEDA & HOVENKAMP, *supra* note 209, at 91-92.

duction of innovative works, as well as the degree of confidence a court has in its findings that an incumbent's unlawful conduct had impeded innovation. If nothing else, tailoring remedies tightly to causation analysis prevents courts from attempting to restructure markets based on causation doctrines that express little more than background assumptions and risk aversion.

One obvious risk here is fragmenting markets to a degree where the rate of innovation and its adoption are harmed. The desirability of standardization and significant economies of production and consumption imply concentrated markets and, perhaps, durable market power for some firms. Some level of concentration, cooperation, and standardization may be necessary for network markets to perform optimally. Agreement on technical standards for compact discs and players, or DVDs and players, are examples. In extreme cases, a market might not emerge at all without a relatively high degree of concentration and significant cooperation within the concentrated market.

A particular market structure might be necessary to make unlawful behavior rational, but it does not follow that the structure necessarily should be disassembled to prevent the behavior. The tailored, purpose-based analysis necessary for developing useful standards of causation is also necessary to ensure that remedies do not conflict with the ultimate end of enhancing social welfare. Remedies that try to decentralize markets to limit opportunities for strategic behavior run the risk of sacrificing efficiency-enhancing aspects of the market.

This risk can be minimized by requiring a relatively strong degree of fit between the objectionable acts identified, their economic consequences and the degree of confidence a court has in its linking of the latter to the former. The mistake of 1960s merger policy was to infer liability from structure and therefore to try to eliminate structures the courts found worrisome. It would be a similar though more understandable mistake for modern courts to infer from the existence of objectionable conduct that the structures that made the conduct rational had to be dismantled in the name of innovation.<sup>257</sup>

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257. Or, as Professor Scherer has said, “[t]he trouble with structural variables is that they have quite limited power in predicting behavior and, as a result, their application is likely to lead to many errors, which could be either on one side or on the other.” F.M. Scherer, *Making the Rule of Reason Analysis More Manageable*, 56 ANTITRUST L.J. 229, 229 (1987).

#### IV. CONCLUSION

Innovation claims present an important opportunity for antitrust enforcers and judges in antitrust cases to enhance social welfare through the application of the antitrust laws. Because the relationship between market structure and innovation is a complex and imperfectly understood problem, and because federal intellectual property policy conflicts to a degree with the economic approach behind modern antitrust, enforcement decisions and judicial analysis should be tempered by skepticism and humility commensurate with the difficulty of the problems such cases present. A skeptical approach does not imply surrender, however; it demands only the rigorous analysis of the relevant facts.

Innovation claims also present some jurisprudential risks to courts. Intellectual property rights imply some degree of economic power that producers can deploy to extract returns from consumers. Antitrust policy in innovation cases should therefore be guided by a total surplus measure, and should not attempt to maximize consumer over producer surplus. This goal will aid in reconciling the different methods of the two statutory schemes and lessen the likelihood and severity of true conflicts. Antitrust policy also must be wary of allowing innovation claims to become a means of favoring the interests of small firms over large firms. The history of small-firm antitrust policy is not a happy one, and it is likely to be less happy in technology markets where significant economies of production and consumption combine with the need for standards to imply that significant levels of market concentration may be efficient.

Lastly, theories of causation in monopoly maintenance cases must be worked out in a thorough and rigorous manner. Causation analysis should take into account the degree to which concentration is maintained by unobjectionable economic factors such as the realization of scale economies, as well as the degree to which the claim advanced asserts harm to innovation generally rather than to a particular firm. Theories of causation also should constrain remedies in innovation cases, which run the risk of doing more harm than good if not tied closely to analytically sound theories of the manner in which objectionable acts have caused economic losses.

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