INNOVATIVE BREAKTHROUGH OR MONOPOLY BULLYING?: DETERMINING ANTITRUST LIABILITY OF DOMINANT FIRMS IN EXCLUSIONARY PRODUCT REDESIGN CASES*

I. INTRODUCTION

United States antitrust law defines two broad classes of conduct as being anticompetitive: collusion and exclusion.[1] Collusion covers cooperation among firms for the purpose of distorting markets to their benefit,[2] whereas exclusion refers to steps taken by a firm to create or maintain a monopoly to harm competitors and force them from the market.[3] Although collusion raises many interesting issues of its own, this Comment focuses entirely on exclusion, and specifically on dominant firms that redesign existing products for the sole purpose of inflicting anticompetitive, exclusionary harm on existing and potential competitors.

Many commentators consider single firm conduct to be the most complicated category of antitrust enforcement.[4] What makes the area of exclusion particularly complicated is the fact that in most cases the conduct in question results in simultaneous economic benefits and exclusionary harms.[5] One of the generally accepted goals of antitrust law is to encourage competition; the problem, however, is that successful competitive efforts and successful exclusionary efforts look the same when implemented and have the same results: the dominant firm expands its market share by reducing or eliminating the market share of competitors.[6] The challenge is to develop a general rule capable of distinguishing between exclusionary conduct, which reduces overall welfare, and competitive conduct, which enhances it.[7] The circuits are

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1. Steven C. Salop, *Exclusionary Conduct, Effect on Consumers, and the Flawed Profit-Sacrifice Standard*, 73 ANTITRUST L.J. 311, 311 (2006).

2. *See id*. (using restriction of output as an example).

3. *Id.*

4. *See, e.g.*, Thomas O. Barnett, Assistant Att'y Gen., Antitrust Div., U.S. Dep't. of Justice, Address at the 4th Annual Competition Policy Conference: Competition Enforcement in an Innovative Economy 1 (June 20, 2008), *available at* http://www.justice.gov/atr/public/speeches/234246.pdf (describing single firm conduct as the most complex area to use antitrust to promote dynamic efficiencies).

5. A. Douglas Melamed, *Exclusionary Conduct Under the Antitrust Laws: Balancing, Sacrifice, and Refusals to Deal*, 20 BERKELEY TECH. L.J. 1247, 1249 (2005).

6. Frank H. Easterbrook, *When Is It Worthwhile to Use Courts to Search for Exclusionary Conduct?*, 2003 COLUM. BUS. L. REV. 345, 345.

7. United States v. Microsoft Corp., 253 F.3d 34, 58 (D.C. Cir. 2001).

split on how to best resolve this challenge;[8] therefore, the goal of this Comment is to determine a test that can be used by courts to distinguish between legitimate competition on the merits and exclusionary product redesign. In addition to functionality, this Comment seeks to provide a test that will also enhance efficiency, foster competition, and incentivize innovation—with the ultimate goal of devising a test that will promote fair results and continuous economic growth.[9]

This Comment first contends that economic growth, and not economic efficiency or consumer welfare, should be the ultimate goal of antitrust.[10] This Comment further contends that reservations regarding the use of intent evidence in monopolization analyses are overstated, and the use of such evidence should be permitted when it is helpful and reliable.[11] Finally, this Comment argues that the test implemented by the D.C. Circuit in *United States v. Microsoft, Corp.*[12] is the test that all courts should apply going forward.[13] Part II.A provides general background on United States antitrust enforcement including a brief summary of the Sherman Act and a discussion on the development of antitrust law since its enactment. Part II.B describes four different schools of antitrust thought including the Chicago and Post-Chicago Schools, theories based on economic growth and consumer protection, and also discusses theories on the proper role of intent evidence. Part II.C provides an analysis of the three most recent circuit court cases to address the issue of exclusionary product redesign: *C.R. Bard, Inc., v. M3 Systems, Inc.*,[14] *United States v. Microsoft Corp.*, and *Allied Orthopedic Appliances v. Tyco Health Care Group LP*.[15] Part III.A examines the various proposals concerning the ultimate goal of antitrust. Part III.B provides an answer regarding the proper role for intent evidence. Finally, Part III.C evaluates the three circuit court cases to determine which test courts should use going forward, given the answers provided by Part III.A and Part III.B.

II. OVERVIEW

As it stands now, the law concerning exclusionary innovation and product redesign by dominant firms is substantially unsettled. This Part begins with a discussion of the basic framework of section 2 of the Sherman Act followed by a discussion of differing views about the goals and ultimate purpose of antitrust law in general. Next, this Part introduces the concept of intent evidence and explain differing views on its inclusion in monopolization analysis. Finally, this Part then provides an

8. See *infra* Part II.C for a discussion of the three circuit court cases analyzed in this Comment.

9. See *infra* Part II.B.2 for a discussion of theories emphasizing economic growth as the ultimate goal of antitrust law.

10. See *infra* Part II.B for a general discussion of each of the three goals and *infra* Part III.A.3 for a discussion of why economic growth should in fact be the ultimate goal of antitrust law.

11. See *infra* Part III.B for a discussion of the role intent evidence should play in determining antitrust liability for exclusionary redesigns.

12. 253 F.3d 34 (D.C. Cir. 2001).

13. See *infra* Part II.C.2 for a general discussion of the D.C. Circuit's decision in *Microsoft* and *infra* Part III.C.2 for a discussion of the merits of the *Microsoft* test.

14. 157 F.3d 1340 (Fed. Cir. 1998).

15. 592 F.3d 991 (9th Cir. 2010).

overview of the three most recent circuit court cases that have addressed the issue of exclusionary redesign.

A. The Development of United States Antitrust Enforcement

1. Section 2 of the Sherman Act

The Sherman Act serves as the primary tool that allows both the government and private parties to prevent dominant firms from engaging in anticompetitive business practices.[16] Originally passed in 1890, section 2 of the Sherman Act states that, "[e]very person who shall monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several States, or with foreign nations, shall be deemed guilty of a felony."[17] An offense under section 2 "has two elements: (1) the possession of monopoly power in the relevant market and (2) the willful acquisition or maintenance of that power as distinguished from growth or development as a consequence of a superior product, business acumen, or historic accident."[18] In *United States v. Griffith*,[19] the Supreme Court ruled that use of monopoly power—regardless of how it is acquired—to restrict competition, gain a competitive advantage, or eliminate a competitor, constitutes a violation of the Sherman Act.[20] The key difference between sections 1 and 2 is that section 2 is not limited to concerted activity, and can therefore be used to support monopolization and attempted monopolization claims against individual actors.[21]

One result of this statutory language has been the problematic section 2 claims based on the allegedly anticompetitive innovations and product redesigns by dominant firms. On the one hand, changes in product design can be used to unlawfully obtain or maintain a monopoly, which suggests such activity should not be immune from antitrust scrutiny under section 2.[22] Nonetheless, monopolists, just like any other competitors, are both "permitted and indeed encouraged to compete aggressively on the merits."[23] Success achieved solely through competitive and meaningful innovation

16. Ashby Jones, *Sherman Stirs: U.S. Revives Section 2 of the Antitrust Act*, WALL ST. J., July 7, 2009, at A4.

17. 15 U.S.C. § 2 (2006).

18. United States v. Grinnell Corp., 384 U.S. 563, 570–71 (1966).

19. 334 U.S. 100 (1948).

20. *Griffith*, 334 U.S. at 107; *see also* Standard Oil Co. v. United States, 221 U.S. 1, 1 (1911) (holding that defendant oil companies' efforts to exclude others from the oil industry and control the movement of petroleum through interstate commerce were illegal).

21. Moore v. Jas. H. Matthews & Co., 473 F.2d 328, 332 (9th Cir. 1972). *Compare* 15 U.S.C. § 1 ("Every contract, combination . . . or conspiracy, in restraint of trade or commerce . . . is declared to be illegal."), *with id.* § 2 ("Every person who shall monopolize, or attempt to monopolize . . . the trade or commerce among the several States . . . shall be deemed guilty of a felony . . . .").

22. Allied Orthopedic Appliances Inc., v. Tyco Health Care Group LP, 592 F.3d 991, 998 (9th Cir. 2010).

23. Foremost Pro Color, Inc. v. Eastman Kodak Co., 703 F.2d 534, 544 (9th Cir. 1983).

should be tolerated, not punished by the antitrust laws.[24] Finding the correct balance between these competing principles to determine exactly when the innovative conduct of a dominant firm warrants legal intervention is an issue that has split courts and commentators alike, and is one that is not easily resolved.

2. The Development of Antitrust Enforcement

Opinions about which dominant firm behaviors should constitute antitrust violations are heavily influenced by differing views on what the ultimate goals of antitrust enforcement should be.[25] Since the adoption of the Sherman Act, the standards for prohibited conduct have continued to change as a function of advances in economic and legal theory.[26] Beginning in the 1940s and continuing through the 1970s, the United States developed and implemented legal doctrine and regulatory policies that favored strict enforcement of the antitrust laws and encouraged intervention against dominant firms.[27] During this time, the standard used by the courts to establish liability under section 2 "defined the concept of wrongful behavior so broadly that a wide range of conduct sufficed to create liability for dominant firms."[28] The trend over the past thirty years, however, has been to give dominant firms greater freedom in many areas, including product development and redesign.[29] As a result, modern section 2 jurisprudence has been shaped by almost exclusive reliance by courts on their assessment of whether challenged behavior reduces or is likely to reduce economic efficiency, wariness of rules that might discourage firms from pursuing product development (or other strategies that benefit consumers), and a "concern for the limitations of antitrust courts and enforcement agencies to ensure that analytical approaches which are conceptually sound are applied sensibly in practice."[30] It is under this developing framework that the most recent cases evaluating the antitrust implications of exclusionary product development and redesign by dominant firms have been decided.

24. *Id*.; *see* United States v. Microsoft Corp., 253 F.3d 34, 58 (D.C. Cir. 2001) ("The successful competitor, having been urged to compete, must not be turned upon when he wins." (quoting United States v. Aluminum Co. of Am., 148 F.2d 416, 430 (2d Cir. 1945) (Hand, J.))).

25. *Compare* Richard A. Epstein, *Antitrust: Monopoly Dominance or Level Playing Field? The New Antitrust Paradox*, 72 U. CHI. L. REV. 49, 49 (2005) (reasoning that because the ultimate goal of antitrust is promoting economic efficiency, conduct regarded as efficient for ordinary firms should not be treated as illegal for dominant ones, and, therefore, antitrust law should be confined to cartels and mergers resulting in raised prices and reduced output), *with* John B. Kirkwood & Robert H. Lande, *The Fundamental Goal of Antitrust: Protecting Consumers, Not Increasing Efficiency*, 84 NOTRE DAME L. REV. 191, 196–97 (2008) (arguing that the primary goal of antitrust is to protect consumers, and, as a result, antitrust laws should be enforced much more aggressively).

26. *See* William E. Kovacic, *The Intellectual DNA of Modern U.S. Competition Law for Dominant Firm Conduct: The Chicago/Harvard Double Helix*, 2007 COLUM. BUS. LAW. REV. 1, 16 (stating that "[t]he intellectual history of the U.S. competition policy system is marked by the continuous reformulation, refinement, and adaption of antitrust concepts in light of changes in economic and legal learning") .

27. *Id.* at 17.

28. *Id*. (citing ANDREW I. GAVIL ET AL., ANTITRUST LAW IN PERSPECTIVE: CASES, CONCEPTS AND PROBLEMS IN COMPETITION POLICY 597–99, 603–05 (West 2002)).

29. *Id.* at 18.

30. *Id.* at 20–21.

B. Competing Views on Antitrust Policy

If and when this issue is addressed by the Supreme Court or other circuit courts, the outcome that is reached will be a function of the deciding Court's position on several antitrust issues, including which general theory of antitrust enforcement is "correct," the role evidence of anticompetitive intent should play in antitrust analysis, and whether the analysis should include a balancing test that weighs the procompetitive benefit of an innovation against its anticompetitive harm. Although there are seemingly countless theories regarding the proper purpose and function of antitrust regulation, a basic understanding of the varying viewpoints can be obtained through an analysis of the positions taken by the Chicago School and the Post-Chicago School, as well as other theories based on principals of consumer protection and those that instead focus fostering economic growth.

1. The Chicago and Post-Chicago Schools—Efficiency Theory

As noted by the D.C. Circuit in *United States v. Microsoft Corp*.,[31] "there is no consensus among commentators on the question of whether, and to what extent, current monopolization doctrine should be amended to account for competition in technologically dynamic markets."[32] This divide can be partially attributed to the existence of two prominent and competing schools of antitrust thought: the Chicago School and the Post-Chicago School.[33] Although this conceptualization of antitrust theory as a strict dichotomy is somewhat oversimplified,[34] it is nonetheless helpful for summarizing general differences in prevailing antitrust theories.[35]

a. The Chicago School

In general, Chicago School scholars favor antitrust rules that place an emphasis on economic efficiency,[36] specifically allocative efficiency.[37] In fact, some Chicagoans argue that the enhancement of economic efficiency should be "the *only* permissible

31. 253 F.3d 34 (D.C. Cir. 2001).

32. *Microsoft*, 253 F.3d at 50.

33. *See* Marina Lao, *Reclaiming a Role for Intent Evidence in Monopolization Analysis*, 54 AM. U. L. REV. 151, 164–70 (2004) (explaining similarities and differences between the two schools of thought).

34. *See* Kovacic, *supra* note 26, at 6–11 (noting several problems with the Chicago/Post-Chicago framework, including its implication that the schools have little in common, the suggestion that each school is single minded, and its lack of recognition of contributions made by Harvard scholars such as Supreme Court Justice Stephen Breyer).

35. *Id.* at 5–6 (stating that "[t]he Chicago School/Post-Chicago School dialect can help in analyzing events even if it is not a completely precise portrayal of the intellectual history of U.S. antitrust law").

36. *Id.* at 35 (noting that Chicago School scholars generally rely on efficiency based economic theory in formulating antitrust rules).

37. *See* Spencer Weber Waller, *The Law and Economics Virus*, 31 CARDOZO L. REV. 367, 367 (2009) (noting that the Law and Economics movement (the Chicago School) evaluates the creation of legal rules based on how they promote allocative efficiency). Allocative efficiency "describes the market equilibrium that is reached when prices are set in a way that causes resources to flow to the uses that maximize output and wealth." Lao, *supra* note 33, at 167–68 n.95.

objective" of antitrust regulation.[38] Under Chicago Theory, antitrust liability should arise only when dominant firm conduct restricts output.[39] The theory is also characterized by a general lack of confidence in the institutional capabilities of the justice system to properly evaluate antitrust issues.[40] The significance of this distrust is compounded by the fact that Chicago scholars consider the costs of wrongfully condemning legitimate business behavior to be "far worse than the costs of . . . mistakenly permitting an anticompetitive practice."[41] This position stems from the belief that when courts mistake competitive and "efficiency-neutral" behavior for exclusionary and anticompetitive conduct, it has the effect of chilling competition and acts as a deterrent to innovation.[42]

In general, Chicagoans are of the belief that by constraining the freedom of dominant firms to implement these allegedly exclusionary business strategies—such as product redesign—reduces overall economic efficiency, provides undeserved protection to inefficient competitors, and ultimately hurts consumers.[43] As a result, Chicago theory seeks to avoid regulatory intervention and efforts to control the behavior of dominant enterprises, opting instead for antitrust rules that grant broad freedom to individual firms to select and implement effective product development strategies.[44] Some even go so far as to suggest that antitrust law should be concerned exclusively with the cartels and mergers proscribed by section 1 of the Sherman Act and not the unilateral actions that form the basis of section 2 violations.[45]

38. Kirkwood & Lande, *supra* note 25, at 193 (emphasis added) (citing Robert H. Bork, *Legislative Intent and the Policy of the Sherman Act*, 9 J.L. & ECON. 7, 44 (1966)).

39. Lao, *supra* note 33, at 165 (stating that "Chicago scholars advocate a very permissive policy which tolerates almost all dominant firm conduct . . . unless the conduct is shown to restrict output").

40. *Id.* at 166 (noting that "Chicago school adherents have little confidence in the competence of the courts. They contend that judges and juries often fail to appreciate the novelty of many beneficial business practices and, therefore, wrongly condemn them as anticompetitive" (footnote omitted)).

> Under the Chicago School approach, ... [p]roving economic issues requires extensive documentary evidence and endless testimony from economists and other experts. Most judges, and nearly all juries, lack the training necessary to make economic determinations. Although fact finders are adept at determining "who did what, when, and why," they lack the experience necessary to determine the significance of specific economic conditions. Economists themselves cannot agree on the economic impact of many types of business conduct. If economists cannot effectively evaluate the market effects of particular competitive practices, certainly judges and juries cannot be expected to do so.

Thomas A. Piraino, Jr., *Regulating Oligopoly Conduct Under the Antitrust Laws*, 89 MINN. L. REV. 9, 40–41 (2004) (footnotes omitted) (quoting Mark Crane, *The Future Direction of Antitrust*, 56 ANTITRUST L.J. 3, 15 (1987)).

41. Lao, *supra* note 33, at 167; *see also* Kovacic, *supra* note 26, at 36 (noting that Chicago and Harvard School commentators tend to agree that the social costs of overly aggressive enforcement of antitrust regulations exceed the costs of enforcing them too weakly).

42. Lao, *supra* note 33, at 167.

43. *Id.* at 165–66.

44. Kovacic, *supra* note 26, at 36.

45. *See* Epstein, *supra* note 25, at 49 (arguing that unilateral practices such as predation, exclusive dealing, and tie-ins are not grounded in the same theory as section 1 violations and are therefore subject to several fundamental objections).

Taken together, these various aspects of Chicago theory lead to the belief that plaintiffs in section 2 monopolization cases should be required to prove that a dominant firm's allegedly exclusionary conduct creates economic inefficiencies, and not merely that the dominant firm's conduct excluded other companies from "competing on the merits in order to gain or preserve its own dominance."[46] As a result, courts evaluating the issue of whether an innovation or product redesign by a dominant firm constitutes an antitrust violation would, under Chicago Theory, most likely turn to a test similar to that used by the Ninth Circuit in *Allied Orthopedic Appliances Inc. v. Tyco Health Care Group LP*[47] that puts a high burden on plaintiffs and provides substantial protection for dominant firms.[48]

b. The Post-Chicago School

The term "Post-Chicago Theory" is used to describe a second body of thought that departs in varying degrees from the traditional ideas of Chicago theory.[49] Although most Post-Chicago theorists agree with the Chicago School proposition that the ultimate goal of antitrust enforcement is achieving economic efficiency,[50] Post-Chicago scholars typically define a broader range of scenarios in which antitrust intervention is appropriate.[51] This theoretical gap is the result of "post-Chicago economic studies [that show] market imperfections, such as information gaps, sunk costs, and network effects . . . are more pervasive than the Chicago model assumes."[52] These studies led to the theory that dominant firms are able to take advantage of these imperfections by engaging in conduct that, although economically efficient (and therefore acceptable) under Chicago School standards, is "profit maximizing due to its effect on competitors and not its own efficiency" and should therefore be prohibited as exclusionary.[53]

46. Lao, *supra* note 33, at 167–68 (citing John E. Lopatka & William H. Page, *Monopolization, Innovation, and Consumer Welfare*, 69 GEO. WASH. L. REV. 367, 388 (2001)).

47. 592 F.3d 991 (9th Cir. 2010). See *infra* Part II.C.3 for an analysis of the test applied by the Ninth Circuit.

48. *See, e.g.*, David F. Shores, *Economic Formalism in Antitrust Decision Making*, 68 ALB. L. REV. 1053, 1055 (2005) (explaining how efficiency based tests constrain judicial discretion).

49. *See* Kovacic, *supra* note 26, at 26–27 (citing Stephen A. Susman, *Business Judgment in Antitrust Justice*, GEO. L.J. 337, 337 (1987) (stating that Post-Chicago commentators "vary in their assessments of the Chicago School," in that some accept many of the Chicago School concepts whereas others view the Chicago School as "the source of extremist views that endanger U.S. and foreign competition policy").

50. Lao, *supra* note 33, at 170 (noting that both schools are "committed to efficiency as the exclusive goal of antitrust law"). Both schools agree that economics is "the essence of antitrust," that protecting efficiency should be the exclusive goal of antitrust law, and that "unless business conduct raises prices or reduces output it should be left alone, regardless of the political or distributive consequences." Michael S. Jacobs, *An Essay on the Normative Foundations of Antitrust Economics*, 74 N.C. L. REV. 219, 222 (1995) (citing Jonathan B. Baker, *Recent Developments in Economics that Challenge Chicago School Views*, 58 ANTITRUST L.J. 645, 646 (1989)).

51. Kovacic, *supra* note 26, at 22–23.

52. Lao, *supra* note 33, at 169.

53. *Id.*

Although the Post-Chicago label is placed on a wide range of theories, common threads include less faith in the ability of markets to operate efficiently on their own,[54] increased faith in the institutional capabilities of the court system,[55] and a more skeptical view of dominant firm conduct.[56] Additionally, several Post-Chicago theories are based on the application of game theory[57] to provide "one or more anticompetitive explanations for behavior regarded by Chicago scholars as unambiguously efficient."[58] Although it is difficult to draw conclusions that a vast majority of Post-Chicago scholars would agree on, the reduced confidence in the self-sustaining efficiency of markets, increased faith in the abilities of the judiciary, and general lack of trust in dominant firms, the tenets of Post-Chicago Theory lend themselves more towards the acceptance of a test like the balancing test used in *Microsoft* that grants a court more freedom in considering the ultimate effects of a dominant firm's innovations.

2. Beyond the Chicago Dichotomy

Looking at the world of antitrust regulation through the efficiency-centric lenses of the Chicago and Post-Chicago Schools establishes a helpful framework; it does not, however, provide the complete picture. Although an analysis of every theory proffered on the proper goal of antitrust enforcement would be impractical, brief coverage of a few theories that look beyond economic efficiency will provide additional perspective and a better understanding of the extent to which issues remain unresolved in this field. To make this demonstration, this subsection provides an analysis of antitrust theories that have identified economic growth as the primary objective as well as those that focus on consumer protection.

a. Theories Emphasizing Economic Growth

Although it is widely believed that the antitrust laws were passed primarily to promote economic efficiency,[59] there are scholars who believe instead that the primary goal of antitrust enforcement should be the maximization of economic growth.[60] The distinction between economic growth and economic efficiency is subtle yet important. Although most Chicagoans view efficiency as an end in itself, others view the promotion of efficiency (and other related goals such as protecting competition) as

54. *See* Jacobs, *supra* note 50, at 242 (stating that "[u]nlike Chicago scholars, post-Chicagoans refuse to assume that markets function perfectly"); Lao, *supra* note 33, at 169 (summarizing the Post-Chicago view that "real world markets are less robust and less contestable than Chicagoans imagine").

55. *See* Lao, *supra* note 33, at 168–69 (noting the different perspectives held by the Chicago and Post-Chicago Schools on judicial competence).

56. *Id.* at 169 n.105 (citing Thomas G. Krattenmaker & Steven C. Salop, *Anticompetitive Exclusion: Raising Rivals' Costs to Achieve Power Over Price*, 96 YALE L.J. 209, 235–62 (1986)) (explaining that, under certain conditions, "dominant firms gain or protect their monopoly by entering into exclusionary contracts").

57. *See* Jacobs, *supra* note 50, at 240 (defining game theory as "the study of profit-maximizing strategic behavior in small groups of mutually dependent rivals").

58. *Id.* at 241.

59. Kirkwood & Lande, *supra* note 25, at 192.

60. *See, e.g.*, Barnett, *supra* note 4, at 1 (arguing that economic growth is the "ultimate purpose served by competition laws and policy").

tools that can be used in support of the ultimate goal: enhancing economic growth.[61] Viewing efficiency as a means rather than an end allows scholars to evaluate different types of economic efficiencies and examine which type will provide the greatest contribution to economic growth.[62] With this information, antitrust laws and enforcement policies can be shaped to promote those types of efficiencies, ideally resulting in increased economic growth.

An example of a theory emphasizing economic growth was offered by Assistant Attorney General Thomas O. Barnett in a speech at the Annual Competition Policy Conference in London, England.[63] Barnett acknowledged the importance of economic efficiency as a driver of economic growth, but called attention to the significant difference between static and dynamic efficiency.[64] He explained that "[s]tatic efficiency describes the tendency of a marketplace to reduce costs by refining existing products and capabilities," whereas "[d]ynamic efficiency refers to gains that result from entirely new products and new ways of doing business."[65] Barnett argues that although static efficiency is a powerful force, an economy that focuses entirely on static efficiency will fall far short of its full potential.[66]

Citing Robert Solow's Nobel Prize–winning study, Barnett notes that the invention of new products, development of new methods of production, and other technological advances are the primary source of economic growth in developed economies.[67] Barnett illustrates how growth-focused policies should affect antitrust enforcement in the single firm context with the following example: even though the first producer of automobiles has monopoly power in its ability to set prices, it "is likely better for consumers and for the economy as a whole than . . . a world with no automobiles but perfect competition among horse drawn carriages."[68]

With this example, the distinction between growth and efficiency based theories begins to emerge: although a pure-Chicagoan may be content with antitrust regulations that protect or enhance the static efficiency of the horse-drawn carriage market, those who believe economic growth is an ultimate goal will search for an antitrust framework that fosters dynamic efficiencies such as the creation of the automobile.

61. *Id.* Competition, viewed by some as "the holy grail for antitrust enforcers," is "not a goal by itself." Instead, it is one of several means to the end of increasing economic growth. *Id.*

62. *See id.* at 2 (describing difference between static and dynamic efficiency); Daniel F. Spulber, *Competition Policy and the Incentive to Innovate: The Dynamic Effects of Microsoft v. Commission*, 25 YALE J. ON REG. 247, 268 (2008) (describing innovative efficiency).

63. Barnett, *supra* note 4.

64. *Id.* at 2.

65. *Id.*

66. *Id.* at 3.

67. *Id.* "[T]he permanent rate of growth of output per unit of labor input is independent of the saving (investment) rate and depends entirely on the rate of technological progress in the broadest sense." Robert M. Solow, *Growth Theory and After*, 78 AM. ECON. REV. 307, 309 (1988).

68. Barnett, *supra* note 4, at 17 (quoting Dennis Carlton & Ken Heyer, *Appropriate Antitrust Policy Toward Single Firm Conduct* 16–17 (Econ. Analysis Grp., Discussion Paper EAG 08-2, 2008), *available at* http://www.justice.gov/atr/public/eag/231610.pdf.

The importance of innovation[69] is highlighted further by Daniel Spulber, who draws an additional distinction between dynamic and innovative efficiency.[70] According to Spulber, dynamic efficiency is characterized by the efficient allocation of resources over time to the "research, development, and commercialization of new technology," whereas innovative efficiency refers to the efficient use of those resources that have been allocated to inventive and innovative activities.[71] Spulber contends that those creating competition policies should account for their impact on innovation because policies that disincentivize innovation result in diminished product variety and increased production costs.[72]

To avoid this outcome, he argues for antitrust rules that provide substantial protection for intellectual property,[73] regardless of whether the firm in question has achieved a position of dominance in the respective market.[74]

To achieve the desired protection for intellectual property, Spulber warns against antitrust rules that lean too far towards overenforcement in a blind effort to increase competition at the expense of other interests.[75] As an example, Spulber points to *Microsoft v. Commission*,[76] in which Microsoft was found to have violated the broad terms of Article 82 of the Treaty Establishing the European Community,[77] and was consequently forced to "unbundle" patented software and make the individual elements available to competitors.[78] He argues that by undermining the protection of intellectual property, antitrust rules like those implemented by the EC Treaty reduce the forecasted

69. *See* Herbert Hovenkamp, *Innovation and the Domain of Competition Policy*, 60 ALA. L. REV. 103, 104 (2008) (noting that "innovation" encompasses much more than just protectable intellectual property rights and defining it as "the act of developing and promulgating some new idea, expression, process, or thing, in many cases for profit").

70. Spulber, *supra* note 62, at 268.

71. *Id.* "Inventive activity" is described by Spulber as the process through which one uses a cost-benefit analysis to choose between potential new projects whereas "innovative activity" refers to the eventual commercialization of those new projects. *Id.*

72. *Id.* at 299–300.

73. *Id.* at 268; *see also* Hovenkamp, *supra* note 69, at 105 (listing protection of incremental innovations as an important prerequisite for healthy innovation).

74. *See* Spulber, *supra* note 62, at 285 (describing how antitrust policies that punish firms for their success can disincentivize innovation by encouraging firms to "avoid actions that will improve their competitive position and draw the attention of regulators").

75. *Id.* at 299–300 (noting that promoting competition for its own sake does not necessarily spur innovation).

76. Case T-201/04, Microsoft v. Comm'n, 2007 E.C.R. II-1.

77. Consolidated Versions of the Treaty on European Union and of the Treaty Establishing the European Community, Apr. 16, 2003, 2006 O.J. (C 321) E/74–5 (hereinafter the EC Treaty). Article 82 prohibits any abuse of a dominant market position including the imposition of "unfair trading conditions" and the limitation of "technical development to the prejudice of consumers." *Id.*

78. Spulber, *supra* note 62, at 248. The challenged decision was initially made by the Commission of the European Communities which determined that Microsoft, because of its dominant market position, violated Article 82 of the European Commission Treaty both by refusing to supply competitors with "interoperability information" concerning Microsoft's group server operating systems software and by conditioning the availability of its Windows operating system on the simultaneous purchase of its Windows Media Player software. *Summaries of Important Judgments: T-201/04 Microsoft v. Commission, judgment of 17 September 2007*, EUR. COMM'N LEGAL SERV. (Dec. 2007), http://ec.europa.eu/dgs/legal_service/arrets/04t201_en.pdf.

returns of research and development investments thereby making companies less willing to allocate resources to inventive activities.[79] Furthermore, competitors will be discouraged from making their own investments if they know they will be able to obtain access to the developments of other firms through antitrust actions.[80] Spulber concludes that antitrust policies that ignore the negative effects of competition and diminish the incentive to innovate through inadequate protection of intellectual property have the potential to jeopardize the development of new products and technologies on which the growth of our economy depends.[81]

b. Theories Emphasizing Protection of Consumers

Other antitrust scholars believe that the antitrust enforcement system should not seek to maximize efficiency at all.[82] In breaking from what they describe as the "conventional wisdom," John Kirkwood and Robert Lande argue that "the ultimate purpose of the antitrust laws is to provide the benefits of competition to consumers—lower prices, better products, and more choice—not to improve the efficiency of the economy."[83] They maintain that the antitrust laws were enacted to award the consumers' surplus to purchasers and prevent "unjustified monopolies from taking it."[84] They begin by challenging the meaning given to the term "consumer welfare" by the advocates of efficiency based theory. Using the writings of Robert Bork as an example, they claim that the conventional definition equates the term with "the maximization of wealth" and, by doing so, includes monopolists and cartels within the definition of "consumers."[85] According to Kirkwood and Lande, this misuse of the term "makes no distinction between 'real' consumers—the purchasers of goods and services—and the firms with market power that raise prices and thereby extract wealth from purchasers."[86]

The next step in the theory is a challenge to the conventional interpretation of the Sherman Act's legislative history. Although scholars such as Bork believe that Congress's only concern in passing the Sherman Act was increasing economic efficiency,[87] Kirkwood and Lande argue that it is more likely that Congress was

79. Spulber, *supra* note 62, at 300; *see also* Ann Weilbaecher, *Diseases Endemic in Developing Countries: How to Incentivize Innovation*, 18 ANN. HEALTH L. 281, 285 (2009) (noting that without proper patent protection drug companies lack incentive to make investments required to bring new drugs to market).

80. *Id.*

81. *Id.*; *see* Solow, *supra* note 67, at 308–09 (describing the vital role innovation plays in economic growth).

82. *See, e.g.*, Kirkwood & Lande, *supra* note 25, at 192 (stating that enhancing efficiency is neither the sole nor the primary purpose of the antitrust laws).

83. *Id.* at 192. It is important to note that the term "consumers" includes "all individual or business purchasers or products and services, regardless whether they are the ultimate end users." *Id.* at 196 n.14.

84. *Id.* at 196. The term "consumers' surplus" is defined as "the difference between what something is worth to consumers and the price they pay for it." *Id.* at 196 n.13. (citing LUIS M.B. CABRAL, INTRODUCTION TO INDUSTRIAL ORGANIZATION 16 (2000)).

85. *Id.* at 199. The authors go on to state that this definition of consumer welfare is an "Orwellian term of art that has little or nothing to do with the welfare of true consumers." *Id.*

86. *Id.*

87. *Id.* at 193 (citing ROBERT H. BORK, THE ANTITRUST PARADOX 50 (1993).

primarily concerned with preventing firms from using "unfairly acquired or maintained market power" to charge consumers prices above those that would be charged in a competitive market.[88] They argue that terms used in the Sherman Act's legislative debate such as "stealing, robbery, extortion, and stolen wealth" reflect a desire on the part of Congress to protect consumers from paying higher prices and to protect competition in general as opposed to safeguarding allocative efficiency.[89]

Next, Kirkwood and Lande state why a consumer-focused antitrust framework is more desirable. They first argue that consumer-protection theories are more democratic because "voters in a democracy prefer an antitrust system that helps far more people than it hurts."[90] This position is based on the fact that efficiency theory would support any market arrangement that results in a net gain for the economy as a whole, even if that gain was only realized by a monopolist, and came at the expense of the vast majority of consumers.[91] Their second argument is that efficiency theory is really just "another form of 'trickle down economics.'"[92] They take the position that because the long run is uncertain, it is not acceptable to allow monopolies and cartels to "steal" from consumers in the short run.[93]

Finally, Kirkwood and Lande analyze the implication of implementing an antitrust system based on a theory of consumer protection. They argue that such a system would promote competition and competitive prices for buyers and sellers alike, would be more in line with the intent of Congress, and would bring the United States antitrust system more in line with European systems.[94] The authors admit, however, that when it comes to practical application of the system, a consumer-focused model would make little difference.[95] Because most business practices that give rise to antitrust concern create economic inefficiencies in addition to harming consumers, both consumer-protection and efficiency theories will lead to the same result in most cases.[96] That said, because some situations transfer wealth from consumers to monopolists and cartels without creating any economic inefficiencies, Kirkwood and Lande believe that an antitrust system based on consumer theory is the best policy option available.[97]

88. *Id.* at 201.

89. *Id.* at 202, 208 (internal quotation marks omitted).

90. *Id.* at 237.

91. *Id.* The authors use the example of a merger of two companies that causes prices to rise $100 for ten million consumers ($1 billion total). As long as this merger created a benefit for the merged firms of greater than $1 billion, the merger would be acceptable in an antitrust system premised on efficiency theory. *Id.* at 238.

92. *Id.* at 239. Kirkwood and Lande define "trickle down economics" as "the hope that if we allow businesses to take from consumers in the short run, then eventually, somehow, in some indirect, uncertain and difficult to explain long-run manner, the money will find its way back to society as a whole . . . so that all told we will all be better off." *Id.*

93. *Id.* In addition to the uncertainty of the long run, the authors argue that consumers should not be asked to make short run sacrifices because "[i]n the long run, we are all dead." *Id.* at 239 n.221 (quoting JOHN MAYNARD KEYNES, A TRACT ON MONETARY REFORM 80 (1923)).

94. *Id.* at 240.

95. *Id.*

96. *Id.*

97. *Id.* at 241.

3. The Role of Intent Evidence

Of the three circuit court decisions addressed here, only the Federal Circuit in *C.R. Bard*, *Inc. v. M3 Systems, Inc.*[98] held that specific anticompetitive intent was required or even important for a finding of exclusionary conduct.[99] In her article advocating for the use of intent evidence in antitrust cases, Marina Lao admits that "[m]ost courts and commentators have dismissed it as having little or no probative value";[100] however, she insists that it can be extremely helpful and should play an import role in a court's evaluation of an antitrust case.[101]

According to Lao, the primary objections to the use of intent evidence in antitrust cases focus on the perceived institutional inadequacy of the court system.[102] Objectors argue that the distinction between competitive and anticompetitive intent is often impossible for factfinders to make, that the subjectivity of intent evidence makes it unreliable, and that factfinders are prone to misinterpretation of the motivational metaphors[103] used by executives as anticompetitive intent.[104] However, Lao finds these objections to be vastly overstated.[105] Addressing concerns that judges and juries are incapable of determining that precise of a nature of a corporation's intent, she points out that "liability or legality under numerous areas of American law (such as contract, tort, and criminal) often turns on intent, and juries are trusted in all these cases to ponder the evidence and to distinguish between good and bad intent."[106] Although admitting that intent evidence is sometimes hard to interpret, Lao remains confident that courts and juries possess the institutional competence required to make the difficult

98. 157 F.3d 1340 (Fed. Cir. 1998).

99. *See C.R. Bard*, 157 F.3d at 1340 (stating that M3 had to establish that C.R. Bard had specific intent to monopolize). See *infra* Part II.C.1–3 for a discussion of the tests used by the Federal, D.C., and Ninth Circuits respectively.

100. Lao, *supra* note 33, at 152 (citing A.A. Poultry Farms v. Rose Acre Farms, 881 F.2d 1396, 1402 (7th Cir. 1989) (declaring that "intent does not help to separate competition from attempted monopolization")).

101. *Id.* at 155 (stating that "even assuming a commitment to a pure efficiency criterion . . . intent evidence remains . . . very relevant because it informs economic analysis and can add to its functionality").

102. *See id.* at 157 (noting that the main objections include the fact that "juries are prone to misconstrue employees' poor choice of . . . metaphors for . . . intent, and that the presence or absence of intent evidence depends mostly on defendant's legal sophistication").

103. A common objection is that the sports and war metaphors often used by business people in reference to competitors, such as a vow to "cut off [the rival's] air supply" can cause a factfinder to infer anticompetitive intent in cases in which none actually exists. *Id.* at 206 (alteration in original).

104. *Id.* at 157.

105. *See id.* (noting that determining differences between anticompetitive and procompetitive intent can be difficult but is certainly possible); Steven R. Beck, *Intent as an Element of Predatory Pricing Under Section 2 of the Sherman Act*, 76 CORNELL L. REV. 1242, 1248–49 (1991) (defining procompetitive intent as intent to compete through efficiency advantages such as lowering costs to maximize profits and anticompetitive intent as intent to compete not by maximizing profits but by eliminating rivals).

106. Lao, *supra* note 33, at 201. *See generally* Mark P. Gergen, *The Jury's Role in Deciding Normative Issues in the American Common Law*, 68 FORDHAM L. REV. 407 (1999) (describing areas of law in which juries are traditionally asked to make normative interpretations).

factual distinctions that are required and that "[t]here is no reason to believe that juries are capable of making these distinctions in all types of cases except antitrust."[107]

Although taking a position firmly in support of the use of intent evidence in antitrust proceedings, Lao recognizes that it does have some limitations.[108] She addresses these concerns by outlining a plan under which intent evidence, in order to be used, would have to be either objective,[109] or, in the case of subjective evidence, first subjected to an analysis to determine whether the statement was "largely uncontradicted . . . . made contemporaneously with the alleged exclusionary act . . . . [and whether the] statement [was] made in settings where it [had] cost consequences."[110] Lao maintains that as long as these criteria are met, intent evidence can be a reliable tool available to factfinders in antitrust proceedings.[111] Finally, Lao argues that a wholesale rejection of intent evidence is not necessary to guard against the objector's concerns because such evidence, like any other evidence, would be subject to a motion in limine, which would ensure the exclusion of overly prejudicial evidence.[112]

The next Section provides an analysis of the decisions made by the courts in *C.R. Bard*, *Microsoft*, and *Tyco*, including how each court decided to handle the issue of the proper role of intent evidence. And, as will be seen, the courts as well as the commentators are divided over Lao's views. As a result, the proper role to be played by intent evidence is an issue that must be resolved by any court before making the decision of whether to adopt one of the existing tests used to determine a dominant firm's antitrust liability for redesigning products or to instead construct test of its own.

C. Exclusionary Product Redesign by Dominant Firms: Three Conflicting Tests

1. *C.R. Bard, Inc. v. M3 Systems, Inc.*

In *C.R. Bard*, Bard, the dominant firm, sued M3 claiming that M3's ProMag biopsy gun and CAN/SACN biopsy needle assemblies infringed on patents held by Bard.[113] M3 raised several defenses and charged Bard with, among other things, antitrust violations,[114] claiming that Bard "unlawfully leveraged its monopoly power in the guns to obtain a competitive advantage in replacement needles by modifying its gun to accept only Bard needles."[115] Citing internal Bard documents, M3 further alleged

107. Lao, *supra* note 33, at 201 (emphasis omitted). Lao adds that just because intent evidence is available does not guarantee its use, as it would be most likely subject to a motion in limine. *Id.* at 211.

108. See *supra* notes 102–04 and accompanying text for a summary of objections to the use of intent evidence.

109. *See* Lao, *supra* note 33, at 205 (stating that "[w]here the intent evidence is objective, the unreliability critique has no real application").

110. *Id.* at 210.

111. *Id.*

112. *Id*. at 211.

113. C.R. Bard, Inc. v. M3 Sys., Inc., 157 F.3d 1340, 1346 (Fed. Cir. 1998).

114. *Id.*

115. *Id.* at 1367.

that Bard had anticompetitive motives for making these modifications.[116] The jury instructions provided by the district court required M3 to prove four elements beyond a preponderance of the evidence:

> First, that Bard had a *specific intent* to achieve monopoly power in a relevant market; second, that Bard engaged in exclusionary or restrictive conduct in furtherance of its specific intent; third, that there was a dangerous probability that Bard would obtain monopoly power in the relevant market; and, fourth, that M3 Systems was injured in its business or property by Bard's conduct.[117]

Under these instructions the jury found that Bard violated antitrust law and awarded $1.5 million in antitrust damages.[118]

On appeal, a divided Federal Circuit panel affirmed the antitrust judgment on the ground of attempt to monopolize.[119] The court noted that "[i]n order to prevail on its claim of an antitrust violation based on Bard's modification of its Biopty gun . . . M3 was required to prove that Bard made a change in its Biopty gun for predatory reasons."[120] Bard argued that the evidence showed that M3 could still compete "absent patent protection for Bard's devices," however the court ruled that "[w]hile the evidence of Bard's market power was in dispute . . . . [t]he evidence was sufficient to support the jury's verdict on that point and also to support the jury's conclusion that Bard maintained its monopoly position by exclusionary conduct."[121] In response to Bard's argument that the modifications made the gun easier to use, the court cited internal Bard documents in support of its position that "there was substantial evidence that Bard's real reasons for modifying the gun were to raise the cost of entry to potential makers of replacement needles, to make doctors apprehensive about using non-Bard needles, and to preclude the use of 'copycat' needles."[122]

In dissenting from the court's ruling that Bard incurred antitrust liability, Judge Newman stated that "[t]o hold that Bard could violate the Sherman Act by changing these products, if M3's business was affected, is a novel and pernicious theory of antitrust law that is contrary to the principles of competition, and fraught with litigation-generating mischief."[123] Judge Newman's primary concern with the court's decision was that the jury verdict of monopoly power was sustained despite the fact that this market power was based on patent right.[124] Judge Newman added that "the

116. *Id.* at 1369. "One internal Bard document showed that the gun modifications had no effect on gun or needle performance; another internal document showed that the use of non-Bard needles in the gun 'could not possibly result in injury to either the patient or the physician.'" *Id.* at 1382.

117. *Id.* at 1370 (emphasis added).

118. *Id.* at 1346.

119. *Id.* Although Judge Bryson's opinion was concurring in part and dissenting in part, he spoke for the court on the issue of the antitrust violation. *Id.* at 1382. (Bryson, J., concurring in part, dissenting in part). Judge Newman wrote the primary opinion but did not agree with Judge Bryson and Chief Judge Mayer on the antitrust issue. *Id.* at 13710 (majority opinion).

120. *Id.* at 1382 (Bryson, J., concurring in part, dissenting in part).

121. *Id.*

122. *Id.*

123. *Id.* at 1370 (majority opinion).

124. *See id.* (noting that "[i]t was not Bard's changes to its biopsy gun or needles that affected M3's sale of replacement needles; it was the patents on these products").

jury was asked to determine simply whether Bard had monopoly power in a relevant market, without reference to whether the 'exclusionary conduct' of which M3 complained was the conduct of the patent law."[125] He went on to explain that a basic premise of patent and antitrust law is that "the commercial advantage gained by new technology, and its statutory protection by patent, do not convert the possessor thereof into a prohibited monopolist."[126] His interpretation of the majority's holding was that it created a new rule under which "changing and improving one's proprietary product . . . if to a competitor's potential disadvantage, is actionable under the Sherman Act."[127]

Alternatively, Judge Newman proposed a "competition-favoring rule" under which "an innovator has no duty to help its competitors."[128] He supported this rule with the proposition that "[i]t is the possibility of success in the marketplace, attributable to superior performance, that provides the incentives on which the proper functioning of our competitive economy rests."[129] Additionally, Judge Newman cited *In re IBM Peripheral EDP Devices Antitrust Litigation*,[130] in which the district court did not hold IBM liable for product changes that prevented the use of competitors' peripheral devices when "the contested changes were improvements in the products, were not unreasonably restrictive of competition, and hence did not violate the Sherman Act."[131]

Judge Newman concluded that it is "without precedent to find antitrust liability premised on a theory that development of new products is illegally anticompetitive when the new product requires competing suppliers to adjust their product accordingly."[132] He added that "[c]ommentators who have considered the question of 'whether product innovation can ever be unlawfully predatory have concluded that 'no administrable rule could be fashioned that would not exact an unreasonably heavy toll.'"[133] Finally, Judge Newman determined that there is no overriding public benefit to placing this type of burden on innovators because "antitrust jurisprudence has well understood that the enforcement of the antitrust laws is self-defeating if it chills or stifles innovation."[134]

2. *United States v. Microsoft Corporation*

In *Microsoft*, the United States and several independent state governments ("plaintiffs") filed suit against Microsoft for several alleged antitrust violations.[135]

125. *Id.* at 1371. The court did not reach the issue of jury instructions because Bard failed to demonstrate that it timely objected to those instructions in both the district and circuit courts. *Id.* at 1383 (Bryson, J., concurring in part, dissenting in part).

126. *Id.* at 1371 (majority opinion).

127. *Id.* at 1370.

128. *Id.*

129. *Id.* (quoting Berkey Photo, Inc. v. Eastman Kodak Co., 603 F.2d 263, 281 (2d Cir. 1979)).

130. 481 F. Supp. 965 (N.D. Cal. 1979).

131. *C.R. Bard*, 157 F.3d at 1371 (quoting Transamerica Computer Co. v. Int'l Bus. Mach. Corp., 698 F.2d 1377, 1382 (9th Cir. 1983)).

132. *Id.* at 1372.

133. *Id.* (internal quotation marks omitted) (citing 3 PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW § 705b (rev. ed. 1996)).

134. *Id.* at 1372 (citing *IBM Peripheral*, 481 F. Supp. at 1002–05).

135. United States v. Microsoft Corp., 253 F.3d 34, 44 (D.C. Cir. 2001).

Basing their claims on "Microsoft's varied efforts to unseat Netscape Navigator as the preeminent internet browser," plaintiffs charged several violations of the Sherman Act including "unlawful maintenance of a monopoly in the PC operating system market in violation of [section] 2" and "unlawful attempted monopolization of the internet browser market in violation of [section] 2."[136]

At the time of the litigation, Microsoft's Windows operating systems were "used in over eighty percent of personal computers utilizing Intel computer chips within the United States."[137] The threat to Microsoft's dominance was not from a competing operating system, but instead came from "the development of alternative software platforms . . . . [that] had the potential to halt Microsoft's market dominance because they could operate through competing operating systems."[138] In order to preserve the network effects[139] benefits derived from the popularity of Windows, Microsoft developed its own web browser, Internet Explorer, and engaged in several different strategies in an attempt to quickly grow its share in the web browser market.[140] The district court found that Microsoft possessed monopoly power in the applicable market and, "[f]ocusing primarily on Microsoft's efforts to suppress Netscape Navigator's threat to its operating system monopoly . . . also found that Microsoft maintained its power not through competition on the merits, but through unlawful means."[141]

On appeal, the D.C. Circuit acknowledged that its decision was being made "against a backdrop of significant debate . . . over the extent to which 'old economy' [section] 2 monopolization doctrines should apply to firms competing in dynamic technological markets characterized by network effects."[142] The court explained that in these markets, once a product achieves wide acceptance it can become entrenched, and, as a result, competition in these markets is "'for the field' rather than 'in the field.'"[143] However, the court also recognized that entrenchment could be temporary because in

136. *Id.* at 47.

137. Kenneth A. Reid, *The Microsoft Litigation from a Law and Economics Perspective*, 9 DIGEST 77, 78 (2001).

138. *Id.* at 79 (using Java as an example: developers could write programs in the Java language which could then be run on Netscape's web browser on operating systems other than Windows).

139. "Network effects" is an economic theory describing the markets for "products for which the utility that a user derives from consumption of the good increases with the number of other agents consuming the good." Michael L. Katz & Carl Shapiro, *Network Externalities, Competition, and Compatibility*, 75 AM. ECON. REV. 424, 424 (1985). Microsoft experiences positive network effects because the dominance of Windows induces software developers to "write applications first and foremost to Windows, thereby ensuring a large body of applications from which consumers can choose. The large body of applications thus reinforces demand for Windows [and] augment[s] Microsoft's dominant position." United States v. Microsoft Corp., 84 F. Supp. 2d 9, 20 (D.D.C. 1999).

140. *See* Reid, *supra* note 137, at 79–80. In attempt to gain market share, Microsoft attempted to enter into agreements with Netscape and others to promote Internet Explorer, "initiated a huge marketing campaign for Internet Explorer, including the creation of Windows 98 bundled with Internet Explorer," placed "stringent restrictions on the 'boot up' sequence[s]" used by original equipment manufacturers "with regard to removing any part of the Internet Explorer software or adding rival software in a prominent manner," and coerced Internet Service Providers "into not promoting competing browsers by presenting them with certain advantages and perks if they agree[d] not to market rival browsers." *Id.* at 80.

141. *Microsoft Corp.*, 253 F.3d at 50.

142. *Id.* at 49.

143. *Id.* (citing Harold Demsetz, *Why Regulate Utilities?*, 11 J.L. & ECON. 55, 57 n.7 (1968)).

these markets "firms compete through innovation for temporary market dominance, from which they may be displaced by the next wave of product advancement."[144]

Before proceeding to its analysis, the court noted that "there [was] no consensus among commentators on the question of whether, and to what extent, current monopolization doctrine should be amended to account for competition in technologically dynamic markets characterized by network effects."[145] As an example, the court cited two articles from the same law review, the first "arguing that exclusionary conduct in high-tech, networked industries deserves heightened antitrust scrutiny in part because it may threaten to deter innovation,"[146] with the second "equivocating on the antitrust implications of network effects and noting that the presence of network externalities may actually encourage innovation by guaranteeing more durable monopolies to innovating winners."[147] Finally, the court indicated that "there is some suggestion that the economic consequences of network effects and technological dynamism act to offset one another, thereby making it difficult to formulate categorical antitrust rules."[148]

With this background in mind, the court proffered a four-part test ("the *Microsoft* test") for determining whether conduct qualifies as "exclusionary,"[149] noting that "[w]hether any particular act of a monopolist is exclusionary, rather than merely a form of vigorous competition, can be difficult to discern"; however the "challenge for an antitrust court lies in stating a general rule for distinguishing between exclusionary acts, which reduce social welfare, and competitive acts, which increase it."[150]

To be condemned as exclusionary under the *Microsoft* test, a monopolist's conduct must first be determined to have an "anticompetitive effect."[151] The court explains this by stating that the conduct "must harm the competitive *process* and thereby harm consumers. In contrast, harm to one or more *competitors* will not suffice."[152] The court supports its position by citing *Spectrum Sports, Inc. v. McQuillan*,[153] which states that the Sherman Act "directs itself not against conduct which is competitive, even severely so, but against conduct which unfairly tends to

144. *Id.* at 49 (citing Howard A. Shelanski & J. Gregory Sidak, *Antitrust Divestiture in Network Industries*, 68 U. CHI. L. REV. 1, 11–12 (2001)).

145. *Id.* at 50.

146. *Id.* (citing Steven C. Salop & R. Craig Romaine, *Preserving Monopoly: Economic Analysis, Legal Standards, and Microsoft*, 7 GEO. MASON L. REV. 617, 654–55, 663–64 (1999)).

147. *Id.* (citing Ronald A. Cass & Keith N. Hylton, *Preserving Competition: Economic Analysis, Legal Standards and Microsoft*, 8 GEO. MASON L. REV. 1, 36–39 (1999)).

148. *Id.* (citing Shelanksi & Sidak, *supra* note 144, at 6–7 (stating that "[h]igh profit margins might appear to be the benign and necessary recovery of legitimate investment returns . . . but they might represent exploitation of . . . monopoly power when viewed through the lens of network economics . . . . because, in network industries characterized by rapid innovation, both forces may be operating and can be difficult to isolate")).

149. *Id.* at 58 (explaining that "[a] firm violates [section] 2 only when it acquires or maintains, or attempts to acquire or maintain, a monopoly by engaging in exclusionary conduct").

150. *Id.*

151. *Id.*

152. *Id.*

153. 506 U.S. 447 (1993).

destroy competition itself";[154] and *Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.*,[155] which states that "[e]ven an act of pure malice by one business competitor against another does not, without more, state a claim under the federal antitrust laws."[156]

Under the second step of the *Microsoft* test, the plaintiff bears the burden of "demonstrat[ing] that the monopolist's conduct indeed has the requisite anticompetitive effect."[157] This step simply requires that a private plaintiff "show that its injury is 'of the type that the statute was intended to forestall.'"[158] In cases brought by the Government, the Government "must demonstrate that the monopolist's conduct harmed competition, not just a competitor."[159]

If a plaintiff successfully satisfies the requirements of steps one and two (thereby establishing a prima facie case under section 2), step three of the *Microsoft* test allows the monopolist to "proffer a 'procompetitive justification' for its conduct."[160] The court defines "procompetitive justification" as "a nonpretextual claim that [the monopolist's] conduct is indeed a form of competition on the merits because it involves, for example, greater efficiency or enhanced consumer appeal."[161] Under the third step, the successful assertion of a procompetitive justification "shifts [the burden] back to the plaintiff to rebut that claim."[162]

The fourth and final step is the key to distinguishing the D.C. Circuit's approach from that of the Federal and Ninth Circuits. Under this step, if the plaintiff fails to rebut a monopolist's procompetitive justification, "then the plaintiff must demonstrate that the anticompetitive harm of the conduct outweighs the procompetitive benefit."[163] The court noted that in section 1 cases, courts apply a similar balancing test under the "rule of reason" standard.[164] It is the use of this balancing test that led the Ninth Circuit to expressly reject the D.C. Circuit's analysis in *Microsoft*.[165]

154. *Microsoft*, 243 F.3d at 58 (citing *Spectrum Sports*, 506 U.S. at 458).

155. 509 U.S. 209 (1993).

156. *Microsoft*, 243 F.3d at 58 (citing *Brooke Group*, 509 U.S. at 225).

157. *Id.* at 58–59.

158. *Id.* at 59 (quoting Brunswick Corp. v. Pueblo Bow-O-Mat, Inc., 429 U.S. 477, 487–88 (1977)) (internal quotation mark omitted).

159. *Id.*

160. *Id.* (quoting Eastman Kodak Co. v. Image Technical Servs., Inc., 504 U.S. 451, 483 (1992)).

161. *Id.*

162. *Id.*

163. *Id.*

164. *Id.* When performing a rule of reason analysis, the factfinder takes all of the elements of a case into consideration when "deciding whether a restrictive practice should be prohibited as imposing an unreasonable restraint on competition." Cont'l T. V., Inc. v. GTE Sylvania, Inc., 433 U.S. 36, 49 (1977). This is as opposed to the per se rules of illegality that apply to conduct that "because of [its] pernicious effect on competition and lack of any redeeming virtue" is presumed to be illegal without the extensive rule of reason process. *GTE Sylvania*, 433 U.S. at 50 (quoting Northern Pac. Ry. Co. v. United States, 356 U.S. 1, 5 (1958)); *see also* United States v. Griffith, 334 U.S. 100, 109–10 (1948) (ruling that large-scale buying by movie theater operators was not illegal per se, therefore analysis was required regarding the extent of the effect the actions had on competition).

165. See *infra* Part II.C.3 for an analysis of the Ninth Circuit's decision in *Allied Orthopedic Appliances Inc. v. Tyco Health Care Group LP*.

Providing further explanation of the operation of the balancing test, the *Microsoft* court indicates that "in considering whether the monopolist's conduct on balance harms competition and is therefore condemned as exclusionary . . . [the court's] focus is upon the effect of that conduct, *not upon the intent* behind it."[166] The diminished value given to intent evidence by the *Microsoft* court is in direct conflict with the *Bard* court's ruling that "[i]n order to prevail on its claim of an antitrust violation . . . [plaintiff] was required to prove that Bard made a change . . . for predatory reasons."[167]

3. *Allied Orthopedic Appliances, Inc. v. Tyco Health Care Group LP*

The dispute in *Tyco* focused on whether Tyco unlawfully maintained its monopoly power in the market for pulse oximetry products through innovation and product redesign.[168] As an early entrant into the market, Tyco "was able to establish an installed base of monitors greatly exceeding that of its competitors," which the company protected with a patent (the "R-Cal" patent) preventing any competitors from selling sensors compatible with Tyco's monitors.[169] With the patent set to expire in 2003, competitors were poised to begin production of generic sensors compatible with Tyco's installed base of monitors.[170] Anticipating this threat to its business, Tyco implemented the "OxiMax Strategy," resulting in the redesign of its patented system in a way that allowed for the addition of new features but also resulted in the new monitors being incompatible with generic sensors.[171]

Plaintiffs contended that Tyco wrongfully maintained its monopoly in violation of section 2 of the Sherman Act by "designing its new patent-protected OxiMax sensors to be compatible with its new OxiMax monitors . . . but designing its new OxiMax monitors to be incompatible with the old . . . sensors."[172] Plaintiffs also alleged that Tyco forced "customers and OEMs [original equipment manufacturers] to adopt the new OxiMax monitors by discontinuing its R-Cal monitors and implementing other exclusionary business practices."[173] The district court granted Tyco's motion for summary judgment on the section 2 claims.[174] The decision was appealed by the plaintiffs, who claimed the district court erred when it failed to apply a balancing test

166. *Microsoft*, 243 F.3d at 59 (emphasis added). The court adds that "[e]vidence of the intent behind the conduct of a monopolist is relevant only to the extent it helps [the court] understand the likely effect of the monopolist's conduct." *Id.*

167. C.R. Bard, Inc. v. M3 Sys., Inc., 157 F.3d 1340, 1382 (Fed. Cir. 1998) (Bryson, J., concurring in part, dissenting in part). See *supra* Part II.C.1 for an analysis of the Federal Circuit's decision in *Bard*.

168. Allied Orthopedic Appliances, Inc. v. Tyco Health Care Grp. LP, 592 F.3d 991, 998 (9th Cir. 2010). "The pulse oximetry products at issue in this litigation *include* sensors and monitors. Sensors attach to a patient's body. A monitor receives and interprets the signal from a sensor and then displays the patient's level of blood oxygenation." *Id.* at 994 (emphasis added).

169. *Id.*

170. *Id.*

171. *Id.* The new design moved the digital memory chip (and with it essential calibration coefficients) from the monitor to the sensor. *Id.* Because the generic sensors did not contain this chip, they could not be used with the new monitors. *Id.*

172. *Id.* at 998.

173. *Id.*

174. *Id.* at 994.

that would weigh the benefits of Tyco's product redesign against its anticompetitive effects.[175]

On appeal, the *Tyco* court upheld the district court's granting of Tyco's motion for summary judgment, ruling that there was no antitrust violation "unless plaintiff prove[d] that some conduct of the monopolist associated with its introduction of a new and improved product design 'constitute[d] an anticompetitive abuse or leverage of monopoly power, or a predatory or exclusionary means of attempting to monopolize the relevant market.'"[176] The court also expressly rejected plaintiff's argument that a proper analysis required a balancing of the benefits of an improvement against its anticompetitive effects.[177] Instead the court ruled that "[i]f a monopolist's design change is an improvement, it is 'necessarily tolerated by the antitrust laws' unless the monopolist abuses or leverages its monopoly power in some other way when introducing the product."[178] The court added that "[t]o hold otherwise 'would be contrary to the very purpose of the antitrust laws, which is . . . to foster and ensure competition on the merits."[179]

In further support of its position that a balancing test should not be part of the analysis, the *Tyco* court stated that "[t]o weigh the benefits of an improved product design against the resulting injuries to competitors is not just unwise, it is *unadministerable*."[180] The court cited the lack of available criteria that could be used to determine the level of innovation, "which would maximize social gains and minimize competitive injury."[181] Additionally, the court reasoned that because innovations that appear minor at the time they are made "can lead to much greater advances in the future[, t]he balancing test proposed by plaintiffs would therefore require courts to weigh as-yet-unknown benefits against current competitive injuries."[182] On this issue, the *Tyco* court concluded that markets, not judges or juries, must determine an innovation's net value to society.[183]

III. DISCUSSION

This Part begins by conducting a normative analysis of the competing propositions regarding what the ultimate goal of antitrust enforcement should be. This is done by discussing the pros, cons, and compliance with legislative intent of antitrust

175. *Id.* at 998. *See generally* United States v. Microsoft Corp., 253 F.3d 34, 59 (D.C. Cir. 2001) (ruling that if monopolist's procompetitive justification stands unrebutted, then plaintiff must demonstrate that anticompetitive harm outweighs procompetitive benefit).

176. *Tyco*, 592 F.3d at 1000 (quoting Foremost Pro Color, Inc. v. Eastman Kodak Co., 703 F.2d 534, 545–46 (9th Cir. 1983)).

177. *Id.* at 998–1000 (stating that "[t]here is no room in this analysis for balancing the benefits or worth of a product improvement against its anticompetitive effects").

178. *Id.* at 1000 (quoting *Foremost Pro Color*, 703 F.2d at 545).

179. *Id.* (quoting *Foremost Pro Color*, 703 F.2d at 544).

180. *Id.* (emphasis added).

181. *Id.*

182. *Id.*

183. *Id.* (citing Berkey Photo, Inc. v. Eastman Kodak Co., 603 F.2d 263, 287 (2d Cir. 1979) (stating that "the ultimate worth of a genuine product improvement can be adequately judged only by the market itself")).

theories emphasizing efficiency,[184] consumer protection,[185] and economic growth.[186] Next, this Part evaluates what role, if any, intent evidence should play in the antitrust enforcement process. This Part then assesses the tests used by the circuit courts in *C.R. Bard*, *Microsoft*, and *Tyco* to determine which test best complies with the selected criteria. Ultimately, this Part concludes that economic growth should be the definitive goal of antitrust law, that intent evidence should be permitted when introduced for supplemental or explanatory purposes (but should not be a requisite element of proving antitrust liability), and that the *Microsoft* test should be the test adopted by any court deciding an exclusionary product redesign claim.

A. The Ultimate Goal of Antitrust Law

The answer to the question of how the ideal test should function is a variable dependent on the goals of whoever is making the evaluation. Therefore, in order to conduct a meaningful evaluation of the proposed tests, it is first necessary to select an ultimate goal for antitrust law.[187] For this reason, the first step in this analysis must be a normative determination of which antitrust theory and corresponding goals is "best."[188] To make this determination, this Section first evaluates the merits and flaws of the theories emphasizing efficiency, consumer protection, and economic growth, and ultimately demonstrates that although theories based on efficiency and consumer protection have some merit, economic growth should be the ultimate goal of antitrust regulation.

1. Efficiency Theory

The belief that the primary goal of antitrust law should be to increase economic efficiency first began to take hold in the 1980's, and is currently the prevailing view among courts and legal scholars.[189] Supported in its purest form by the Chicago School, and still embraced by Post-Chicago Scholars,[190] efficiency based antitrust theory is likely to remain a major factor in the progression of antitrust regulation despite the fact that many would prefer it to be otherwise.[191]

184. For the purposes of this discussion, the Chicago and Post-Chicago Schools shall be considered together as they share the belief that economic efficiency is the primary goal of antitrust law. *See* Jacobs, *supra* note 50, at 222 (noting that both schools work within efficiency based frameworks despite differing views on enforcement mechanisms). See *supra* Part II.B.1 for a discussion of the Chicago and Post-Chicago Schools of antitrust theory.

185. See *supra* Part II.B.2.b for a discussion of the consumer protection theory.

186. See *supra* Part II.B.2.a for a discussion of the economic growth theory.

187. *See* BORK, *supra* note 87, at 50 (stating that "[o]nly when the issue of goals has been settled" is it possible to make antitrust policy rational).

188. *See* Jacobs, *supra* note 50, at 265–66 (explaining that although "antitrust economists may wish to deny the subjectivity of their enterprise," the fact that the application of pure economics has not resulted in consensus regarding the goals of antitrust policy "illuminates . . . the irreducible normative basis of antitrust law").

189. Kirkwood & Lande, *supra* note 25, at 193–94.

190. See *supra* Part II.B.1 for a comparison of the Chicago and Post-Chicago Schools.

191. For example, a key point in Barack Obama's 2008 presidential campaign and the early days of his presidency was a promise to "restore an aggressive enforcement policy against corporations that use their

Perhaps the most important benefit that results from making economic efficiency the primary goal of antitrust law is predictability. By using a standard that employs a quantitative test,[192] efficiency based rules allow firms to more accurately predict the legal consequences of proposed practices and adjust their behavior accordingly.[193] For example, the Supreme Court's application of a purely quantitative test to predatory pricing in *Brooke Group Ltd. v. Brown Williamson Tobacco Corp.*[194] resulted in the resolution of predatory pricing issues becoming more predictable than they had ever been before.[195] In the context of product development and redesign, increases in predictability such as this not only give firms a clear picture of the type of behaviors that will and will not be tolerated, but also promote capital investment by increasing investor confidence that subsequent developments will not result in antitrust liability.[196] The application of efficiency based quantitative tests also enhances predictability by limiting the ability of factfinders to wrongfully condemn competitive behavior based on extraneous, noneconomic factors[197] and by ensuring that all firms are treated equally.[198] A test that evaluates conduct based solely on an efficiency basis avoids the problems associated with holding businesses liable for conduct that, despite being acceptable in the past, becomes illegal once the firm becomes "dominant."[199] This in turn reduces the costs of litigation and enforcement by "remov[ing] the guesswork" associated with making qualitative judgments about the merits of certain business practices.[200]

In addition to increased predictability, efficiency based rules provide other benefits to individual firms and on the macroeconomic level. First, a rule based entirely on the effect a firm's action has on overall economic efficiency will not punish a firm for succeeding. The use of rules under which dominant firms are punished for business actions that nondominant firms are not can hinder creativity, discourage firms from "employing clever business strategies," and can result in unintended harm to overall

market dominance to elbow out competitors." Stephen Labaton, *Obama Takes Tougher Antitrust Line*, N.Y. TIMES, May 11, 2009, http://www.nytimes.com/2009/05/12/business/economy/12antitrust.html. However, despite "tough rhetoric" on Obama's part, the realm of antitrust enforcement appears to be operating much in the same way it did under George W. Bush's administration. Jia Lynn Yang, *To Consumer Advocates, Obama's Antitrust Enforcement Looks Like More of the Same*, WASH. POST, Sept. 7, 2010, http://www.washingtonpost.com/wp-dyn/content/article/2010/09/07/AR2010090707245.html.

192. *See, e.g.*, Jacobs, *supra* note 50, at 222 (noting that under efficiency based theory antitrust liability will not be found unless "conduct raises prices or reduces output").

193. *Id.* at 231.

194. 509 U.S. 209 (1993).

195. *Brooke Group*, 509 U.S. at 223; *see also* Shores, *supra* note 48, at 1055 (describing the results of the Supreme Court holding that "above-cost price cuts never violate the antitrust laws").

196. Jacobs, *supra* note 50, at 231.

197. *See* Shores, *supra* note 48, at 1055 (explaining how implementing rules based on general principals such as economic efficiency "constrains judicial discretion"). See *supra* note 40 and accompanying text for a discussion of the Chicago School's lack of faith in judges and juries when it comes to antitrust adjudication.

198. Shores, *supra* note 48, at 1055.

199. *See* Epstein, *supra* note 25, at 61 (expressing the view that denying practices used by some businesses to dominant firms creates inefficiencies by harming dominant firms' operations and distorting competition through creation of undeserved competitive advantages).

200. Jacobs, *supra* note 50, at 231.

public interest.[201] Finally, efficiency based rules help to reduce harmful false-positive rulings against antitrust defendants. The rationale behind the Chicago School's preference for underenforcement rather than overenforcement is based on the premise that, once a particular practice is banned, it will be unavailable to all others via stare decisis, whereas the negative effects of a wrongfully permitted monopoly will be worked out over time by the market.[202]

2. Consumer Protection Theory

The first benefit associated with antitrust rules based on consumer protection is that, unlike rules based entirely on economic efficiency, they do not eliminate from the equation the use of noneconomic factors that can play an important role in determining the harmful or beneficial effects of a particular business practice. For example, efficiency based tests fail to account for policy-driven preferences such as the desire to prevent the distribution of economic and political power from consolidating into too few hands[203] or the aspiration to create more opportunities for small businesses.[204] For the specific issue of product redesign, protecting a patent for a redesigned medical device[205] might result in an overall net-gain from an efficiency perspective while simultaneously reducing access to medical care for many.[206] Under an efficiency test, patient welfare would not be included in the analysis because it is "noneconomic" and "inconsistent with the notion that the antitrust laws ought to maximize allocative efficiency."[207] Under a test designed to protect consumer welfare, however, an abuse of the patent process resulting in a transfer of consumers' surplus from purchasers to the firm could result in liability under the antitrust laws even if such actions were economically efficient.[208]

201. Reid, *supra* note 137, at 96–97.

202. Frank H. Easterbrook, *The Limits of Antitrust*, 63 TEX. L. REV. 1, 2–3 (1984).

> If the court errs by condemning a beneficial practice, the benefits may be lost for good. Any other firm that uses the condemned practice faces sanctions in the name of stare decisis, no matter the benefits. If the court errs by permitting a deleterious practice, though, the welfare loss decreases over time. . . . True, this long run may be a long time coming, with loss to society in the interim. . . . But this should not obscure the point: judicial errors that tolerate baleful practices are self-correcting, while erroneous condemnations are not.

Id.

203. Herbert Hovenkamp, *Antitrust Policy After Chicago*, 84 MICH. L. REV. 213, 241–42 (1985).

204. Kirkwood & Lande, *supra* note 25, at 196 (listing small business welfare as a limited but complementary goal for consumer-based antitrust laws).

205. For an example of such a redesign, see *supra* Part II.C.3 for a discussion of Tyco's redesign of its pulse oximitry system that was challenged in *Allied Orthopedic Appliances Inc. v. Tyco Health Care Group LP.*, 592 F.3d 991 (9th Cir. 2010).

206. *See* Kristen Nugent, Comment, *Patenting Medical Devices: The Economic Implications of Ethically Motivated Reform*, 17 ANN. HEALTH L. 135, 143 (2008) (explaining how patents can reduce patient access to medical care either because doctors cannot afford to acquire products or patients cannot afford increased cost of care).

207. Hovenkamp, *supra* note 203, at 242.

208. See *supra* note 84 and accompanying text for a discussion of the consumers' surplus and its transfer from consumers to monopolists.

Another benefit that stems from the application of consumer-based rules is their ability to account for, and thereby prevent, short-term costs that are incurred while long-term corrections take time to develop. Unlike many Chicago scholars who are willing to endure the social costs of monopolies while the market makes long-run self corrections,[209] consumer-based rules recognize that because a short-term monopoly is worth much more than no monopoly, firms "can be expected to expend considerable resources" in the pursuit of monopoly power.[210] Well enforced consumer-based rules would reduce expenses related to pursuing monopoly power, which Herbert Hovenkamp describes as "the greatest social cost of monopoly" and the area with which antitrust should be most concerned.[211]

Finally, there is a strong argument that the goal of consumer protection is truer to the original legislative intent than the goal of economic efficiency. There is considerable agreement that the foundation of antitrust liability is increasing the prices charged to consumers;[212] however, there is contention over whether Congress was concerned with the resulting transfer of consumers' surplus, allocative efficiency, or both.[213] Whereas many, particularly those of the Chicago School, argue that Congress's sole intent in passing the Sherman Act was to promote economic efficiency,[214] it seems much more likely that when terms like "stealing, robbery, extortion, and *stolen wealth*" were used in debate to describe prices charged by monopolies they were being used in support of legislation that would stop the transfer of consumers' surplus to monopolies and cartels.[215] Furthermore, in 1890, when the Sherman Act was passed, economists were just beginning to understand the concept of allocative efficiency, making it unlikely that Congress relied exclusively on the concept when designing and implementing the antitrust laws.[216]

3. Growth-Based Theories

The benefits associated with the application of growth-based rules stem from the ability to recognize and account for multiple goals in the pursuit of achieving optimal antitrust enforcement. Unlike efficiency and consumer-protection based theories that focus exclusively on a specific objective, growth theory views increasing economic efficiency and preventing unwarranted transfers of consumers' surplus, among other things, as components of the big-picture goal of increasing overall economic growth.[217]

209. See *supra* note 202 and accompanying text for a discussion of Frank Easterbrook's view to err on the side of underenforcement because markets will correct themselves over time.

210. Herbet Hovenkamp, *Chicago and Its Alternatives*, 1986 DUKE L.J. 1014, 1027.

211. *Id.* at 1028.

212. Even Robert Bork agrees, stating, "[t]he touchstone of illegality is raising prices to consumers." Bork, *supra* note 38, at 16.

213. Kirkwood and Lande, *supra* note 25, at 202.

214. *See* Bork, *supra* note 38, at 44 (concluding that "Congress intended courts to apply a consumer-welfare policy exclusively"). Remember that Bork subscribes to the definition of "consumer welfare" that equates the term with the overall maximization of wealth. *Id.* at 7.

215. Kirkwood & Lande, *supra* note 25, at 202 (emphasis added) (internal quotation marks omitted).

216. *Id.* at 203–04.

217. See *supra* Part III.A.1–2 for a discussion of the benefits and goals of efficiency and consumer protection theories.

This expansive view allows lawmakers and regulators to balance the sometimes competing objectives of increasing efficiency and protecting consumers with other important goals such as fostering innovation, managing competition, and enhancing dynamic and innovative efficiencies.[218]

The focus on innovation is a particularly important benefit of growth theory. Accounting for the impact of antitrust rules on innovation is desirable because innovation is the key to dynamic efficiency,[219] which in turn is responsible for generating a significant majority of economic growth.[220] Flexible competition policies designed to foster innovation will ultimately lead to sustained economic growth,[221] while policies focused on particular market outcomes (e.g., efficiency) are likely to disincentivize innovation when the achievement of those desired outcomes comes at the expense of intellectual property rights.[222] Efficiency based rules, especially those promulgated by the Chicago School, run the risk of acting as a deterrent to innovation by favoring underenforcement[223] and long-run solutions that eliminate monopolies via market self-corrections.[224] Defenders of these positions maintain that they prevent chilling effects and protect innovation;[225] however, the opposite is more likely to be true.

Antitrust policies that lean too far towards underenforcement tend to disincentivize dominant firm innovation by encouraging the formation of short-run monopolies, which allow dominant firms to achieve success by allocating resources to the pursuit and defense of monopoly power instead of competing through the development of new products and business models.[226] Underenforcement of antitrust laws can also harm innovation by overprotecting intellectual property. Every innovation is to some extent derivative of those that came before it, meaning that continuous innovation is dependent on "a large public domain of ideas."[227] As a result, affording too much protection to intellectual property "stifles the very creative forces

218. *Cf.* Lawrence A. Sullivan & Wolfgang Fikentscher, *On the Growth of the Antitrust Idea*, 16 BERKELEY J. INT'L L. 197, 207 (1998) (noting that Chicago theory is attuned to the single goal of allocative efficiency and wholly ignores dynamic efficiency). See *supra* notes 64–72 and accompanying text for a discussion of dynamic efficiency and innovative efficiency.

219. *See* Barnett, *supra* note 4, at 2 (defining dynamic efficiency as the "gains that result from entirely new products and new ways of doing business").

220. *Id.* at 4–5 (noting Solow's finding that "growth . . . depends entirely on the rate of technological progress" (quoting Robert M. Solow, Prize Lecture for the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel: Growth Theory and After (Dec. 8, 1987), *available at* http://nobelprize.org/nobel_prizes/economics/laureates/1987/solow-lecture.html)).

221. *Id.*

222. Spulber, *supra* note 62, at 286.

223. See *supra* notes 41–42 and accompanying text for discussion of the Chicago School's preference for underenforcement.

224. See *supra* note 202 and accompanying text for an argument of how monopolies can be worked out by the market over time.

225. See *supra* note 42 and accompanying text for a discussion of this position.

226. *See* Hovenkamp, *supra* note 210, at 1027 (explaining how dominant firms expend resources to obtain and defend monopolies); Spulber, *supra* note 62, at 286 (noting that incentivizing innovation requires incentives to invent through research and development).

227. Hovenkamp, *supra* note 69, at 105.

it's supposed to nurture."[228] In addition to imposing significant social costs,[229] overly permissive antitrust rules also serve as entry barriers to firms that would otherwise bring new innovations to the market.[230]

What this is not meant to imply, however, is that aggressive rules that result in overenforcement of antitrust laws are the key to fostering innovation. To the contrary, rules that, for example, result in overenforcement by placing too great an emphasis on preventing any shift of consumers' welfare can hinder innovation just as much as underenforcement.[231] At their worst, such rules cause successful firms to curtail innovation to avoid unwanted regulatory attention, thereby making it easier for other firms to remain competitive without having to make innovations of their own.[232] The difficult goal of antitrust law in the area of product redesign is to develop a rule that creates enough incentive to innovate without conferring an excessive benefit to patent holders or placing too great a restraint on the ability of others to fairly build off of previous innovations.[233]

Thomas Barnett's theory resolves this problem by abandoning adherence to doctrinal answers in favor of a case-by-case analysis that evaluates the "competitive effects of particular conduct rather than rely[ing] solely on structural presumptions."[234] Although the use of fact- and situation-specific analysis reduces the predictability of outcomes, it is an acceptable trade-off for obtaining accurate and socially beneficial results in an area of antitrust law that does not lend itself to simple bright-line rules.[235] Because growth-based theories foster the highest levels of useful innovation and provide the flexibility required to strike the proper balance between economic efficiency and consumer protection and over and underenforcement of both antitrust laws and intellectual property rights, economic growth should be the ultimate goal of antitrust enforcement.

B. The Proper Role of Intent Evidence

Having selected economic growth as the most appropriate goal for antitrust enforcement, the next step in establishing an ideal test is to decide what role, if any, the

228. *Id.* (quoting White v. Samsung Elecs. Am. Inc., 989 F.2d 1512, 1513 (9th Cir. 1993) (Kozinski, J., dissenting)).

229. Hovenkamp, *supra* note 210, at 1028.

230. *See* Joel I. Klein, Assistant Att'y Gen., Antitrust Div., U.S. Dep't. of Justice, Statement Before the Antitrust, Business Rights and Competition Subcommittee of the Committee on the Judiciary of the United States Senate 5 (Mar. 22, 2000), *available at* http://www.justice.gov/atr/public/testimony/4381.pdf (describing how dominant firms can take advantage of markets and create entry barriers).

231. *See* Barnett, *supra* note 4, at 19 (advising against overenforcement to avoid reducing firms' incentive to innovate).

232. *See* Spulber, *supra* note 62, at 285 (discussing the problem of excessive antitrust enforcement in the European Union). See *supra* notes 75–81 and accompanying text for a discussion of the negative impacts of antitrust rules that result in overenforcement.

233. *See* Hovenkamp, *supra* note 69, at 107 (describing an optimal balance for intellectual property policies).

234. Barnett, *supra* note 4, at 19.

235. *See id.* at 17 (describing single-firm conduct as "perhaps the most difficult category of antitrust enforcement").

use of intent evidence should play in determining antitrust liability for allegedly anticompetitive product redesigns. The three general options available are: to exclude the consideration of intent evidence entirely;[236] to permit intent evidence to be used for supplemental or explanatory purposes without requiring plaintiffs to prove actual anticompetitive intent;[237] or to establish anticompetitive intent as a requisite element to successful antitrust claims based on product redesigns.[238] This Section demonstrates that because the use of intent evidence can be especially helpful in resolving antitrust issues in innovative markets,[239] it should not be completely removed from the analysis. However, because the negative effects of anticompetitive conduct can be proven without showing actual anticompetitive intent,[240] plaintiffs should not be required to prove anticompetitive intent to establish antitrust liability for an anticompetitive product redesign.

The primary reason for allowing the consideration of evidence of a dominant firm's intent when determining antitrust liability for product redesigns is the generally unpredictable nature of the markets in which innovations most frequently occur.[241] Because innovation is the key to economic growth, an ideal test should be designed to identify, and label as anticompetitive, behavior that results in reduced innovation within a given market.[242] However, if restricted to traditional economic tools, plaintiffs claiming actual damages[243] based on reduced innovation would be faced with the difficult task of proving both that they would have invented new products but for the anticompetitive conduct and that those products would have been superior.[244] This task becomes increasingly challenging in markets where network effects[245] are present because, in such markets, dominant firms are difficult to dethrone, regardless of their

236. *See*, *e.g.*, Lao, *supra* note 33, at 168 (noting that Chicagoans regard intent evidence as having little or no value in antitrust adjudication).

237. *See, e.g.*, Allied Orthopedic Appliances Inc., v. Tyco Health Care Group LP, 592 F.3d 991, 1001 (9th Cir. 2010) (stating that intent evidence can be helpful if it shows inventors knew product was not an improvement and was therefore introduced solely for anticompetitive purposes); United States v. Microsoft, 253 F.3d 34, 59 (D.C. Cir. 2001) (stating that intent evidence can be relevant when it helps courts understand facts and interpret consequences of monopolists' conduct).

238. *See, e.g.*, C.R. Bard, Inc., v. M3 Sys., Inc. 157 F.3d 1340, 1370 (Fed. Cir. 1998) (requiring that plaintiff prove defendant's "specific intent to achieve monopoly power in a relevant market").

239. Lao, *supra* note 33, at 212.

240. *See id.* (noting that intent evidence should be used when economic tools do not produce conclusive results, implying that proof of intent is not always needed).

241. *See id.* at 181 (stating that traditional antitrust benchmarks of output and price do not accurately predict anticompetitive effects in high-technology markets in which firms generally compete through innovation).

242. *See id.* (noting that because firms compete through innovation, anticompetitive behavior in high-technology markets generally has the effect of reducing innovation).

243. *See* Lopatka & Page, *supra* note 46, at 388 (noting that plaintiffs in monopolization cases are ordinarily required to show actual harm). See *supra* notes 120, 151–65, and 176 and accompanying text for a description of the harm required to be shown by plaintiffs by the *C.R. Bard*, *Microsoft*, and *Tyco* courts respectively.

244. *See* Lao, *supra* note 33, at 181–82 (quoting Lopatka & Page, *supra* note 46, at 371) (arguing that plaintiffs held to this burden of proof with only traditional tools at their disposal will virtually never be able to make a successful monopolization claim).

245. See *supra* note 139 for an explanation of network effects.

conduct, making it difficult to prove their dominance is a result of anticompetitive behavior.[246] It is in these situations that proof of anticompetitive intent can be used as a substitute for harmful effects[247] to keep the scales from tipping too far in the direction of underenforcement. In this way, the introduction of intent evidence allows for a more in-depth analysis on a case-by-case basis as recommended by Barnett.[248]

In addition to allowing plaintiffs to succeed when harm resulting from the anticompetitive redesign of a product would otherwise be too speculative, intent evidence can also serve as a check against overenforcement. In cases where the redesign of a product appears on its face to be anticompetitive because the new product is inferior to its predecessor and results in exclusion of competitors, intent evidence can provide, in theory, an affirmative defense by which a well-meaning defendant could demonstrate that the firm was not employing anticompetitive strategies and that its conduct should not be considered exclusionary.[249] The affirmative defense could also be used by firms whose innovations were "too successful" and resulted in the elimination of some competitors from the market.[250] The availability of such a defense would foster innovation by ensuring firms that they will not face antitrust liability for procompetitive behavior that appears to be exclusionary because the new design is too successful[251] or not successful enough.[252]

Although intent evidence can be useful for explanatory and supplemental purposes, it does have its limitations[253] and therefore plaintiffs should not be required to prove anticompetitive intent on the part of a dominant firm in order to succeed on a claim for exclusionary product redesign.[254] Because sophisticated firms with an understanding of antitrust law have the ability to manipulate evidence to hide anticompetitive intent and to create evidence of procompetitive intent where there really is none,[255] requiring plaintiffs to prove anticompetitive intent would likely result

246. Lao, *supra* note 33, at 182–83.

247. *Id.* at 212. For example, in situations when the effects of a dominant firm's conduct were unknown, courts have inferred anticompetitive effects from "the absence of 'valid business reasons.'" *Id.* at 181 (quoting Eastman Kodak Co. v. Image Technical Servs., Inc., 504 U.S. 451, 483 (1992)). Lao argues that when a court examines a dominant firm's "valid business reasons" for its allegedly anticompetitive conduct, the court is essentially evaluating the firm's intent, inferring anticompetitive intent from a lack of a valid business purpose. *Id.*; *see also* Beck, *supra* note 105, at 1249 (noting that elimination of rivals is not a justifiable business reason).

248. See *supra* notes 234–35 and accompanying text for a discussion of Barnett's support for handling monopolization claims on a case-by-case basis.

249. Lao, *supra* note 33, at 198–99.

250. *See* Hovenkamp, *supra* note 210, at 1019 (arguing that a monopolist that acquires its position through competitive means should be entitled to its profits and not subject to antitrust liability).

251. *See id.* at 1027 (noting that research and innovation and anticompetitive conduct are both paths that can lead to monopolization).

252. *See id.* (arguing that failed innovations should not automatically result in antitrust liability).

253. See *supra* notes 102–04 and accompanying text for a summary of objections to the use of intent evidence.

254. *See* Herbert Hovenkamp, *The Monopolization Offense*, 61 OHIO ST. L.J. 1035, 1039 (2000) (noting that "while intent itself rarely determines legality, knowledge of intent may help when the facts are ambiguous" (quoting Bd. of Trade of Chicago v. United States 246 U.S. 231, 238 (1918))).

255. Lao, *supra* note 33, at 211–12. Also at issue is the argument that unsophisticated firms would be placed at a disadvantage because they would be subject to antitrust liability because they left a paper trail

in underenforcement of antitrust laws and impose additional social costs by incentivizing firms to expend resources on doctoring evidence of their true intent instead of competing on the merits.[256] However, the fact that intent evidence is subject to manipulation by *some* firms does not justify excluding it from antitrust analysis entirely.[257] Other objections are founded on a lack of faith in the ability of judges and juries to properly interpret intent evidence. Although it is true that the possibility for misinterpretation exists, this does not change the fact that judges and juries are asked to determine a defendant's intent in a wide range of legal issues, and there is no reason to assume that they are capable of this in all areas of the law other than antitrust.[258]

Because the objections to the use of intent evidence are of some merit, but do not raise the level of concern necessary to warrant complete exclusion from consideration, evidence of anticompetitive intent should be considered in exclusionary product redesign cases when it is helpful. But, a plaintiff should not be *required* to prove such intent and should not lose simply because such evidence is unavailable. Furthermore, instead of focusing on whether a dominant firm intended to achieve monopoly power, an ideal use for intent evidence in a system predicated on economic growth would be to analyze the source of the dominant firm's monopoly power: Was it the result of its intent to introduce a new product or concept to the marketplace (dynamic efficiency), or the intent to secure or enhance its own economic position without bringing about any substantive change to the market (static efficiency)? Such a test would look favorably upon firms whose development gave rise to dynamic efficiencies while placing a much higher level of scrutiny on the impact of firms whose conduct only benefited themselves.

C. Evaluating C.R. Bard*, Microsoft, and* Tyco

Having selected economic growth as the most appropriate goal for antitrust enforcement and identified a proper role for intent evidence, this Section will now use these choices as an "Established Framework" to conduct a normative evaluation of the circuit court decisions in *C.R. Bard*, *Microsoft*, and *Tyco* to determine which test, if any, should be applied in the future by courts evaluating claims of exclusionary product redesign. An ideal test under the Established Framework will foster economic growth by providing enough intellectual property protection to maximize the incentive to innovate without providing so much as to make it impossible to build off the work of others.[259] This can be achieved through the implementation of a test that calls for a fact- and situation-specific inquiry into the competitive effects of a dominant firm's conduct on a case-by-case basis[260] and the utilization of available intent evidence for

documenting a "'clumsy choice of words to describe innocent behavior.'" *Id.* at 211 (quoting RICHARD A. POSNER, ANTITRUST LAW 216 (2d ed. 2001)).

256. *See* Hovenkamp, *supra* note 210, at 1027 (describing the social costs incurred when firms expend resources to obtain and defend monopoly positions).

257. Lao, *supra* note 33, at 212.

258. *Id.* at 201.

259. Hovenkamp, *supra* note 69, at 117.

260. Barnett, *supra* note 4, at 19.

the purposes of avoiding punishment of "accidental" monopolies[261] and acting as a supplement or substitute for evidence of actual harm.[262]

1. *C.R. Bard, Inc. v. M3 Systems, Inc.*

In *C.R. Bard*, the Federal Circuit applied a test requiring plaintiffs to prove the defendant's specific intent to obtain monopoly power, exclusionary conduct on the part of the defendant, probability that the defendant would gain actual market power, and actual harm to the plaintiff.[263] An analysis of this test under the Established Framework returns mixed results. First, the *C.R. Bard* test violates the Established Framework by requiring plaintiffs to prove anticompetitive intent.[264] Including proof of anticompetitive intent as a *required* element diminishes economic growth by laying the groundwork for underenforcement and increasing costs both for the parties involved[265] and on an aggregate economic level.[266] Requiring proof of anticompetitive intent does have the benefit of impliedly authorizing the procompetitive intent defense,[267] which would provide protection for firms contributing to economic growth by enhancing dynamic efficiency.[268] However, the best approach is to *allow* the admission of intent evidence when it is helpful or explanatory, so long as there are checks in place to ensure that the evidence is valuable and relevant to the matter at hand.[269]

A second issue with the *C.R. Bard* test arises out of the fourth element, which requires a plaintiff to prove that it was "injured in its business or property by [defendant's] conduct."[270] On a general level, this element complies with Thomas Barnett's call for a test that focuses on the specific competitive effects of challenged

261. See *supra* notes 249–52 and accompanying text for a discussion of why firms should not automatically be punished for obtaining a dominant position in a given market. *See also* Epstein, *supra* note 25, at 61 (describing inefficiencies caused by allowing particular practices to be used by all firms except those classified as dominant).

262. See *supra* notes 241–48 and accompanying text for a discussion of using intent evidence as a substitute for evidence of actual harm.

263. C.R. Bard, Inc. v. M3 Sys., Inc., 157 F.3d 1340, 1370 (Fed. Cir. 1998). See *supra* Part II.C.1 for a complete discussion of the Federal Circuit's decision in *C.R. Bard.*

264. *C.R. Bard*, 157 F.3d at 1370.

265. *See* Lao, *supra* note 33, at 152–53 (quoting A.A. Poultry Farms v. Rose Acre Farms, 881 F.2d 1396, 1402 (7th Cir. 1989)) (noting the argument that searching for intent evidence increases litigation costs).

266. *See* Hovenkamp, *supra* note 210, at 1027 (describing the social costs incurred when firms have more incentive to expend resources obtaining and defending monopoly positions than to compete on the merits).

267. See *supra* notes 249–52 and accompanying text for a discussion using procompetitive intent as an affirmative defense against charges of exclusionary product redesign.

268. See *supra* notes 66–68 and accompanying text for a discussion of Barnett's theory that monopoly power that results in dynamic efficiency should not warrant the imposition of antitrust liability. *See also* Barnett, *supra* note 4, at 17 ("When a firm develops a better or less expensive product than all of its competitor's products, it may obtain or maintain some measure of market power. It may even legally charge a monopoly price under US antitrust jurisprudence. But that may still be to the benefit of consumers." (footnote omitted)).

269. See *supra* notes 108–12 and accompanying text for a discussion of Lao's theory of limiting the use of intent evidence to instances when it is helpful and reliable.

270. C.R. Bard, Inc. v. M3 Systems, Inc., 157 F.3d 1340, 1370 (Fed. Cir. 1998).

conduct instead of "structural presumptions such as high market shares."[271] However, the extent to which this element truly complies with the Established Framework ultimately depends on how broadly "injured in its business or property" is allowed to be construed.[272] Although the court does not state so expressly, it appears that they are adopting an approach that parallels Lao's theory that evidence of anticompetitive intent can replace proof of actual harm in certain circumstances.[273] If this was indeed the court's intention, then the actual harm element of the *C.R. Bard* test fits well within the Established Framework.

That said, by failing to expressly adopt a rule that allows for the use of intent evidence as a substitute for demonstrating actual harm, the court leaves this element open to a more strict interpretation by future courts that would increase the plaintiff's burden as well as the risk of underenforcement.[274] Additionally, adopting too narrow an interpretation of harm has the undesirable effect of placing too much emphasis on protecting individual competitors as opposed to competition in the broader sense.[275] Placing too much emphasis on whether the plaintiff's business or property was injured by the dominant firm's conduct also restricts the factfinder's ability to analyze the impact conduct has on innovation, thereby removing the key component of economic growth from the equation.[276] An ideal test under the Established Framework would clearly permit the substitution of substantial intent evidence in an effort to avoid harmful interpretations by courts and to provide firms with the benefit of enhanced predictability.

2. *United States v. Microsoft Corp.*

In *Microsoft*, the D.C. Circuit applied a test that required plaintiffs to prove that the defendant's conduct was exclusionary and had an anticompetitive effect.[277] The test also included a balancing test that allowed the defendant to submit a procompetitive justification for its conduct[278] and granted plaintiffs the opportunity to demonstrate that

271. Barnett, *supra* note 4, at 19.

272. *C.R. Bard*, 157 F.3d at 1370.

273. Bard's claim that its new gun constituted a significant improvement notwithstanding, the court reasoned that the jury's finding that there was "substantial evidence" that Bard's motivation for modifying the gun was the desire to inflict harm on its competitors was sufficient to warrant the imposition of antitrust liability. *Id.* at 1382.

274. *See id.* at 1382–83 (reasoning that evidence of Bard's anticompetitive intent warrants imposition of antitrust liability without formally adopting intent evidence as a substitute for actual harm).

275. *See* Barnett, *supra* note 4, at 19 (stating that the goal of antitrust enforcement should be to "identify and prosecute conduct by dominant firms that harms the competitive *process*") (emphasis added). Barnett takes the position that the heath of individual competitors is not, by itself, the concern of antitrust enforcement because protecting the competitive process in the broad sense spurs innovation, lowers prices, and increases output. *Id.*

276. See *supra* notes 64–72 for a discussion of the impact innovation has on economic growth.

277. United States v. Microsoft Corp., 253 F.3d 34, 58–59 (D.C. Cir. 2001).

278. See *supra* notes 163–65 and accompanying text for a discussion of the procompetitive justification available under the *Microsoft* test.

the harm of the defendant's conduct outweighed the benefit.[279] Of the three tests under evaluation, the *Microsoft* test is the one that best fits within the Established Framework.

The D.C. Circuit's use of a balancing test is what sets *Microsoft* apart from the other cases,[280] and does the most to build support for the *Microsoft* test under the Established Framework. First, the balancing test requires the factfinder to take a methodical approach to hearing both plaintiffs' and defendants' arguments regarding the nature and effects of the challenged conduct.[281] In doing so, the *Microsoft* test complies with the goal of making a fact- and situation-specific inquiry into the competitive effects of the defendant's conduct on a case-by-case basis. The balancing test also protects against the negative effects of overenforcement by adopting a version of Lao's proposed affirmative defense by allowing the defendant to demonstrate that "its conduct is indeed a form of competition on the merits."[282] The balancing test differs from the defense proposed by Lao in that it affords the plaintiff an opportunity to prove that the harm caused by the conduct outweighs the benefit of the justification;[283] however, this difference is likely to produce superior results, as it will prevent the test from drifting too far towards underenforcement.

Another positive aspect of the *Microsoft* test is its requirement that plaintiffs show harm to the competitive process and not just to a specific competitor.[284] The application of this standard is directly in line with Thomas Barnett's assertion that "the health of competitors by itself is not the concern of the antitrust laws."[285] This requirement has the additional benefit of protecting the consumers—who ultimately suffer when the competitive process is corrupted—without incurring the negative effects of implementing an antitrust framework based entirely on protecting consumers. The *Microsoft* test, however, prevents this requirement from resulting in underenforcement by allowing intent evidence to supplement evidence of anticompetitive effect.[286]

Although the D.C. Circuit notes that their *focus* is "upon the effect of that conduct, not the intent behind it,"[287] their decision that Microsoft's conduct had the requisite anticompetitive effect cannot be fully explained by economics alone.[288] Because the anticompetitive effect in an exclusionary redesign case is the prevention of

279. *Microsoft*, 253 F.3d at 59. See *supra* Part II.C.2 for a complete discussion of the D.C. Circuit's decision in *Microsoft*.

280. See *supra* notes 151–67 and accompanying text for a full discussion of the four-part balancing test used by the D.C. Circuit in *Microsoft*.

281. *See Microsoft*, 253 F.3d at 58–59 (describing fact-based arguments to be made by plaintiffs and defendants).

282. *Id.* at 59.

283. *Id*.

284. *Id.* at 58; *see also* Brooke Group Ltd. v. Brown & Williamson Tobacco Corp., 509 U.S. 209, 225 (1993) (noting that "[e]ven an act of pure malice" by one firm against another does not itself warrant a claim under federal antitrust laws).

285. Barnett, *supra* note 4, at 19.

286. *See Microsoft*, 253 F.3d at 59 (noting that intent evidence is relevant when it enhances understanding of likely effects of dominant firm conduct). See *supra* notes 264–69 and accompanying text for a discussion of the Federal Circuit's use of this method in *C.R. Bard*.

287. *Microsoft*, 253 F.3d at 59.

288. *See* Lao, *supra* note 33, at 188 (noting that "a pure economic analysis is unworkable in these types of cases").

further innovation in the market, a test that considered conduct alone would require extensive speculation regarding the effect such conduct would have on future innovation.[289] By allowing evidence of anticompetitive intent to support findings of anticompetitive effect, reliance on speculation can be reduced and the proper balance between over and underenforcement can be struck.[290]

3. *Allied Orthopedic Appliances Inc. v. Tyco Health Care Group LP*

In *Tyco*, the Ninth Circuit applied a test that required plaintiffs to prove that the redesign of a product constituted anticompetitive abuse of monopoly power or exclusionary means of attempting to obtain monopoly power in the market.[291] However, the court expressly rejected the use of a balancing test—any redesign that represented an improvement did not violate the antitrust laws.[292] An analysis of this test under the Established Framework returns mostly negative results. First, by rejecting any claim in which a defendant can show the new design represents even nominal improvement, the *Tyco* test is placing its emphasis entirely on the health of competitors as opposed to the health of the overall competitive process.[293] This approach is clearly contrary to Barnett's position that antitrust laws should not be concerned with the health of competitors by itself.[294]

The *Tyco* test also breaks away from the Established Framework by not making a full fact- and situation-specific inquiry into the competitive effects of the dominant firm's conduct. The test does call for the limited factual inquiry into whether the redesigned product constitutes an improvement; however, the *Tyco* court refuses to consider any other evidence short of another antitrust violation.[295] The court argues that without coercive conduct on the part of the dominant firm, only the market can judge the ultimate worth of a redesigned product.[296] What this approach ignores is the fact that the act of redesigning the product can itself be the coercive conduct that has anticompetitive effects.[297] By refusing to weigh the benefits of even meaningless product changes against the harmful effects on efficiency, competition, innovation, and consumers, the *Tyco* test is likely to produce many, if not all, of the negative effects of underenforcement. Because of this, the *Tyco* test is not a viable option for an antitrust framework designed to enhance economic growth.

289. *Id.*

290. *Id.*

291. Allied Orthopedic Appliances Inc., v. Tyco Health Care Group LP, 592 F.3d 991, 1000 (9th Cir. 2010).

292. *Id.* See *supra* Part II.C.3 for a complete discussion of the Ninth Circuit's decision in *Tyco.*

293. *See Tyco*, 592 F.3d at 1000 (rejecting use of balancing tests because it would result in harm to individual competitors); *cf.* United States v. Microsoft Corp., 253 F.3d 34, 58 (D.C. Cir. 2001) (requiring that harm be to the competitive process instead of individual competitors).

294. Barnett, *supra* note 4, at 19.

295. *Tyco*, 592 F.3d at 1000.

296. *Id.*

297. *See, e.g.*, C.R. Bard v. M3 Systems, Inc., 157 F.3d 1340, 1382 (Fed. Cir. 1998) (Bryson, J., concurring in part, dissenting in part) (referencing a Bard internal document that showed redesigned gun had no effect on performance and noting jury could reasonably find that redesign was made for predatory reasons).

Having eliminated the *Tyco* test as a possibility, it must be decided whether the *C.R. Bard* test or the *Microsoft* test best furthers antitrust's ultimate goal of enhancing economic growth. Both tests make similar use of intent evidence as a potential substitute for anticompetitive harm and as a basis for procompetitive justification defense. However, two key differences set the two tests apart and give the advantage to the *Microsoft* test.

First, the *C.R. Bard* test *requires* a plaintiff to prove the defendant's anticompetitive intent[298] whereas the *Microsoft* test only permits intent evidence for explanatory and predictive purposes.[299] Because including anticompetitive intent as a required element of these creates a significant risk of underenforcement,[300] the *Microsoft* test is preferable in this regard.

The second key difference between the tests is the *Microsoft* test's express inclusion of a balancing test. The use of a balancing test ensures factfinders will engage in type of fact-intensive, case-by-case analysis that keeps the focus on competitive effects instead of purely economic benchmarks.[301] For these and other reasons, the test implemented by the D.C. Circuit in *Microsoft*[302] should be the test adopted by any court trying an exclusionary product redesign claim.

IV. CONCLUSION

Due to its inherently normative nature, the question of which test is the "best" for determining a dominant firm's antitrust liability for purportedly exclusionary product redesigns does not have an easy or definitive answer. First, the answer is heavily influenced by what one believes to be the ultimate goal of the antitrust laws.[303] This Comment did not analyze the selected cases from the perspective of theories based on promoting economic efficiency or the protection of consumers, but such an analysis would almost certainly produce different results. Economic growth was selected as the ultimate goal of antitrust enforcement because it produces the highest levels of useful innovation, and provides an adaptable approach that takes advantage of unique factual situations in a way that efficiency and consumer-based rules do not.[304] Economic growth is also a more suitable goal for America's contemporary economy. The Chicago School's focus on allocative efficiency may have been prudent in a time when manufacturing played a bigger economic role; however, the health of the economy is

298. *Id.*

299. United States v. Microsoft Corp., 253 F.3d 34, 59 (D.C. Cir. 2001).

300. See *supra* notes 253–50 and accompanying text for a discussion of how the intent requirement results in underenforcement and the associated problems.

301. See *supra* notes 280–83 and accompanying text for a discussion of benefits of the balancing test used in the *Microsoft* test.

302. *Microsoft*, 253 F.3d at 58–59.

303. See *supra* note 187 and accompanying text for a discussion of Bork's belief that the issue of goals must be settled before antitrust policy can be made rational.

304. See *supra* notes 217–18 and accompanying text for a discussion of how antitrust rules based on economic growth allow balancing of various and sometimes conflicting policy goals.

growing increasingly reliant on the technological innovation that growth-based theories are designed to deliver.[305]

Selecting economic growth as the ultimate goal lays the groundwork for the remaining analysis. Thomas Barnett's call to utilize fact- and situation-specific inquiries into the competitive effects of the conduct of dominant firms provides strong support for the inclusion of intent evidence in the exclusionary redesign analysis.[306] The use of intent analysis as a supplement to or substitute for proof of actual harm also enhances the ability of factfinders to distinguish between firms making an honest attempt at innovation and those simply trying to entrench their dominant market positions.

Using economic growth as a goal and imposing a favorable view of intent evidence allowed several important observations to be made. First, it quickly became clear that although intent evidence is valuable, plaintiffs should not be required to prove a defendant's anticompetitive intent in order to succeed on an exclusionary redesign claim.[307] The second revelation of the Established Framework was the importance of a balancing test that enables a true case-by-case analysis.[308] The Ninth Circuit's refusal to include a balancing test as a step in their overall test meant that, under the Established Framework, the *Tyco* test was not a viable option. The *C.R. Bard* test, although not expressly rejecting the use of a balancing test, did not specify that one need be used either. The *Microsoft* test both expressly calls for the inclusion of a balancing test and avoids the pitfalls of requiring a plaintiff to prove the defendant's anticompetitive intent. If courts deciding exclusionary product redesign cases in the future adhere to the test laid out by the D.C. Circuit in *Microsoft*, the antitrust laws can be counted on to provide both consumers and producers with a framework designed to fairly balance competing interests, take into account all relevant and helpful facts, and foster the innovation on which our country's economic growth depends.

305. See *supra* Part III.A.3 for a discussion of the benefits of growth-based theories.

306. Barnett, *supra* note 4, at 19.

307. See *supra* notes 253–58 and accompanying text for a discussion regarding why proof of anticompetitive intent should not be required.

308. See *supra* notes 280–82 and accompanying text for a discussion of the benefits of the balancing test used in the *Microsoft* test.