THE MERGER INCIPIENCY DOCTRINE AND THE IMPORTANCE OF "REDUNDANT" COMPETITORS

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The enforcers and the courts have not implemented the merger incipiency doctrine in the vigorous manner Congress intended. We believe one important reason for this failure is that, until now, the logic underlying this doctrine has never been explained. The purpose of this Article is to demonstrate that markets' need for "resilient redundancy" explains the incipiency policy. We are writing this Article in the hope that this will cause the enforcers and courts to implement significantly more stringent merger enforcement.

To vastly oversimplify, the current enforcement approach assumes that if N significant competitors are necessary for competition, N - 1 competitors could well be anticompetitive, but blocking an N + 1 merger would not confer any gains. Because many enforcers and judges erroneously assume that mergers among major competitors usually result in significant gains to efficiency and innovation, they believe that blocking mergers at the N + 1 level would impose significant costs on the economy.

Why should enforcement preserve apparent "redundancy"? First, the relationship between concentration and competition, and between concentration and innovation, is uncertain. Underestimating the minimum necessary number of firms needed for competition and for innovation is likely to result in harm to consumer welfare. Second, one or more of the N firms frequently can wither or implode as a result of normal competition, or from an unexpected shock to the market, often surprisingly quickly. This leaves only N - 1 or N - 2 remaining significant competitors. Finally, when enforcers challenge a merger that would have resulted in N competitors, they often allow the merger subject to complex remedies. But if the remedy fails, as they often do, the market will have too few competitors by the enforcers' own estimate. Taken together these scenarios often leave markets with too few firms.

The attenuation of the incipiency doctrine has allowed many mergers that have resulted in higher prices and lower levels of innovation. This has been shown by recent empirical work evaluating the consequences of major mergers. Moreover, other empirical work shows that significant mergers do not produce significant efficiency gains overall and often result in losses to innovation.

A revitalized incipiency doctrine would retain the resilient redundancy that would preserve competition, while sacrificing little or nothing in terms

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of efficiency or innovation. The enforcers and the courts should implement such a policy aggressively. One way to help do this would be to vigorously enforce *Philadelphia National Bank*'s original presumption that mergers above certain thresholds should be blocked unless the merging parties can "clearly" show that the merger will not harm competition.

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INTRODUCTION

In 1890, Congress adopted the Sherman Act which prohibited "combination[s] in the form of trust or otherwise [including mergers]" that cause a firm to "monopolize or attempt to monopolize [a market]."[1] In 1914, the Clayton Act expanded this to include mergers resulting from stock acquisitions that "*may* . . . substantially lessen competition . . . or *tend* to create a monopoly."[2] This embodies a Congressional directive that courts should prevent mergers even when they do not rise to the level of Sherman Act violations whenever they could cause a reasonable probability of harm to competition. This has become known as the "incipiency doctrine."[3]

Despite this statutory command, recent research has shown that merger enforcement has been unduly lax.[4] One reason for this permissiveness could be the relatively indefinite and elastic statutory language, resulting in uncertainty regarding the statutory parameters.[5] This ambiguity gives wide discretion to agencies and then courts to determine whether a particular merger may present sufficient risk of anticompetitive effect to warrant condemnation.

Another reason for this permissiveness could be that the policy rational for this legislative mandate has, until now, been virtually unexplained. To our knowledge, neither the relevant case law nor the scholarly commentary has ever provided a rationale for the incipiency doctrine. Perhaps for this reason, merger decisions often have only paid lip service to the doctrine, declining to implement it consistently, in the vigorous manner Congress intended.[6]

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1. Sherman Act, ch. 647, §§ 1, 2, 26 Stat. 209, 209 (1890) (codified as amended at 15 U.S.C. §§ 1, 2 (2012)).

2. Clayton Act, ch. 323, § 7, 38 Stat. 730, 731–32 (1914) (codified as amended at 15 U.S.C. § 18 (2012)) (emphasis added). In 1950, Congress expanded the application of the Clayton Act to ensure that acquisitions of assets, however accomplished, were subject to the same standard. Celler-Kefauver Act, Pub. L. No. 81-899, 64 Stat. 1125, 1126 (1950) (codified as amended at 15 U.S.C. § 18 (2012)). The Clayton Act has been amended several times. *See* 15 U.S.C. § 18 (2012).

3. *See infra* Part I.

4. *See* JOHN KWOKA, MERGERS, MERGER CONTROL, AND REMEDIES 120 (2015); Orley Ashenfelter, Daniel Hosken & Matthew Weinberg, *Did Robert Bork Understate the Competitive Impact of Mergers? Evidence from Consummated Mergers*, 57 J.L. & ECON. S67, S73–76 (2014).

5. *See infra* Part I.

6. To the extent a judge is a strict constructionist or textualist, the reasoning underpinning Congress's incipiency mandate should matter less or not at all, and the wording of the anti-merger statutes should matter more. The logic or lack of logic

The purpose of this Article is to provide the "resilient redundancy" logic underpinning the incipiency doctrine.[7] Our goal is to encourage courts and enforcement agencies more faithfully to implement congressional intent when they decide merger cases.

To state the current approach (vastly, overly)[8] simply, courts and enforcement agencies assume that if N significant competitors in a market are likely to result in a competitive situation that is close to optimality, then N - 1 competitors could well be anticompetitive. However, blocking a merger to ensure N + 1 competitors remain would not confer any gains to the competitive process.[9] Because most enforcers and judges operate under the perception that mergers among major competitors quite frequently result in significant gains to efficiency and innovation, they believe that blocking such mergers, absent a clear risk to the competitive process, is likely to impose significant costs on the economy.[10] Consequently, courts and agencies tend to allow mergers until only N firms remain in a market.[11]

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underlying the incipiency doctrine would not matter to a textualist. Nevertheless, as a practical matter many judges are more likely to vigorously implement a law when they are able to understand its underlying rationale. *See generally* Robert H. Lande, *A Traditional and Textualist Analysis of the Goals of Antitrust: Efficiency, Preventing Theft from Consumers, and Consumer Choice*, 81 FORDHAM L. REV. 2349, 2360–62 (2013).

7. The term "resilient" in related antitrust contexts was suggested by Makan Delrahim, Assistant Attorney General, Antitrust Division, U.S. Department of Justice, in a speech before the American Antitrust Institute on June 21, 2018. He discussed this term as well as related terms such as "robust" and "anti-fragile."

8. Enforcement agencies believe that a host of additional factors may be relevant to whether a merger will decrease competition. To give an obvious example, some firms are more competitive with each other than are others, so the enforcers and the courts examine firms' interactions, market shares, industry concentration levels and changes in concentration levels. *See* U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, HORIZONTAL MERGER GUIDELINES 3–4 (2010) [hereinafter 2010 MERGER GUIDELINES], https://www.ftc.gov/sites/default/files/attachments/merger-review/100819hmg.pdf [https://perma.cc/A2ZZ-8GVN]. Moreover, the goal of merger enforcement is not "perfect" competition. Rather, its goal is only to prevent mergers that may significantly lessen competition. *Id.* at 1.

9. Neil Averitt originated the "N + 1" underlying explanation for, and articulation of, these issues in, *A Major Rethinking of Merger Practice Is Overdue*, FTC:WATCH, Jan. 17, 2014, https://www.mlexwatch.com/ftcwatch/articles/1336.

10. *See, e.g.*, Joshua Wright, *Should Government Bring Back Trust Busting?*, N.Y. TIMES (Nov. 14, 2016), https://www.nytimes.com/roomfordebate/2016/11/14/should-the-government-bring-back-trust-busting ("[M]ergers between competitors do not often lead to market power but do often generate significant benefits for consumers—lower prices and higher quality. Sometimes mergers harm consumers, but those instances are relatively rare."). *See also* Douglas H. Ginsburg & Joshua D. Wright, *Philadelphia National Bank: Bad Economics, Bad Law, Good Riddance*, 80 ANTITRUST L.J. 377 (2015).

11. Moreover, if enforcers and courts use a pure efficiency approach, even mergers to monopoly will be permitted under those circumstances when they lead to a

N, however, is always an unknown number. The best anyone can ever conclude is that it is very likely to lie within a range of values. Moreover, both N and the number of significant competitive firms in a market can change over time, often quickly. Suppose, for simplicity, that to be fully competitive in the short run a market must consist of at least N significant firms, and to achieve optimal innovation the market also should have N firms. Our thesis is that under these circumstances, any merger in this market that would reduce the number of significant firms in the market to fewer than N + 1 (or even N + 2) should be unlawful due to Congress's incipiency mandate.

Why prevent mergers down to N + 1 (or N + 2) firms? Why the need for apparent protective "redundancy"? First, the relationship between concentration and competition, and also the relationship between concentration and innovation, are both uncertain. Underestimating the minimum necessary N is very like to result in medium and long term harm to competition and consumers. Second, over time one or more of the N firms could wither or implode due to the normal results of competition, or an unexpected shock involving the market, resulting in N - 1 or N - 2 remaining significant competitors. Additionally, when enforcers challenge a merger that would result in a market with only N competitors, they often allow the merger subject to divesture focused narrowly on the specific market(s) where the number of competitors otherwise would be inadequate.[12] But if the remedy fails, as they often do, the market would then have too few competitors by the enforcer's own estimate.[13] Taken together these scenarios often leave markets with too few firms.

Moreover, a growing body of empirical evidence shows that on average, large mergers do not produce significant gains in either efficiency or innovation (indeed, the effects on innovation are more likely to be negative).[14] Judge Posner recently noted that mergers that result in significant efficiencies are rare: "I wish someone would give me some examples of mergers that have improved efficiency. There must be some."[15] Thus, the potential social costs of a stricter policy against mergers are small. Hence, "resilient redundancy" will provide greater long-run assurance of effective competition without any

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monopoly but are net efficient. *See, e.g.*, Alan A. Fisher & Robert H. Lande, *Efficiency Considerations in Merger Enforcement*, 71 CALIF. L. REV. 1580, 1670–77 (1983).

12. *See* KWOKA, *supra* note 4, at 128.

13. *See id.* at 128–29.

14. *See id.* at 155–60. In this context, we are using "large" to describe mergers large enough to exceed the thresholds in the federal Merger Guidelines and thus to be the possible subject of an enforcement action.

15. Philadelphia National Bank *at 50: An Interview with Judge Richard Posner*, 80 ANTITRUST L.J. 205, 216 (2015).

significant negative economic effects. For these reasons markets need short term resilient or protective redundancy so they will have a reasonable probability of effective competition, especially in the medium and long run. The incipiency doctrine means enforcement should err on the side of preventing possibly harmful mergers by leaving at least one or two significant firms more than the number decision makers believe to be the minimum necessary for robust competition.[16] The N + 1 idea thus actuates the reasoning underlying the incipiency doctrine in a world of uncertainty and change.[17] As a practical matter, the best way to implement a revitalized incipiency doctrine would be to vigorously implement *Philadelphia National Bank*'s[18] presumption against significant mergers among major competitors in any market that is even moderately concentrated.[19] The enforcers and courts should return to the original formulation of this doctrine—which apparently was drafted by law clerk Richard Posner[20]—which provides that these mergers "must be enjoined in the absence of evidence clearly showing that the merger is not likely to have such anticompetitive effects."[21] Human beings benefit from having "resilient redundancy" by possessing two lungs and two kidneys. So too, the "extra" firm in a market is a prudent investment in retaining

16. The enforcers and the courts also examine entry conditions and decline to block mergers when they believe that significant entry is relatively easy. *See* 2010 MERGER GUIDELINES, *supra* note 8, § 5.1, at 15–16 (inclusion of potential rapid entrants into market calculation). It also is certainly possible that firms could unexpectedly enter a market soon after a merger is consummated. But for a new firm to prevent the anticompetitive harms that otherwise could occur from a firm unexpectedly exiting a market or withering in competitive strength, this entry would have to occur in the same market, and be of the same competitive strength, as the withering or exiting or withering firm. This cannot be counted on.

17. As Averitt notes:

> The starting point, "n," is the minimum number of firms needed to preserve competition in a given market. This number is derived through standard economic analysis after taking account of market-specific factors such as entry barriers, elasticities, company documents, and the like. The value of "n" will vary from market to market, and, of course, can never be established with mathematical precision. To this best estimate, therefore, one more firm should presumptively be added. The extra firm is maintained in order to account for risks – the risks of subsequent events as described above, and the risks that the antitrust agencies or the courts may have assessed the matter incorrectly in the first place. . . . Of course, the principle of "n + 1" is only a presumption. It can and should be set aside if there is a good reason for doing so, such as a showing that preserving the extra firm will cost consumers the benefits of some substantial efficiency.

Averitt, *supra* note 9.

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

19. *Id.* at 363.

20. Philadelphia National Bank *at 50*, *supra* note 15, at 206.

21. *Phila. Nat'l Bank*, 374 U.S. at 363.

and ensuring competition. It is an insurance policy for competition and consumers, not an inefficient redundancy.[22] This explanation of the rationale for the incipiency doctrine should help courts and enforcement agencies understand why the doctrine serves the interests of competition and consumers. We hope that the logic underlying the incipiency doctrine will lead to a stricter and more predictable merger enforcement standard. Our goal is to encourage courts and agencies to implement this doctrine in the manner that Congress intended.

Part I of this Article describes the origins and varied meanings that have been ascribed to the incipiency doctrine.[23] Part II shows that the courts and agencies have not vigorously implemented the doctrine in any of its formulations.[24] The next two parts are the core of our analysis.[25] Part III shows that preservation of workable competition requires the kind of redundancy in the market that the incipiency doctrine commands.[26] Moreover, few if any adverse effects on the overall economy will come from more vigorous merger enforcement.[27] Part IV looks beyond the specifics of the mergers to demonstrate how maintaining competitive redundancy will reduce other threats to the competitive process.[28] The conclusion briefly restates and concludes the analysis.[29]

I. THE ORIGIN AND MEANING OF THE INCIPIENCY DOCTRINE[30]

As noted, the Sherman Act of 1890 prevents mergers that would enable a firm to monopolize or attempt to monopolize a market.[31] But Congress subsequently decided it wanted to prohibit mergers the effect of which "may be to substantially lessen competition . . . or tend to create a monopoly."[32] In *Brown Shoe Co. v. United States*,[33] the

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22. The built-in insurance policy or investment idea and analogy applies to ecosystems as well as to individuals. *See* Thomas J. Horton, *Efficiencies and Antitrust Reconsidered: An Evolutionary Perspective*, 60 ANTITRUST BULL. 168, 174–78 (2015); *see also infra* note 280.

23. *See infra* Part I.

24. *See infra* Part II.

25. *See infra* Parts III–IV.

26. *See infra* Part III.

27. *See infra* Part III.

28. *See infra* Part IV.

29. *See infra* Conclusion.

30. This section of this Article is in part based upon material contained in Robert H. Lande, *Resurrecting Incipiency: From* Von's Grocery *to Consumer Choice*, 69 ANTITRUST L.J. 875, 876–78 (2001).

31. Sherman Act, ch. 647, §§ 1, 2, 26 Stat. 209, 209 (1890) (codified as amended at 15 U.S.C. §§ 1, 2 (2012)).

32. Clayton Act, ch. 323, § 7, 38 Stat. 730, 731–32 (1914) (codified as amended at 15 U.S.C. § 18 (2012)).

Supreme Court explained that because of what it perceived of as a "rising tide of economic concentration, [Congress wanted mergers to be blocked] at a time when the trend to a lessening of competition in a line of commerce was still in its *incipiency*. . . . [Congress wanted to] brake this force at its outset and before it gathered momentum."[34] Thus was the incipiency doctrine born.[35] However, the *Brown Shoe* opinion never defined the incipiency concept clearly or explained why it was desirable. Nor did the Court do so in the other prominent merger cases of the period such as *United States v. Philadelphia National Bank*[36] or

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33. 370 U.S. 294 (1962).

34. *Id.* at 317–18 (emphasis added); *see* 15 U.S.C. § 18 (2012). For an analysis of the legislative history of the Celler-Kefauver Act on the incipiency and related issues, see *Brown Shoe*, 370 U.S. at 316–18. "The dominant theme pervading congressional consideration of the 1950 amendments was a fear of what was considered to be a rising tide of economic concentration in the American economy." *Id.* at 315. Further, the Court held:

> ("Acquisitions of stock or assets have a cumulative effect, and control of the market . . . may be achieved not in a single acquisition but as the result of a series of acquisitions. The bill is intended to permit intervention in such a cumulative process when the effect of an acquisition may be a significant reduction in the vigor of competition."); S. Rep. No. 1775, 81st Cong., 2d Sess. 4–5 ("The intent here . . . is to cope with monopolistic tendencies in their incipiency and well before they have attained such effects as would justify a Sherman Act proceeding."). . . . The Report of the House Judiciary Committee on H.R. 515 recommended the adoption of tests more stringent than those in the Sherman Act. H.R. Rep. No. 596, 80th Cong., 1st Sess. 7.

Id. at 318 nn.32–33. The "rising" concentration that was of concern to Congress could have been concentration within particular industries, or concentration generally throughout the economy.

35. The Court laid the foundation for the incipiency doctrine by sustaining the trial court's condemnation of this merger based on both its vertical effects in the market for men's women's and children's shoes, and its horizontal effect in local shoe retailing markets. *Brown Shoe*, 370 U.S. at 323–26, 334–35. In upholding the horizontal analysis, the Court declared that: "If a merger achieving 5% control were now approved, we might be required to approve future merger efforts by Brown's competitors seeking similar market shares. The oligopoly Congress sought to avoid would then be furthered, and it would be difficult to dissolve the combinations previously approved." *Id.* at 343–44. The opinion did not calculate the change in HHI for these markets, but a five percent market share would represent only twenty-five HHI points.

36. 374 U.S. 321 (1963). *Philadelphia National Bank* repeated the incipiency language. *Id.* at 362–63, 367. The context made the reference largely dictum, however, because the merging parties had market shares of approximately fifteen percent and twenty percent, and the merger would have increased the HHI by approximately 600 to a HHI level of 2000. (These figures are approximations, and the HHIs were not in the opinion. The precise numbers depend upon whether the market is measured in terms of assets, deposits, or loans. *See id.* at 330–31.) Of course, if this same merger were considered today the relevant market might not be defined the same way. These structural factors were substantially above the necessary level that would help cause a

United States v. Von's Grocery Co.[37] On the issue of the incipiency doctrine the legislative history of the anti-merger laws is disappointingly vague.[38] Nor have any of the dozens of decisions that

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merger to be challenged today. It is therefore unsurprising that the opinion did not define or clarify the meaning of the incipiency doctrine.

37. 384 U.S. 270 (1966). *Von's Grocery* is often considered the quintessential incipiency case. Lande, *supra* note 30, at 877. Yet, the opinion never clearly articulated the concept or any underlying policy rationale.

In *Von's Grocery* the Court blocked a merger that would have created a grocery store chain which controlled approximately 7.5 percent of grocery sales in the relevant market. 384 U.S. at 272. Although the earlier decisions arguably were justified by significant increases in concentration, not even a sympathetic reading of *Von's Grocery* can ignore the fact that the proposed merger would have led to an increase in the HHI of less than twenty in a market whose HHI concentration level would have been less than 300. (These calculations are based upon the numbers in Justice White's concurrence. *See id.* at 280–81 (White, J., concurring).) The precise market shares for the merging companies and for their competitors were of course different in different years. Further, if the market were defined differently—for example, in terms of chain stores—the HHI numbers would change. In light of these numbers it is not surprising that *Von's Grocery* often is credited as being the high point, if not the actual origin, of the doctrine. *See* Lande, *supra* note 30, at 877.

38. We thank Jonathan Gross for searching the legislative history of the Clayton Act, the Celler-Kefauver Act, and the Hart Scott Rodino Antimerger Act. For example, on July 22, 1914, Chairman Charles A. Culberson (D., Tex.) of the Senate Committee on the Judiciary submitted his committee's report on the Clayton bill and in a brief introduction stated the purpose of the bill was to supplement the Sherman Act "by making these practices illegal, to arrest the creation of trusts, conspiracies, and monopolies in their incipiency and before consummation." S. REP. NO. 698 (1914) *in* EARL W. KINTNER, LEGISLATIVE HISTORY OF THE FEDERAL ANTITRUST LAW AND RELATED STATUTES 1744–52 (1978).

Interestingly, Congress had contemplated enacting legislation that would have included a prohibition against mergers exceeding a specific percentage of a market. Louis Brandeis, in a memo he submitted justifying this provision of the proposed bill, explained this in a statement: "I do not say that it is conclusive. It creates a presumption, as I have endeavored to state. Some might suggest 50 per cent, another 40 per cent, another 30 per cent; it seems to me that 40 per cent did create the presumption." *Trust Legislation Serial No. 2 and Patent Legislation Serial No. 1: Hearing on H.R. 11380, H.R. 11381, H.R. 15926, and H.R. 19959 Before the Comm. on the Judiciary*, 62d Cong. 38 (1912) (statement of Hon. J. Louis D. Brandeis).

Brandeis's memorandum, an appendix to this source, explains:

> Unless absolute monopoly is to be permitted, there must be some limitation upon the percentage of the particular trade or business that a single combination shall be allowed to control. The percentage that is to be chosen must be, in the nature of things, more or less arbitrary. This section of the Lenroot bill proceeds upon the theory that fairly competitive conditions will probably not exist if a single combination controls more than 40 per cent of the business of a single industry. It therefore provides that if a combination controls more than 40 per cent, it shall be presumed to be unreasonable, but the presumption may be rebutted by proof. The fact that a combination controls 40 per cent of an industry obviously tends to prove that fairly competitive conditions do not exist in that industry and that the combination is unreasonable.

have discussed the doctrine explained *why* the incipiency doctrine benefits competition or consumers.[39] The cases do demonstrate that the doctrine can be understood in a number of similar ways. However, our examination of the 138 relevant federal court decisions and forty-nine relevant Federal Trade Commission (FTC) Act decisions[40] shows that not one contains an explanation as to *why* the doctrine is in the public interest. These decisions contain neither the "useful redundancy" argument nor any other.

Nevertheless, at least five articulations of the doctrine[41] are consistent with the case law that implements the anti-merger statutes:

1. The incipiency doctrine prohibits even small decreases in competition. Before the Clayton Act was passed the Sherman Act prevented mergers likely to lead to a monopoly, or even the dangerous probability of one.[42] Congress did not, however, consider the Sherman Act approach to merger enforcement to be tough enough.[43] It enacted the anti-merger laws to prevent even relatively small "lessen[ings]" of competition, decreases that only "tend" to create a monopoly, even if these mergers would not violate the Sherman Act.[44] Many decisions employ this definition of incipiency.[45]

Trust Legislation Serial No. 2 and Patent Legislation Serial No. 1: Hearing on H.R. 11380, H.R. 11381, H.R. 15926, and H.R. 19959 Before the Comm. on the Judiciary, 62d Cong. 8 (1912) (letter and memorandum of Louis D. Brandeis).

39. The authors are grateful to Jacey Smith for searching for and analyzing the merger cases that discussed the incipiency doctrine. On August 6, 2018, she searched for "incipiency" AND "merger" under the all state and all federal filter, and filtered by i. Cases; ii. After 1/1/1962; iii. Reported; iv. Federal Courts of Appeal & District Courts & SCOTUS. This produced 139 cases, which she analyzed. Ms. Smith also searched for FTC opinions by using "all Federal" for the search and under "Type" put in "administrative," and narrowed it down to after January 1, 1962, and FTC as the agency only. This yielded ninety-three results. Then under the "sources" tab she clicked "FTC decisions." This yielded forty-nine results. She analyzed all of these cases.

40. The specific results for each case are on file with author Lande.

41. *See* Lande, *supra* note 30, at 878–84.

42. *See* 15 U.S.C. § 2 (2012).

43. *See supra* note 34 and accompanying text.

44. Clayton Act, ch. 323, § 7, 38 Stat. 730, 731–32 (1914) (codified as amended at 15 U.S.C. § 18 (2012)). It is difficult to ascertain the cumulative meaning of the modifiers of the "lessen" standard: the "may" and the "substantially" requirements. See the discussion of the "may" language in terms of a lower required probability of anticompetitive behavior, *infra* Part I(3).

This version of the incipiency doctrine was suggested in the FED. TRADE COMM'N, THE MERGER MOVEMENT: A SUMMARY REPORT 6–7 (1948), which was cited in the debates over the Celler-Kefauver Act.

> Imminent monopoly may appear when one large concern acquires another, but it is unlikely to be perceived in a small acquisition by a large enterprise. As a large concern grows through a series of such small acquisitions, its

2. The merger should be blocked because it could cause an industry trend or wave toward mergers. Even if the transaction under review would not by itself create competitive harm, if such transactions were permitted the cumulative effects of a number of similar transactions could harm competition. In part to prevent a race to merge before the industry becomes unduly concentrated,[46] even otherwise innocuous mergers should be blocked at the start of the merger wave.[47] There are a number of decisions using this approach.[48]

> accretions of power are individually so minute as to make it difficult to use the Sherman Act test against them.

Brown Shoe Co. v. United States, 370 U.S. 294, 333–34 (1962) (quoting FED. TRADE COMM'N, *supra* note 44 at 6–7).

45. *See*, *e.g.*, *U.S. Steel Corp. v. FTC*, 426 F.2d 592, 598–99 (6th Cir. 1970) ("Section 7 of the Clayton Act, as amended, was intended by Congress . . . to reach out beyond acquisitions which pose a 'clear-cut menace to competition.'"); *United States v. Atlantic Richfield Co.*, 297 F. Supp. 1061, 1066 (S.D.N.Y. 1977) ("While Congress intended to arrest restraints of trade and monopolistic tendencies 'in their incipiency and well before they have attained such effects as would justify a Sherman Act proceeding,' there is no per se proscription against corporate mergers.").

46. It is possible that a merger could cause other firms to merge, out of a fear that the first merger would place them at a competitive disadvantage. A single merger could even cause an entire industry to consolidate. This undue consolidation could come quickly, from a sudden wave, or slowly, from a gradual industry trend. These mergers could be within the same industry, or in an upstream or downstream market. *See United States v. Cont'l Can Co.*, 378 U.S. 441, 461 (1964).

47. Of course, efficiency enhancing reasons might cause a merger trend within an industry, and the enforcers should consider this possibility. Still, a trend or wave could result in a significant change in industry structure resulting in substantially increased concentration. While it may be difficult to determine when a trend or wave is likely to start or continue, at some point—perhaps not until the second or third similar merger—enforcers ought to recognize the trend or wave and halt it. A merger may spark a trend for many reasons, including the "lemming" or "copycat" effect.

For example, soon after Pepsi announced that it wanted to acquire Seven-Up, Coca-Cola announced that it would purchase Dr Pepper. Coke's announcement was widely seen as a tactical move, one caused by Pepsi's announcement. One possible outcome would have been for both mergers to be approved, thus increasing Coca-Cola's market strength. Alternatively, both mergers could have been turned down, thus preventing Pepsi from roughly catching up to Coca-Cola in terms of market position. In either event, Coca-Cola would come out ahead relative to not attempting its own merger. Coca-Cola later admitted that there was an internal memo suggesting that Coke make a bid for Dr Pepper in part to thwart the Pepsi/Seven-Up merger. *See* Dave Skidmore, *Federal Judge Blocks Coke-Dr Pepper Merger*, ASSOCIATED PRESS (July 31, 1986), https://www.apnews.com/cd2e49ecbc6915ed90a146d8cadce282 [https://perma.cc/2UKQ-H98Z]; Andy Pasztur & Timothy Smith, *Coke Launched Dr Pepper Bid to Scuttle Plans by PepsiCo., Documents Indicate*, WALL ST. J., July 29, 1986. Both mergers were challenged and eventually were abandoned or blocked. *See FTC v. Coca-Cola Co.*, 641 F. Supp. 1128 (D.D.C. 1986).

48. *See*, *e.g.*, *United States v. Mfrs. Hanover Tr. Co.*, 240 F. Supp. 867, 950 (S.D.N.Y. 1982) ("It also runs afoul of the principle that where there is a strong trend toward oligopoly, further tendencies in that direction are to be curbed in

3. A lower probability of proof of harm will suffice for a violation of the Clayton Act than that required for a violation of the Sherman Act. All antitrust decisions are predictions made with uncertain probabilities. The Sherman Act blocks mergers likely to lead to monopoly power or the dangerous probability of monopoly power.[49] As noted, however, the Clayton Act prohibits any merger the effect of which "may be substantially to lessen competition or to tend to create a monopoly."[50] Incipiency could be defined through a stress on the "may" language, in contrast to the Sherman Act requirement of a likely "monopoly" or the "dangerous probability" of one. Relatively greater uncertainty about whether the merger is likely to be anticompetitive will still lead to a Clayton Act violation.[51]

4. The Clayton Act should look further into the future for possible harm. In contrast to thinking of incipiency in terms of cumulative effects, trends, amount of harm, probability of harm, or errors, this definition is temporal in nature. Instead of worrying about present harm, it looks to the future and hypothesizes more broadly

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their incipiency, whatever the number, or vigor, of remaining competitors.") (citing *Cont'l Can Co.*, 378 at 461; *United States v. Phila. Nat'l Bank*, 374 U.S. 321, 367 n.43 (1963); *Brown Shoe*, 370 U.S. at 333, 345–46); *United States v. Pabst Brewing Co.*, 296 F. Supp. 994, 998 (E.D. Wis. 1969) ("We hold that a trend toward concentration in an industry, whatever its causes, is a highly relevant factor in deciding how substantial the anti-competitive effect of a merger may be."); *United States v. Times Mirror Co.*, 274 F. Supp. 606, 616 (C.D. Cal. 1967) ("By using these terms in § 7 which look not merely to the actual present effect of a merger but instead to its effect upon future competition, Congress sought to preserve competition among many small businesses by arresting a trend toward concentration in its incipiency before that trend developed to the point that a market was left in the grip of a few big companies. Thus, where concentration is gaining momentum in a market, we must be alert to carry out Congress' intent to protect competition against ever-increasing concentration through mergers.") (quoting *United States v. Von's Grocery Co.*, 384 U.S. 270, 276–77 (1966)).

49. *See* 15 U.S.C. § 2 (2012).

50. *See* 15 U.S.C. § 18 (2012).

51. *See, e.g.*, *Carlson Cos. v. Sperry & Hutchinson Co.*, 507 F.2d 959, 962 (8th Cir. 1974) ("reliance upon § 7 is made because of the lower standard of proof required to establish a violation"); *United States v. Dairy Farmers of Am., Inc.*, 426 F.3d 850, 858 (6th Cir. 2005) ("If the enforcement of § 7 turned on the existence of actual anticompetitive practices, the congressional policy of thwarting such practices in their incipiency would be frustrated.") (quoting *FTC v. Procter & Gamble Co.*, 386 U.S. 568, 577 (1967)); *United States v. Int'l Tel. & Tel. Corp.*, 324 F. Supp. 19, 31 (D. Conn. 1970) ("Nor is Section 7 concerned with certainties; since it is designed to stop anticompetitive practices 'in their incipiency', there is no requirement that 'the anticompetitive power manifest itself in anticompetitive action before § 7 can be called into play.' *FTC v. Procter & Gamble Co.*, [386 U.S.] at 577. Upon its face, Section 7 makes it clear that the statute is concerned with probabilities. *Brown Shoe Co. v. United States*, [370 U.S. 294, 323 (1962)]. The statutory standard is whether it is probable that a merger will have an anticompetitive effect, viz. whether its effect 'may be substantially to lessen competition.'").

about the eventual impact of a merger. Suppose, for example, merging firms do not make any products that currently compete with one another, and that they are each the dominant producer of related products. Suppose also that the enforcers and courts believe it is likely that these related products will converge and compete with each other in three to six years.[52] This prediction, of course, should rest upon reasonably reliable evidence. Nevertheless, such a merger could be enjoined under the incipiency doctrine.[53] A number of decisions have reflected a temporal aspect of the incipiency doctrine.[54]

5. Another way to express these ideas may be in terms of enforcement errors. Errors of over-enforcement (Type I) or under-enforcement (Type II) are inevitable. In addition, enforcement

52. This hypothetical also assumes the existence of significant barriers to new competition, etc.

53. This merger could also possibly be enjoined if the court found an "innovation market." For an excellent and provocative discussion of this subject see Lawrence B. Landman, *Competitiveness, Innovation Policy, and the Innovation Market Myth: A Reply to Tom and Newberg on Innovation Markets as the "Centerpiece" of "New Thinking" on Innovation*, 13 ST. JOHN'S J. LEGAL COMMENT. 223 (1998). The rationale behind blocking these mergers could also be framed in terms of the potential competition doctrine. *See generally* Darren Bush & Salvatore Massa, *Rethinking the Potential Competition Doctrine*, 2004 WIS. L. REV. 1035.

54. *See, e.g.*, *United States v. M.P.M. Inc.*, 397 F. Supp. 78, 90 (D. Colo. 1975) ("Congress intended that it be employable against mergers in a relevant market at a time when the trend toward concentration is merely incipient or a probability—as opposed to an accomplished fact or virtual certainty."); *United States v. Times Mirror Co.*, 274 F. Supp. 606, 616 (C.D. Cal. 1967) ("By using these terms in § 7 which look not merely to the actual present effect of a merger but instead to its effect upon future competition, Congress sought to preserve competition among many small businesses by arresting a trend toward concentration in its incipiency before that trend developed to the point that a market was left in the grip of a few big companies. Thus, where concentration is gaining momentum in a market, we must be alert to carry out Congress' intent to protect competition against ever-increasing concentration through mergers.") (quoting *United States v. Von's Grocery Co.*, 384 U.S. 270, 276–77 (1966)); *Vanadium Corp. of Am. v. Susquehanna Corp.*, 203 F. Supp. 686, 695 (D. Del. 1962) ("Its 'aim was primarily to arrest apprehended consequences of intercorporate relationships before those relationships could work their evil, which may be at or any time after the acquisition, depending upon the circumstances of the particular case . . . .' And § 7 in its new dress was 'designed to halt in their incipiency undue concentrations of economic power or monopoly.' § 7 now applies if the effect of acquisition 'may be' to lessen competition or tend to create monopoly. The 'may be' looks to the future and clearly competition qua competition need not have been already lessened or a monopoly actually and already created for 'conduct may fall under the ban of amended § 7 before it has attained the stature of an unreasonable restraint of trade."); *Wash. Mut. Sav. Bank v. Fed. Deposit Ins. Corp.*, 347 F. Supp. 790, 797 (W.D. Wash. 1972) ("It requires not merely an appraisal of the immediate impact of the merger upon competition, but a prediction of its impact upon competitive conditions in the future; this is what is meant when it is said that the amended § 7 was intended to arrest anticompetitive tendencies in their 'incipiency.'") (citing *United States v. Phila. Nat'l Bank*, 374 U.S. 321, 362 (1963)).

decision-making gives rise to litigation costs, delays, and unpredictability (Type III error).[55] Rational enforcement policy has to weigh the relative costs and benefits of erring on the side of committing one or more types of error. The incipiency doctrine teaches that merger enforcement should err on the side of over-enforcement.[56] Under this model, the incipiency mandate means that decision-makers should err on the side of making Type I errors to reduce the risk of Type II error; and limit the risk of Type III error as well.

Congress, however, never clarified which of these possible meanings of the incipiency doctrine it intended, or whether they were valid ways to express the doctrine. All of these formulations share the common characteristic that they recognize the uncertainty of exact prediction of competitive effects that a merger might create, but that Congress expected that even modest, forward-looking risks to competition would provide the basis to interdict mergers.

Congress in 1914 and 1950 undoubtedly favored strict merger enforcement and feared trends towards concentration. We also know that the incipiency idea calls for a variety of types of predictions, and that its ultimate objective is to preserve competition. But, fundamentally, neither the legislative history nor the court decisions contain an explanation as to *why* Congress considered the incipiency approach desirable.[57] Perhaps Congress's underlying motivation should not matter. After all, the job of the enforcers and the courts is to implement Congress's directives as best as they can, regardless of

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55. For a discussion of Type I errors (stopping beneficial mergers), Type II errors (allowing undesirable mergers), and Type III errors (enforcement costs, delays, and effects on business certainty) in a merger enforcement context, see Fisher & Lande, *supra* note 11, at 1670–77.

56. Moreover, one important way to view the incipiency doctrine is as a Congressional directive to value the anticompetitive harms likely to result from having one too few firms more than the lost efficiencies that might have arisen due to a mistakenly blocked merger. The enforcers are in effect directed to value the loss of enough firms to ensure robust competition more than any possible negative consequences from having more than the minimum number of firms necessary for robust competition. This can be thought of as a Type 1/Type 2 error tradeoff, and is explained in more detail in *id.*

57. There is a possible justification for the incipiency approach inherent Congress's decision to place the doctrine in the Clayton Act rather than in the Sherman Act. The risks of over-enforcement are likely to be lower in the merger context than for Sherman Act violations, where criminal penalties, and the break-up of an ongoing company is possible. Because of these severe penalties, a Sherman Act violation should only be found under relatively unusual circumstances. Since merger actions today involve only injunctions, however, the risk of over-enforcement is not so undesirable. Moreover, because market forces will tend to correct over-enforcement errors by, for example, causing any efficiencies that might have been obtained from the merger instead to be achieved through contracts or in other ways, merger injunctions should be granted relatively freely.

whether they understand the rationale behind the law. Realistically, however, this void of a logical underpinning for the doctrine surely has led to judicial uncertainty over its utility, and this could well be a reason why, as the next section will show, neither the agencies nor the courts have implemented it vigorously.

II. The Enforcers and the Courts Have Not Implemented the Incipiency Doctrine Vigorously

A. The Attenuation of the Doctrine

Primary responsibility for initiating enforcement of Section 7 rests with the FTC and Antitrust Division. It is the agencies that have explicitly attenuated the force of the incipiency standard.[58] The best lens for observing the process of attenuation is the changing nature of the merger guidelines that purport to set the agency standards and methods of evaluating mergers. The 1968 Merger Guidelines explicitly mirror the *Philadelphia National Bank* (*PNB*) presumption.[59] Market concentration is central and there is no suggestion that there is a need to show any particular competitive effect:

> [A] concentrated market structure . . . tends to discourage vigorous price competition . . . and to encourage other kinds of conduct . . . of an economically undesirable nature. Moreover . . . an enforcement policy emphasizing a limited number of structural factors . . . facilitates both enforcement decision-making and business planning . . . .[60]

Thus, the 1968 Guidelines focused on changes in market structure as the key variable while recognizing that in some limited cases special characteristics of the target might justify objection even if the structural

58. State and private enforcers also challenge mergers. The following discussion of the evolution and effects of the merger guidelines is based on Peter C. Carstensen, *The* Philadelphia National Bank *Presumption: Merger Analysis in an Unpredictable World*, 80 ANTITRUST L.J. 219, 236–41 (2015).

59. U.S. DEP'T OF JUSTICE, MERGER GUIDELINES (1968) [hereinafter 1968 MERGER GUIDELINES], https://www.justice.gov/archives/atr/1968-merger-guidelines [https://perma.cc/2YWL-V58M].

60. *Id.* ¶ 2; *see also* Mark J. Neifer, *Donald F. Turner at the Antitrust Division: A Reconsideration of Merger Policy in the 1960s*, 29 ANTITRUST 53, 53 (2015) ("Turner . . . conclude[d] that merger policy should focus on the formulation and enforcement of strong anti-merger rules that minimized the need for extensive fact-finding.").

criteria were not satisfied.[61] Equally significant, they rejected consideration of "economies" where the merger violated the structural standards, "[u]nless there are exceptional circumstances . . . ."[62] Under the 1968 Guidelines, merger evaluation largely focused on market definition and measures of concentration. At the same time, the standards they articulated left enough discretion to permit not pursuing cases at the margins of market concentration concern, especially where the potential for gains were more likely or the risks to competition seemed more attenuated. By contrast, the 1982 Merger Guidelines have a tone which suggests that most mergers are good for the economy: "Although they sometimes harm competition, mergers generally play an important role in a free enterprise economy. They can penalize ineffective management and facilitate the efficient flow of investment capital and the redeployment of existing productive assets."[63] These Guidelines also explicitly introduced the need to verify the likelihood of a potential competitive effect as an element of the decision to challenge a merger.[64] In the discussion of "Other Factors" the focus of the test is on whether or not the resulting combination would result in a "cartel."[65] Indeed, the text suggested that unless the investigation shows that a cartel is substantially likely there would be no objection. The Assistant Attorney General (AAG), J. Paul McGrath candidly stated that he would ignore the plain language of the Clayton Act: "Antitrust enforcers should only block mergers when they conclude, based on sound economic analysis, that a particular transaction *will* adversely affect competition."[66]

Instead of the statute's "may" language, McGrath made it clear that before the DOJ would challenge a merger, the Antitrust Division

61. 1968 MERGER GUIDELINES, *supra* note 59, ¶ 17; *see also* Neifer, *supra* note 60, at 57 ("[T]he Guidelines articulate simple, administrable rules focused on a few key factors, including, most importantly, market structure.").

62. 1968 MERGER GUIDELINES, *supra* note 59, ¶ 10 (explaining that because the "mergers . . . most likely to . . . achieve significant economies of scale" are unlikely to be challenged under the guideline structural standards, internal expansion is likely to be available where substantial economies can be achieved, and "there are usually severe difficulties in accurately establishing the existence and magnitude of economies claimed for a merger").

63. U.S. DEP'T OF JUSTICE, MERGER GUIDELINES, at Sections I, III.1 (1982) [hereinafter 1982 MERGER GUIDELINES], https://www.justice.gov/archives/atr/1982-merger-guidelines [https://perma.cc/4S3R-3EYG] ("[E]ven in concentrated markets, it is desirable to allow firms some scope for merger activity in order to achieve economies of scale and to permit exit from the market.").

64. *Id.* at Section IV.A.1–3.

65. *Id.* at Section III.C.

66. J. Paul McGrath, Assistant Attorney Gen., Antitrust Div., Merger Policy Today, Remarks before the National Association of Manufacturers 2 (Mar. 8, 1984) (emphasis added).

wanted to be satisfied that there "will" be a specific kind of competitive effect, a collusive effect.

The 1982 Merger Guidelines, however, retain strong skepticism about efficiency defenses: "Except in extraordinary cases, the Department will not consider a claim of specific efficiencies as a mitigating factor for a merger that would otherwise be challenged. Plausible efficiencies are far easier to allege than to prove. Moreover, even if the existence of efficiencies were clear, their magnitudes would be extremely difficult to determine."[67] Since the introduction to the 1982 Guidelines suggests that most mergers are desirable, perhaps these Guidelines embody the belief that most merger-specific efficiencies result from sub-Guideline mergers. The 1992 Merger Guidelines dropped the explicitly pro-merger introduction of 1982 Merger Guidelines, but its framework commits the agencies to finding a specific, identifiable, and likely effect before challenging a merger.[68] The relevant inquiry in merger evaluation, they explain, is "whether the merger, in light of market concentration and other factors that characterize the market, raises concern about potential adverse competitive effects" and whether there are "any efficiency gains that . . . cannot be achieved . . . through other means."[69] Moreover, they opened the door to those "eas[y] to allege" efficiency claims that even the 1982 Merger Guidelines had abjured. Consideration of efficiency claims was also the focus of the 1997 revision to the 1992 Guidelines, which presented anew arguments that mergers are likely to yield competitive benefits, including mergers among major firms who are the primary focus of the prohibitions of Section 7. [70] The agencies declared that:

> [M]ergers have the potential to generate significant efficiencies by permitting a better utilization of existing assets, enabling the combined firm to achieve lower costs in producing a given quantity and quality than either firm could have achieved without the proposed transaction. Indeed, the primary benefit of mergers to the economy is their potential to generate such efficiencies.[71]

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67. *Id.* at 29.

68. U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, HORIZONTAL MERGER GUIDELINES 3, 17–24, 28 (1992, rev. 1997) [hereinafter 1992 MERGER GUIDELINES], https://www.justice.gov/atr/horizontal-merger-guidelines-0 [https://perma.cc/JQM7-C8NA].

69. *Id.* at 3.

70. *Id.* at 30–32.

71. *Id.* at 30.

This policy assumes that firms with very large shares of American markets often can achieve substantial efficiencies by acquiring direct competitors. At its core, the 1997 revision assumed an essentially desirable function for mergers, even those involving consolidation of competitors resulting in significant increases in concentration. As a result, it invited parties to fashion arguments to justify the merger based on some theory that there would be little risk of the competitive effects identified in the guidelines or putative efficiency gains would offset any risk of harm.

The *Commentary on the Horizontal Merger Guidelines* issued in 2006 highlights the changed nature of merger evaluation. Approximately half of the fifty-nine pages of text is devoted to the issues of how the agencies determined either competitive effects or efficiency gains.[72] Even a cursory review shows that even where a merger involved overwhelming market shares, the agencies felt obliged to demonstrate that some specific adverse effect on competition might well occur. The descriptions also signal the amount of case-by-case evaluation that economists and lawyers would have made to reach those conclusions. This process is the one that the *PNB* presumption sought to avoid. The 2010 Guidelines, their current iteration, continues the return to the open-ended, pre-*Brown Shoe* review of mergers.[73] Many observers have recognized that the 2010 Guidelines move even further away from a clear structural analysis.[74] Instead, a holistic approach akin to that urged in 1955 by the Attorney General's committee to review antitrust is now the primary review methodology.[75] That report had concluded that there can be a violation only if a "prospective adverse impact in defined markets can be shown."[76] Although the specifics of such proof as set forth in 1955 by a committee reflecting contemporary methods are not the same as those invoked in 2010, the open-ended, case-specific inquiry proposed is methodological similar.[77] So after a half century, the merger review process has come full circle and

72. U.S. DEP'T OF JUSTICE & FED. TRADE COMM'N, COMMENTARY ON THE HORIZONTAL MERGER GUIDELINES 17–36, 49–58 (2006), https://www.ftc.gov/sites/default/files/attachments/merger-review/commentaryonthehorizontalmergerguidelinesmarch2006.pdf [https://perma.cc/CS5G-YZH2] (pages 17–36 discuss competitive effects—at twenty pages, this is the longest part of the document; pages 49–58 discuss efficiencies).

73. 2010 MERGER GUIDELINES, *supra* note 8.

74. *See*, *e.g.*, Carl Shapiro, *The 2010 Horizontal Merger Guidelines: From Hedgehog to Fox in Forty Years*, 77 ANTITRUST L.J. 49, 55–57 (2010).

75. *See* REPORT OF THE ATTORNEY GENERAL'S NATIONAL COMMITTEE TO STUDY THE ANTITRUST LAWS 115–28 (1955).

76. *Id.* at 122.

77. *Compare id.* at 124–27, *with* 2010 MERGER GUIDELINES, *supra* note 8, § 6.1, at 20–22 ("Pricing of Differentiated Products").

returned to the pre-*PNB* open-ended review process condemned by Derek Bok in 1960.[78]

An unwillingness to recognize the limits of our understanding hardens resistance to simple rules because of the false hope that more information can somehow dispel doubts about the consequences of a disputed merger. Similarly, the virtues of clarity and simplicity are foregone, for it is thought that rules that embody these characteristics are needlessly arbitrary when in fact they are no more so than their more complicated counterparts.

B. The Harmful Consequences of Attenuation[79]

In 2015 Professor John Kwoka published a book containing a meta-analysis of post-merger evaluation studies to evaluate the impact on prices of mergers that were not successfully challenged.[80] Of the forty-two mergers that were subject to credible post-merger evaluation, thirty-four resulted in price increases, often substantial, and only eight had price declines.[81] Moreover, of the thirty-four where post-merger evidence showed harm to competition, the agencies challenged only thirteen and did not object to twenty-one.[82] Professor Kwoka also evaluated some an additional nineteen studies that provided aggregated analyses of over 3000 mergers that "corroborate the findings of the single-merger studies . . . [that such] mergers tend to result in performance deterioration."[83] Kwoka's evidence led him to conclude that "the agencies . . . fail[ed] to challenge a considerable fraction of those [mergers] that result[ed] in price increases."[84] Moreover, the enforcers' proclivity to settle cases based on partial divestiture or even conduct controls (i.e., allowing a significant increase in concentration) raises further concerns, since "neither type of remedy [in the cases where there was a challenge resulting in a remedy] . . . seems to have

78. *See* Derek C. Bok, *Section 7 of the Clayton Act and the Merging of Law and Economics*, 74 HARV. L. REV. 226, 349 (1960). Essentially Bok was warning about Type III errors. *See id.*

79. This section is in part based upon Carstensen, *supra* note 58, at 242, 265.

80. KWOKA, *supra* note 4, 71–82.

81. *Id.* at 112–13.

82. *Id.* at 113 tbl. 7.3. But five of the negatives were in industries (railroads and airlines) where the agencies had no authority to challenge the actual merger. *Id.* at 115.

83. *Id.* at 146, 149.

84. *Id.* at 126; *see also* John E. Kwoka, *Does Merger Control Work?*, 78 ANTITRUST L.J. 619, 644 (2013).

been especially effective in restraining postmerger price increases."[85] His review of these post-merger studies also found that there were adverse quality effects in many situations and that efficiency gains were at best mixed.[86]

Thus, the post-merger data in the forty-two mergers subject to merger specific studies showed that in approximately eighty percent of the cases the increased concentration resulted in higher prices and often other adverse effects on the quality of competition.[87] The aggregated merger studies further confirmed these results.[88] No matter which of the five definitions of "relatively strict merger" enforcement discussed in Part II one chooses, Kwoka's results show that the enforcers have not implemented the incipiency doctrine. It is certainly possible that a large part of some enforcers' reluctance to challenge mergers, or their decisions to accept relatively weak settlements, came from their fears that the reviewing courts would not sustain such challenges.

There have been critiques of Kwoka's research.[89] Drs. Vita and Osinski, senior FTC economists (who, we presume, based upon the acknowledgements, had the assistance of a large number of FTC staff) argued that Kwoka had used the "wrong" statistical method to frame his meta-analysis.[90] However, Vita and Osinski did not dispute that all but one of the studies Kwoka relied on supported his general conclusion. Nor did they evaluate the other evidence he cited in support of his general conclusion. Kwoka in response argued that the method he used was appropriate for social science analysis and the proffered alternative is one used primarily in medical and other scientific analyses.[91] These critics did point out that one of the studies on which he relied was inapposite because it did not have price data for the period following the imposition of remedies. Kwoka acknowledged this

85. KWOKA, *supra* note 4, at 120. In the case of structural remedies, post-merger prices increased on average more than six percent and conduct remedies resulted in average increases of nearly thirteen percent. *Id.*

86. *See id.* at 100 (quality measures); *id.* at 148 (efficiency).

87. *Id.* at 113.

88. *Id.* at 143–52 (describing nineteen such studies).

89. *See* J. Langenfeld, *The Empirical Basis for Antitrust: Cartels, Mergers, and Remedies*, 24 INT'L. J. ECON. BUS. 233 (2017); Michael Vita & David Osinski, *John Kwoka's Mergers, Merger Control, and Remedies: A Critical Review*, 82 ANTITRUST L.J. 361 (2018).

90. Vita & Osinski, *supra* note 89, at 377–81.

91. *See* John Kwoka, Mergers, Merger Control, and Remedies: A Response to the FTC Critique 9–10 (Mar. 31, 2017) (unpublished manuscript), https://ssrn.com/abstract=2947814 [https://perma.cc/9MLF-KBJF]. This paper also responded to Langenfeld's criticism. *See id.* at 4 n.7.

error but pointed out that it only modified and did not alter his fundamental points.[92]

Professor Kwoka's work is only one of a number of studies that reach similar conclusions (although it certainly is the most comprehensive and prominent).[93] None, of course, is free from technical disputes, but the general tenor of these studies is that merger policy has failed to control effectively the competitive risks of mergers among major competitors. This is reflected as well in a growing concern with overall concentration of markets and its impact on growth. Jason Furman, chair of the Council of Economic Advisers, in a September 2016 speech stressed "that competition can play an important and broader role not just in static, allocative efficiency but also in dynamic efficiency—making the economy more innovative and increasing productivity growth."[94] To have a workably competitive economy requires at a minimum that there be a significant number of competing firms in each market.[95]

Another recent study looked at the effects of mergers on market power and efficiency. Using a comprehensive data set on manufacturing plant acquisitions that matched acquired plants with those that were not purchased, the study found that at the plant level acquisitions resulted in "significantly increase[d] markups on average, but ha[d] no statistically significant average effect on productivity."[96] Moreover, the adverse effects are "strongest" when the acquisition is horizontal.[97] Because many plants are only elements in a larger corporation, the study also examined whether the firm owning the plant experienced productivity gains. Again, the results were that there was "no evidence for efficiency gains" and the buyers did not even eliminate the least

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92. *Id.* at 14–16. Kwoka also stressed that Vita and Oginski failed to consider the other data set that he had relied upon. *Id.* at 4–5 (citing KWOKA, *supra* note 4).

93. *See, e.g.*, Orley Ashenfelter & Daniel Hosken, *The Effect of Mergers on Consumer Prices: Evidence from Five Mergers on the Enforcement Margin*, 53 J.L. & ECON. 417 (2010); Nathan H. Miller & Matthew C. Weinberg, *Understanding the Price Effects of the MillerCoors Joint Venture*, 85 ECONOMETRICA 1763 (2017); Ashenfelter, Hoskin & Weinberg, *supra* note 4 at S67.

94. Jason Furman, Chairman, Council of Econ. Advisers, Beyond Antitrust: The Role of Competition Policy in Promoting Inclusive Growth, Searle Center Conference on Antitrust Economics and Competition Policy (Sept. 16, 2016).

95. Another part of this broader concern is the growing pattern of various investment funds that hold substantial stakes on competing firms which appears to deter further vigorous competition. *See* Einer Elauge, *Horizontal Shareholding*, 129 HARV. L. REV. 1267 (2016). While this is an additional source of concern, it is beyond the scope of this Article.

96. Bruce A. Blonigen & Justin R. Pierce, *Evidence for the Effects of Mergers on Market Power and Efficiency* 3 (Nat'l Bureau of Econ. Research, Working Paper No. 22750, 2016).

97. *Id.*

productive plants.[98] It should be noted that this study included many acquisitions that would not have been subject to challenge under even the strictest of merger standards.

Still another contemporary study has shown that markups above marginal cost were relatively stable in the period from 1950 to 1980, which encompasses the era of active merger enforcement.[99] But starting around 1980, margins have risen from an average of eighteen percent to sixty-seven percent.[100] The authors find that these changes in market power and its exploitation have adverse effects on wages and participation in the work force as well as slowing the growth of aggregate output.[101]

Industry specific examples of the failure of merger enforcement to preserve competition provide additional illustrations. For example, a series of mergers have consolidated the airline industry, reducing from six to three the number of full-line ("legacy") airlines as well as combining the two largest discount airlines, Southwest and AirTran.[102] In most of these transactions the government obtained some modest divestiture of access to congested airports, but, of course, there were fewer and fewer potential buyers of the rights as the industry consolidated.[103] The most recent merger involved American Airlines and US Airways.[104] After that merger, airline fares continued to increase, and the quantity of service declined further.[105] It even appears possible that the merger was allowed despite the strong likelihood of price increases to permit the industry to overcome its putative financial problems.[106] Other scholarly studies confirm that airfares have

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98. *Id.* at 4–5.

99. *See* Jan De Loecker & Jan Eeckhout*, The Rise of Market Power and the Macroeconomic Implications* 2 (Nat'l Bureau of Econ. Research, Working Paper No. 23687, 2017).

100. *Id.* at 9.

101. *Id.* at 17–31

102. FIONA SCOTT MORTON, R. CRAIG ROMAINE & SPENCER GRAFF, BENEFITS OF PRESERVING CONSUMERS' ABILITY TO COMPARE AIRLINE FARES 34–35 (2015), http://3rxg9qea18zhtl6s2u8jammft-wpengine.netdna-ssl.com/wp-content/uploads/2015/05/CRA.TravelTech.Study_.pdf [https://perma.cc/7KTW-NHTL].

103. *Id.* at 41–42.

104. *Id.* at 34–35.

105. *Id.* at 45–52 (substantial increase in airfares following the American Airlines merger with US Airways as well as overall evidence of increased margins resulting from higher prices and decreasing costs such as fuel).

106. Former Attorney General Holder reportedly stated in an interview that the airline mergers were allowed because, according to the report of the interview: "The airline sector's financial problems made consolidation in the industry necessary." *See* Paul Guniganti, *Holder: Airline Woes Necessitated Mergers*, GLOB. COMPETITION REV. (July 7, 2015), http://globalcompetitionreview.com/news/article/39021/holder-airline-woes-necessitated-mergers/ [https://perma.cc/U55V-QH5W]. This implies an

increased significantly as a result of increased concentration in the industry.[107] In 2016, a federal judge upheld a class action complaint charging collusion among the four surviving airlines.[108] With only four major competitors now including Southwest the erstwhile discount airline, the court found the allegations of output fixing to be plausible.[109]

There are also examples of the failure of the enforcement agencies even to challenge mergers that dramatically increased concentration. The Whirlpool-Maytag merger created massive market shares in American production and sale of various white goods, but was supposed to improve efficiency and be constrained by large buyers and the threat of imports.[110] An after-the-fact investigation failed to show much, if any, efficiency gain and a non-trivial increase in prices.[111] Worse, one may well argue that the effect of the merger was to limit

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awareness that the result of such consolidation would probably be an increase in prices to travelers in order to remedy the "financial problems" of the airlines. If this is in fact the explanation for these decisions, it is an unfortunate distortion of antitrust policy.

107. *See, e.g.*, Craig Peters, *Evaluating the Performance of Merger Simulation: Evidence from the U.S. Airline Industry*, 49 J.L. & ECON. 627 (2006) (study of six airline mergers showing average post-merger price increases of eight percent to thirty percent); Jan Brueckner, Darin Lee & Ethan Singer, *Airline Competition and Domestic U.S. Airfares: A Comprehensive Reappraisal*, 2 ECON. TRANS. 1 (2013) (empirical data show that price competition among legacy carriers is weak, but low cost airlines do stimulate price competition); John E. Kwoka, Jr., Phillippe Alepin & Kevin Hearle, Segmented Competition in Airlines: The Changing Roles of Low-Cost and Legacy Carriers in Fare Determination (Feb. 6, 2013) (unpublished manuscript), ssrn.com/abstract=2212860 [https://perma.cc/5D5D-Y3T6] (finding competition among legacy carriers weak and prices high unless there is competition from low cost carriers). The combination of Southwest and AirTran resulted in increased fares on the routes where they competed with the largest increases in those markets where they had the largest share, but the merger also resulted in significantly higher fares in the markets from which the merged firm withdrew as well as in the markets where AirTran had been a potential competitor of Southwest. Pukar KC, Higher Together: Price and Welfare Effects of a Merger Between Two Low Cost Carriers 10–12 (Aug. 14, 2018) (unpublished manuscript), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3235042 [https://perma.cc/4Q6G-CL8N].

108. *In re Domestic Airline Travel Antitrust Litig.*, 221 F. Supp. 3d 46 (D.D.C. 2016).

109. *Id.* at 74.

110. *See* Press Release, U.S. Dep't of Justice, Department of Justice Antitrust Division Statement on the Closing of Its Investigation of Whirlpool's Acquisition of Maytag (Mar. 29, 2006), http://www.justice.gov/archive/atr/public/press_releases/2006/215326.htm [https://perma.cc/F87A-PTZ8].

111. Orley C. Ashenfelter, Daniel S. Hosken & Matthew C. Weinberg, *The Price Effects of a Large Merger of Manufacturers: A Case Study of Maytag-Whirlpool*, 5 AM. ECON. J.: ECON. POLICY 239 (2013); *see also* Ashenfelter & Hosken, *supra* note 93, at 425 n.18.

innovation by American producers as the most noticeable advances in washing machines, dryers, and refrigerators have all come from foreign producers.[112]

In the dairy industry, the Justice Department allowed Dean and Suiza to merge without formal objection because the parties committed themselves to divesting a number of processing plants.[113] Those plants went to National Dairy Holdings which was fifty percent owned by Dairy Farmers of America (DFA) that also had an exclusive supply contract with Suiza-Dean.[114] The Justice Department's internal evaluation predicted that the merger would nevertheless result in a 2.5 percent price increase for fluid milk.[115] Thus, the predicted effect of the merger was to increase prices to consumers without any identifiable improvement in efficiency. Worse, in subsequent litigation, the plaintiffs' expert estimated that the result of the Dean-Suiza-DFA-National Dairy Holdings relationship was a substantially greater increase in the price of milk—7.9 percent.[116]

Similar results exist with respect to consequences of combinations in the American beer industry.[117] Indeed, in challenging Anheuser-Busch's proposed acquisition of the Model brewery business, the Justice Department highlighted the existing pattern of interdependent pricing that had emerged in that industry.[118]

Some recent court decisions have suggested that the government has the burden of establishing that an adverse effect on competition is going to occur within a short time frame.[119] In another case, despite clear evidence that the merging firms were major competitors and that

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112. *See, e.g.*, Jessica Migala, *The Hottest Home Innovations for 2017*, GOOD HOUSEKEEPING (Aug. 30, 2016), https://www.goodhousekeeping.com/home/a40109/home-innovations-2017/ [https://perma.cc/Y87Y-MBZ6] (the only major new appliance innovations listed came from Samsung (refrigerator) and LG (washing machine); both companies are based in Korea).

113. *In re Se. Milk Antitrust Litig.*, 739 F.3d 262, 268–69 (6th Cir. 2014).

114. *Id.* at 269.

115. *Id.* at 285.

116. *Id.* at 284.

117. *See* Miller & Weinberg, *supra* note 93, at 1770–71, 1788.

118. *See* Complaint at 3–6, 8, *United States v. Anheuser-Busch InBev SA/NV* (filed Jan. 31, 2013), https://www.justice.gov/atr/case-document/file/486606/download [https://perma.cc/Y8E6-M4AG].

119. *See, e.g.*, *FTC v. Arch Coal Inc.*, 329 F. Supp. 2d 109, 132 (D.D.C. 2004). Ironically, post-merger evidence suggests that despite the judge's conclusion that no adverse price effects would occur, prices for coal in fact increased. *See* Patrick DeGraba, *Coordinated Effects and Standards of Proof: The Arch Coal Merger*, *in* THE ANTITRUST REVOLUTION 89, 109–13 (John Kwoka & Lawrence White eds., Oxford Univ. Press 5th ed. 2009) (a rail line outage may have contributed to these price effects, but the observed prices seem inconsistent with that as the primary explanation for higher prices).

no other substantial competitor currently served a substantial set of customers, the court refused to enjoin the merger because it speculated that new competition would emerge although there was no direct evidence that such entry was imminent.[120]

For our purposes, however, it matters little whether the failure to implement the incipiency doctrine comes from the enforcers, the courts, or both. The only thing that matters is that the incipiency doctrine is not being utilized sufficiently.

III. WHY THE INCIPIENCY DOCTRINE MAKES SENSE: IN A WORLD OF UNCERTAINTY IT ENSURES THE "REDUNDANCY" NECESSARY TO PRESERVE VIGOROUS COMPETITION

Even if market structure were all that mattered in contemporary merger enforcement,[121] it would be impossible to specify precisely which mergers to block. Even under this simplifying assumption there is no scientific basis for concluding, for example, that we should block all mergers among X "significant" (whatever this means) firms to ensure a market structure of at least N significant firms. Similarly, no provable formula shows that the law should disallow any merger resulting in an HHI increase of A points, in a market with a post-merger level of more than B points.[122] Both courts and agencies lack the information necessary to derive these numbers with rigor or confidence. The best we can do is to describe the relationships that are relevant to this determination in a broad fashion, and to identify the range of values that might, under a variety of specified circumstances, be applicable.[123] These factors include the relationship between industry

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120. *United States v. Oracle Corp.*, 331 F. Supp. 2d 1098, 1160 (N.D. Cal. 2004).

121. Of course, many additional factors are relevant to merger enforcement decisions. *See* 2010 MERGER GUIDELINES, *supra* note 8, at 2–3. However, Dr. Malcolm Coate demonstrated that if all one knows is market definition and the industry's structure, one can predict the FTC's enforcement decision correctly eighty percent of the time. *See* Malcolm Coate, The Merger Review Process at the Federal Trade Commission from 1989 to 2016 (Feb. 28, 2018) (unpublished manuscript), https://ssrn.com/abstract=2955987 [https://perma.cc/NS43-GGLT]. Professor Kwoka has concluded that indeed market share and market concentration data do provide a very good prediction of the mergers that should be stopped. *See* John Kwoka, *The Structural Presumption and the Safe Harbor in Merger Review: False Positives, or Unwarranted Concerns*?, 81 ANTITRUST L.J. 837, 872 (2017).

122. For an explanation of the Herfindahl index (HHI), see 2010 MERGER GUIDELINES, *supra* note 8, at 18–19.

123. Kwoka, *supra* note 121, at 864–65, also reports that he found evidence that some mergers in markets with low concentration had also resulted in price increases. This is consistent with the findings of Blonigen & Pierce, *supra* note 96, at 3, that acquisitions of plants generally resulted in higher prices.

structure and profitability or price, the relationship between industry structure and innovation, and the conditions under which mergers lead to significant efficiencies.

Thus, the argument for "redundancy" rests upon the impossibility of exact, precise prediction of future market behavior. The evidence summarized in the preceding Section demonstrates that what agencies and courts assumed to be a sufficient N to preserve workable competition has frequently failed to achieve that goal. The implication is that either the N itself was too low or the dynamics of the market were such that an N that was barely sufficient at the moment proved inadequate over time. Whichever explanation is correct, the key to maintaining workably competitive markets is to recognize that a larger N, or that N + X, substantial competitors are required to maintain workably competitive markets.

The very uncertainty of the relationship between concentration and competition provides further support for a strong definition of incipiency. But to justify a strict standard to control mergers among substantial firms, it is essential to assess the nature and scope of any risks to economic efficiency and innovation that such a standard could create. Basically, the evidence on balance demonstrates that there is no justification for the concern that a strong policy of protecting competition is likely to result in any cognizable harm to either efficiency or innovation. The following sections set forth in more detail the empirical basis for employing an incipiency standard which blocks mergers that "may" cause competitive harm, and the reasons why there is little risk of adverse effect on efficiency or innovation from such a standard.

A. High Concentration Can Lead to Harm to Competition, but the Relationship between Concentration and Competition Is Uncertain, with a Range of Possibilities[124]

The existence of "redundant" competition reduces concentration, and empirical evidence shows that concentrated markets tend to have higher prices than un-concentrated markets, even if the firms in these markets do not have higher profits.[125] This provides support for a

124. This section is based upon Carstensen, *supra* note 58, at 242–65.

125. *See* Ashenfelter, Hosken & Weinberg, *supra* note 4. Other examples of this work include KWOKA, *supra* note 4; and a set of studies collected in CONCENTRATION AND PRICE (Leonard W. Weiss ed., 1989) and summarized in the conclusion of that volume. *See* Leonard W. Weiss, *Conclusions*, *in* CONCENTRATION AND PRICE, at 266–83 (Leonard W. Weiss ed., 1989) (summarizing the results from the studies in concluding that majority of economic studies find significant positive relationship between concentration and price). *See also*, Blonigen & Pierce, *supra* note

broader policy of presumptive illegality for all mergers that would result in substantial increases in concentration.[126] The mechanisms that produce this result appear varied and not well defined.[127]

Philadelphia National Bank[128] based its presumption against mergers that increased concentration on a substantial economic literature that purported to find that concentration was related to increased profitability.[129] The counter-argument associated with Robert Bork and the Chicago School is that oligopolistic market structure as such has no necessary relationship to competitive effects.[130] This line of work focused primarily on rebutting the earlier hypothesis that profits were correlated with concentration. Professor Demsetz is frequently credited with disproving the reliability of any correlation between

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96 (plant level study shows that acquisition results in increased prices but no productivity gains).

126. There is a vast literature on this subject. For a cogent summary supporting the position that economic analysis supports the *Philadelphia National Bank* presumption, see Steven C. Salop, *The Evolution and Vitality of Merger Presumptions: A Decision Theoretic Approach*, 80 ANTITRUST L.J. 269, 276–78 (2015). For a view that is in many respects the opposite, see Ginsburg & Wright, *supra* note 10.

127. Some scholars have in fact argued that the lack of a strong theoretical explanation for the relationship calls into question the validity of the findings. STEPHEN MARTIN, ADVANCED INDUSTRIAL ECONOMICS 220 (2d ed. 2002) ("Econometric studies of structure-conduct-price relationships are a valuable addition to . . . evidence on structure-conduct-performance relationships. . . . But . . . it seems doubtful that structure-conduct-price studies rest on a firmer theoretical or empirical foundation than structure-conduct-profitability studies."). *See also* Daniel P. O'Brien, Price-Concentration Analysis: Ending the Myth, and Moving Forward (July 24, 2017) (unpublished manuscript), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3008326 [https://perma.cc/G5QC-5KQB] (contending that economic theory rejects the plausibility of any general reliability to empirical work based on price-concentration relationships).

Whether the causes are interdependence among dominant firms, unilateral capacity for the merged firms to exploit market power, or enhanced barriers to entry, or some combination of factors, the end result is a substantial probability of higher prices. Moreover, undoing such concentration by new entry or expansion by marginal competitors often has proven of minimal significance despite the theoretical appeal of the contested markets hypothesis. *See* WILLIAM J. BAUMOL, JOHN C. PANZAR & ROBERT D. WILLIG, CONTESTABLE MARKETS AND THE THEORY OF INDUSTRY STRUCTURE 4–8 (1982).

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

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

130. ROBERT H. BORK, THE ANTITRUST PARADOX 174–76, 221 (1978). Chicago School scholars are not in complete agreement. *See*, *e.g.*, RICHARD POSNER, ANTITRUST LAW: AN ECONOMIC PERSPECTIVE 112 (1976) (stating that mergers in markets with four firm concentration above sixty percent, i.e., an HHI above 900 assuming equal sized firms, should be presumed illegal). *See also* RICHARD A. POSNER, ANTITRUST LAW 132–33 (2d ed. 2001).

profits and concentration in a paper at a 1973 conference.[131] But at that same conference, Professor Weiss pointed out forcefully that the theory predicted that *prices* not *profits* would be higher in concentrated markets.[132]

In 1990, Weiss collected more than 121 studies that examined in various ways the difference in prices based on levels of concentration. His conclusion was that "our evidence that concentration is correlated with price is overwhelming."[133] Other studies also find evidence of a positive relationship between price and concentration.[134] The price effect of concentration exists regardless of the level of profitability of the firms in the concentrated market. Such firms are likely, inter alia,

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131. *See* Harold Demsetz, *Two Systems of Belief About Monopoly*, *in* INDUSTRIAL CONCENTRATION: THE NEW LEARNING 164 (Harvey J. Goldschmid et al. eds., 1974); *see also* Sam Peltzman, *The Gains and Losses from Industrial Concentration*, 20 J.L. & ECON. 229 (1977). *See generally* JOHN S. MCGEE, IN DEFENSE OF INDUSTRIAL CONCENTRATION (1971). Proponents of this position argue that the prior literature "foundered primarily on empirical evidence" showing that even if there is a correlation between concentration and profits, the evidence suggests that the reason is the firms in concentrated industries are "more efficient" rather than that they are using "market power" to charge "higher prices." *See* Timothy J. Muris, *Economics and Antitrust*, 5 GEO. MASON L. REV. 303, 305 (1997).

132. Leonard Weiss, *The Concentration-Profits Relationship and Antitrust*, *in* INDUSTRIAL CONCENTRATION: THE NEW LEARNING, *supra* note 131, at 184, 193 ("The unequivocal prediction is that price will be high relative to marginal cost."). MARTIN, *supra* note 127, at 220–21, contends that profits and price should have a consistent relationship, but he provides no theoretical or empirical basis for that assertion, which was exactly what Demsetz disputed.

133. Weiss, *supra* note 125, at 283. Weiss found that 62.8 percent of the 121 studies showed significant positive price effects resulting from concentration and another 24.8 percent has non-significant positive effects. *Id.* at 267 tbl. 13.1. Only 3.3 percent of the studies had significant negative correlations of price and concentration while another 9.1 percent had non-significant negative effects. *Id.*; *see also* Giulio Federico, Horizontal Mergers, Innovation and the Competitive Process 19–20 (Oct. 9, 2017) (unpublished manuscript), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3049338 [https://perma.cc/U6XJ-PZVL].

134. *See, e.g.*, Richard Schmalensee, *Inter-Industry Studies of Structure and Performance*, *in* 2 HANDBOOK OF INDUSTRIAL ORGANIZATION 951, 988 (Richard Schmalensee & Robert Willig eds., 1989) ("In cross-section comparisons involving markets in the same industry, seller concentration is positively related to the level of price."); Timothy F. Bresnahan & Valerie Y. Suslow, *Oligopoly Pricing with Capacity Constraints*, 15/16 ANNALES D'ECONOMIE ET DE STATISIQUE 267, 284 (1989) (concentration affected price "strongly" during periods of slack demand resulting in significantly higher prices during those years when concentration was at its highest); MARTIN, *supra* note 127, at 217–20 (reports several additional studies with the same result that concentration and price are correlated). *See also* Jonathan B. Baker, *Econometric Analysis in* FTC v. Staples, 18 J. PUB. POL'Y & MKTG. 11, 14–16 (1999) (predicting price effects of proposed merger); Blonigen & Pierce, *supra* note 96 at 3 ("[t]he increase in markups for acquired plants . . . ranges from 15 percent to over 50 percent . . ." when compared to the average change for plants not acquired).

to expend resources to protect and entrench a market position.[135] Essentially, once a firm faces a unique demand situation (monopolistic competition) or is part of a relatively tight oligopoly with mutual interests, economic logic dictates that such a firm should invest in preserving and protecting its competitive advantage regardless of whether the investment enhances efficiency or innovation.[136] Indeed, such firms logically would resist efficiency improvements or innovations that reduced the barriers to entry or otherwise encouraged more competition. These incentives explain in part why mergers creating such market structures are inherently likely to have anticompetitive consequences. Hovenkamp and Shapiro in 2017 reviewed the economic literature and concluded that it showed that "concentrated industries tended to perform poorly in serving consumers, as they displayed higher prices, higher price/cost margins, and higher profits than less concentrated industries."[137] Thus they concluded that "[f]irst and foremost, economic theory and a wide range of economic evidence support the conclusion that horizontal mergers that significantly increase market concentration are likely to lessen competition and harm consumers."[138]

Thus, increased concentration has a strong relationship with higher prices as well as facilitating other harms to competition, and it lacks a consistent connection to reported profits.[139] Hence, any merger that substantially increases concentration of even a moderately concentrated market or significantly further entrenches a concentrated market is sufficiently likely to cause a "substantial lessening of competition" or tend "to create a monopoly" that it should be presumed illegal.[140] Thus, apparent redundancy in fact contributes directly to enhanced competitiveness. How strong that presumption should be and what might rebut it arguably depends on whether there are good reasons to believe that such mergers, despite the competitive harms that they seem likely to engender, make some other useful contribution to the

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135. Richard Posner, *The Social Costs of Monopoly and Regulation*, 83 J. POL. ECON. 807, 811 (1975).

136. *See id.* (arguing that monopolists will expend almost all of their potential gains to avoid competition, thus eliminating all or most monopoly profits).

137. Herbert Hovenkamp & Carl Shapiro, *Horizontal Mergers, Market Structure, and Burdens of Proof*, 127 YALE L.J. 1996, 2001 (2018).

138. *Id.* at 2006.

139. There is also evidence that where the same investors hold significant stakes in competing firms, thereby creating a kind of concentration by interdependence, the result is again higher prices. *See* José Azar, Martin C. Schmalz & Isabel Tecu, *Anti-Competitive Effects of Common Ownership*, 73 J. FIN. 1513 (2018). *See also* Einer Elhauge, *Horizontal Shareholding*, 109 HARV. L. REV. 1267 (2016).

140. *See* 15 U.S.C. § 18 (2012).

economy. The next two subsections address the claims that concentration can stimulate innovation or ensure greater efficiency.

B. The Relationship between Concentration and Innovation

What market structures are most conducive to high levels of innovation? The conventional view long had been that the relationship between innovation and concentration was that of an inverted U, with both monopolies and competitive markets innovating less than oligopolies.[141] More recent empirical scholarship has, however, shown that more competitive markets usually result in more innovation, and that "the exercise of market power tends to slow innovation and productivity improvements in the affected markets."[142] Generally,

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141. CHRISTINA BOHANNAN & HERBERT HOVENKAMP, CREATION WITHOUT RESTRAINT: PROMOTING LIBERTY AND RIVALRY IN INNOVATION 8–11 (2012).

142. Jonathan B. Baker, *Market Power in the U.S. Economy Today*, WASH. CTR. FOR EQUITABLE GROWTH, Mar. 20, 2017, at 9, http://equitablegrowth.org/research-analysis/market-power-in-the-u-s-economy-today/ [https://perma.cc/P392-D3MV]. For a summary of the literature see *id.* at 9, 15 nn.57–58. Professor Baker explains this new learning:

> The modern Schumpeterian growth literature concludes that greater product-market competition fosters R&D investment by all firms in sectors where the firms operate at the same technological level, and suggests that in the event that product markets were to grow more competitive, the innovation incentives of a dominant firm with a technological lead would remain high.

Id. at 9 n.57 (citing Carl Shapiro, *Competition and Innovation: Did Arrow Hit the Bull's Eye?*, *in* THE RATE AND DIRECTION OF INVENTIVE ACTIVITY REVISITED 361, 372–74 (Josh Lerner & Scott Stern eds., 2012)).

As Professor Baker notes:

> At one time, empirical economists who studied the question thought that some market power but not extensive market power would be best for innovation, based on cross-industry studies that found an "inverted-U" relationship between market concentration. But those studies did not successfully control for differences in technological opportunity across industries.

Id. at 15 n.58. To support his conclusion Professor Baker provides the following:

> *See* Wesley M. Cohen, *Fifty Years of Empirical Studies of Innovative Activity and Performance*, 1 HANDBOOK OF THE ECONOMICS OF INNOVATION 129, 146–48, 154–55 (Bronwyn H. Hall & Nathan Rosenberg eds., 2010); Carl Shapiro, *Competition and Innovation: Did Arrow Hit the Bull's Eye?*, in THE RATE AND DIRECTION OF INVENTIVE ACTIVITY REVISITED 361, 380 (Josh Lerner & Scott Stern eds., 2012). In some studies, the technological opportunity problem is addressed by evaluating the innovation effects of competition within an industry over time. *E.g.*, Eric W. Zitzewitz, Competition and Long-Run Productivity Growth in the U.K. and U.S. Tobacco Industries, 1879–1939, 51 J. INDUS. ECON. 1 (2003) (finding that competition spurred innovation).

stimulus for innovation comes from preserving a wide range of private efforts to innovate. It is extremely difficult to determine *a priori* which innovation will be successful and which will prove a failure.[143] Thus, it is vital to continue to have many options being explored and developed at the same time. The more centralized decision-making about innovation the greater is the probability that the paths pursued will be limited and focused on those some bureaucracy has selected as promising. Presumptions in this context are particularly relevant because of the very uncertainty of how the dynamics of markets will play out. For example, some enforcement authorities, concerned with such dynamic competition, have implicitly recognized the need to maintain a larger group of competitors in "innovation markets" such as pharmaceuticals,[144] because "innovation suffers when drug companies merge."[145] Contemporary enforcement recognizes that dynamic risks

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Id. For an older survey finding no losses in innovation from mergers see DENNIS W. CARLTON & JEFFREY M. PERLOFF, MODERN INDUSTRIAL ORGANIZATION 29 (4th ed. 2005).

143. Some argue that the difficulty of making predictions about innovation means that these dynamic issues should not be the basis for merger enforcement decisions. *See, e.g.*, Richard T. Rapp, *The Misapplication of the Innovation Market Approach to Merger Analysis*, 64 ANTITRUST L.J. 19 (1995).

144. Pinar Karacan, Comparative Study on the "Substantive Horizontal Merger Law" Between the United States and the European Union: The History of Doctrinal Convergence, Divergence and Parallelism 250 (2003) (unpublished SJD dissertation, University of Wisconsin) (on file with Peter C. Carstensen, University of Wisconsin Law School) (compared to the European Union, the United States requires a greater minimum number of competitors in innovation markets and generally seems to require at least four such competitors).

145. Justus Haucap & Joel Stiebale, *Research: Innovation Suffers When Drug Companies Merge*, HARV. BUS. REV. (Aug. 3, 2016), https://hbr.org/2016/08/research-innovation-suffers-when-drug-companies-merge [https://perma.cc/XV5X-4UBC].

> Unfortunately, our recent research shows that antitrust authorities have been too lenient, at least when it comes to drug company mergers. We find that regulators have been overlooking how these mergers reduce innovation and research and development at the merging firms. That's not the only thing regulators are largely ignoring. These mergers are also having a sizable negative impact on innovation and R&D *at the combined firm's rivals*. It's not unexpected that merging companies reduce their R&D spending following a merger. That may be due to the cost savings of pooling efforts and combining their labs. Research has shown that pharma mergers reduce innovation. But what's surpising [*sic*] and troubling is that our new evidence shows that the merging companies' *competitors* also spend less on R&D after the merger. Hence, industry competition and innovation become less dynamic overall. To be more precise, we analyzed 65 pharma mergers that were all scrutinized, but eventually approved, by the European Commission and also other jurisdictions. We wanted to know measurements of innovation (such as R&D spending and resulting patents) change after a merger for both the merging parties and for their rivals. What makes our study unique is that we compared firms' innovation activities not only before and after acquisitions, but we also compared those merging

exist when the number of competitors is limited. Moreover, the very uncertainties inherent in the process of innovation argue strongly for retaining a large number of potential innovators as an essential element in preserving and enhancing future competition.

Thus, the old saw that necessity is the mother of invention seems to have real empirical validity. Greater competition—not greater market power—generally enhances the prospects for innovation and the exercise of market power tends to slow innovation and productivity improvements in the affected markets. Hence what may look like redundancy is what ensures that a greater range of innovation will occur. For this reason, if the courts were to implement a vigorous merger incipiency policy, as Congress intended, this would be likely to lead to an increase in innovation, not a decrease. As Professor Kwoka's review of the literature demonstrated:

> Overall, the careful economic studies in the literature as well as other relevant evidence do not support the proposition that industry consolidation results in more R&D or greater R&D efficiency. In fact, there is evidence that in the best of these studies that suggests that these mergers may adversely affect R&D or R&D productivity.[146]

C. Large Mergers Are Unlikely to Produce Significant Efficiencies

There is a general perception among many, perhaps most, members of the antitrust community that mergers between large competing corporations typically yield substantial positive efficiencies.[147] One strand of this belief, reflected in the changing tone

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> companies to firms in similar pharmaceutical markets without merger activities. Our results very clearly show that R&D and patenting within the merged entity decline substantially after a merger, compared to the same activity in both companies beforehand. Then we applied a market analysis, the same one used by the European Union in its models, to analyze how the rivals of the merging firms change their innovation activities afterward. On average, patenting and R&D expenditures of non-merging competitors also fell—by more than 20%—within four years after a merger. Therefore, pharmaceutical mergers seem to substantially reduce innovation activities in the relevant market as a whole.

Id.

146. *See* John Kwoka, The Effects of Mergers on Innovation: Economic Framework and Empirical Evidence 30 (unpublished manuscript) (on file with the authors).

147. For a recent example, see the remarks of AAG Makan Delrahim. Competition Policy Int'l, *US: Antitrust Chief Says Tech Dealmaking Spawns 'Great Efficiencies',* COMPETITION POL'Y INT'L (July 12, 2018), https://www.competitionpolicyinternational.com/us-antitrust-chief-says-tech-

of the merger guidelines, is that such combinations, even when each of the firms has a substantial share of the market in both absolute and

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dealmaking-spawns-great-efficiencies/ [https://perma.cc/BC98-YKYT]. See also the following remarks by (then) FTC Chairs or AAGs for Antitrust:

J. Paul McGrath (AAG in 1984): "Recognizing the substantial benefits of mergers, antitrust enforcement agencies and the courts now interfere only with those mergers and acquisitions that threaten to facilitate collusion among competitors." J. Paul McGrath, Assistant Attorney Gen., Antitrust Div., Current Trends in Antitrust Policy and Their Effect on Small Business, Remarks before the Small Business Legislative Council 3–4 (Jan. 1, 1984).

Daniel Oliver (1986–90): "Mergers and acquisitions allow assets to be reorganized efficiently, and improve consumer welfare by reducing costs and prices." Daniel Oliver, Chairman, Fed. Trade Comm'n, Statement at the House Oversight Hearings on Mergers and Acquisitions before the Subcommittee on Transportation, Tourism, and Hazardous Materials Committee on Energy and Commerce (Aug. 6, 1987), https://www.ftc.gov/system/files/documents/public_statements/692421/19870806_oliver_statement_ibefore_the_subcommittee_on_transportation_tourism_and_hazardous_materials.pdf [https://perma.cc/2LNB-CEUG].

Robert Pitofsky (1995–2001): "Today's mergers are more likely to be motivated by fundamental developments in the rapidly changing economy and reflect more traditional corporate goals of efficiency and competitiveness." Robert Pitofsky, Chairman, Fed. Trade Comm'n, Statement before the Committee on the Judiciary United States Senate Concerning Mergers and Corporate Consolidation in the New Economy (June 16, 1998), https://www.ftc.gov/sites/default/files/documents/public_statements/prepared-statement-federal-trade-commission-mergers-and-corporate-consolidation-new-economy/merger98.tes.pdf [https://perma.cc/YXL5-ZJJN].

Thomas Barnett (2005–08):

> The vast majority of these [merger] filings involve mergers that do not threaten harm to competition and may bring affirmative benefits for consumers. Accordingly, we place a high priority on identifying those relatively few mergers that might threaten harm to competition as quickly as possible and on closing our reviews of the others as expeditiously and as efficiently as possible.

Thomas O. Barnett, Assistant Attorney Gen., Antitrust Div., Perspectives on Cartel Enforcement in the United States and Brazil at the University of São Paulo (Apr. 28, 2008), https://www.justice.gov/atr/speech/perspectives-cartel-enforcement-united-states-and-brazil [https://perma.cc/V5H3-GYS3].

Charles James (2001–02): "Over the decades, we have found that the vast majority of transactions we have reviewed are pro-competitive or competitively neutral." Charles James, Assistant Attorney Gen., Guiding Principles and Recommended Practices for Merger Notification (Sept. 29, 2002), https://www.justice.gov/atr/speech/guiding-principles-and-recommended-practices-merger-notification-and-review [https://perma.cc/88EJ-WEU7].

Joel Klein (1996–2000): "Most mergers are undoubtedly competitively benign or even procompetitive." Joel I. Klein, Assistant Attorney Gen., Antitrust Div., Making the Transition from Regulation to Competition: Thinking About Merger Policy During the Process of Electric Power Restructuring (Jan. 21, 1998), https://www.justice.gov/atr/speech/making-transition-regulation-competition-thinking-about-merger-policy-during-process [https://perma.cc/75LS-X9SN].

See also supra note 10 and accompanying text.

relative terms, can produce significant efficiencies in the production and distribution of goods and services. A second strand focuses on the idea of managerial inefficiency and the market for corporate control. The risk of takeover is thought to induce managers to behave in ways that are economically more efficient, and this is reflected in higher stock prices which make takeover or merger unattractive. Because large enterprises with dispersed shareholder bases are subject to significant agency costs, the belief emerged that mergers and acquisitions could displace poor management replacing it with better management. Moreover, if the underlying public market is itself "efficient" in pricing equity, the process of merger and acquisition provides an essential means to ensure the continued vitality of large enterprises.

But if the foregoing assumptions usually are wrong, then there are likely to be few, if any, gains from mergers overall. The following analysis marshals a wide range of data to challenge the validity of these crucial assumptions. The evidence supports the conclusion by Professor Melissa Schilling that:

> Firms engage in mergers for many reasons, some of which create value for both the firm's shareholders and society, some that create value only for the firm's shareholders, and some that fail even to do that. A considerable body of research concludes that most mergers do not create value for anyone, except perhaps the investment bankers that negotiated the deal.[148]

1. THE ACTUAL RECORD OF MERGERS

Two lines of analysis suggest that mergers among substantial firms (this is a very small fraction of the overall number of business combinations in any year)[149] do not generally result in positive outcomes over time. First, as a matter of logic, it is unlikely that

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148. Melissa Schilling, *Potential Sources of Value from Mergers and Their Indicators*, ANTITRUST BULL. (forthcoming 2018), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3168473 [https://perma.cc/BDM5-4W23]. Professor Schilling reviews the literature on page 9, especially notes 10 and 11. *Id.* at 9 nn.10–11.

149. Kwoka estimates that the antitrust agencies reviewed less than one-half of one percent of all major transactions (value over $1 million). KWOKA, *supra* note 4, at 9–10. Even if the number of investigations were tripled, that would still mean that 98.5 percent out of an average of 10,000 such transactions a year would not be subject to any antitrust inquiry. *See id.* at 9, 10 ("[S]ince the number of mergers reported to the antitrust agencies is less than 15 percent of enumerated large mergers during this period, it follows that investigation were undertaken in less than one-half of 1 percent of this total of large mergers during this period.").

mergers among major market competitors will significantly affect economies of scale or scope. Empirical studies provide significant support for this conclusion. Second, stock market price studies show that the most likely result of a merger is that the surviving firm will lose value. The remainder of this subsection elaborates on these observations.

a. Large Firm Mergers Are Unlikely to Produce Significant Positive Outcomes

Mergers involving firms with market shares sufficient to trigger enforcement under an incipiency regime almost without exception involve firms well above the minimum efficient scale for productive efficiency. For this reason alone it is unlikely that these combinations often will yield significant production efficiencies. As a matter of theory, it is certainly possible to hypothesize that scale economies continue through a very large range of size. Williamson's analysis of the tradeoff between market power and efficiency provides a model of that claim.[150] But it is highly unlikely that leading firms in an industry fit this model when they have substantial absolute sales volume. Indeed, if Williamson's model accurately described productive reality, one would expect pervasive monopoly in industry. But that is not the case and indeed such a result is highly unlikely especially when production occurs in multiple locations.

While significant economies beyond minimum efficient scale at the plant level are unlikely, there is probably no "natural" limit to many types of enterprises. Edith Penrose pointed out many years ago that the large corporation can replicate the factories or stores it needs and can develop a management structure that can continue to operate the resulting behemoth.[151] Indeed, most large enterprises operate multiple facilities each of which is at or above the minimum efficient scale.[152] Thus, such enterprises, even if not optimally efficient, have no cost-based limit to their size in the way conventional price theory predicts. Penrose's model in turn should encourage skepticism about mergers that create or expand dominant firms. They are unlikely to create significant efficiencies, but can increasingly dominate the market place.

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150. Oliver E. Williamson, *Economies as an Antitrust Defense Revisited*, 125 U. PENN. L. REV. 699 (1977).

151. EDITH TILDON PENROSE, THE THEORY OF THE GROWTH OF THE FIRM 55–56, 128–29, 189–90, 198 (1959).

152. For example, in the meat packing industry, one estimate is that the level of concentration greatly exceeded that which was necessary for efficiency, and it could support a significantly larger number of efficient multi-plant enterprises. Peter C. Carstensen, *Concentration and the Destruction of Competition in Agricultural Markets: The Case for Change in Public Policy*, 2000 WIS. L. REV. 531, 537.

Diversity of enterprise is itself a desirable element of a market economy. The lack of inherent, market driven constraints on size means that external limits are important to preserve the overall competitiveness of the market.

b. Empirical Work on Mergers Show Few Efficiency Gains

How should efficiencies that might result from major mergers impact the vigor or manner in which courts implement Congress's incipiency mandate? Should the possibility of cost savings or other productive efficiencies nudge courts in the direction of a more permissive merger policy? No. Four principle reasons require rejection of this contention.[153]

First, almost all true efficiencies can be captured by the safe harbors in the current Merger Guidelines and in the effective merger enforcement standards, or by means other than mergers.[154]

Second, it is virtually impossible to predict with relative accuracy which mergers will cause significant efficiencies. This task is especially difficult because the vast majority of major mergers—perhaps up to ninety percent—result in no significant net efficiencies, or in losses (as will be discussed in the next subsection). Moreover, those few merges that result in efficiencies are almost impossible to identify reliably in advance.[155]

Third, for above Guideline mergers it is incredibly difficult to predict reliably in advance whether the efficiencies generated by any particular merger would be likely to outweigh the probable market power gains from that merger. The complications in doing this tradeoff are intractable, and attempts to litigate them would unduly lower predictability and increase uncertainty, litigation costs, and delays, while providing no offsetting benefits. Thus, these "Type III errors" are likely to overwhelm any marginal gain to efficiency resulting from a more intensive inquiry into putative merger specific efficiencies.[156]

Fourth, the best evidence suggests that, on average, mergers are probably roughly neutral in terms of their overall effects on efficiency, costs, and productivity.[157] Moreover, many of the efficiencies that are

153. These and related factors are discussed in much more detail in Fisher & Lande, *supra* note 11.

154. *See id.* at 1651–54.

155. *See id.* at 1654–69.

156. *See id. passim*.

157. The authors are grateful to Professors Dennis Carlton and Melissa Schilling for advice concerning this topic. All of the interpretations of these studies, however, were made by Professors Carstensen and Lande, and should not necessarily be attributed to Professors Carlton or Schilling.

generated by mergers are likely to result from the ninety-nine plus percent of mergers that are of no interest to enforcers because they involve relatively small firms or firms in unconcentrated industries.[158] As noted, mergers involving plant-wide efficiencies are very unlikely to be the subject of enforcement actions. There are also a modest number of studies showing significant positive results overall, but in general the reported average gains are small—i.e. two percent.[159] By contrast, there

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Studies, some of which evaluate hundreds of mergers, showing overall mixed or essentially neutral overall results from mergers, depending upon a large number of variables, include: K. P. Ramaswamy & James F. Waegelein, *Firm Financial Performance Following Mergers*, 20 REV. QUANTITATIVE FIN. & ACCT. 115 (2003); P. Raghavendra Rau & Theo Vermaelen, *Glamour, Value and the Post-Acquisition Performance of Acquiring Firms*, 49 J. FIN. ECON. 223 (1998); Jerayr Haleblian & Sydney Finkelstein, *The Influence of Organizational Acquisition Experience on Acquisition Performance: A Behavioral Learning Perspective*, 44 ADMIN. SCI. Q. 29 (1999); Laurence Capron, *The Long-Term Performance of Horizontal Acquisitions*, 20 STRAT. MGMT. J. 987 (1999); James D. Parrino & Robert S. Harris, *Takeovers, Management Replacement, and Post-Acquisition Operating Performance: Some Evidence from the 1980s*, J. APPLIED CORP. FIN., Winter 1999, at 88; Michael L. McDonald et al., *What Do They Know? The Effects of Outside Director Acquisition Experience on Firm Acquisition Performance*, 29 STRAT. MGMT. J. 1155 (2008). *See also* Bruce A. Blonigen & Justin R. Pierce, *Evidence for the Effects of Mergers on Market Power and Efficiency* 1 (Nat'l Bureau of Econ. Research, Working Paper No. 22750, 2016), http://www.nber.org/papers/w22750 [https://perma.cc/L5UM-YUFA] ("We use newly-developed techniques to separately estimate productivity and markups across a wide range of industries using detailed plant-level data. Employing a difference-in-differences framework, we find that M&As are associated with increases in average markups, but find little evidence for effects on plant-level productivity. We also examine whether M&As increase efficiency through reallocation of production to more efficient plants or through reductions in administrative operations, but again find little evidence for these channels, on average. The results are robust to a range of approaches to address the endogeneity of firms' merger decisions."); Louis Kaplow & Carl Shapiro, *Antitrust*, *in* 2 HANDBOOK OF LAW AND ECONOMICS 1073, 1154 (A. Mitchell Polinsky & Steven Shavell eds., 2007) (summarizing event study evidence showing that acquiring firms do not benefit from mergers on average).

158. KWOKA, *supra* note 4, at 10 notes that the enforcers only investigate .5 percent of mergers.

159. For a recent survey, see Dennis W. Carlton, *Eugene Fama and Industrial Organization*, *in* THE FAMA PORTFOLIO: THE SELECTED PAPERS OF EUGENE F. FAMA 213 (John Cochrane & Tobias Moskowitz eds., 2017).

> Mergers don't seem to create market power but do seem to create efficiencies. There is an overall gain in value to the merged firm somewhere in the range of 0–10 percent (e.g., Andrade et al. [2001] report a 2 percent gain) above the value of the separate firms' values, and that gain seems unrelated to market power. . . . [so] any significant toughening of standards runs the risk of deterring efficiency-enhancing mergers.

Id. at 214. A recent study showing overall positive effects from mergers is: Keith D. Brouthers et al., *If Most Mergers Fail Why Are They So Popular*, 31 LONG RANGE PLANNING 347, 347 (1998) ("These previous studies have consistently shown that acquiring firms do not benefit from mergers. . . . This study suggests that researchers have been using incorrect measures of merger performance, which accounts for their

is a very large and respectable body of findings suggesting that, generally and overall, significant mergers lead to a small[160] or relatively large[161] net negative effect on efficiency.

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negative findings. The authors present a new methodology for measuring merger performance.… The results of applying this new methodology to a small sample of Dutch mergers indicate that mergers are extremely successful.”). *See also* Steven N. Kaplan, Mergers and Acquisitions: A Financial Economics Perspective, Prepared for the Antitrust Modernization Commission Economist’s Roundtable on Merger Enforcement (Feb. 2006) (unpublished manuscript), http://govinfo.library.unt.edu/AMC/commission_hearings/PDF/kaplan_statement.pdf [https://perma.cc/J5CM-VLPH]:

> Although the evidence is not uniform, on balance I would conclude that acquisitions create economic value. I rely on the announcement returns as the critical evidence. They have been reliably positive over the last 30 years, particularly for acquisitions that are cash financed. Acquisitions using stock are value neutral, but likely include a negative information component about the stand-alone firms. It is clear that shareholders of targets gain, while shareholders of acquirers experience mixed results. The accounting-based studies are more mixed, but are subject to more noise.

Id. at 14. For an older survey, see CARLTON & PERLOFF, *supra* note 142, at 28–29 (“In summary, stock market evidence supports the view that merger activity improves efficiency and improves value. . . . Additional research on profits subsequent to consolidation, not on stock price, is needed to confirm these efficiency gains. Without such research, some may argue that mergers and takeovers create illusory stock market value that represents either the unjustified transfer of wealth from those dependent on the acquired firm . . . to its shareholders, or valuation errors by the stock market.”) (also citing to the same 2001 Andrade et al. study referenced above by Carlton, *supra* note 159, at 2).

160. Studies showing overall results from mergers that are slightly negative include: David R. King et al., *Meta-Analyses of Post-Acquisition Performance: Indications of Unidentified Moderators*, 25 STRAT. MGMT. J. 187, 187 (2004) (“We find robust results indicating that, on average and across the most commonly studied variables, acquiring firms' performance does not positively change as a function of their acquisition activity, and is negatively affected to a modest extent.”); Aloke Ghosh, *Does Operating Performance Really Improve Following Corporate Acquisitions?*, 7 J. CORP. FIN. 151, 151 (2001) (“Previous research indicates that operating performance improves following corporate acquisitions relative to industry-median firms. Such performance results are likely to be biased because acquiring firms undertake acquisitions following a period of superior performance and they are generally larger than industry-median firms. Using firms matched on performance and size as a benchmark, I find no evidence that operating performance improves following acquisitions.”); Vassilis M. Papadakis & Ioannis C. Thanos, *Measuring the Performance of Acquisitions: An Empirical Investigation Using Multiple Criteria*, 21 BRIT. J. MGMT. 859, 859 (2010) (“Overall, results from the three measures indicate failure rates from 50% to 60%.”); Patricia M. Danzon et al., *Mergers and Acquisitions in the Pharmaceutical and Biotech Industries*, 28 MANAGE. DECIS. ECON. 307, 307 (2007) (“Controlling for merger propensity, large firms that merged experienced a similar change in enterprise value, sales, employees, and R&D, and had slower growth in operating profit, compared with similar firms that did not merge.”).

161. Studies that show overall effects from mergers that are clearly negative on average include: Paul André et al., *The Long-Run Performance of Mergers and Acquisitions: Evidence from the Canadian Stock Market*, FIN. MGMT., Winter 2004, at

Other empirical work is consistent with the rejection of any general expectation that major horizontal mergers are likely to result in increased productive efficiency. Professors Scherer and Ravenscraft found that most mergers resulted in inefficiency.[162] Additional studies,[163] including studies of banking, insurance, and airlines, confirm this result.[164] Professor Kwoka found that the post-merger studies he reviewed reported little evidence of efficiency gains.[165] Thus the earlier quoted conclusion by Judge Posner ("I wish someone would give me some examples of mergers that have improved efficiency. There must be some.")[166] should come as no surprise.

27, 27 (a study of 267 Canadian acquisitions shows that "acquirers significantly underperform over the three-year post-event period."); Anup Agrawal et al., *The Post-Merger Performance of Acquiring Firms: A Re-Examination of an Anomaly*, 47 J. FIN. 1605, 1605 (1992) ("[U]sing a nearly exhaustive sample of mergers between NYSE acquirers and NYSE/AMEX targets. We find that stockholders of acquiring firms suffer a statistically significant loss of about 10% over the five-year post-merger period, a result robust to various specifications."); Andrew P. Dickerson et al., *The Impact of Acquisitions on Company Performance: Evidence from a Large Panel of UK Firms*, 49 OXFORD ECON. PAPERS 344, 344 (1997) ("This paper investigates the impact of acquisitions on company performance using a large panel of UK-quoted companies observed over a long time period. The results indicate that acquisitions have a detrimental impact on company performance and that company growth through acquisition yields a lower rate of return than growth through internal investment."); David J. Ravenscraft & F.M. Scherer, *The Profitability of Mergers*, 7 INT'L J. INDUS. ORG. 101, 101 (1989) ("Following merger, the profitability of acquired entities declined except among pooling-of-interests merger partners of roughly equal pre-merger size."); Christian Tuch & Noel O'Sullivan, *The Impact of Acquisitions on Firm Performance: A Review of the Evidence*, 9 INT'L J. MGMT. REVS. 141, 141 (2007) ("The evidence suggests that, in the short run, acquisitions have at best an insignificant impact on shareholder wealth. Long-run performance analysis reveals overwhelmingly negative returns, while the evidence using accounting performance measures is mixed.").

162. DAVID J. RAVENSCRAFT & F.M. SCHERER, MERGERS, SELL-OFFS, AND ECONOMIC EFFICIENCY 194–204 (1987). Like most of these studies, this one looked at mergers generally and did not limit its focus to the large mergers of concern to antitrust. *Id.*

163. *See, e.g.*, Ghosh, *supra* note 160, at 151 (finding "no evidence that operating performance improves following acquisitions").

164. DIANA L. MOSS, DELIVERING THE BENEFITS? EFFICIENCIES AND AIRLINES MERGERS (2013), www.antitrustinstitute.org/sites/default/files/AAI_USAir-AA_Efficiencies.pdf [https://perma.cc/9DFD-UEVD]; J. David Cummins, Sharon Tennyson & Mary A. Weiss, *Consolidation and Efficiency in the US Life Insurance Industry*, 23 J. BANKING & FIN. 325, 327 (1999) ("larger [life insurance] firms generally are found to exhibit decreasing returns to sale"); Todd T. Milbourn, Arnoud W. A. Boot & Anjan V. Thakor, *Megamergers and Expanding Scope: Theories of Bank Size and Activity Diversity,* 23 J. BANKING & FIN. 195, 197, 198 (1999) (banking: "little or no improvement in cost efficiency" and "there is also a lack of empirical evidence that expansion of scope in banking has been beneficial").

165. KWOKA, *supra* note 4, at 148.

166. Philadelphia National Bank *at 50*, *supra* note 15, at 216.

Indeed, many of the gains to the merging parties likely to be proclaimed as "efficiency" benefits on closer analysis involve transferring costs to third parties.[167] For example, when two large retailers combine and eliminate outlets, this imposes greater travel burdens on customers. The merged parties may have lower costs, but a broader economic calculus could show that the total social costs of the merger are overall neutral or even negative.[168] Another false economy comes from exploiting enhanced buyer power to drive down the price of inputs. Such buyer power can offset an upstream oligopoly's seller power, but it is often used to lower prices to powerless suppliers. This is no more an efficiency than the gains to a monopolist from raising prices to purchasers.[169]

In sum, most studies have found that mergers do not on average increase net corporate efficiency. As Professor Schilling concluded, "[o]verall, the evidence for mergers having negligible or negative effects on value appears to outweigh the evidence for clearly positive or mixed effects on value."[170] Nevertheless, reasonable people can differ

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167. This is ironic because the overriding goal of the antitrust laws is to prevent wealth transfers from purchasers to firms with market power. *See* Robert H. Lande, *Wealth Transfers as the Original and Primary Concern of Antitrust*, 34 HASTINGS L.J. 65 (1982).

168. *See* CRAIG LAMBERT, SHADOW WORK: THE UNPAID, UNSEEN JOBS THAT FILL YOUR DAY 15–23 (2015) (description of the many tasks that have devolved onto individuals which were once done for them; unfortunately, the book lacks a coherent economic model to examine these issues).

169. *See* Peter C. Carstensen, *Buyer Power and the Horizontal Merger Guidelines: Minor Progress on an Important Issue*, 14 U. PA. BUS. L. 775, 794–95 (2012); *see also* David A. Domina & C. Robert Taylor, *The Debilitating Effects of Concentration Markets Affecting Agriculture*, 15 DRAKE J. AGRIC. L. 61 (2010). A study done for the United States Department of Agriculture on hog markets found that there was significant evidence of monopsony buying power viewing the market nationally. GIPSA, 4 LIVESTOCK AND MEAT MARKETING STUDY: HOG AND PORK INDUSTRIES FINAL REPORT (2007), https://www.gipsa.usda.gov/psp/publication/livemarketstudy/LMMS_Vol_4.pdf [https://perma.cc/XB59-TA33]. Despite this evidence, the Department of Justice allowed a further significant increase in national and regional concentration by permitting Smithfield to acquire Premium Standard Brands. *See* Press Release, Statement of the Department of Justice Antitrust Division on its Decision to Close its Investigation of Smithfield Inc.'s Acquisition of Premium Standard Farms Inc. (May 4, 2007), http://www.justice.gov/archive/atr/public/press_releases/2007/223077.htm [https://perma.cc/HC6Z-4VF8]; *see also* Stephanie Strom, *Big Food Companies Pay Later, Squeezing Their Suppliers*, N.Y. TIMES (Apr. 6, 2015), https://www.nytimes.com/2015/04/07/business/big-companies-pay-later-squeezing-their-suppliers.html (reporting major food processors use their buyer power to force suppliers to wait much longer for payment thereby forcing the seller to finance the buyer's operating expenses). *See generally* PETER C. CARSTENSEN, COMPETITION POLICY AND THE CONTROL OF BUYER POWER: A GLOBAL ISSUE (2017).

170. Schilling, *supra* note 148, at 8. Professor Schilling explains these results as follows:

as to whether corporate mergers—even including the vast bulk of mergers that are of no interest to enforcers—are neutral overall, or are slightly positive or negative in terms of their average efficiency effects. Despite differences in the results of these studies and in possible interpretations of these results, it seems reasonable to conclude that if courts and enforcers were to implement a merger incipiency policy vigorously, in the manner intended by Congress, there would be no significant overall impairment of corporate efficiency.[171] Hence, to the extent enforcers and judges decide marginal cases in favor of defendants out of concern with corporate efficiency, the conclusions of modern scholarship demonstrates that this pro-merger bias is inappropriate.

2. SHAREHOLDERS OF THE RESULTING FIRM OFTEN SUFFER SIGNIFICANT LOSSES

A final basis for rejecting any general claims that mergers among major competitors are generally desirable is that many empirical examinations of the results for shareholders show that on average the buyer and its investors suffer losses, not gains. In 1992, a major study covering more than thirty years of mergers among publicly traded companies reported that the surviving firm on average lost about ten percent of its value over a period of five years.[172] Another group of researchers reported that the acquired businesses tended to suffer

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> A considerable body of research has attempted to assess whether, on average, mergers create or destroy shareholder value. Studies have used a wide range of methodological approaches (e.g., event studies, large panel analyses, case studies), samples (e.g., mergers in particular industries, mergers where both the acquirer and target are US publicly held firms, mergers that vary in the share that is taken by the acquirer), and performance measures (e.g., stock price reactions, longrun cumulative abnormal returns, accounting performance, productivity, patenting outcomes). It should be clear that there are large number of parameters that may vary in the construction of a research design to study the performance of mergers, and, not surprisingly, the research has fallen well short of a consensus.

Id.

171. Of course, enforcers and courts should ignore the weight of economic scholarship if these results would cause them to ignore or override the intent of Congress that the merger laws should embody a vigorous incipiency doctrine. Fortunately, there is no conflict between the intent of Congress and the results of scholarship.

172. Anup Agrawal, Jeffrey F. Jaffe & Gershon N. Mandelker, *The Post-Merger Performance of Acquiring Firms: A Re-Examination of an Anomaly*, 47 J. FIN. 1605, 1605–06 (1992).

reduced profitability and loss of market position.[173] In 2012 alone, publicly held companies wrote off fifty-one billion dollars because of bad mergers.[174] Indeed, a comparison of successful buyers to the losing bidder in a corporate buyout found that the buyers had worse results over time than the unsuccessful bidders.[175] In 2010, McKinsey reported: "Anyone who has researched merger success rate knows that roughly 70% of mergers fail."[176] An article in the *Harvard Business Review* observed that "study after study puts the failure rate for mergers and acquisitions somewhere between 70% and 90%."[177] The basic point being that buyers have a tendency to over pay and not to realize the gains that they claimed to expect. Even the co-author of one of the leading articles claiming acquisitions resulted in significant premiums for the buyer subsequently recanted and conceded that there were "significant negative returns . . . following a merger. . . ." [178]

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173. Dennis C. Mueller & Mark L. Sirower, *The Causes of Mergers: Tests Based on the Gains to Acquiring Firms' Shareholders and the Size of Premia*, 24 MANAGERIAL & DECISION ECON. 373, 374 (2003) (citing five studies "that suggest that acquisitions significantly impair the long-term profitability or market shares of the acquired businesses"). That study also found that there was a strong tendency to overpay for acquisitions. *Id.* at 380, 388 ("several of our findings actually imply that mergers destroy more of the value of the bidding firms than is paid as premium to the target").

174. Emily Chasan & Maxwell Murphy, *Companies Get More Wiggle Room on Soured Deals*, WALL ST. J. (Nov. 11, 2013, 8:15 PM). www.wsj.com/articles/SB10001424052702304868404579191940788875848 (reporting a study by Duff & Phelps); *see also* Steven Lipin & Nikhil Deogun, *Big Mergers of '90s Prove Disappointing to Shareholders*, WALL ST. J. (Oct. 30, 2000, 2:40 AM), www.wsj.com/articles/SB972860303890013995 [https://perma.cc/42WE-TE58] (reporting that Salomon Smith Barney's analysis of major mergers showed that the acquirers "on average underperformed" measured by both the S&P 500 stock index and their peer group); Bhushan Bahree, *Pumped Up: Oil Mergers Leave Investors Gushing, But Do They Work?—Past Deals Failed to Deliver on Great Expectations; Size Doesn't Bring Clout—Holy Grails and Staff Cuts?*, WALL ST. J. (July 22, 1999, 1:46 AM), www.wsj.com/articles/SB932592913980475039 ("Megamergers often flop, and oil mergers especially are prone to failure.").

175. Ulrike Malmendier, Enrico Moretti & Florian S. Peters, *Winning by Losing: Evidence on the Long-Run Effects of Mergers* 20–25 (Nat'l Bureau of Econ. Research, Working Paper No. 18024, 2012), www.nber.org/papers/w18024 [https://perma.cc/DK6L-9SKY].

176. MCKINSEY & COMPANY, PERSPECTIVES ON MERGER INTEGRATION 11 (2010), https://www.mckinsey.com/client_service/organization/latest_thinking/~/media/1002A11EEA4045899124B917EAC7404C.ashx [https://perma.cc/DW9V-3K4F].

177. Clayton M. Christensen, Richard Alton, Curtis Rising & Andrew Waldeck, *The Big Idea: The New M&A Playbook*, HARV. BUS. REV. (Mar. 2011), at 49.

178. Richard S. Ruback, *Comment, on Means of Payment in Takeovers: Results for the United Kingdom and the United States*, *in* CORPORATE TAKEOVERS: CAUSE AND CONSEQUENCES 260, 262 (Alan J. Auerbach ed., 1988) (commenting on a

Thus, measured by stock market results most large mergers are not in fact very helpful to the development of economic efficiency, innovation, or other consequences that are desirable from the perspective of the public interest. It follows that strong anti-merger policy designed to prevent the foreseeable adverse competitive effects of mergers between substantial competitors does not create a significant risk of substantial loss of desirable economic outcomes.

The premise of contemporary merger policy is that merger among firms is basically a desirable event.[179] Mergers' disappointing results are, however, consistent with the repeated observation that many motivations for merger are largely disconnected from achieving economic efficiency despite what the promoters may assert in securities filings and press briefings.[180] The publicly held corporation faces very substantial agency problems.[181] The shareholders are largely powerless when ownership is widely dispersed. The board of directors, the agent of the shareholders, is usually under the control of management which in turn can shape both buying and selling decisions to serve its strategic interests.[182] Moreover, third parties, takeover funds, and legal and financial advisers can and do reap benefits from promoting such transactions even when the result for the enterprise is negative. Hence, many major mergers arise from motivations unrelated to increased efficiency. For all these reasons the purchase and sale of large corporations does not consistently advance desirable economic results.

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study covering most American mergers from 1955 to 1985 where the shareholders in the successful buyer suffered an average seventeen percent decline in share value in the two years following the merger). Ruback was Michael C. Jensen's co-author on *The Market for Corporate Control: The Scientific Evidence*, 11 J. FIN. ECON 5 (1983) (this article is one of the most frequently cited statements of the thesis that changes in corporate control are efficiency enhancing and produce positive gains for both selling shareholders and shareholders in the buyer).

179. *See supra* note 147 and accompanying text.

180. For one ironic evaluation, compare Stanley Bing, *Why We Love Mergers*, FORTUNE, Dec. 22, 2014, at 172 ("a host of articles contend [] that . . . up to 70% or 80% of . . . mergers dilute value rather than build it." But the interests of bankers, lawyers, journalists and Wall Street all drive the process so "when all the M&As have been finished, we'll have five big companies that do everything."). *See also* JONATHAN A. KNEE ET AL., THE CURSE OF THE MOGUL: WHAT'S WRONG WITH THE WORLD'S LEADING MEDIA COMPANIES 213–17 (2009) (describing consistent over payment for media properties).

181. This is a longstanding issue in corporate governance. *See, e.g.*, ADOLF A. BERLE & GARDINER C. MEANS, THE MODERN CORPORATION AND PRIVATE PROPERTY 112–16 (1932, rev. ed. 1968).

182. While restricting such combinations may reduce, at the margin, the market price of the assets being sold, if the merger or acquisition is itself of questionable merit as a business transaction, there should be little concern that the overall result will have an adverse effect on either short term or long term economic goals. Indeed, one might well argue that any reduced price moves the valuation of the enterprise closer to some "real" value.

This is true regardless whether one focuses on mergers' increased prices, reduced levels of innovation, or effects on corporate efficiency. These results should invite the enforcers and the courts to give a greater weight to the potential negative competitive effects that might arise when such transactions "may" eliminate substantial competition in markets with moderate to significant concentration. These economic results should cause courts to take Congress's incipiency mandate more seriously.

IV. REDUNDANCY REDUCES THE PROBABILITY OF DIMINISHED COMPETITION

The evidence is very strong that it is hard to predict accurately how markets will function and how competitive they will remain. The fundamental point, however, is that redundancy will enable markets to be more competitive despite the many events that can cause a reduction in the number or vigor of competitors.[183] This Section examines the implications of these possible issues to show the importance of markets having a relatively large number (a "redundant" number) of competitors.

A. The Role of Luck in Market Success

It is extremely difficult to predict accurately the vigor of competition in a market, especially over time. The number and types of almost unpredictable uncertainties are virtually limitless.[184] In part due to luck, accident, or randomness, markets can evolve gradually, or change quickly, from highly competitive to less competitive. Even to a market dominated by a single firm.[185] There are, moreover, reasons to

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183. The authors are grateful to Barry C. Lynn for many of the examples in this section.

184. *See* NASSIM NICHOLAS TALEB, ANTIFRAGILE: THINGS THAT GAIN FROM DISORDER 160 (2012). Taleb also observes that "[r]edundancy is ambiguous because it seems like a waste if nothing unusual happens. Except that something unusual happens—usually." *Id.* at 45; *see also id.* at 5, 23 ("We have been fragilizing the economy, our health, political life, education, almost everything . . . by suppressing randomness and volatility."); *cf.* JOSEPH E. STIGLITZ, FREEFALL: AMERICA, FREE MARKETS, AND THE SINKING OF THE WORLD ECONOMY (2010).

185. This section is based upon material collected in Jorge Marcos Ramos, Chapter 7, *The Lucky Monopolist,* draft of March 6, 2017, forthcoming in THE ORIGINS OF FIRM DOMINANCE IN EU COMPETITION LAW (2018). Professor Ramos defines events caused by luck, accident or randomness as events that

> (1) are outside the knowledge of the economic actor or its ability to determine the timing of the event; (2) do not require the firm to incur any cost to secure their market position; they are exogenous to the cost

believe these types of changes occur frequently enough to impact merger policy. As Professors Scherer and Ross asked: "Why do concentrated firm size distributions arise from initial conditions that seemingly give each firm an equal chance? The answer, in a word, is "luck."[186] They begin their analysis by "stating the proposition at its baldest, most radical form: the market structures observed at any moment in time are the result of pure historical chance."[187] They continue:

> Contrary to what untutored intuition might advise, the firms do not long remain equal in size and market share, even though their growth prospects are identical *ex ante* . . . . Some firms will inevitably enjoy a run of luck, experiencing several years of rapid growth in close succession. Once the most fortunate enterprises climb well ahead of the pack it is difficult for laggards to rally and rectify the imbalance . . . .[188]

They add that even though many other factors also contribute to firm growth, "[t]he random growth hypotheses have considerable appeal, both because chance plainly does play a role in company growth, and because actual firm size distributions often correspond to those predicted by stochastic growth models."[189] Professor Demsetz similarly wrote that luck also often plays a role in firm performance: "Superior performance can be attributed to the combination of great uncertainty plus luck or atypical insight by the management of a firm."[190] Some economists believe that, for relatively competitive markets, luck will be the principal factor that separates "winners from near-winners."[191] Nobel laureate Oliver Williamson concluded that market dominance

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> functions of the firm, and (3) are meaningful enough to thrust a firm to a position of dominance among existing firms.

Id. at 1–2.

186. F. M. SCHERER & DAVID ROSS, INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE 142 (3d ed. 1990).

187. *Id.* at 141.

188. *Id.*

189. *Id.* at 146.

190. Harold Demsetz, *Industry Structure, Market Rivalry, and Public Policy*, 16 J. LAW ECON. 1, 3 (1973).

191. Richard R. Nelson & Sidney G. Winter, *Forces Generating and Limiting Concentration under Schumpeterian Competition*, 9 BELL J. ECON. 524, 525 (1978). "In our model all firms act to maximize net expected wealth and some are just "luckier" than others." Steven A. Lippman & Richard P. Rumelt, *Uncertain Imitability: An Analysis of Interfirm Differences in Efficiency under Competition*, 13 BELL J. ECON. 418, 421 (1982).

should be presumed to be the result of a "chance event failure."[192] Indeed, Professor Michael Porter, the leading business strategist of modern times,[193] even thought it important to demonstrate that luck is not the *only* explanation for firm differences and growth![194] As Nobel Prize recipient Jean Tirole notes, if a firm "dominates simply because of luck of circumstance, that skews competition unfairly."[195]

Admittedly, it is difficult empirically to determine whether a firm, or the vigor of competition in a market, succeeds or fails in whole or in part because of luck, as opposed to skill. As Justice Breyer observed, many believe that "I am skillful; you are lucky."[196] With this caveat, we present examples of firms that have achieved a degree of market dominance in part though luck, accident, or randomness.

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192. Oliver E. Williamson, *Antitrust Enforcement and the Modern Corporation*, *in* 3 POLICY ISSUES AND RESEARCH OPPORTUNITIES IN INDUSTRIAL ORGANIZATION 16, 21 (Victor R. Fuchs ed., 1972). Williamson believes this presumption is warranted unless intellectual property rights, scale, predatory behavior or superior management claims can be supported. *Id.* at 16.

193. *See, e.g.*, Geoff Colvin, *There's No Quit in Michael Porter*, FORTUNE (October 29, 2012), http://fortune.com/2012/10/15/theres-no-quit-in-michael-porter/ [https://perma.cc/7XBN-WCS2] (describing Porter as "the most famous and influential business professor who has ever lived. . . . He is widely and rightly regarded as the all-time greatest [business] strategy guru . . . .").

194. Richard E. Caves, Bradley T. Gale & Michael E. Porter, *Interfirm Profitability Differences: Comment*, 91 Q.J. ECON. 667, 674 (1977) ("We conclude that the evidence supports the existence of a behavioral relation between market share and profitability for companies in concentrated industries, and that the observed statistical relation between these variables cannot be ascribed exclusively to unobserved (and normatively unimpeachable) variations in luck.") (footnote omitted).

195. *See* Robin Mordfin & Toni Shears, *Regulation and Market Power*, BECKER FRIEDMAN INST. FOR ECON. U. OF CHI. (May 28, 2015), http://bfi.uchicago.edu/news/feature-story/regulation-and-market-power [https://perma.cc/3CJU-YWXZ]. As Justice Breyer noted:

> At the least, one should not underemphasize plain luck as a way to stay on top. Suppose you try the following game. Pair up, and flip a coin. Keep flipping until the man who lost the first time catches up with the winner; when he catches up, quit. Some of you will be here all night, indeed it may be days or weeks before the room is cleared. Yet, that last player has not used any skill, foresight or industry to stay ahead. Given the thousands of different industries in the economy, one cannot explain dominance entirely on the basis of superior product, superior management, or even predatory practices.

Stephen G. Breyer, *The Problem of the Honest Monopolist,* 44 ANTITRUST L.J. 194, 195–96 (1975).

196. Breyer, *supra* note 195, at 197.

1. COMPETITION PROBLEMS CAUSED BY OPEC[197]

The Organization of the Petroleum Exporting Countries (OPEC) caused an unexpected international energy crisis that affected competition in energy markets around the world. One example involved the oil market in the Netherlands. In *British Petroleum (ABG Oil Companies)*,[198] the European Commission accused British Petroleum (BP) of abusing its dominant position in the Netherlands during the OPEC oil embargo when it "found itself in position to control production and distribution in a substantial proportion of the market."[199] BP was the lucky beneficiary of OPEC's pricing and output restrictions: "Such a sudden shortage, especially one that was not brought about by economic considerations, led to a restriction of both actual and potential competition among the small group of companies concerned . . . ."[200] Although the European Court of Justice did not find that BP had violated competition law,[201] it did not overturn the Commission's holding that BP possessed an accidentally created dominant position.[202]

2. COMPETITION PROBLEMS CAUSED BY THE FUKUSHIMA EARTHQUAKE AND NUCLEAR ACCIDENT[203]

The earthquake in Fukushima, Japan affected competition in energy markets not only in Japan, but also in Germany. As Professor Ramos documents:

> Before Fukushima, Germany had been a strong advocate of nuclear policy. In 2012, the Fukushima accident prompted a "sudden, unexpected and significant" decision taken by the German government: to permanently close all the eight pre-

197. This example is based upon material found in Ramos, *supra* note 185, at 11–13.

198. Commission Decision IV/28.841 of 19 April 1977, *ABG Oil Companies Operating in the Netherlands*, 1977 O.J. (L117).

199. *Id.* at 9.

200. *Id.*

201. Case 77/77, *Benzine en Petroleum Handelsmaatschappij BV v. Comm'n*, 1977 E.C.R. 1514, 1530.

202. Ramos, *supra* note 189, at 13. The case is primarily known for the collective dominance analysis. *See* Pranvera Kellezi, *Abuse Below the Threshold of Dominance*, *in* ABUSE OF DOMINANT POSITION: NEW INTERPRETATION, NEW ENFORCEMENT MECHANISMS? 55, 77 (M. O. Mackenrodt, B. C. Gallego & S. Enchelmaier, S. eds., 2008).

203. This example is based upon material found in Ramos, *supra* note 185, at 13.

> 1981 nuclear plants. If the accident had not occurred the nuclear plants would not have been closed.[204]

After these German nuclear plants closed the market power and prices of remaining energy suppliers increased significantly.[205]

3. COMPETITION PROBLEMS CAUSED BY IMPROPER GOVERNMENT REGULATION, INCLUDING WRONGLY GRANTED PATENTS[206]

Improper government regulation can of course detrimentally affect competition. An example of this is can be a wrongly granted patent, which could unfairly place the lucky recipient in a position of dominance. Professor Ramos illustrates this point using the case of *Windsurfing International*,[207] which negotiated licensing agreements for patented items that prevented the licensees from challenging the validity of the licensed patents.[208] The European Commission decided that the no-challenge clauses prevented licensees from removing "wrongly granted monopolies" caused by the patents.[209] On appeal the European Court of Justice upheld the Commission's finding, and held that it is in the public interest to eliminate "patents granted in error."[210]

B. Market Fragility and Vulnerability[211]

As Barry Lynn and others have shown, market-wide problems caused by luck, accident, or randomness with the potential to affect consumers are especially likely to arise when markets are unduly

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204. *Id.* (citing Luigi Grossi, Sven Heim & Michael Waterson, *A Vision of the European Energy Future? The Impact of the German Response to the Fukushima Earthquake* 1 (Centre for European Economic Research (ZEW), Discussion Paper No. 14-051, July 2014)).

205. The Residual Supply Index indicates the degree of market power and accounts for the dynamics of the demand side. *Id.* at 13 (citing Grossi, Heim & Waterson, *supra* note 204, at 16, 18–22.).

206. This example is based upon material found in Ramos, *supra* note 185, at 13–15.

207. Commission Decision IV/29.395 of 11 July 1983, *Windsurfing Int'l*, 1983 O.J. (L229).

208. Ramos, *supra* note 189, at 14.

209. *Windsurfing Int'l*, 1983 O.J. (L229) at 15. *See also* Case 193/83, *Windsurfing Int'l v. Comm'n*, 1986 E.C.R. 643, 663 ("[T]he public interest in ensuring an essentially free system of competition and therefore in the removal of a monopoly perhaps wrongly granted to the licensor must prevail over any other consideration.").

210. *Windsurfing Int'l*, 1986 E.C.R. at 663. For several additional similar examples see Ramos, *supra* note 185, at 14.

211. This section relies heavily upon Yossi Sheffi & Barry C. Lynn, *Systemic Supply Chain Risk*, THE BRIDGE, Fall 2014, at 22.

fragile.[212] An unduly fragile market is more vulnerable to the vagaries of luck, including natural disasters and unexpected bankruptcy.[213] These markets especially are in need of the useful redundancy that can result from a strict anti-merger policy. Markets can be unduly fragile for a large number of reasons.

1. Fragility Caused by Interdependent Supply Chains

The U.S. auto industry is today highly interdependent due to auto firms' common supply chain.[214] Indeed, in 2008, when the bankruptcy of General Motors seemed imminent, the CEO of Ford, Alan Mulally, in testimony before the Senate Banking Committee told Congress about the disasters likely to occur if Ford's traditional rival was allowed to go bankrupt:

> If any one of the domestic companies should fail . . . there is a strong chance that the entire industry would face severe disruption. Ours is in some significant ways an industry that is uniquely interdependent—particularly with respect to our supply base, with more than 90 percent commonality among our suppliers. Should one of the other domestic companies declare bankruptcy, the effect on Ford's production operations would be felt within days—if not hours. Suppliers could not get financing and would stop shipments to customers. Without parts for the just-in-time inventory system, Ford plants would not be able to produce vehicles . . . . In short, a collapse of one of our competitors here would have a ripple effect across all automakers, suppliers, and dealers—a loss of nearly three million jobs in the first year, according to an estimate by the Center for Automotive Research.[215]

The U.S. auto industry's supply chain has thus evolved to the point where every auto firm depends up on the same few large suppliers. Bankruptcy of any significant firm in any part of the auto supply chain could well cause a disaster for the entire industry due to the current lack of "redundancy" in the supply chain.[216] The Japanese auto industry

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212. *See id.*

213. *See, e.g.*, *id.* at 25–26.

214. *Id.* at 25.

215. *Id.*

216. *See* BARRY C. LYNN, END OF THE LINE: THE RISE AND COMING FALL OF THE GLOBAL CORPORATION 180 (2005) [hereinafter LYNN, END OF THE LINE] ("As early as 1988, both Ford and GM would boast that some 98 percent of the parts they purchased from outside suppliers were 'single-sourced.' This was a radical change from

might well be similarly fragile because it too has a supply chain that lacks redundancy.[217] Portions of the U.S. food supply chain might be similarly fragile.[218]

2. Fragility Caused by the Geographic Proximity of Suppliers and Natural Disasters

When a large proportion of firms are in close proximity to one another an entire industry can become unduly fragile. Sheffi and Lynn provide a dramatic example:

> [A]lmost a quarter of the world's integrated circuit (IC) design and fabrication capacity is concentrated between Taiwan's Hsinchu area and Taipei, which are only 40 miles apart. Taiwan is also home to almost 70 percent of the

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a decade earlier when, as one vice-president for materials management at GM put it, 'our practice was to double- or perhaps triple-source every part.'").

217. *See* Barry C. Lynn, *How Detroit Went Bottom-Up*, THE AMERICAN PROSPECT, October 2009, at 21.

> In any system organized along these lines, a natural or man-made disaster that knocks some keystone factory off line can trigger a cascading industrial crash that paralyzes production everywhere. The best recent illustration of how such a crash plays out comes from Japan, where the automotive industry there has been structurally monopolized in much the same way as in America. The fantastic physical instability of such a structure was made clear in July 2007, when an earthquake in Niigata province smashed a piston-ring factory run by a small supplier named Riken. Within hours, the loss of this one plant led all 12 of Japan's main car and truck manufacturers to shut down. It turned out they all relied on one factory to produce a component that cost less than $5.

Id. at 24.

An earlier Japanese example occurred in 1997,

> [w]hen a fire at the Aisin Seiki plant in Kariya destroyed machinery used to build proportioning valves for the rear brakes of Toyota automobiles. In the years leading up to the fire, Toyota had pioneered a practice of "lean" production, which includes reliance on single sources of supply and the holding of almost no inventory (sometimes called "just-in-time" manufacturing). Hence, within a matter of hours a shortage of p-valves forced Toyota to close its entire main production operation in nearby Toyota City. By the time Toyota's employees fully restored production of p-valves more than a week later, Toyota had suffered a huge hit, with production falling some 70,000 vehicles below projections.

Barry C. Lynn, *Built to Break*, CHALLENGE, March/April 2012, at 87, 94–95 [hereinafter Lynn, *Built to Break*].

218. For a large number of examples, see BARRY C. LYNN, CORNERED 4 (2010) ("[A]lmost the entire U.S. pet food industry had come to depend, to various degrees, on a single supplier of canned and pouched pet food. . . . [T]he Menu Foods recall covered products that had been retailed under a phenomenal 150 different names.") (citation omitted).

> world's IC foundry capacity as well as most of the global capacity for IC packaging and testing. A Taiwanese disruption would affect most industries since most machinery now involves electronics. In fact, such a disruption took place in September 1999 when an earthquake disrupted semiconductor makers that account for 40 percent of the world's memory chip production. This occurred during a period of tight supplies, and the spot price of computer memory climbed fivefold all over the world, disrupting operations at many electronic suppliers and hampering the launch of certain Apple laptops.[219]

Lynn presents evidence that the interdependency problem is growing worse, and he provides other examples that could result in even worse disruptions.[220] For example, he notes that "[s]ome 60 percent of the world's DRAM (dynamic random-access memory) chip manufacturing capacity is located in South Korea, mainly in and around Seoul."[221] As an example of one possible method of dealing with this fragility, Lynn commends the Reagan administration for attempting to diversify and thereby make more stable the international DRAM market (for which Japan in 1986 had a seventy-five percent worldwide share)[222] by "a combination of tariffs, quotas, subsidies, and arm-twisting."[223]

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219. Sheffi & Lynn, *supra* note 211, at 26 (citation omitted). For additional examples, see LYNN, END OF THE LINE, *supra* note 216, at 211–36.

220. Lynn, *Built to Break*, *supra* note 217, at 100–01:

> [O]ne way to comprehend the new nature of risk within these international systems is to compare two discrete events, both of which also took place in Japan, the Kobe earthquake of 1995 and the Tohoku earthquake and tsunami of 2011. In the first month after the disaster in Kobe, in the heart of Japan's intensely industrialized south, domestic production fell by 3 percent, and international effects were minimal. After the 2011 tsunami, by contrast, Japan's industrial output fell an astounding 15.3 percent, almost double the previous record fall, after the panic of 2008. Most surprising was how big a fall—13.5 percent—was registered outside the disaster zone . . . . The disruptions extended across a remarkably wide array of industrial activities, including personal computers, mobile telephones, electronics, appliances, robotics, telecommunications gear, specialty steel, photovoltaics, and chemicals. The world automotive industry alone saw production plummet some 30 percent, for more than three months.

221. *Id.* at 90–91, 87–107. Lynn provides additional examples: "More than 80 percent of the raw chemicals that go into the U.S. pharmaceutical system are manufactured in China. All the ascorbic acid (Vitamin C) used to preserve processed foods in the United States now comes from China." *Id.* at 91.

222. *Id.* at 98 ("American firms, meanwhile, which had controlled 70 percent of the world market in 1978, had seen their share of the market plummet to only 20 percent.").

223. Barry C. Lynn, *A Glitch in the Matrix*, FOREIGN POL'Y (Sept. 12, 2012, 12:19 AM), www.foreignpoliy.com/articles/2012/09/11/industrial_revolution?

3. VULNERABILITY CAUSED BY POLITICAL FACTORS

The OPEC oil boycott is surely the most well-known economic disruption caused for political purposes (not counting the economic disruptions caused by wars). Lynn points out that the OPEC example is hardly unique.[224] For example, in 2010 China cut off exports of rare earth metals to Japan because of their dispute over a group of islands in the East China Sea.[225] Similarly, Russia cut off Ukraine's gas supply in 2014 for political reasons.[226] The 9/11 terrorist attacks in the United States also could be placed into this category. To give just one example of the economic disruption caused by these attacks, "US airlines experienced such a shortfall in demand that it threatened their existence. In response, Congress passed a massive aid package (fifteen billion dollars) that (at least temporarily) saved most of the domestic airlines from bankruptcy."[227]

Lynn points out that

> the structure of today's system leaves us entirely exposed to political disasters in third states, as well as within states. Even if leaders in Beijing and Washington forged the most perfect of ententes, they would not be able to exert complete control over the human beings who control other states. They would not, for instance, be able to guarantee that North Korea would never disrupt South Korea's highly concentrated DRAM industry. Nor could they guarantee that Pakistan will never disrupt the flow of processed information from India to the back offices of corporations in the United States, Europe, Japan, and China.[228]

In each of these situations a larger number of effective competitors would have minimized the chances of problems causes by the relatively unexpected market disruption. A larger number of competitors also would have reduced firms' incentives to exploit any abnormal market

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[https://perma.cc/E8MM-VDQL] ("In the 1980s, when Tokyo moved to capture command over the production of computer components like DRAMS, the Reagan administration used a combination of tariffs, quotas, subsides, and arm-twisting to force the shift of much of that industrial capacity to third-party nations, such as Taiwan, South Korea and Singapore. The goal was not to bring this vital capacity home, nor to restore manufacturing jobs in America. It was to make the international system itself more competitive, more international, and more stable.").

224. *See* Sheffi & Lynn, *supra* note 211.

225. *Id.* at 26–27.

226. *Id.* at 27.

227. *Id.* at 24.

228. Barry C. Lynn, *Shock Therapy: Building Resilient International Systems*, *in* GLOBAL FLOW SECURITY 197 (Eric Brattberg & Daniel S. Hamilton eds., 2014).

situations because firms doing this would risk lost future patronage, especially if another firm in the market would continue to sell at previous prices.

C. Competitive Problems Caused by "Normal" and "Unusual" Events

Any number of "normal" and "unusual" factors (these terms are in quotes because they are of course impossible to define and are arbitrary) can cause the amount or nature of competition in a market to change, sometimes quickly and dramatically. If a market starts with only the minimum number of firms necessary for effective competition, such changes could well result in a market with N - 1 competitors—or worse. A few examples will show that these possibilities are real enough. In the pharmaceuticals business, one such shock can be the discovery of contamination or other problems in the manufacturing process.[229] The FDA maintains a list of about 100 drugs that are in short supply, and has explained the underlying problem in an article in the New England Journal of Medicine: "If only a few companies make a drug and one of them encounters a manufacturing problem, the remaining companies may not be able to meet the demand."[230] In the case of the widely used anesthetic propanol, for example, there were only three firms supplying the U.S. market, and then one of them, Hospira, had to recall multiple batches after discovering particulate matter in the vials.[231] According to one newsletter, the alternative suppliers then "made out like bandits."[232] The former "Big Eight" of accounting firms had shrunk through mergers to become the "Big Five" without objection from the antitrust authorities.[233] Then, however, Arthur Andersen was caught up in the Enron scandal, was criminally prosecuted, and subsequently went out of business.[234] After that, the industry was left with only four major competitors. Many observers

229. Example taken from Averitt, *supra* note 9.

230. Valerie Jensen & Bob A. Rappaport, *The Reality of Drug Shortages — The Case of the Injectable Agent Propofol*, 363 NEW ENG. J. MED. 806, 806 (2010).

231. *Id.*

232. Eric Palmer, *Hospira Returning to Market with Sedative Propofol,* FIERCEPHARMA (Nov. 9, 2012, 10:46 AM), https://www.fiercepharma.com/sales-and-marketing/hospira-returning-to-market-sedative-propofol [https://perma.cc/6QPG-79MX].

233. Example taken from Averitt, *supra* note 9. *See generally* Charles W. Wootton & Carel M. Wolk, *The Development of "The Big Eight" Accounting Firms in the United States, 1900 to 1990*, ACCT. HISTORIANS J., June 1992, at 1 (presenting a historical overview of the development of "The Big Eight" accounting firms and the subsequent mergers).

234. Elizabeth K. Ainslie, *Indicting Corporations Revisited: Lessons of the Arthur Anderson Prosecution*, 43 AM. CRIM. L. REV. 107, 107–08 (2006).

believe this provides inadequate choice given the obligation that each publicly-traded company receive an audit from an accounting firm having a recognized level of expertise.[235]

The government had allowed the music publishing industry, the dominant owners of copyrights over performances of musical compositions, to consolidate because of a perception that its market position was declining.[236] However, the rapid changes in the transmission of copyrighted music resulting from the growth of the internet and services using it has transformed the business of licensing the performance rights of such performances. Now the remaining three major owners of such rights are alleged to be engaging in a variety of anti-competitive and exploitive conduct.[237]

D. Divestiture Inadequacies

Many large corporations compete in a large number of product and geographic markets. Hence, a merger between two such firms frequently will raise competitive concerns in only some of those markets. While there is case law that holds that if a merger is unlawful in any particular market, then the entire merger is unlawful,[238] the long-standing strategy of enforcement agencies is to focus on remedying the specific areas of concern while allowing the rest of the combination to go forward. These remedies, usually divestiture of assets in overlapping market, have as their goal the preservation of competition. Given the pro-merger stance of the agencies and the courts, and their goal of retaining only N effective competitors in a market, failure of a remedy often results in significant harm to competition.

To state the issues slightly differently, since the enforcers have a significant failure rate for their settlements, given their practice of allowing mergers until only N competitors are left, a failed divestiture usually constitutes underenforcement of the Clayton Act. If remedy failure is a recurring risk, then seeking to retain N + 1 or N + 2 competitors in any specific market would reduce dramatically the probability that remedy failure would result in significant competitive harm.

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235. Christopher C. McKinnon, *Auditing the Auditors: Antitrust Concerns in the Large Company Audit Market*, 11 N.Y.U. J.L. & BUS. 533, 571–72 (2015).

236. *See* Kristelia A. Garcia, *Facilitating Competition by Remedial Regulation*, 31 BERKELEY TECH. L.J. 175, 187–89, 193, 210–18 (2016) (describing the competitive harms resulting from the music publishing oligopoly). *See also In re Pandora Media, Inc.*, 6 F. Supp. 3d 317 (S.D.N.Y. 2014), *aff'd sub nom. Pandora Media, Inc. v. ASCAP*, 785 F.3d 73 (2d Cir. 2015) (documenting a number of tacit collusive activities intended to exploit internet music services).

237. *In re Pandora Media, Inc.*, 6 F. Supp. 3d at 317.

238. *See Brown Shoe Co. v. United States*, 370 U.S. 294, 337 (1962).

Sometimes agencies and courts impose remedies that are completely conduct-oriented: i.e., the merger is permitted but the firms are ordered to do or not to do specified things.[239] Conduct oriented remedies can be especially problematic because often the post-merger firm has market power, but the enforcers and the courts hope the prescribed or proscribed conduct will prevent it from exercising this power. Indeed, Kwoka's research has shown that conduct remedies allowed prices to rise by an average of sixteen percent, compared to the seven percent price rise permitted by remedies involving divestitures.[240] Even more than for structural remedies, any failure can result in significant harm to competition.[241]

The evidence on merger remedies shows, unfortunately, that both the FTC and the Antitrust Division have a difficult time making sure markets remain competitive when they design and implement a merger remedy. In 1999, the FTC documented the uncertainties involved in a comprehensive analysis of the competitive successes and failures of divestitures in its merger remedy cases.[242] It utilized a definition of a "successful" divestiture that was overly generous to itself (which was perhaps only natural: it had, after all, agreed to the divestitures).[243] The study considered a divestiture to be a success if the divested assets continued to operate to any degree in the relevant market. The study did not even attempt to determine whether the divestiture had preserved competition in the affected markets! Even using their overly generous definition of a successful remedy, the study found that roughly twenty-five percent of merger remedies had failed.[244] The report also noted:

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239. *See, e.g.*, *infra* notes 252, 255–57, 260. These cases are examples of times when courts impose conduct-oriented remedies.

240. *See* KWOKA, *supra* note 4, at 120 tbl. 7.9.

241. *See also* Kwoka, *supra* note 91, at 19–22.

242. FED. TRADE COMM'N, A STUDY OF THE COMMISSION'S DIVESTITURE PROCESS 10 (1999) [hereinafter THE 1999 REPORT], https://www.ftc.gov/sites/default/files/documents/reports/study-commissions-divestiture-process/divestiture_0.pdf [https://perma.cc/3TBC-B9SY].

243. The defensiveness of the FTC leadership about the quality of its enforcement is quite evident in a 2016 speech by its Chair. *See* Edith Ramirez, *Keynote Remarks*, 10th Annual Global Antitrust Enforcement Symposium, Georgetown University Law School, 1–4 (Sept. 20, 2016), https://www.ftc.gov/public-statements/2016/09/keynote-remarks-ftc-chairwoman-edith-ramirez [https://perma.cc/Z5WC-PXJZ].

244. THE 1999 REPORT, *supra* note 242, concluded:

> [T]hree quarters of the divestitures included in the Study succeeded to some degree; of the 37 divestitures that were studied, 28 appear to have resulted in viable operations in the relevant market. In each case, the approved buyer acquired the assets, began operations, and was operating in the relevant market within a reasonable period. In some of these cases, the buyer reported that it introduced new products, it is pricing below the respondent, or it is taking share from the respondent. In the remaining nine

"This is comparable to the success rate reported for privately negotiated mergers and acquisitions."[245] The report did not evaluate at all those merger remedies that only involved some regulation of the conduct of the merged entity.[246]

In 2016 the FTC published another study of remedies, one that analyzed the 1999–2015 period. Again, the agency found that its own remedies had been generally "effective."[247] But this study still found a substantial number of failures.[248] Moreover, once again its criteria for success were overly modest and the report did not provide much support for its conclusions—some of which rested primarily on staff perceptions of competitiveness in industries.[249]

No comparable internal report has emerged from the Antitrust Division with respect to its settlements. External reviews such as those from Kwoka and Ashenfelter et. al. suggest that remedies the Division has accepted also have a significant failure rate.[250] Based on these

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> divestitures, the buyers are not operating viably in the relevant market. (In one of those nine, the buyer was operating viably, but not in the relevant market of concern to the Commission; in another, the buyer was operating viably but not independently of the respondent.). Approximately 75 percent of the divestitures were successful.

Id. at 8, 10.

245. *Id.* at 10 (footnote omitted). The omitted footnote reads:

> Ravenscraft and Scherer, for example, suggest that "roughly a third" of their sample of private transactions were viewed as failures by the acquiring firms. D. RAVENSCRAFT AND F.M. SCHERER, MERGERS, SELL-OFFS, AND ECONOMIC EFFICIENCY 192–93 (1987). Michael Porter's contemporaneous review of the acquisitions puts the failure rate much higher. He found "more than half" the acquisitions he studied were sold off because they did not meet the acquiring firm's expectations. Porter, "From Competitive Advantage to Corporate Strategy," HARV. BUS. REV. 45 (May-June 1987).

Id. at 10 n.19.

246. These remedies are frequently unsuccessful. *See, e.g.*, Time Warner, FTC Docket No. C-3709, https://www.ftc.gov/enforcement/cases-proceedings/9610004/time-warner-inc-turner-broadcasting-system-inc-tele [https://perma.cc/BQ96-KTEC] (repeated efforts to create enforceable conduct regulations); *see also*, John Kwoka, *Merger Remedies: An Incentives/Constraints Framework*, 62 ANTITRUST BULL. 367, 374–75 (2017).

247. FED. TRADE COMM'N, THE FTC'S MERGER REMEDIES 2006-2012 at 2 (2017), https://www.ftc.gov/system/files/documents/reports/ftcs-merger-remedies-2006-2012-report-bureaus-competition-economics/p143100_ftc_merger_remedies_2006-2012.pdf [https://perma.cc/QLN9-UWK7].

248. *Id.* at 18. *See also* John Kwoka, One-and-a-Half Cheers for the New FTC Remedies Study (Feb. 7, 2018) (unpublished manuscript), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3112689 [https://perma.cc/3ECZ-8D7G].

249. *See generally* FED. TRADE COMM'N, *supra* note 247.

250. *See supra* note 4 and accompanying text. In partial contrast, the EU's track record was found to be somewhat better in a study using a methodology similar to Kwoka's. PETER ORMOSI, FRANCO MARIUZZO & RICHARD HAVELL, A REVIEW OF

aggregated analyses it seems fair to conclude that the American agencies have failed to preserve sufficient competition in many of these markets such that selective divestiture at the N level results in a significant risk of competitive harm.[251]

There have been many conspicuous examples of merger divestiture failures. For example, the FTC agreed to allow Hertz to acquire a substantial competitor in the airport car rental market, Dollar Thrifty, on condition that Hertz divest its own Advantage line.[252] This settlement might have been marginally adequate if Advantage had remained a vigorous competitor. The FTC provisionally accepted the settlement on a split vote of four to one.[253] Later, however, the spun-off Advantage firm went into bankruptcy after Hertz terminated the lease under which Advantage obtained its rental cars.[254] Thus, Advantage was seriously impaired as a competitor in the car rental market, and a marginally competitive situation became an undesirable one. Car rental rates—particularly at the lower end of the market—then increased at the fastest pace since the recession.[255]

In 2015, Albertsons and Safeway sought to merge. The FTC determined that in over 114 local markets there would be a significant increase in concentration and a substantial likelihood that consumers would face higher prices and reduced choice.[256] Instead of barring the merger, the FTC agreed that the companies would divest stores in these markets.[257] However, the stores' primary buyer incurred major

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MERGER DECISIONS IN THE EU: WHAT CAN WE LEARN FROM EX-POST EVALUATIONS? (2015), http://ec.europa.eu/competition/publications/reports/kd0115715enn.pdf [https://perma.cc/AQ6V-B8PZ].

251. *See also* Kwoka, *supra* note 248.

252. Example taken from Averitt, *supra* note 17. *See Hertz Global Holdings, Inc.*, 156 F.T.C. 10 (2013).

253. Press Release, Fed. Trade Comm'n, FTC Requires Divestitures for Hertz's Proposed $2.3 Billion Acquisition of Dollar Thrifty to Preserve Competition in Airport Car Rental Markets (Nov. 15, 2012), https://www.ftc.gov/news-events/press-releases/2012/11/ftc-requires-divestitures-hertzs-proposed-23-billion-acquisition [https://perma.cc/THU8-YLBM].

254. Katy Stech, *Bankruptcy Judge Approves Advantage Rent a Car Sale to Catalyst*, WALL ST. J. (Jan. 4, 2014, 4:08 PM), https://www.wsj.com/articles/bankruptcy-judge-approves-advantage-rent-a-car-sale-to-catalyst-1388783272 [https://perma.cc/3RV8-6AWK].

255. *See Research & Statistics*, AUTO RENTAL NEWS, http://www.autorentalnews.com/content/research-statistics.aspx [https://perma.cc/377Q-9RRU] (listing U.S. car rental market data from 2000–17).

256. Complaint at 4–5, *Cerberus Institutional Partners*, F.T.C. File No. 141-0108 (2015).

257. *Cerberus Institutional Partners*, F.T.C. File No. 141-0108 (2015), 2015 WL 471353, 6-8, 18–32 (decision and order).

operating problems and went bankrupt.[258] As a result, the merged firm recaptured many of those stores.[259] Thus, the remedy was totally ineffective in preserving the competitive structure of more than 100 local grocery markets.

Also in 2015, the FTC settled its challenge to Dollar Tree's acquisition of Family Dollar by requiring divestiture of 323 stores in local markets that would otherwise have been highly concentrated.[260] In 2017 the buyer was unable to continue to operate the resulting business and the stores were sold to Dollar General, another very large firm.[261] Thus, the end result was that industry concentration was increased in exactly the way that the FTC had determined was competitively harmful.

In a number of settlements involving the generic drug industry, the FTC has required that specific drugs be divested.[262] However, it has ignored the broader portfolio of generics that the dominant firms have acquired. As a result of a recent merger, one firm has 720 generic drug lines, and is "far larger than the second leading generic drug manufacturer."[263] Moreover, when authorizing the latest combination, the FTC did nothing to ensure that there would be competitive portfolios and instead allowed the various divested lines to be scattered among a number of buyers.[264] The impact of this transformation of the generic drug industry is evident from the initiation of a series of price fixing conspiracy cases targeting the same companies that the FTC has allowed to expand.[265]

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258. Peg Brickley, *West Coast Grocer Haggen Files for Chapter 11 Bankruptcy: Haggen sued rival grocer Albertsons over 146-store deal*, WALL ST. J. (Sept. 9, 2015, 5:06 PM), https://www.wsj.com/articles/west-coast-grocer-haggen-files-for-chapter-11-bankruptcy-1441798163 [https://perma.cc/634N-U9E].

259. Brent Kendall & Peg Brickley, *Albertsons to Buy Back 33 Stores It Sold as Part of Merger With Safeway; Judge approves purchase as part of Haggen Holdings' Bankruptcy Process*, WALL ST. J. (Nov. 25, 2015, 7:26 PM), https://www.wsj.com/articles/albertsons-to-buy-back-33-stores-it-sold-as-part-of-merger-with-safeway-1448411193 [https://perma.cc/LX8W-W3GQ].

260. *Dollar Tree, Inc.*, F.T.C. File No. 141-0207, 5–7 (Sept. 16, 2015) (decision and order), https://www.ftc.gov/system/files/documents/cases/150917dollartreedo.pdf [https://perma.cc/EHJ2-WQMS].

261. Jon Springer, *Dollar General to Acquire 323 Stores*, SUPERMARKET NEWS (Apr. 3, 2017), http://www.supermarketnews.com/retail-financial/dollar-general-acquire-323-stores [https://perma.cc/23RQ-72CZ].

262. Kwoka, *supra* note 246, at 378.

263. *Id.*

264. *Id.* at 379. Kwoka also observed that the statistical probability of the remedies being effective in all 80 generic lines were only 1.65 percent. *Id.* at 379 n.24.

265. *See, e.g.*, *In re Generic Pharms. Pricing Antitrust Litig.*, 227 F. Supp. 3d 1402 (J.P.M.L. 2016).

The Antitrust Division's record is no better. In the case of airlines, having once stopped United from buying US Airways,[266] the Division thereafter allowed mergers with minimal divestiture of airport landing rights which remain concentrated in the hands of a few airlines.[267] The result, as noted earlier in this Article, is that airfares have grown dramatically while the quality of service has declined.[268]

In the case of the Dean-Suiza merger, the Division raised no objections after a prolonged investigation during which the merged firm contracted to divest a number of plants.[269] In fact, the Division's own economists predicted that prices of milk would go up as a result of the merger.[270] Subsequent litigation based on the collusion that the merger made possible included a finding by the plaintiffs' economist that prices had risen more than three times what the Division had predicted.[271]

On the conduct side, the Division recognized the risks to upstream content suppliers in allowing NBC to combine with Comcast.[272] The conduct remedy sought to ensure equal access and reasonable treatment of the independent content suppliers.[273] Most observers have concluded that the decree was ineffective in providing the kind of treatment that would have ensured effective competition among content suppliers.[274]

In sum, by allowing mergers that resulted in specific markets becoming concentrated down to the N level, the agencies have created an impossible situation. The only way the relevant markets can retain competition is if the agreed-to remedies are always effective. This is, however, an impossibility. The enforcers instead should insist that the

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266. *See United-US Airways Merger Dead*, ABC NEWS, http://abcnews.go.com/Business/story?id=87893 [https://perma.cc/2QUA-L4KW] (last visited Sept. 24, 2018).

267. *See* Sholnn Freeman, *Clearing Antitrust Hurdle, Delta Clinches Acquisition of Northwest*, WASH. POST (Oct. 30, 2008), http://www.washingtonpost.com/wp-dyn/content/article/2008/10/29/AR2008102903505.html [https://perma.cc/Y2PJ-RAP6]; Jia Lynn Yang, *Justice Department Clears United, Continental Merger for Takeoff*, WASH. POST (Aug. 27, 2010, 9:45 PM), http://www.washingtonpost.com/wp-dyn/content/article/2010/08/27/AR2010082705257.html[https://perma.cc/VS9R-5G87].

268. *See* Brunecker, Lee & Singer, *supra* note 107.

269. *See* Press Release, Dep't of Justice, Justice Department Requires Suiza Foods and Dean Foods to Divest 11 Dairy Processing Plants (Dec. 18, 2001), https://www.justice.gov/archive/atr/public/press_releases/2001/9721.htm [https://perma.cc/7LXX-RSKV].

270. *Id.*

271. *See In re Se. Milk Antitrust Litig.*, 739 F.3d 262, 268, 285 (6th Cir. 2014).

272. *See* Complaint at 19–22, *United States v. Comcast Corp.*, 808 F. Supp. 2d 145 (D.D.C. 2011) (No. 11-106).

273. *See* Final Judgment at 9–22, *United States v. Comcast Corp.*, 808 F. Supp. 2d 145 (D.D.C. 2011) (No. 11–106); *see also* Kwoka, *supr*a note 246, at 373.

274. *See* Kwoka, *supra* note 246, at 373.

relevant markets retain at least one more significant firm as resilient "redundancy."

E. The Need for Resilient Redundancy: An Airlines Example

The airline industry provides one of the best examples of the failure of a policy that seeks to identify the optimal N for an industry. Over a period of a few years the major legacy carriers combined to reduce the number of airlines with hub and spoke systems from six to three which, presumably the DOJ believed to be the appropriate N.[275] But in fact, the result was at least N - 1 because adverse competitive effects resulted from those combinations.[276] Perhaps the enforcers counted on the discount airlines led by Southwest and AirTran to deter price increases, but the merger of those two airlines has resulted in very significant fare increases in all the markets that they had served.[277] Significantly, a merger simulation (one of the tools used to estimate the likely effects of a merger on prices) would have shown little predicted effect.[278] But the actual effects were very substantial.[279] Apparently the simulation model did not capture the dynamics of the overall airline market in which the discount carriers played a vital role in restraining prices of the legacy airlines as well as their own prices. Thus, there was a second failure to maintain the minimum N necessary to preserve and protect competition. A policy concerned with the incipient risks of consolidation in the overall airline industry would have blocked many, perhaps all, of these mergers to retain an airline market with six or seven major competitors.

CONCLUSION: "RESILIENT REDUNDANCY" REQUIRES INCIPIENCY

Humans are fortunate to have evolved to possess two lungs, two kidneys and many other similarly "redundant" biological systems. One shouldn't assume these duplications are inefficient and unnecessary. Rather, we recognize they constitute an insurance policy against semi-expected and unexpected calamities. The resilient redundancy idea

275. *See supra* note 102 and accompanying text.

276. *See id.*

277. *See* Pukar KC, *supra* note 107.

278. *Id.* at 18 (the model predicted price increases on average of less than a dollar).

279. *Id.* at 10–12 (prices up significantly in the markets where they both had competed or where Air Trans had been a potential competitor of Southwest as well as in markets from which Southwest withdrew AirTran service after the merger).

applies to entire ecosystems as well.[280] Market competition in the medium and long term benefits in a similar ways from having some apparent short term protective "redundancy."[281]

American Antitrust Institute founder Bert Foer aptly observed that "market economies are reluctant to bear the costs of redundancy and stockpiling—the incentive to plan for disaster, it seems, isn't transparent."[282] But is not, Foer asks, the absence of protection against risk a huge systemic inefficiency?[283] Foer is hardly alone in raising such insightful questions.[284]

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280. Professor Horton has drawn insights from evolution for competition policy:

> A further potential cost of systemic adaptability and robustness is the need for systemic redundancies. As Scott Page notes: "if a system contains redundant parts, then it will be more robust to the failure of one of the parts." Nassim Nicholas Taleb similarly observes that "[l]ayers of redundancy are the central risk management property of natural systems." Such "redundancy is not defensive; it is more like investment than insurance." Geerat Vemieij agrees. Seemingly "inefficient" and sometimes "expensive" diversity also positively "affects responsiveness, the ability of the system to respond to disturbances." A diversity of possible responses increases the number of exogenous and endogenous disturbances that a system can absorb. For example, humans' adaptive immune systems are biologically "expensive." Yet, "immunity diversity" has played a critical role in humans' evolutionary survival and success.

Horton, *supra* note 22, at 181 (footnotes omitted),

Indeed the tragic 1845–48 Irish potato famine was in part caused by a quest for short term efficiency that left the Irish food supply unduly fragile: "Irish cultivators were at the cutting edge of technology, adopting the plow, monoculture, and little genetic variation between plants. As they do today, these signatures of industrial agriculture both raised yields and made it more likely that a disease engulfing one field would engulf them all." Raj Patel, *Seeds of Destruction*, N.Y. TIMES BOOK REV., April 16, 2017, at 9.

281. Of course, the desirability of having extra firms in a market can be taken too far. As Professor Horton notes in an analogous context,

> [e]volutionary theory appropriately recognizes that there are limits to competitive diversity in any complex system, and that "too much diversity may well produce either chaos or randomness," or environmental degradation. What it does mean, however, is that "a system is more robust, more efficient, or more innovative if it contains the appropriate amount and kinds of diversity."

Horton, *supra* note 22, at 178 (footnotes omitted).

282. Albert Foer, *On the Inefficiencies of Efficiency as the Single-Minded Goal of Antitrust*, 60 ANTITRUST BULL. 103, 119 n.65 (2015) (quoting Siddhartha Mahanta, *New York's Looming Food Disaster*, ATLANTIC CITIES (Oct. 21, 2013), www.citylab.com/equity/2013/10/new-works-looming-food-disaster/7294/ [https://perma.cc/5A3X-463P]).

283. *Id.* at 120.

284. *Id.* at 127 (citing other similar expression of concern). Vermeij adds: "[r]edundancy may be at odds with economic efficiency, but in the long run it is better to have a safety net of redundant production than to be efficient and dead." Geerat J.

Moreover, as Barry Lynn and others have documented, allowing mergers that unduly limit the number of suppliers results in an unacceptably high risk of serious disruption and problems for an entire economic system.[285] Similar to key systems in the human body having "redundancy," there is a need for protective "redundancy" in our economic systems. This would be true even if it caused a somewhat higher short term cost for the resulting products. While the overwhelming body of evidence supports the fact that there are no significant efficiency costs for the necessary redundancy, any minor costs that arose would be the equivalent of a modest insurance premium. One way of explaining the resilient "redundancy" rationale underlying the incipiency doctrine is by characterizing it as a method for insuring medium and long term competition despite the vagaries of luck, randomness, and/or historical accident.

The fact that competition can and does change unpredictably adds to the uncertainty that exists when courts or agencies attempt to assess whether a merger among substantial competitors could result in a lessening of competition. When combined with the empirical observation that these mergers rarely make any significant contribution to increased productive efficiency or innovation, the case for rejecting mergers among major competitors is even more powerful. The incipiency doctrine provides the vehicle for the agencies and courts to refuse to allow such combinations.

The structural thresholds in the current Merger Guidelines reflect only a weak version of the incipiency concern. They only presume that market power will be created or enhanced if a merger increases concentration by an HHI of more than 200 points to a level in excess of 2500.[286] But even at these modest thresholds, the courts and agencies have failed to implement the commands of the Clayton Act consistently.[287] Moreover, recent empirical work has shown that the level of concentration at which the Guidelines' presumption is triggered is often too high. It appears that effective competition generally requires an N + 1 or N + 2 over the currently allowed levels, so that relevant markets have a least five substantial competitors. This implies

Vermeij, *Comparative Economics: Evolution and the Modern Economy*, 11 J. BIOECONOMICS 105, 128 (2009). He argues generally in favor of "greater redundancy, meaning that the system becomes more forgiving of error and disruption, and that variants arising within the system are not automatically crippling to it." GEERAT J. VERMEIJ, NATURE: AN ECONOMIC HISTORY 139 (2004).

285. *See supra* Part IV.

286. 2010 MERGER GUIDELINES, *supra* note 8, ¶ 5.3.

287. *See generally* KWOKA, *supra* note 4.

that the incipiency standard should start at HHI levels of 2000 or less.[288]

Another way to implement a revitalized incipiency doctrine would be to vigorously implement *Philadelphia National Bank*'s originally formulated presumption against significant mergers among major competitors in any moderately concentrated markets.[289] These mergers "must be enjoined in the absence of evidence clearly showing that the merger is not likely to have such anticompetitive effects."[290] Courts and agencies may have been reluctant to implement the incipiency doctrine vigorously out of the mistaken belief that the doctrine makes no sense. The "resilient redundancy" idea explains how the incipiency doctrine is essential to preserving workably competitive markets for the benefit of consumers and the entire economy.[291] It is our hope that once they understand the basis for the doctrine, courts and agencies will implement the incipiency doctrine much more aggressively, in the manner that Congress intended.

288. *See id.*; John Kwoka & Chengyan Gu, *Predicting Merger Outcomes: The Accuracy of Stock Market Event Studies, Market Structure Characteristics, and Agency Decisions*, 58 J.L. & ECON. 519, 535 (2015).

289. For a similar analysis and conclusion, see Kwoka, *supra* note 121.

290. *United States v. Phila. Nat'l Bank*, 374 U.S. 321, 363 (1963).

291. "An outside idea has a chance to influence government policy only if it has two characteristics. First, it can be stated in a simple declarative sentence. Second, once stated it is obviously true." Emily Parker, *To Be Read by All Parties*, N.Y. TIMES BOOK REV. (Feb. 17, 2012), http://www.nytimes.com/2012/02/19/books/review/the-impact-of-books-on-washington-policy.html?pagewanted=all&_r=0 (referencing a statement by John T. McNaughton).