California Law Review

Efficiency Considerations in Merger Enforcement

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I
INTRODUCTION

To the extent that efficiency considerations historically have affected enforcement policy under the Clayton Act,[1] the Celler-Kefauver Amendment,[2] and the Federal Trade Commission Act,[3] their effect has been puzzling at best and perverse at worst. Reasoning that a merger leading to significant efficiencies might enable the resulting firm to achieve monopoly power, enforcement agencies have sometimes held that efficiencies weighed against the legality of a merger.[4] This strained reasoning forced defendants into the irrational argument that the merger in question would not benefit the firms involved, yet they nevertheless wished to merge.[5]

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1. Ch. 323, § 7, 38 Stat. 730, 731-32 (1914) (codified as amended at 15 U.S.C. § 18 (1982)).
2. Ch. 1184, 64 Stat. 1125 (1950) (codified as amended at 15 U.S.C. § 18 (1982)).
3. Ch. 311, § 1, 38 Stat. 717 (1914) (codified as amended at 15 U.S.C. §§ 41-58 (1982)).
4. *See, e.g., In re* Foremost Dairies, 60 F.T.C. 944, 1084 (1962), *modified*, 67 F.T.C. 282 (1965), *discussed at infra* text accompanying notes 54-60.
5. Respondent's brief in *In re Procter & Gamble* provides an excellent example. The brief lists item after item in an effort to deny that Procter's acquisition of Clorox would produce efficiencies of any kind:

> [C]omplainant can point to no contrary proof, establishing any advantages in the procurement or price of raw materials or in the acquisition or use of needed manufacturing facilities or in the purchase of bottles or in freight costs . . . . As indicated in respondent's Proposed Findings, there is no proof of any savings in any aspect of manufacturing. There is no proof that any additional manufacturing facilities would be usable for

This unusual mode of analysis evolved from the language of the Clayton Act, as amended by the Celler-Kefauver Amendment, which forbids mergers whose effect "may be substantially to lessen competition, or to tend to create a monopoly."[6] In implementing this congressional directive, the courts and merger enforcement agencies have focused almost exclusively on the prevention of increases in market power. Since only a relatively small probability of increased market power or collusion has been sufficient for a finding of illegality[7] and the courts have given no weight to possible countervailing benefits,[8] defendant merger victories not surprisingly have been relatively rare.[9]

This type of analysis characterized merger theory and practice for more than half a century, until a landmark series of articles by Oliver Williamson, starting in 1968.[10] Williamson asserted that efficiencies were a highly desirable result of mergers and that a proper enforcement policy would maximize overall efficiency in the economy. The extensive literature following Williamson's original work has debated his methodology and conclusions at length, and everyone now accepts the basic premise of what has become known as Williamsonian merger analysis: merger efficiencies are desirable and should to some extent offset potential market-power effects.

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the production of Clorox. There is no proof that any combination of manufacturing facilities would effect any savings, even if such combination were feasible . . . . there is no showing here that the sales cost of Clorox would be any less whether it was merchandised by a one-product company or by Procter.

Brief for Respondent at 60, 62-63, 74, *In re* Procter & Gamble, 63 F.T.C. 1465 (1963) (citations omitted).

6. 15 U.S.C. § 18 (1982).

7. *See* R. POSNER, ANTITRUST LAW: AN ECONOMIC PERSPECTIVE 96-134 (1976).

8. There have been a few exceptions, however, such as the failing-company defense. *See generally* Blum, *The Failing Company Doctrine*, 16 B.C. INDUS. COM. L. REV. 75 (1974); Connor, *Section 7 of the Clayton Act: The "Failing Company" Myth*, 49 GEO. L.J. 84 (1960); Note, *Horizontal Mergers and the "Failing Firm" Defense Under Section 7 of the Clayton Act: A Caveat*, 45 VA. L. REV. 421 (1959).

9. Prior to 1974, the Government won every horizontal merger case decided by a written opinion of the Supreme Court. *See* Note, *Horizontal Mergers After* United States v. General Dynamics Corp., 92 HARV. L. REV. 491, 492 (1978). Justice Stewart noted in his dissenting opinion in United States v. Von's Grocery Co., 384 U.S. 270, 301 (1966) (Stewart, J., dissenting): "The sole consistency that I can find is that in litigation under § 7, the Government always wins." More recently, defendant victories have been more common, particularly in vertical and conglomerate mergers. *See* Baker & Blumenthal, *The 1982 Guidelines and Preexisting Law*, 71 CALIF. L. REV. 311 (1983).

10. Williamson developed his presentation in five separate articles: Williamson, *Economies as an Antitrust Defense: The Welfare Tradeoffs*, 58 AM. ECON. REV. 18 (1968) [hereinafter cited as *The Welfare Tradeoffs*]; Williamson, *Economies as an Antitrust Defense: Correction and Reply*, 58 AM. ECON. REV. 1372 (1968) [hereinafter cited as *Correction and Reply*]; Williamson, *Allocative Efficiency and the Limits of Antitrust*, AM. ECON. REV. PAPERS & PROC., May 1969, at 105 [hereinafter cited as *Allocative Efficiency*]; Williamson, *Economies as an Antitrust Defense: Reply*, 59 AM. ECON. REV. 954 (1969) [hereinafter cited as *Reply*]; Williamson, *Economies as an Antitrust Defense Revisited*, 125 U. PA. L. REV. 699 (1977) [hereinafter cited as *Defense Revisited*].

During the same time period, the economics profession has reeval-
uated the extent and meaning of the relationship between concentra-
tion and firm profitability.[11] In 1968, the consensus analysis had long
been that increased concentration typically led to (or increased) market
power, with accompanying higher prices and lower output.[12] Theoreti-
cal and empirical work since then, however, supports the increasingly
accepted view that increased concentration often leads to (or indicates)
greater efficiency, lower costs, greater output, and lower prices.[13]
While economists and lawyers during the 1960's typically believed that
the primary motives for mergers were concerns unrelated to efficien-
cies, such as corporate managers' empire building and firms' desires to
increase their market power or gain tax advantages, these professionals
are currently more likely to assume that efficiency and other profit-
maximizing motives (and not necessarily increased market power) are
the primary incentives for merger.[14]

Although some skeptics still debate the extent to which mergers in
fact have facilitated efficiencies,[15] the policy dispute has moved away
from questioning the existence and desirability of efficiencies to a more
practical issue: What is the best method to factor expected efficiencies
into merger enforcement? Some commentators have argued that evi-
dence of substantial efficiencies should constitute a defense to the ille-
gality of a merger in individual cases. These proposals vary from
allowing a full consideration of efficiencies,[16] to allowing consideration
of only certain relatively "provable" efficiencies,[17] to allowing consid-
eration of efficiencies only under limited or exceptional circum-
stances.[18] The 1982 Federal Trade Commission Statement on
Mergers[19] and the Justice Department Merger Guidelines[20] provide an-

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11. *See* P. Pautler, A Review of the Economic Basis for Broad-Based Horizontal Merger
Policy 28-49 (FTC Staff Working Paper No. 64, June 1982) (forthcoming in the *Antitrust Bulletin*).

12. *Id.* at 18-27.

13. *See generally id.*

14. *See generally id.*

15. For a more detailed discussion of the theoretical background and empirical evidence for
the debate, see *infra* Part III.

16. *See, e.g.,* Muris, *The Efficiency Defense Under Section 7 of the Clayton Act*, 30 CASE W.
RES. L. REV. 381 (1980).

17. 4 P. AREEDA & D. TURNER, ANTITRUST LAW ¶ 939 (1980).

18. U.S. Dep't of Justice, Merger Guidelines, 47 Fed. Reg. 28,493 (1982), *reprinted in* 2
TRADE REG. REP. (CCH) ¶ 4501, at 6881-6 (Aug. 9, 1982) [hereinafter cited as 1982 Merger
Guidelines].

19. Federal Trade Commission, Statement Concerning Horizontal Mergers (June 14, 1982),
reprinted in TRADE REG. REP. (CCH) No. 546, at 73 (June 16, 1982) (special supplement to 2
TRADE REG. REP. ¶ 4225 (Aug. 9, 1982)) [hereinafter cited as FTC Statement]. Unless we specify
otherwise, we shall use the term "Guidelines" to refer both to the FTC and Justice Department
statements.

20. 1982 Merger Guidelines, *supra* note 18.

other method of considering efficiencies:[21] raising the market-share and concentration levels above which the Government will challenge mergers.[22] In addition, the Justice Department and the Federal Trade Commission will, to a very limited degree, consider efficiencies in decisions about whether to prosecute.[23]

In this Article, we examine closely the congressional, judicial, theoretical, and empirical support for incorporating efficiencies into merger enforcement. In the process, we demonstrate that the implementation of efficiencies on a case-by-case basis is far more complex and problematic than supporters of this approach have indicated. In Part II, we argue that Congress' primary concern was with preventing unfair wealth transfers from consumers to firms with market power. Nevertheless, the legislators also wanted to achieve their distributive goals with a minimum of loss of economic efficiency and failed to realize that these two goals sometimes would be in conflict. Congress, then, never addressed the Williamsonian market-power/efficiencies tradeoff. In this Part, we also consider judicial treatment of an efficiencies defense under both section 7 of the Clayton Act and section 5 of the Federal Trade Commission Act. We conclude that the Supreme Court's

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21. The 1982 Guidelines and the FTC Statement place substantially more emphasis on efficiency considerations, in sharp contrast to the 1968 Guidelines. The 1968 Guidelines state:

> Unless there are exceptional circumstances, the Department will not accept as a justification for an acquisition normally subject to challenge under its horizontal merger standards the claim that the merger will produce economies (*i.e.*, improvements in efficiency) because, among other reasons, (i) the Department's adherence to the standards will usually result in no challenge being made to mergers of the kind most likely to involve companies operating significantly below the size necessary to achieve significant economies of scale; (ii) where substantial economies are potentially available to a firm, they can normally be realized through internal expansion; and (iii) there usually are severe difficulties in accurately establishing the existence and magnitude of economies claimed for a merger.

1968 Merger Guidelines para. 10, *reprinted in* 2 TRADE REG. REP. (CCH) ¶ 4510, at 6885 (May 30, 1968) [hereinafter cited as 1968 Merger Guidelines]. The Department overstated its first two points; we strongly concur with the third point. *See infra* Part III. Although the Federal Trade Commission did not issue numerical standards, it will give "considerable weight" to the Justice Department figures. *See* FTC Statement, *supra* note 19, § I, TRADE REG. REP. (CCH) No. 546, at 73.

22. *See* 1982 Merger Guidelines, *supra* note 18, at § III(A)(1), 47 Fed. Reg. at 28,497, 2 TRADE REG. REP. (CCH) ¶ 4503, at 6881-12; FTC Statement, *supra* note 19, §§ I, II, TRADE REG. REP. (CCH) No. 546, at 73-75. *See infra* Section B of Part VI.

23. The Justice Department will consider efficiencies in its prosecutorial discretion in "extraordinary cases" of substantial cost savings—but only in otherwise close cases. 1982 Merger Guidelines, *supra* uote 18, § V(A), 47 Fed. Reg. at 28,502, 2 TRADE REG. REP. (CCH) ¶ 4505, at 6881-19. For the lauguage, see *infra* note 265. The proof requirements of the FTC proposal ostensibly render the Commission's announcement that it will consider efficiencies in its prosecutorial discretion as limited as the Merger Guidelines proposal. FTC Statement, *supra* note 19, § IV, TRADE REG. REP. (CCH) No. 546, at 81. *See infra* Part V. For the language, see *infra* note 279. FTC Chairman Miller would go even further and permit "scale-type" efficiencies to be litigated in merger proceedings. *Id.* § IV n.22, TRADE REG. REP. (CCH) No. 546, at 81 n.22. For the language, see *infra* note 264.

rejection of such a defense under section 7 is a result of the Court's unwillingness to attempt a balancing of market-power and efficiency effects, a task that it considered far too complex for intelligent resolution in a litigation context.[24] The Court therefore chose to resolve the tradeoff problem by following the congressional directive to err on the side of strict enforcement of the antimerger laws.

We next turn to economic and policy analysis to explore resolutions to the tradeoff question. In Part III, we evaluate the theoretical and empirical evidence on the nature and extent of efficiencies from mergers. While these studies give some support to current views on the importance of efficiencies, their methodologies are inherently incapable of proving conclusively that mergers on average yield efficiencies. We then explore case studies and from inductive reasoning conclude that efficiency effects are most impressive for their unpredictability in individual cases and their vast range of results (from dismal failures to outstanding successes).

The analysis in Part IV builds on the empirical evidence by exploring in detail the practical implementation of Williamson's methodology. We demonstrate that a Williamsonian balancing of expected anticompetitive and efficiency effects is both too complex and too uncertain to use on a case-by-case basis once one generalizes the analysis and includes the theoretical and measurement qualifications necessary to perform the tradeoff accurately.[25]

In Part V, we evaluate the methods for incorporating efficiencies into merger analysis: a complete efficiencies defense, a partial efficiencies defense, and implicit consideration of efficiencies. We use error analysis to evaluate the relative merits of each method: we define Type 1 error as preventing desirable mergers and Type 2 error as permitting undesirable acquisitions. We introduce the term Type 3 error to cover excessive litigation, enforcement, business uncertainty, and related costs. Given the complexity of a case-by-case evaluation of the market-power/efficiencies tradeoff, an individual approach probably would result in far too frequent error. Because of these errors and because we find that an efficiencies defense very well might double merger litigation costs compared to present levels and raise Type 3 error costs of all kinds by more than $100 million per year, we reject the case-by-case approach. The alternative we propose of simple guidelines would pre-

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24. Such complexity also militates against future creation of an efficiencies defense under § 5 of the Federal Trade Commission Act, even given the Commission's economic expertise.

25. *See* sources *supra* note 10. In particular, potential quality changes render the inquiry an extremely complex multidimensional task. Consideration of wealth-transfer effects, the primary congressional concern, further increases the inherent difficulty of balancing market-power and efficiency effects. *See infra* Part IV.

vent mergers most likely to have anticompetitive effects and permit most mergers likely to have important efficiency effects. Simple, objective guidelines would result in mistakes only in marginal, exceptional, or unusually complex cases, where an individual approach probably could not do any better on average. Thus, such guidelines, followed faithfully, should result in a sum of Type 1 and Type 2 error even lower than that for a case-by-case approach, and they would certainly economize greatly on Type 3 error. Although the implicit approach cannot determine the Williamsonian tradeoff correctly in every case, neither can any of the vastly more expensive case-by-case approaches.

We close by evaluating in Part VI the 1982 Federal Trade Commission Statement on Horizontal Mergers and Justice Department Merger Guidelines as attempts to implement an implicit approach. The results more generally conform to current economic knowledge and concern for efficiencies than did the 1968 Guidelines, and they are not inconsistent with congressional intent. To the extent that the Guidelines provide for case-by-case consideration of efficiencies, they are unlikely to alter present merger practice, as long as prosecutors and courts adhere to their strict proof requirements. However, the exception clauses offer a potential for reducing the predictability of the Guidelines and increasing Type 3 error.[26] We contend that the success of the Guidelines depends upon consistent adherence to their standards. If they are so applied, they offer courts a concrete alternative when faced with litigants' arguments that efficiencies should be weighed in individual cases.

II

THE RELATIVE IMPORTANCE OF MARKET POWER AND
EFFICIENCIES IN ANTIMERGER LEGISLATION*

The antimerger laws have one overriding purpose: to prevent corporations from acquiring market power through mergers. Congress so much feared that corporations would use such power to transfer wealth from consumers to themselves through supracompetitive pricing that it wanted to stop even incipient increases in industrial concentration.[27] Moreover, the legislators believed that preventing monopoly power was

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26. If agencies and the courts stick with the Guidelines' strict evidentiary requirements, and if private merger counsel caution their clients correctly, the efficiency exceptions will not change existing merger practice. If, however, firms make serious attempts to justify above-Guidelines mergers on efficiency grounds, the Guidelines' strict standard could erode and result in a full efficiencies defense being forced on both enforcement agencies and on the courts. If so, there would be a large increase in business uncertainty and other components of Type 3 error.

* We thank Henry J. Birnkrant and our colleagues Neil W. Averitt and James D. Hurwitz for useful comments on the material in this Part.

27. *See infra* text accompanying notes 43-49.

broadly consistent with the promotion of industrial efficiency, not recognizing that the goals of protecting consumers and promoting corporate efficiency might conflict in merger policy. At the same time, we are unable to find evidence that Congress would have been willing to allow greater costs to consumers to achieve increased corporate efficiency.[28]

Since Congress did not address the market-power/efficiencies tradeoff, the courts have had to grapple with it with minimal guidance from the statute and the legislative history. Judicial interpretation has been evolving, and the process may not have ended yet. Early decisions either did not perceive a tradeoff or held that productive efficiencies weighed against a merger; more recent rulings seem to hold that the expectation of efficiencies is neutral and cannot justify mergers otherwise illegal under section 7 of the Clayton Act.[29] We briefly review treatment of these issues under section 7 of the Clayton Act and then evaluate the desirability of permitting an efficiencies defense under section 5 of the Federal Trade Commission Act.

A. Legislative History of the Antimerger Laws

Congress passed[30] and in 1950 amended[31] section 7 of the Clayton Act to prevent firms from acquiring rival companies "where the effect of such acquisition may be substantially to lessen competition, or to tend to create a monopoly."[32] Far and away the most important goal of Congress' procompetition, antimerger policy was preventing firms from acquiring or enhancing market power through merger. Congress, however, also had numerous secondary goals, primarily preventing the corporate aggregation of social and political power,[33] providing opportunities for small businesses to compete,[34] and encouraging corporate expansion through internal growth rather than through merger.[35] We

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28. *See infra* text accompanying notes 50-52.

29. *See infra* text accompanying notes 54-74.

30. Clayton Act, ch. 323, § 7, 38 Stat. 730 (1914) (codified at 15 U.S.C. § 18 (1982)).

31. Celler-Kefauver Amendment, Pub. L. No. 81-899, 64 Stat. 1125 (1950) (codified at 15 U.S.C. § 18 (1982)). In many respects, Congress redebated the fundamental purposes of the Act at the time of the Celler-Kefauver Amendment. *See* 95 CONG. REC. 11,489 (1949) (statements of Reps. Celler and Keating). For this reason, we focus on the Congressional debate of the Celler-Kefauver Amendment. For a more thorough analysis of the legislative history of the original Clayton Act, see Lande, *Wealth Transfers as the Original and Primary Concern of Antitrust: The Efficiency Interpretation Challenged*, 34 HASTINGS L.J. 65, 126-30 (1982).

32. 15 U.S.C. § 18 (1982).

33. For a summary of these topics, see Bok, *Section 7 of the Clayton Act and the Merging of Law and Economics*, 74 HARV. L. REV. 226, 234-36 (1960); Lande, *supra* note 31, at 140-42; Pitofsky, *The Political Content of Antitrust*, 127 U. PA. L. REV. 1051, 1064 (1979).

34. *See* Brown Shoe Co. v. United States, 370 U.S. 294, 316, 344 (1962); Lande, *supra* note 31, at 101-05, 120-21, 139-40.

35. As the Court stated in United States v. Philadelphia Nat'l Bank, 374 U.S. 321, 370 (1963), "[s]urely one premise of an antimerger statute such as § 7 is that corporate growth by

have analyzed Congress' purpose through an examination of three themes: efficiency, wealth transfers, and incipiency.[36]

Our search of the legislative history of the Clayton Act and Celler-Kefauver Amendment reveals no explicit or implicit evidence of a congressional concern with allocative inefficiency arising from monopoly pricing.[37] Nor have scholars advocating a strong efficiency orientation to the legislation produced such evidence.[38] Even if the legislative record contains some undiscovered reference to this concept, it nevertheless seems fair to conclude that Congress' principal complaint with monopolies in 1914 and 1950 was not that they caused allocative inefficiency.[39]

There was, however, some concern with the possible effects of the legislation on the productive efficiency of firms.[40] Opponents of the

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internal expansion is socially preferable to growth by acquisition." *See also* Brown Shoe Co. v. United States, 370 U.S. 294, 345 n.72 (1962); United States v. Manufacturers Hanover Trust Co., 240 F. Supp. 867, 947 (1965). Internal expansion, however, is not always preferable to growth through merger. *See infra* note 262.

36. It is impossible to discern the goals of Congress with certainty. Operational principles are necessary, however, so antitrust decisionmakers must attempt to determine Congress' wishes as best they can.

37. Economists contrast technical or productive efficiency with allocative (economic) efficiency. Technical or productive efficiency requires that firms produce a given output with a minimum of resources. Allocative efficiency requires the additional condition that relative outputs throughout the economy maximize consumer satisfaction. Because a firm with monopoly power restricts output below competitive levels, it creates allocative inefficiency—i.e., some resources that otherwise would have been used to make the monopolist's product go instead to uses that consumers value demonstrably less. *See* Lande, *supra* note 31, at 72-74, 78-80; sources cited *id.* It would have been surprising if Congress had been concerned with allocative inefficiency in 1914. Although economists were aware of the concepts at the time, the first influential discussion of allocative efficiency did not appear until 1938. *See* Hotelling, *The General Welfare in Relation to Problems of Taxation and of Railway and Utility Rates*, 6 ECONOMETRICA 242 (1938). For a brief description of the history of the impact on the economics profession of the concept of allocative efficiency, see Scherer, *The Posnerian Harvest: Separating Wheat From Chaff*, 86 YALE L.J. 974, 977 n.20 (1977).

38. *See* R. BORK, THE ANTITRUST PARADOX 50-71 (1978); Muris, *supra* note 16 *passim*.

39. However, it is another question whether Congress would have cared about allocative inefficiency even if it had understood the problem. In view of the desire of the legislators to encourage efficiency generally and to buttress arguments against monopoly, one reasonably could deduce that Congress would have cared about allocative inefficiency had it focused upon the issue. It therefore seems to be within the enforcers' discretion to weigh allocative efficiency concerns in merger policy.

40. The strength of the congressional concern over productive efficiency is a matter of considerable debate. For an analysis of the Celler-Kefauver Amendment's legislative history, which advocates the conclusion that Congress was strongly motivated by efficiency goals (and did not mean to preclude an efficiencies defense in merger cases), see Muris, *supra* note 16, at 393-402. Professor Muris concludes: "Although the issue was not squarely addressed, indeed inefficiency was infrequently discussed, the evidence indicates that increased efficiency weighs in favor of a merger. Congress wanted mergers to stand or fall upon a host of economic considerations, including efficiency." Muris, *supra* note 16, at 402. Professor Bok, however, came to a substantially opposite conclusion:

There is little basis for concluding that the achievement of lower costs as such should

Celler-Kefauver Amendment naturally claimed that it might hurt corporate efficiency.[41] However, the view of the Amendment's proponents, and thus of the majority in Congress, was that the Amendment probably would help, not hurt, corporate efficiency.[42]

Congress' principal economic concern with mergers potentially leading to or increasing market power was that the merging firms would engage in supracompetitive pricing, thereby unfairly transferring wealth from consumers (purchasers) to producers (sellers).[43] Those legislators who favored the Amendment[44] as well as those who

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give rise to favored treatment under Section 7. The possibility of lower costs was brushed aside in the legislative deliberations and there is every reason to believe that Congress preferred the noneconomic advantages of deconcentrated markets to limited reductions in the cost of operations.

Bok, *supra* note 33, at 318. *See also* Lande, *supra* note 31, at 131-35.

41. For example, Rep. Goodwin stated:

By preventing harmless and reasonable mergers among small and medium-sized concerns, this bill . . . will foreclose the chance that they may by consolidation or acquisition ever approximate either the size or the efficiency that the big competitors have already achieved. Thus we will hurt small business and help big business.

95 CONG. REC. 11,487 (1949). *See also Corporate Mergers and Acquisitions: Hearings on H.R. 2734 Before a Subcomm. of the Senate Comm. on the Judiciary*, 81st Cong., 1st & 2d Sess. 206 (1950) (statement of George S. Eaton) [hereinafter cited as *Senate Hearings*]; *Amending Sections 7 and 11 of the Clayton Act: Hearings on H.R. 988, H.R. 1240, H.R. 2006, and H.R. 2734 Before Subcomm. No. 3 of the House Comm. on the Judiciary*, 81st Cong., 1st Sess. 45 (1949) (statement of Gilbert Montague) [hereinafter cited as *House Hearings*]. *See also id.* at 83 (statement of John M. Blair, Assistant Chief Economist, FTC).

42. For example, Rep. Celler stated: "Bigness does not mean efficiency, a better product, or lower prices." 95 CONG. REC. 11,486 (1949). *See also* 95 CONG. REC. 11,495-98 (1949) (statement of Rep. Boggs) (quoting Judge Learned Hand); *Senate Hearings, supra* note 41, at 308 (statement of James L. Donelly). In addition, the legislative history reveals Congress' willingness to allow small firms to merge, at least in part, to enable them to achieve increased efficiencies. *See, e.g.*, 95 CONG. REC. 11,488 (1949) (statement of Rep. Celler).

43. One can also express this congressional goal in terms of property rights or entitlements. Congress, in effect, declared consumers' surplus to be the rightful property or entitlement of purchasers of the product. Given the presumption that purchasers had the right to buy competitively priced products, Congress implicitly condemned supracompetitive pricing as an unjustified and uncompensated method of taking consumers' property. Congress was concerned with promoting the fair distribution of wealth between sellers and buyers, not with insuring a fair distribution of wealth between the rich and poor. *See* Lande, *supra* note 31, at 80-142 (arguing that Congress passed the antimerger laws, and also the Sherman and FTC Acts, primarily to further distributive goals).

44. For example, Rep. Bennett wanted legislation to protect "the consuming public from unfair exploitation." 95 CONG. REC. 11,506 (1949). Rep. Carroll accused certain companies of "maintaining high prices which injure the consumer," *id.* at 11,492, and called monopoly prices "outrageous prices." *Id.*; *see also id.* at 11,492-94. Rep. Byrne quoted (with apparent approval) from an FTC report that stated: "Under competitive capitalism consumers are protected from high prices by the constant rivalry among numerous firms for a greater share of the market." *Id.* at 11,506 (quoting FEDERAL TRADE COMMISSION, THE MERGER MOVEMENT: A SUMMARY REPORT 66, 68 (1948)). Rep. Patman complained: "You know what a monopoly always does. It will do what is in the best interest of the people who own the monopoly." *Id.* at 7989. Sen. Kilgore wanted to protect "consumers" and "buyers" against "unjust exploitation." *Senate Hearings, supra* note 41, at 150. *See also* 95 CONG. REC. 11,493 (1949) (statement of Rep. Yates).

opposed it[45] consistently considered the main economic issue to be preventing firms with market power from victimizing consumers through monopoly pricing, though the latter group saw no substantial risk of such unfairness, even without legislation.

The concept of "incipiency" embodies the strength and clarity of Congress' preference for competitive prices. The required probability that market power might arise was meant to be smaller than that of the monopolization or attempted monopolization standard of the Sherman Act:[46] far less than "certainty,"[47] less than the attempted monopolization "dangerous probability" requirement,[48] but more than "ephemeral possibilities."[49]

Similar statements permeate the Clayton Act legislative history. Rep. Hamlin expressed his distaste for monopoly pricing in similar terms:

> The only reason why trusts and combinations are declared illegal is because they are organized and operated for the express purpose of . . . more effectively exploiting the people by taking advantage of their necessities and controlling the price of these necessities to the consumers, as well as the purchase price which they have to pay for the raw material.

51 CONG. REC. 9556 (1914). *See also id.* at 9265 (statement of Rep. Morgan); *id.* at 14,223 (statement of Rep. Thompson).

45. Rep. Goodwin, for example, stated that the merger amendment was unnecessary: "I do not subscribe to the doctrine that the businessmen of our country are crooks and that those who carry on their business through the instrumentality of corporations are out to fleece and extort higher and higher prices from their customers." 95 CONG. REC. 11,490-91 (1949). *See also Senate Hearings, supra* note 41, at 308 (testimony of James L. Donnelly); *id.* at 251 (testimony of Benjamin C. Marsh).

46. In the legislative history of the Celler-Kefauver Amendment, the Senate Report also stressed the rationale behind an incipiency standard: "The intent here, as in other parts of the Clayton Act, is to cope with monopolistic tendencies in their incipiency and well before they have attained such effects as would justify a Sherman Act proceeding." S. REP. No. 1775, 81st Cong., 2d Sess. 4-5 (1950). *See also* H.R. REP. No. 1191, 81st Cong., 1st Sess. 8 (1949); Brown Shoe Co. v. United States, 370 U.S. 294, 317-18 (1962).

47. *See* Brown Shoe Co. v. United States, 370 U.S. 294, 323 (1962); *see also* United States v. United Shoe Mach. Co., 264 F. 138, 162 (E.D. Mo. 1920), *aff'd*, 258 U.S. 451 (1922).

48. To establish a violation of Sherman Act § 2's attempted monopolization provision, a plaintiff must prove a "dangerous probability" of success. Justice Holmes first articulated this standard in Swift & Co. v. United States, 196 U.S. 375, 396 (1905), and it was still in effect when Congress passed the Clayton Act.

49. *See* Brown Shoe Co. v. United States, 370 U.S. 294, 323 (1962). Our reading of the incipiency evidence leads us to conclude that Congress' strong distaste for supracompetitive prices contains the following elements: (a) a fear of a pattern that might lead to increased market concentration; (b) a fear that the merger in question might be part of a trend that, if continued, might have anticompetitive consequences; (c) a belief that *ceteris paribus*, the evidentiary burden requires a lower probability of harm to competition than that in a monopolization or attempt-to-monopolize case; (d) a belief that courts should generally resolve doubts about harm to competition in favor of strict merger enforcement; (e) a mandate to look somewhat distantly into the future for the possibility of harm to competition; and (f) a concern with preventing market structures where collusion or other anticompetitive problems are a reasonable probability.

Congress clearly has ordered the courts to stop any trend toward concentration in its incipiency if the probable result might be a "lessening of competition." Congress equally clearly did not order the courts to prevent every trend toward concentration; Congress only cared about anticompetitive trends. The legislators must have recognized that some trends to concentration would be innocuous or even procompetitive. The task of antitrust policy, therefore, is to examine

Although the fundamental purpose of the Amendment was to stop mergers that might lead to or increase market power, or, as a convenient proxy, raise the final product price, we have found only one statement confronting possible tradeoffs in a merger that would simultaneously increase economic efficiency and raise consumer prices, and it hardly seems dispositive of the matter.[50] The opponents of the Amendment usually asserted that the mergers in question would not result in firms with monopoly power but the Amendment would hamper firms' productive efficiency.[51] The proponents, in contrast, usually asserted that these mergers certainly did risk impairing competition and that preventing monopolistic mergers would, if anything, raise industrial efficiency.[52] The majority in Congress thus believed that vigorous antitrust enforcement would not require a tradeoff between the goals of increased productive efficiency and limiting market power, but rather would advance both.

In short, Congress' primary concern was to prevent the formation of market power that would unfairly transfer wealth from consumers to monopolists; efficiency was only of small concern. Congress' goal was competitive pricing, which it defined primarily in distributive rather than in efficiency terms.[53] While Congress probably meant to forbid all mergers likely to increase prices to consumers, regardless of possible efficiency considerations, in other situations we cannot be certain how

all trends toward industrial concentration and to focus our efforts on those cases that present a reasonable probability of producing anticompetitive consequences.

50. One statement might have implied a tradeoff:

The bill [is] intended to permit [legal] intervention . . . when the effect of an acquisition may be a significant reduction in the vigor of competition . . . . Such an effect may arise in various ways: such as . . . [an] increase in the relative size of the enterprise making the acquisition to such a point that its advantage over its competitors threatens to be decisive. . . .

H.R. REP. No. 1191, 81st Cong., 1st Sess. 8 (1949). This statement, in its negative view of efficiencies produced from a merger, sounds very similar to the discredited Federal Trade Commission opinion in *In re* Foremost Dairies, Inc., 60 F.T.C. 944, 1080 (1962), *modified*, 67 F.T.C. 282 (1965). *See infra* text accompanying notes 54-60 & note 60. The statement, however, appears to be isolated and not representative of congressional opinion. Dr. John D. Clark, an economist on the Council of Economic Advisers, presented another interesting case when he testified in favor of the legislation. He stated that mergers should be permitted until scale economies in that industry were exhausted. *House Hearings, supra* note 41, at 37. Since Clark stated that this point would come at lower levels of concentration than existed at that time, he did not consider prevention of monopoly power through merger and corporate efficiency to be competing goals. *Id.*

51. *See supra* note 45.

52. *See supra* note 44.

53. In sharp contrast, economists define "competition" and "competitive" prices purely in terms of allocative and productive efficiency. *See, e.g.*, E. MANSFIELD, MICROECONOMICS THEORY AND APPLICATIONS 22 n.2, 247-75, 438-42 (1982). As Professor Williamson has observed, "[t]his [redistributive] transformation of benefits from one form (consumers' surplus) to another (profit) is treated as a wash under the conventional welfare economics model." Williamson, *Defense Revisited, supra* note 10, at 711.

it would have chosen between goals had it recognized that a choice was necessary.

B.   *Judicial Treatment of Efficiencies in Merger Cases*

Both the courts and the Federal Trade Commission have dramatically changed their treatment of efficiencies in merger analysis. Early cases sometimes held that proposed productive efficiencies weighed against the legality of a merger, while current holdings consider efficiencies a neutral factor. The courts and the Commission are now struggling to find a way to accommodate both efficiencies and market-power concerns in merger enforcement. Current cases, however, do maintain that a case-by-case efficiencies defense is not permissible under section 7 of the Clayton Act. In this Section we consider whether this dynamic process has ended. We also evaluate the desirability of allowing an efficiencies defense under section 5 of the Federal Trade Commission Act.

1.   Consideration Under Section 7 of the Clayton Act: from Negative to Neutral

The Federal Trade Commission's opinion in *In re Foremost Dairies, Inc.* exemplifies the early approach to merger enforcement.[54] *Foremost* involved a proposed market-extension merger in the dairy industry, raising issues of actual and potential competition.[55] Although not specified in the opinion, the anticipated efficiencies of the merger seemed to consist primarily of interfirm synergies and superior financial resources or access to capital markets.[56] The Commission held that a showing "that the acquiring firm possesses significant power in some markets or that its overall organization gives it a decisive advantage in efficiency over its smaller rivals"[57] sufficed to demonstrate a violation of section 7. The Commission further held that "the only test under Section 7 . . . is whether there is reasonable probability of a substantial lessening of competition or tendency to a monopoly as a result of a merger."[58]

Although the holding should have focused on an increase in the firm's market power or efficiency,[59] anticipated efficiencies clearly car-

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54.   60 F.T.C. 944 (1962), *modified*, 67 F.T.C. 282 (1965).

55.   *Id.* at 1087.

56.   *Id.* at 1083-84.

57.   *Id.* at 1084.

58.   *Id.* at 1085.

59.   The Commission did use this terminology elsewhere in the opinion. It considered the finding that an earlier acquisition gave the respondent "a decisive competitive advantage over its competitors," but agreed with the hearing examiner's opinion that the earlier acquisition did not constitute interstate commerce within the meaning of the statute. *Id.* at 1090.

ried a negative inference. The only question for litigation was whether there was a reasonable probability that market power could arise: because economies created by the merger might help lead to this result, such efficiencies were undesirable.[60]

In *FTC v. Procter & Gamble*,[61] the Supreme Court rejected *Foremost*'s view that efficiencies should count against the legality of a merger.[62] The Commission's decision in *Procter & Gamble*[63] retreated from the position it established the previous year in *Foremost*.[64] In

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60. The argument in *Foremost* that efficiencies should weigh against a merger's legality deserves detailed analysis to demonstrate its faulty reasoning. First, the argument essentially says that we are in a Williamsonian tradeoff world, *see infra* Part IV, where the merger is supposed (a) to decrease costs with some probability p, and (b) to increase monopoly power with some probability q. Note that the structure of the argument assumes that q is less than p. Since an increase in monopoly power depends on a decrease in costs, this model assumes that efficiencies are always more probable than increased monopoly power (q < p). As demonstrated earlier, Congress impliedly gave the Commission discretion to conclude that at some point a large probability of significant efficiencies would be more important than a small, speculative probability of increased monopoly power. The *Foremost* decision, conversely, holds that any possibility (no matter how remote) of an increase in market power due to efficiencies is always more important than the efficiencies themselves. Such a holding is inconsistent with Congress' intent to encourage efficiencies for their own sake.

The Commission in *Foremost* also erred in failing to give some weight to the quantitative magnitudes of efficiency and market-power effects. For example, by not recognizing what the legislators understood, that a decrease in resource costs would unambiguously increase social welfare, the Commission's analysis distorted the value that Congress assigned to efficiency effects.

The Commission erred for a third reason in assuming that the *Foremost* facts necessarily involved a tradeoff between efficiency and increased market power. The economics profession no longer considers monopoly power and incipiency threats as probable at levels of concentration as low as it did in the 1960's. *See generally* P. Pautler, *supra* note 11. Economists today generally believe that for many cases decided during the 1960's, efficiencies were a genuine possibility but increased monopoly power was a false issue—i.e., there was no tradeoff in fact.

Finally, the *Foremost* analysis fails to consider that competitors of a merged firm generally may achieve comparable efficiencies through internal growth. If an industry is transforming and economies of scale are increasing, antitrust policy cannot prevent consolidation for very long. The most antitrust enforcement could do in such a situation would be to increase the adjustment costs for the industry.

In his extensive analysis of Brown Shoe Co. v. United States, 370 U.S. 294 (1962), Peterman argues that the Justice Department's position, which the Court accepted, makes the same incorrect assumption that a merger based on efficiencies would disadvantage competitors. *See* Peterman, *The Brown Shoe Case*, 18 J.L. & ECON. 81, 131-32 & *passim* (1975).

61. 386 U.S. 568 (1967).

62. The irrational reasoning of *Foremost* may not, however, be completely dead. Professor Williamson provides a fascinating discussion of United States v. Occidental Petroleum Corp., No. C-3-78-288 (S.D. Ohio complaint dismissed without prejudice Apr. 4, 1979), in which the Justice Department argued that efficiencies should weigh against the legality of a merger. *See* Williamson, *On the Governance of the Modern Corporation*, 8 HOFSTRA L. REV. 63, 69-72 (1979); *see also* Liebler, *Market Power and Competitive Superiority in Concentrated Industries*, 25 U.C.L.A. L. REV. 1231, 1274 (1978).

63. 63 F.T.C. 1465 (1963), *aff'd*, 386 U.S. 568 (1967).

64. The primary thrust of the Commission's opinion was that efficiencies could not be a defense to a merger's illegality. The Commission looked to the Supreme Court's opinion in United States v. Philadelphia Nat'l Bank for its rationale:

We are clear . . . that a merger the effect of which "may be substantially to lessen com-

affirming, the Supreme Court resolved the legal status of a case-by-case efficiencies defense under section 7 of the Clayton Act, holding that it is not available: "Possible economies cannot be used as a defense to illegality. Congress was aware that some mergers which lessen competition may also result in economies but it struck the balance in favor of protecting competition."[65]

Several major commentators interpret the Court's reference to "possible economies" as evidence that the Court would not ignore relatively certain economies from mergers.[66] This narrow reading of the language ignores the Court's stated rationale for rejecting an efficiencies defense. The Court based its holding on the balance that Congress struck "in favor of protecting competition,"[67] believing that Congress valued competition more highly than efficiency gains.[68]

The Court's reliance on Congress' resolution of the market-power/ efficiencies tradeoff, however, does not imply that the Court believed that Congress placed no value on efficiency gains from mergers. Rather, its holding probably illustrates the Court's unwillingness to engage in the difficult task of balancing market-power and efficiency effects. The Court believed that Congress cared much more about market power than economies. Implicit in that belief is the notion that Congress did concern itself with efficiencies to some extent, although to

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petition" is not saved because, on some ultimate reckoning of social or economic debits and credits, it may be deemed beneficial. A value choice of such magnitude is beyond the ordinary limits of judicial competence . . . .

Id. at 1547 (quoting United States v. Philadelphia Nat'l Bank, 374 U.S. 321, 371 (1963)).

The Commission's principal concern was with the negative effect of mergers on small competitors:

If the effect of a merger is to place a number of small firms at severe competitive disadvantage, and the merger cannot be shown to enhance the general competitive vigor of the market, it may be appropriate, in implementing Section 7, to note Congress' patent concern with the preservation, to the extent compatible with social and economic progress, of the fundamental benefits of a small-business, decentralized economy.

Id. at 1555-56. It is unclear, however, in which circumstances this desire to help small businesses would mean that the expectation of efficiencies should count against a merger:

[I]n general, advantages afforded by a merger which reflect simply greater efficiency ought not be a basis for holding the merger illegal; efficiency is, after all, a prime goal of antitrust. But that principle is inapplicable, we believe, to the circumstances of this case.

Brief for Petitioner at 47, FTC v. Procter & Gamble Co., 386 U.S. 568 (1967); *see* Muris, *supra* note 16, at 410 n.120.

65. FTC v. Procter & Gamble Co., 386 U.S. 568, 580 (1967).

66. *See, e.g.*, 4 P. AREEDA & D. TURNER, *supra* note 17, ¶ 941, at 154; Muris, *supra* note 16, at 412. For other arguments that the Court did not preclude an efficiencies defense, see *id.* at 412-13. Moreover, Justice Harlan's concurrence shows that he did not believe the economies at issue to be "true efficiencies." FTC v. Procter & Gamble Co., 386 U.S. 568, 604 (1967). As we demonstrate below, *see infra* Part III, even efficiencies claimed to be "virtually certain" frequently do not materialize.

67. 386 U.S. 568, 580 (1967).

68. Recall that Congress defined "competition" primarily in wealth-transfer rather than efficiency terms. *See supra* Section A of Part II.

a lesser extent than with market-power effects. Given that belief, the Court was left with two options. One possibility would have been to balance the magnitudes and probabilities of efficiency and market-power effects on a case-by-case basis, giving more weight to potential market-power effects. Implementing such an approach, however, would run the risk of frustrating Congress' intent, because the complexity of a case-by-case balancing approach would inevitably lead to incorrect decisions and hence the kind of market-power effects that Congress so clearly sought to avoid.[69] To implement the spirit of the Clayton Act more fully, the Court chose the second option: ignoring efficiencies altogether. It did so not because it believed that Congress rejected the value of efficiencies, but rather because it recognized its own limited ability to balance market-power and efficiency effects.[70]

Despite *Procter & Gamble*, increased recognition of the importance of efficiencies from mergers[71] today might lead the courts to accept an efficiencies defense in section 7 cases.[72] Our analysis will demonstrate, however, that efficiencies still are enormously difficult to predict on a case-by-case basis[73] and that the balancing problems remain at least as difficult as the courts had anticipated earlier.[74] Hence, even if the Court chooses to embrace adjustment for efficiencies, it should continue to reject the flawed case-by-case approach.

2. The Legality of an Efficiencies Defense Under Section 5 of the Federal Trade Commission Act

While in *Procter & Gamble* the Supreme Court decided against the

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69. Bok's analysis of the legislative history concludes that Congress decided to err on the side of preventing too many mergers rather than risk the development of a trend that might lead to firms with market power.

> There can be little doubt that the dangers resulting from further concentration weighed most heavily in the minds of all who supported the amendment. . . . Moreover, to men who plainly felt that concentration had proceeded too far already, there would be little reason to shrink from the risk of mistakenly barring some innocuous mergers.

Bok, *supra* note 33, at 306.

70. For other instances in which the Court has refused to attempt such complex economic tradeoffs, see *infra* text accompanying note 258 and note 259.

71. *See infra* Parts III & IV.

72. On occasion, the Court has reversed its opinion on antitrust questions in response to changes in scholarly opinion. A prominent example concerns nonprice vertical restraints. In United States v. Arnold, Schwinn & Co., 388 U.S. 365 (1967), the Court held that vertical restraints were illegal per se. In Continental T.V., Inc. v. GTE Sylvania, Inc., 433 U.S. 36 (1977), the Court reversed itself, holding nonprice vertical restraints subject to a rule of reason and legal in the case in point, in large part because "[t]he great weight of scholarly opinion has been critical of the decision, and a number of the federal courts confronted with analogous vertical restrictions have sought to limit its reach." *Id.* at 47-48 (footnote omitted). A footnote cites nine critical articles, two articles not entirely critical, and a lower court opinion citing "a more inclusive list of articles and comments." *Id.* at 48 n.13.

73. *See infra* Part III.

74. *See infra* Parts IV & V.

availability of an efficiencies defense under section 7 of the Clayton Act,[75] its availability under section 5 of the Federal Trade Commission Act remains an open question. The Commission can proceed against mergers directly under section 7 of the Clayton Act or indirectly under section 5 of the Federal Trade Commission Act.[76] The section 5 prohibition against "unfair methods of competition"[77] embraces all violations of both the letter and the spirit of the antitrust laws.[78] The legality of an efficiencies defense under section 5 could become an issue in a complaint charging that a merger violated section 5 of the Federal Trade Commission Act, but not section 7 of the Clayton Act. The Commission might issue such a complaint if it decided that a case-by-case efficiencies defense was sound from a policy perspective, but that the Court's *Procter & Gamble* opinion made it untenable under section 7. In such a case, the Commission would be using section 5 to establish a point of law rather than to maximize its probability of preventing a merger.

The Supreme Court's rejection in *Procter & Gamble* of a case-by-case efficiencies defense under section 7 of the Clayton Act does not necessarily foreclose an efficiencies defense under Section 5.[79] The Court was principally concerned about judicial inability to perform the market-power/efficiencies tradeoff. Under section 5, however, unlike section 7, the Commission has exclusive authority to hear suits;[80] the courts' competence, or lack of it, is not an issue.[81] Only the Commis-

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75. 386 U.S. 568, 569, 577, 580 (1967).

76. Clayton Act, 15 U.S.C. § 18 (1982); Federal Trade Commission Act, 15 U.S.C. §§ 41-58 (1982).

77. 15 U.S.C. § 45(a)(1) (1982).

78. *See* Averitt, *The Meaning of "Unfair Methods of Competition" in Section 5 of the Federal Trade Commission Act*, 21 B.C.L. REV. 227, 238-42, 251-71 (1980). Section 5 also embraces incipient antitrust violations and violations of certain other competition policies. *Id.* at 242-51, 271-90.

79. One should also examine the legislative history of § 5 of the FTC Act on this point. *See* Lande, *supra* note 31, at 106-42 (concluding that in pertinent part the substantive goals of the FTC Act and Clayton Act are identical).

80. *See* 15 U.S.C. § 45(b)(1) (1982). The system of FTC antitrust adjudication differs from the federal court prosecutions of the Justice Department. The Commission can only issue a complaint if a majority of the commissioners (who spend approximately half of their time on antitrust concerns) have "reason to believe" that there might be an antitrust violation. Administrative law judges adjudicate these complaints. They spend approximately half of their time on antitrust cases, unlike their district judge counterparts. Both parties have the right of appeal to the full Commission. The Commission can direct a large number of attorneys, economists, and accountants to assist in its deliberations. (There are, for example, approximately 90 economists in the FTC's Bureau of Economics, with diverse areas of expertise. Only those economists who participated in the decision to issue the complaint are precluded from assisting the Commission or individual commissioners in their later deliberations.)

81. Although there is no private right of action under § 5, the courts on appeal would of course subject the Commission's decisions to normal administrative review, thereby giving appropriate deference to the Commission's tradeoff analysis. As Areeda and Turner note, "[t]he courts are supposed to uphold the Commission's orders where its findings are supported by substantial

sion, established by Congress with the specific purpose of acquiring expertise and applying it to economic issues,[82] would have to contend with the complexities of the tradeoff. The Commission and the courts might therefore decide that an efficiencies defense was permissible and desirable under section 5.[83]

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evidence and rulings of law consistent with the governing statutes, and where the remedy imposed does not constitute an abuse of the Commission's discretion." 2 P. AREEDA & D. TURNER, *supra* note 17, ¶ 305, at 18 (footnotes omitted). As the conference committee stated at the end of the debate on the Federal Trade Commission Act: "The findings of the commission as to the facts are to be conclusive. The court's function is restricted to passing on questions of law." H.R. REP. No. 1142, 63d Cong., 2d Sess. 19 (1914).

    82. Sen. Newlands, the primary sponsor of the Federal Trade Commission Act, stated:
    It is expected that the trade commission will be composed not only of eminent lawyers but of eminent economists, business men of large experience, and publicists, and that their knowledge and information and experience will be of such a varied nature as to make them more competent to deal with the practical question of the dissolution of these combinations than any court or Attorney General could be. It is also expected that as a result of investigation and as the result of long experience they will build up a body of information and of administrative law that will be of service not only to them but to the country itself, and that gradually standards will be established that will be accepted and will constitute our code of business morals.

51 CONG. REC. 11,083 (1914). *See* H.R. REP. No. 1142, 63d Cong., 2d Sess. 19 (1914); R. BORK, *supra* note 38, at 48 ("[A] major idea of 1914 was that antitrust policy could best be developed by an administrative body that would gradually acquire an economic expertise that Congress felt itself and the federal courts to lack: hence the creation of the Federal Trade Commission by the Act of that name.") (footnote omitted); *see also* W. STEVENS, UNFAIR COMPETITION: A STUDY OF CERTAIN PRACTICES 243 (1917) (an important early analysis of the performance of the newly created Commission concluding that enforcement of the antitrust laws by an administrative agency was desirable).

    In large measure the task of defining "unfair methods of competition" was left to the Commission. The legislative history shows that Congress concluded that the best check on unfair competition would be "an administrative body of practical men . . . who will be able to apply the rule enacted by Congress to particular business situations, so as to eradicate evils with the least risk of interfering with legitimate business operations." H.R. REP. No. 1142, 63d Cong., 2d Sess. 19 (1914).

    Not everyone, of course, believes that the Commission possesses the necessary expertise, or even relative expertise. Professor Bork concludes:
    It is difficult to say how much this idea of administrative expertise has affected the course of antitrust law. For a long time the Commission used its powers for little more than the enforcement of existing antitrust provisions, being content to follow the courts rather than lead them. This may have been due, at least in part, to the apparent disinclination of the courts to follow such leads as the Commission offered and the rather thinly disguised judicial suspicion that the Commission's expertise was more a legal fiction than a reality . . . . The Federal Trade Commission has in fact proved less expert about economics and business realities, and more hostile to competition, than any other group connected with the operation of the antitrust system.

R. BORK, *supra* note 38, at 48. We disagree with Bork's assertions. Most observers would conclude that the Commission's expertise in economic analysis has increased with time, both at the staff and Commission levels. Congress established the Federal Trade Commission, however, as an expert on competition and on what constitutes unfair competition; the Commission has a far lesser claim to expertise on what business changes would or would not create efficiencies.

    83. The Supreme Court's decision in Standard Oil Co. v. United States, 337 U.S. 293 (1949), supports the notion of deference to agency expertise to decide economic questions, stating that while a particular standard of proof was ill-suited for use by the courts:
    Our interpretation of the [Clayton] Act . . . should recognize that an appraisal of eco-

In the ensuing discussion, we seek to demonstrate that the complexity of the market-power/efficiencies tradeoff not only justifies that courts recognize their limited ability to balance such concerns, but also militates against creation of an efficiencies defense under section 5. An accurate resolution of the tradeoff is so difficult that no decisionmaker or decisionmaking body, whatever its claim to expertise, would be adequate to the task. In the Parts that follow, we first consider the extent and predictability of efficiencies and then evaluate the tradeoff methodology that Williamson developed. After exploring the complexities of the Williamsonian methodology, we develop a framework to compare alternative enforcement strategies to those that would have courts, prosecutors, and enforcement agencies incorporate efficiencies into merger enforcement on a case-by-case basis.

III
THE NATURE AND EXTENT OF EFFICIENCIES FROM MERGERS*

A.   *Types and Extent of Efficiencies from Mergers*

Efficiencies from mergers can arise from numerous sources;[84] in practice, the likelihood of each type of efficiency varies greatly with the type of merger. In general, operating efficiencies such as those derived from economies of scale, resource allocation, technological complementarities, specialization in product line, reduction in transportation costs, and various kinds of transaction-cost economies would seem to depend greatly on how closely related the firms' products and production/distribution processes are.[85] For this reason, operating efficiencies

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nomic data which might be practicable if only the [Federal Trade Commission] were faced with the task may be quite otherwise for judges unequipped for it either by experience or by the availability of skilled assistance.

Id. at 310 n.13; *see also* FTC v. R.F. Keppel & Bro., 291 U.S. 304, 314 (1934) (noting the Commission's special competeuce and expertise regarding questions of unfair competition).

* We thank Margaret Monroe, Richard S. Ruback, and our Federal Trade Commission colleagues Frederick I. Johnsou, Fred S. McChesney, Paul A. Pautler, Charles Pidano, and David J. Ravenscraft for many useful comments on the material in this Part. We also thank Katina J. Dorton for fine detective work in helping us identify case histories for Section B.2.c of this Part.

84. Firms undertake mergers for many different reasons, of which the pursuit of efficiencies is but one category. Selling firms may seek to escape financial problems, to profit from an excellent offer, to plan for income or estate taxes, or to diversify risks beyond what they would achieve through internal expansiou. Finally, aging entrepreneurs may want to cash out equity. Acquiring firms may seek to gain mouopoly power or to exploit tax loopholes. Exploitation of tax loopholes, a financial gain, is a redistribution rather than an efficiency. Commissions for greedy promoters and non-profit-maximizing managerial behavior are additional motives for mergers. These topics generally are beyond the scope of this paper. For an extensive discussion, see F. SCHERER, INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE 127-41 (2d ed. 1980), and P. STEINER, MERGERS, MOTIVES, EFFECTS, POLICIES 30-150 (1975).

85. *See, e.g.*, 5 P. AREEDA & D. TURNER, *supra* note 17, ¶ 1108; F. SCHERER, *supra* note 84, at 133.

are reasonably likely from horizontal or vertical mergers but seem rather unlikely from conglomerate mergers. Management efficiencies, however, which might result from an infusion of superior management and coordination of research and development synergies or distribution facilities, can motivate all types of mergers.[86] Both operation and management efficiencies result from mergers in one of two basic ways: either duplication and transfer of some efficiencies from one firm to the other or synergistic interactions.[87] These efficiencies may take the form of lower costs to produce the same product, unchanged costs to produce a better product, or a totally new quality/cost combination that customers prefer to the old package.

The most obvious benefits of mergers are what are often called "operating efficiencies." A horizontal merger may enable the resulting firm to achieve economies of scale but will not of itself create them. For example, the combination of two small plants will not lower costs when economies of scale require an operation larger than either existing plant.[88] Since one would not normally expect firms to survive long under reasonably competitive conditions unless they achieved something close to minimum efficient scale, horizontal mergers citing scale economies as the primary motive are suspect, except in a relatively new industry or one undergoing rapid technological change of a sort favoring larger firms.[89]

Operating efficiencies may also result when a merger of firms with similar technologies allows a consolidation and rearrangement of production to lengthen production runs, eliminate duplication, consolidate production and distribution to lower overall costs, or otherwise improve quality of a product or service.[90] For example, in declining industries with chronic excess capacity, horizontal mergers may permit consolidation of operations and elimination of excess capacity, thereby reducing fixed costs and permitting more efficient operation.[91] These efficiencies are most probable from horizontal or product-extension

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86. For evidence, see the discussion in F. SCHERER, *supra* note 84, at 137-38.

87. "Synergies" refers to complementarities between merging firms that potentially can make the combined entity worth more than the sum of the values of the separate parts. Synergies include both efficiency and wealth-transfer effects. *See generally* F. SCHERER, *supra* note 84, at 132-37. For a discussion of wealth-transfer synergies, see *infra* text accompanying notes 101-03.

88. In some cases, however, each plant may be able to specialize in part of a product line, thereby enabling the merged firm to achieve economies of scale at existing plants.

89. Horizontal mergers may also enable small firms, operating under a price umbrella, to merge to seek scale economies.

90. A closely related type of efficiency is improved service. For an example, see generally -Carlton, Landes & Posner, *Benefits and Costs of Airline Mergers: A Case Study*, 11 BELL J. ECON. 65, 73-74 (1980).

91. For an example, see *infra* text accompanying notes 159-60.

mergers[92] and less likely from vertical[93] or conglomerate[94] mergers.

Even when operating efficiencies are readily available through merger, ineffective management may hinder their exploitation.[95] Indeed, many authorities consider organizational efficiencies the single most important benefit of mergers, particularly conglomerate mergers.[96] Williamson argues that new management-control techniques

92. A product-extension merger is one where the combining firms are "functionally related in production and/or distribution but sell products that do not compete directly with one another." BUREAU OF ECONOMICS, FEDERAL TRADE COMMISSION, STATISTICAL REPORT ON MERGERS AND ACQUISITIONS 114 (1978).

93. Vertical mergers are only one example of the general category of vertical integration; the relevant literature includes both categories. For a recent analysis, see A. Fisher & R. Sciacca, An Economic Analysis of Vertical Merger Enforcement Policy § III (forthcoming in volume 6 of *Research in Law and Economics*).

In vertical mergers, the traditional discussion of efficiencies focuses on technological complementarities: in many manufacturing operations, firms may realize substantial savings in handling and energy costs by combining successive stages into a continuous process. Within recent decades, the literature has begun to discuss other motives, such as overcoming problems of information flow and contracting (often summarized as transaction-cost considerations), avoiding various market-failure problems, obtaining pricing efficiencies, and assuring an adequate supply of optimally designed inputs.

For example, when a manufacturing process relies on an input that is available only from a supplier with monopoly power, backward vertical integration of the enterprise enables the manufacturing firm to obtain that input at a lower marginal cost, reallocate its production process to use inputs in more optimal combinations, and thereby lower its production costs. *See* Burstein, *A Theory of Full-Line Forcing*, 55 Nw. U.L. REV. 62 (1960). For more examples of the benefits of vertical integration, see A. Fisher & R. Sciacca, *supra*, § III(B).

94. Operating efficiencies are less likely to be of quantitative importance in conglomerate mergers. Even here, however, they may result from combined operations. Firms that sell their products through similar types of stores may be able to achieve economies of scale in distribution or in other aspects of marketing. Complementarities may also exist in research and development. Studies have found these efficiencies to be quite important in certain cases. *See* Scherer, *supra* note 84, at 137; sources cited *id.*

95. Merger is only one method to replace ineffective management. Firms may also improve management on their own initiative. For a spectacular example, Chrysler responded to its management and financial problems by hiring Lee Iacocca as President in late 1978 and then promoting him to Chairman in September 1979. For another example, see Shellenbarger, *Beatrice Foods Moves to Centralize Business to Reverse Its Decline*, Wall St. J., Sept. 27, 1983, at 1, col. 6 (Beatrice Foods reorganized on its own initiative to respond to changes in the market and poor corporate performance.).

96. *See, e.g.*, *Mergers and Economic Concentration: Hearings on S. 600 Before the Subcomm. on Antitrust, Monopoly and Business Rights of the Senate Comm. on the Judiciary*, 96th Cong., 1st Sess. pt. 2, at 15 (1979) (statement of Richard Posner) [hereinafter cited as *Senate Hearings*]. Horizontal and vertical mergers also may result in management-related efficiencies. Of course, existing management may attempt to resist a takeover, even if inimical to the interests of the stockholders. There are many cases in which existing management engaged in very costly activity to increase the difficulty of a hostile takeover. For one vivid example, see Nazem, *Marshall Field's Too Successful Strategy*, FORTUNE, Mar. 22, 1982, at 81. Restrictive federal and state legislation regulating cash tender offers has aided such resistance in the past. *See* Smiley, *The Effect of State Securities Statutes on Tender Offer Activity*, 19 ECON. INQUIRY 426 (1981) (concluding that additional state restrictions on tender offers greatly increase the probability that existing management could prevent a hostile takeover attempt); Jarrell & Bradley, *The Economic Effects of Federal and State Regulations of Cash Tender Offers*, 23 J.L. & ECON. 371, 373 (1980) (finding that federal

permitting an individual firm to manage large and diversified groups of assets enabled firms to expand in size and diversity ever more successfully in the post-World War II period.[97] Once these organizational techniques were available, large firms could make tender offers to acquire firms with ineffective management, improve the internal control, and provide gains to both society and the firms themselves.[98] Although scholars disagree whether acquiring firms have improved managements of acquired subsidiaries on average, many individual mergers clearly have resulted in substantial management efficiencies.[99]

Mergers may have financial benefits—both efficiency[100] and nonefficiency—for combining firms. Redistributive gains without real efficiencies come from sources such as tax avoidance, "good deals," and market-power gains (to the extent squeezed through antitrust enforce-

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legislation raised the average cash-tender premium from 32% before the act to nearly 53% after its passage, and state legislation raised the average premium further, to 73%). The Supreme Court's recent decision in Edgar v. MITE Corp., 457 U.S. 624 (1982), is likely to minimize the future effect of state anti-takeover statutes.

97. Williamson, *The Modern Corporation: Origins, Evolution, Attributes*, 19 J. ECON. LITERATURE 1537 (1981) [hereinafter cited as Williamson, *The Modern Corporation*]; *Corporate Takeovers: Oversight Hearing Before the Subcomm. on Monopolies and Commercial Law of the House Comm. on the Judiciary*, 97th Cong., 2d Sess. 28-46 (1982) (statement of Oliver E. Williamson) [hereinafter cited as *Testimony*].

98. Williamson, *The Modern Corporation*, *supra* note 97; *Testimony*, *supra* note 97.

99. For a positive assessment, see sources cited *supra* notes 96-97. For one negative assessment, see *Mergers and Acquisitions: Hearings Before the Subcomm. on Monopolies and Commercial Law of the House Comm. on the Judiciary*, 97th Cong., 1st Sess. 235-36 (1981) (statement of F.M. Scherer). *See also infra* Part III.

In evaluating the probability of actually achieving management efficiencies through merger, one would like to know whether "the unit cost of management, including the hidden losses due to delayed or faulty decisions and weakened or distorted incentives as well as more tangible staff salary costs, do tend to rise with organizational size." *See* Scherer, *Economies of Scale and Industrial Concentration*, in INDUSTRIAL CONCENTRATION: THE NEW LEARNING 16, 51 (H. Goldschmid, H. Mann & J. Weston eds. 1974). Scherer concludes that total management costs increase with firm size but that the evidence is inconclusive with respect to average cost of management per unit of output. *Id.* Regardless of average tendencies, acquisition clearly is a potent and important mechanism to replace ineffective management in individual cases. *See generally* Williamson, *The Modern Corporation*, *supra* note 97; *Testimony*, *supra* note 97; *infra* Section B.2.c of Part III.

100. Diversification itself provides an opportunity for an additional efficiency, especially from conglomerate mergers. Diversification may lower the variance of a firm's overall level of profits, thereby decreasing the risk of bankruptcy and any attendant costs. Such diversification may also increase a firm's optimal level of debt. The lower expected costs of bankruptcy and higher tax savings on interest payments may outweigh the shareholders' costs of covering debt obligations when the merging companies separately could have defaulted. In such cases, a purely conglomerate merger that did not increase overall profitability could increase the total stock value of a firm. *See* Lewellen, *A Pure Financial Rationale for the Conglomerate Merger*, 26 J. FIN. 521 (1971). For a remarkably clear presentation of the relevant findings from the finance literature, see Monroe, *Conglomerate Mergers: Financial Theory and Evidence*, in THE CONGLOMERATE CORPORATION 113, 120 (R. Blair & R. Lanzillotti eds. 1981). Note also that if there are externalities to bankruptcy (such as negative effects on taxpayers), then a merger that reduces the risk of bankruptcy may have social benefits in excess of the gains to the individual firms.

ment).[101] For example, acquisition of companies with recent losses
confers tax credits that the merged firm can use to offset profits in other
subsidiaries. Also, firms with a rich cash flow and stagnant investment
opportunities (i.e., a profitable but mature industry) can avoid double
taxation for stockholders by investing in more rapidly growing sectors,
if they thereby can convert income to capital gains taxed at much lower
rates.[102] These wealth-transfer synergies can raise stock values even
without affecting market power or the level of costs (real
efficiencies).[103]

   Not all mergers yield efficiencies; some actually result in higher

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101. Many economists are skeptical that vertical or conglomerate mergers can have anticom-
petitive effects, except under rare circumstances. On vertical mergers, see A. Fisher & R. Sciacca,
supra note 93, § III(C). On conglomerate mergers, see P. STEINER, *supra* note 84, at 69-74, chs. 9-
11. *See also, e.g.*, 5 P. AREEDA & D. TURNER, *supra* note 17, ¶ 1108; F. SCHERER, *supra* note 84,
at 113.

102. *See infra* text accompanying notes 137-39. Monroe, *supra* note 100, at 115, argues that
differential tax treatment alone is not an incentive for conglomerate merger if the acquiring firm
can reinvest internally at a competitive rate of return. A firm tries to reinvest in whatever sector
offers it the highest marginal returns after taxes. Such investment could involve either merger or
internal expansion.

103. The business press frequently alleges that with the depressed stock market and high costs
of construction in recent years, it has become cheaper to buy an existing company than to build
the equivalent assets from scratch. This argument claims that some mergers may result in stock-
holders receiving financial efficiencies in the form of cost savings that would have been unavaila-
ble from *de novo* entry. The argument, however, is flawed. First, to the extent that the firm's
"good buy" is at the expense of a company selling in a depressed market, the financial gain of the
purchasing company would not represent a gain to society. Second, with firm A seeking to
purchase firm B, we enter into a bilateral oligopoly model, and the final purchase price will lie
between the minimum value to B's stockholders of remaining independent and the maximum
value of B to A's stockholders. (This latter price should be the cost of obtaining an equivalent
position through *de novo* entry). For a discussion of bilateral oligopoly, see F. SCHERER, *supra*
note 84, at 307-10. The ultimate purchase price is indeterminate and will depend predominantly
on relative bargaining strength. Contrary to popular belief, it may not be much less than the cost
of *de novo* entry. Since purchase of a controlling interest in a company often requires a premium
over the original stock price, this premium eliminates most or all of the difference between the cost
of purchasing an existing corporation and the cost of establishing an equivalent position from
scratch. This tendency is consistent with substantial competition among potential purchasers, *see
infra* note 140. Note finally that our valuation methodology does not imply that an acquiring firm
would always have entered *de novo* in the absence of the merger in question.

   Some analysts bemoan mergers as not being productive investments in the sense of not lead-
ing to an increase in the capital stock of the country. This analysis, however, is incomplete. First,
the fact that a merger transfers the property in question to someone who values it more highly
must count as a social gain. Further, stockholders of the acquiring firm receive large sums with a
large component of capital gain. To the extent that shareholders channel proceeds back into the
financial markets, they increase the supply of funds to the capital market. These funds therefore
would remain available for other firms to borrow and use for investment. The widely accepted
permanent income theory of consumption holds that stockholders would rechannel the vast bulk
of receipts such as proceeds from acquisitions back into savings. *See generally* M. FRIEDMAN, A
THEORY OF THE CONSUMPTION FUNCTION (1957). Taxes on capital gains from the acquisition
would decrease the government deficit, *ceteris paribus*, thereby decreasing pressure on financial
markets and increasing funds available to the investment community. Hence, the vast bulk of
funds spent on mergers should remain available for other firms to invest productively.

overall costs. Some authors believe that pursuit of efficiencies and other wealth-maximizing behavior cannot explain all merger activity, particularly conglomerate acquisitions.[104] Business decisions, particularly management refusals to accept tender offers for large premiums over current stock prices, at times clearly violate the assumption that managers attempt to maximize stockholder wealth.[105] Similarly, some acquisitions are hard to reconcile with managerial attempts to maximize the longrun value of a corporation.[106] The economics profession is divided in its evaluation of the theoretical and quantitative significance of these departures from pursuit of stockholders' interests.[107]

B. *Evidence of Efficiencies from Mergers*

The traditional interpretation, based on a substantial number of empirical studies, is that the probability of single-firm market power and of successful tacit or overt collusion is positively related to the level of concentration in a market.[108] Because mergers can affect market

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104. *See, e.g.,* W. BAUMOL, BUSINESS BEHAVIOR, VALUE AND GROWTH 45-78 (1967); R. MARRIS, THE ECONOMIC THEORY OF "MANAGERIAL" CAPITALISM (1964); Mueller, *A Theory of Conglomerate Mergers*, 83 Q.J. ECON. 643 (1969); Williamson, *Managerial Discretion and Business Behavior*, 53 AM. ECON. REV. 1032 (1963).

105. Perhaps the best example is when managements resist takeover offers that clearly seem in the best interests of the stockholders because they fear that a merger would adversely affect their job security. These fears have foundation in fact, *see infra* note 310. The market correction for such behavior is the takeover. Legal restrictions limiting takeovers have somewhat diffused this adjustment in the past. *See supra* note 96.

106. Of course, one must be careful to limit this statement to mergers that seem to be a bad investment *ex ante* rather than including all acquisitions that prove to be bad investments *ex post*. The stock market clearly considers some acquisitions bad investments *ex ante, see infra* note 149. For a spectacular recent example, the contest among Allied, Bendix, Martin Marietta, and United Technologies seems to have reached the ultimate, where close observers are considering all the companies losers. "[O]nly the lawyers, investment bankers, and arbitrageurs are laughing. Most observers agree that Allied Corp., the ostensible winner, has made a farce of strategic planning and could end up losing big." *Did Anyone Win the Bendix Game?,* BUS. WK., Oct. 11, 1982, at 28. *See also* Colvin, "The De-Geneening of ITT," FORTUNE, Jan. 11, 1982, at 34.

107. A profit-maximizing entrepreneur would accept anticipated diseconomies from a merger if he expected an increase in market power sufficient to offset the expected higher costs. Given the vigilant antitrust enforcement since 1950, one would expect this strategy to succeed only on rare occasions. Some economists, however, have hypothesized that many entrepeneurs do not attempt to maximize profits and therefore might opt for a cost-increasing merger. For a discussion, see F. SCHERER, *supra* note 84, at 127-32; THE DETERMINANTS AND EFFECTS OF MERGERS, AN INTERNATIONAL COMPARISON (D. Mueller ed. 1980) [hereinafter cited as THE DETERMINANTS]. For skeptical interpretations of this evidence, see P. STEINER, *supra* note 84, at 96-150, 180-217; G. BENSTON, CONGLOMERATE MERGERS: CAUSES, CONSEQUENCES, AND REMEDIES 46-49 (1980). Many economists believe that the importance of noneconomic factors has been vastly overstated. For the theoretical arguments, see Machlup, *Theories of the Firm: Marginalist, Behavioral, Managerial*, 57 AM. ECON. REV. 1 (1967). For empirical evidence that managers respond more to economic than to noneconomic factors, see Masson, *Executive Motivations, Earnings, and Consequent Equity Performance*, 79 J. POL. ECON. 1278 (1971). For more evidence, see *supra* note 96. A related topic is the literature on X-inefficiency. *See infra* note 182.

108. For a review of this literature, see P. Pautler, *supra* note 11. For a more skeptical view,

concentration directly, this literature is the intellectual basis for merger enforcement based on economic analysis of market concentration. In evaluating evidence of merger efficiencies, we shall focus on the relationship between cost savings and market structure.

A large body of economic literature offers both direct and indirect evidence for assessing the extent of efficiencies from mergers. The indirect evidence consists of two general types of studies: analyses of the relationship between economies of scale and market structure, and studies relating market concentration to profitability. The first type approaches cost estimation directly and shows that plant and multiplant economies of firm size fairly commonly exist to a relatively large share of output of a market, especially when transportation costs limit markets to local or regional areas. Since merger frequently is a quick way to gain a larger market share, these studies provide evidence that a merger may offer the potential for greater economies of scale. A large body of literature studying the extent and meaning of the relationship between market concentration and firm profitability reinforces this conclusion. Several recent studies, both theoretical and empirical, suggest that large firms very often are more efficient than small firms in a given market, so mergers to create market leaders on average may lower costs. We shall discuss this evidence in detail in Subsection 1 below.

The indirect evidence suggests the potential for efficiencies from mergers; direct evidence seeks to quantify the extent to which mergers have in fact achieved this potential. Two types of studies try to assess whether mergers have actually resulted in efficiencies. One type compares accounting data for merging firms with those of similar nonmerging firms to see which group has superior performance. The other, based on financial models of stock market performance, tracks merger effects by comparing performance of merging firms' stocks with changes in the overall market. We explore both of these types of studies in depth in Subsection 2. Unfortunately, the available data are too aggregated and the methodological problems too severe to demonstrate whether mergers on average have created efficiencies. Since large-sample studies are inconclusive, we turn in Subsection 3 to inductive analysis of case studies. Through exploration of individual mergers, we find evidence that many mergers create significant efficiencies, while many others result in unexpectedly higher overall costs. We also find that grossly incorrect prediction of the extent of efficiencies, on a case-by-case basis, is very common.

In interpreting existing evidence on the extent of efficiencies from

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see K. Elzinga, New Developments on the Cartel Front (July 15, 1983) (unpublished manuscript on file with the *California Law Review*).

mergers, one must be mindful that the Government enforced horizontal and vertical mergers very strictly after the passage of the Celler-Kefauver Amendment of 1950. To the extent that horizontal and vertical mergers are more likely to produce both operating and management efficiencies, while conglomerate mergers are only likely to result in management efficiencies, horizontal and vertical mergers are more likely than conglomerate mergers to produce efficiencies. Evidence that conglomerate mergers on average have failed to yield significant efficiencies does not necessarily demonstrate that horizontal and vertical mergers would be equally unsuccessful.[109] Therefore, to the extent that the studies we discuss below focus on conglomerate mergers, they are likely to understate the efficiency potential of mergers in general.[110]

1. Indirect Evidence on the Extent of Potential Efficiencies from Mergers

Since efficiencies tend to exist for firms only up to some particular size, smaller firms may be able to obtain additional efficiencies through merger. We shall therefore examine evidence on the extent of firm-level economies of size. Cost studies have explored the extent of plant-level economies of scale using three main techniques: survivor analysis, statistical techniques, and engineering studies. Despite very different analytical approaches in the various studies, a general pattern seems to emerge from a very large number of studies: beyond a certain point, average costs do not vary substantially over wide ranges of plant

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109. For horizontal and vertical mergers, operating efficiencies are reasonably likely. For conglomerate mergers, however, any efficiencies are more likely to occur from research and development, distribution, promotion, capital raising, allocation of capital, or management, rather than from more traditional integration of operations. To some extent, the studies help us make this separation: conglomerate mergers dominate studies based on European data.

110. Existing studies focus overwhelmingly on average results. For public policy, individual results are also important. Even if mergers on average yielded diseconomies as frequently as efficiencies, such that the expected net social gain from a merger were zero, society might still want to permit certain individual mergers.

This simple statement conceals many complexities, however, some of which we shall discuss below, *see infra* Part IV. Proper analysis must balance market-power as well as efficiency effects. We discuss the effects of the timing of the market-power and efficiency effects below, *see infra* Section B.2 of Part IV. Moreover, because the market-power and efficiency effects of a merger are uncertain, merging firms and society take risks. Whether the risk is justified depends on: (a) the merging parties' degrees of risk preference; (b) society's preference for the market-power and wealth-transfer effects; and (c) society's risk preference. Assume, for example, a group of mergers with no market-power effects, and uncertain efficiency effects, with an expected value of no net efficiencies. If all effects of efficiencies or diseconomies from the merger would accrue to the investors, and if the investors were risk preferrers, then society would be better off permitting than disallowing this group of mergers. For the theoretical analysis, see Friedman & Savage, *The Utility Analysis of Choices Involving Risk*, in A.E.A. READINGS IN PRICE THEORY 57 (G. Stigler & K. Boulding eds. 1952). Finally, wealth-transfer consequences raise myriad complex issues. For the legal and legislative view, see *supra* Part II. For a fairly nontechnical introduction to the complex economic analysis, see A. TAKAYAMA, INTERNATIONAL TRADE ch. 17 (1972).

sizes.[111] The best study found that plant-level economies of scale frequently justified market shares of between ten and fifteen percent and occasionally twenty percent or more for a firm of minimum efficient scale.[112]

These results, however, are not very satisfying. First, estimates of minimum efficient scale frequently appear to increase over time, so studies relating minimum efficient scale to market share seem to lack some important explanatory power. Second, by definition these studies do not assess firm-level as opposed to plant-level costs, and the former type is far more important. For example, only one study focuses on multiplant economies; none of the studies includes efficiencies related to raising of capital, distribution, research and development,[113] man-

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111. For a thorough discussion, see F. SCHERER, *supra* note 84, at 81-118. In a recent interpretive essay, Bela Gold has demonstrated that the theory of economies of scale is rife with ambiguities and inconsistencies and that empirical studies have borne little relationship to the theoretical analysis. Gold, *Changing Perspectives on Size, Scale, and Returns: An Interpretive Survey*, 19 J. ECON. LITERATURE 5 (1981).

According to Gold, close analysis and in-depth studies have shown that many measured "economies of scale" really reflect heterogeneities (i.e., differences in inputs, outputs, levels of vertical integration, or technologies) among the firms being compared. He argues that unless empirical studies focus on plants with similar inputs, product mixes, and levels of vertical integration, they are unlikely to provide accurate assessments of economies of scale. *Id.* at 22-23.

Although Gold's work sheds light on the interpretation of existing empirical studies, his distinctions are not especially relevant for antitrust policy. The important policy question is the extent of cost savings from larger operations (whether resulting from scale or from heterogeneities in inputs, product mix, or vertical integration), and some of the studies provide useful information on this question. We thank Sam Peltzman for suggesting the line of inquiry in this Subsection.

112. Despite limitations in the data, the most careful empirical work is F. SCHERER, *supra* note 84, a collection of studies of 12 industries (generally large, stable, mature industries, most of which probably have relatively low research-and-development components). *Id.* at 81-118. The authors found that only one industry had economies of scale of a single plant that required more than a 10% national market share. *Id.* at 96. When the authors extended consideration to transportation-cost barriers (resulting in more limited geographic markets), five more of the twelve industries had minimum optimal scale requirements of at least a 10% share of an average-sized regional market. *Id.* at 98. Economies of multiplant operation raised the minimum optimal scale of one additional industry past the 10% level. *Id.* at 118-19. Scherer's analysis implies that while operating economies of scale required as little as one and as much as 40.8% of the relevant market, in seven of twelve industries, such efficiency considerations required shares of relevant markets between nine and twenty-one percent for a firm of minimum optimal size.

Two additional studies focused on 23 additional industries chosen to include several likely to have extensive economies of scale. Weiss, *Optimal Plant Size and the Extent of Suboptimal Capacity*, in ESSAYS ON INDUSTRIAL ORGANIZATION, IN HONOR OF JOE S. BAIN 128-31 (R. Masson & P. Qualls eds. 1976) (adapted in part from C. PRATTEN, ECONOMIES OF SCALE IN MANUFACTURING INDUSTRY (1971)). Of these 23 industries, seven had minimum optimal scales for a plant of at least ten percent; four, fifteen percent; two, twenty percent. Because these studies did not address regional markets or economies of multiplant operation, minimum efficient operation for a firm could imply even more concentration.

113. Economic studies show that economies in research and development are greatest with firms with $250 to $400 million in assets (in 1978 dollars) that are in markets with four-firm concentration ratios of approximately 50 to 55%. These results are average tendencies; researchers have found substantial variation in individual industries. Moreover, the studies do not uniformly

agement, new-product development, and promotion. Over time, the relationships change frequently because of technological change or growth (or decline) of the industry. In short, these studies inherently can focus only on part of what determines differential firm efficiency, and what the studies omit is frequently very important.

A second type of indirect evidence on the efficiency potential of mergers is the extensive literature relating market structure to firm profitability. Because mergers affect market concentration directly, we can learn from studies evaluating how firms' costs vary with market share and market concentration. Many empirical studies have found a positive correlation between market concentration and profitability of large firms in market concentrations exceeding a four-firm level of fifty-five to sixty-five percent.[114] Before about 1970, economists interpreted this relationship as evidence that high concentration and barriers to entry permitted monopoly-level pricing behavior.[115] Within the last dozen years, however, scholars in the Chicago tradition have argued that most of the observed relationship between concentration and profitability reflects efficiency rather than market-power effects.[116] Since more efficient firms are likely to gain in market share and to be more profitable over time than average, differential levels of efficiency,

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solve the severe problems of measuring research and development inputs and outputs. One therefore must approach the results of these studies with caution. See F. SCHERER, *supra* note 84, at 407-38, for an extended discussion.

114. The material in this paragraph summarizes Pautler's recent survey of 198 articles on the existence and interpretation over time of the relationship between market concentration and profitability. *See* P. Pautler, *supra* note 11. The most recent studies, using improved data, suggest that the empirical relatiouship between concentration and profitability is spurious and that the real relationship is between firm market share and profitability. *Id.* at 60-69. The best of these studies is Ravenscraft, *Structure-Profit Relationships at the Line of Business and Industry Level*, 65 REV. ECON. STATISTICS 22 (1983). His work reveals that profits and concentration (using a four-firm concentration ratio) are negatively related once one controls for the positive impact of market share on profit.

    Kwoka recently presented compelling evidence that the two-firm concentration ratio may be a superior measure of market power than the four-firm ratio. Kwoka, *Does the Choice of Concentration Measure Really Matter?*, 29 J. IND. ECON. 445, 452 (1981). Further work by J. Kwoka & D. Ravenscraft, Collusion vs. Rivalry: Price-Cost Margins by Line of Business (July 1983) (unpublished manuscript on file with the *California Law Review*), shows that this negative profit/concentration relationship holds for alternative concentration ratios, but that the dominating influence is the negative impact of the largest firm's share on all other firms in the industry. This negative impact is stronger in industries where economies of scale are large. Hence, Kwoka and Ravenscraft's work suggests that efficiencies play at least a partial role in explaining the profit-concentration-share nexus. One would want further verification and analysis, however, before assessing the policy implications of these new results.

115. *See, e.g.*, J. BAIN, INDUSTRIAL ORGANIZATION 430-58 (2d ed. 1968); Demsetz, *Two Systems of Belief About Monopoly*, in INDUSTRIAL CONCENTRATION: THE NEW LEARNING 164 (H. Goldschmid, H. Mann & J. Weston eds. 1974).

116. *See, e.g.*, McGee, *Efficiency and Economies of Scale*, in INDUSTRIAL CONCENTRATION: THE NEW LEARNING 101, 102 (H. Goldschmid, H. Mann & J. Weston eds. 1974).

if sustained, will produce a positive correlation between levels of concentration and profitability, independent of market-power effects.

After more than a decade of debate, neither side has proven its case,[117] but the evidence tentatively suggests that both market-power and efficiency effects contribute to the overall relationship between concentration and profitability. Increasingly, the evidence also suggests that much and perhaps the vast majority of the correlation between concentration and firm profitability reflects efficiency effects. This evidence suggests that horizontal mergers offer potential efficiencies at market shares far greater than those implied by the studies based solely on estimates of minimum efficient scale of a plant or of multiplant operation. This interpretation is also consistent with the suspicion expressed above that the studies relating minimum efficient scale to market structure omit consideration of important determinants of overall firm profitability, such as management effects and dynamic factors.[118]

In summary, indirect evidence suggests the potential for mergers to result in efficiencies, but does not demonstrate that mergers have indeed tended to fulfill that potential. Economies of single-plant and multiplant operation frequently justify ten to fifteen and occasionally twenty percent or greater market shares, and some further evidence suggests that firms with even greater market shares may have still lower costs on average than smaller firms. However, because the studies underlying this conclusion leave much to be desired, the evidence on the link between market shares and scale economies is very weak. Further, many of the economies from capital raising, sales promotion, research and development, and superior management may be obtainable through nonhorizontal growth and therefore would not necessarily require or justify increases in concentration of individual markets. Moreover, although firms with large market shares obtained primarily through internal growth tend to be more efficient than average, firms merging to achieve the same shares would not necessarily obtain comparable efficiencies.[119]

2. *Direct Evidence*

Numerous economists have studied actual mergers in attempts to

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117. Although Pautler concludes that the efficiency arguments are stronger, he notes that "whichever side of the traditionalist/revisionist debate bears the burden of proof will probably lose." P. Pautler, *supra* note 11, at 72 n.1.

118. For an elaboration of this view, see McGee, *supra* note 116.

119. The combination of two small firms does not necessarily equal one larger, more efficient firm. If, for example, two firms had plants too small to achieve minimum optimal scale, attainment of maximum efficieucies would require replacement of the existing plants with one new, larger plant.

provide direct evidence of how frequently mergers have in fact led to economic efficiencies. Existing studies are of two general types: (a) comparisons of accounting data for merging firms with data for a control group of nonmerging companies, and (b) econometric studies evaluating changes in stock market valuation due to a merger. These studies too give only ambiguous evidence of the efficiency results of mergers. Hence, we then turn to new evidence, based on an examination of case studies of mergers, as reported in trade and business publications.

a. Studies Based on Accounting Data

In general, the numerous studies based on accounting data for American and European firms yield quite mixed results.[120] The basic problem with such studies (which the stock market studies discussed below share) is that the data used to measure firm performance take into account not only efficiencies, but also market-power effects, tax benefits, premiums to account for shortrun undervalued assets, and influences from factors such as changes in product mix and creative manipulation of accounting data. Because performance measures such as profits and rates of growth are susceptible to changes in all these factors, evidence that would appear either to support or undermine efficiency effects may also be attributed to any one of the elements affecting the performance measure. To avoid this aggregation effect and measure efficiencies accurately would require firm-level cost and output data over time among firms in the same industries.[121] These data, however, are highly confidential and generally unavailable to researchers.

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120. Posner discusses and summarizes many of these studies. R. Posner, Appendix to Statement on S. 600 Before the Subcomm. on Antitrust, Monopoly and Business Rights of the Senate Comm. on the Judiciary (Apr. 26, 1979) (unpublished appendix to *Senate Hearings, supra* note 96, pt. 2, at 9-17 (statement of Richard A. Posner), on file with the *California Law Review*). *See also* G. BENSTON, *supra* note 107, at 36-37; Mueller, *The Effects of Conglomerate Mergers: A Survey of the Empirical Evidence*, 1 J. BANKING & FIN. 315, 320-23, 330, 332-33 (1977). Six of the studies reviewed are based on domestic data: S. REID, MERGERS, MANAGERS, AND THE ECONOMY (1968); Gort & Hogarty, *New Evidence on Mergers*, 13 J.L. & ECON. 167 (1970); Hayes & Taussig, *Tactics of Cash Takeover Bids*, HARV. BUS. REV., Mar.-Apr. 1967, at 135; Hogarty, *The Profitability of Corporate Mergers*, 43 J. BUS. 317 (1970); Lev & Mandelker, *The Microeconomic Consequences of Corporate Mergers*, 45 J. BUS. 85 (1972); Weston & Mansinghka, *Tests of the Efficiency Performance of Conglomerate Firms*, 26 J. FIN. 919 (1971).

The views of Mueller, Posner, and Benston fairly accurately represent both extremes in the economics profession. Mueller characterizes these studies as showing that acquiring firms earn at best a normal rate of return, and perhaps even less. Mueller, *supra*, at 336. Posner considers the results inconclusive. *Senate Hearings, supra* note 96, at 16-17 (statement of Richard A. Posner). Benston believes that the accounting data studies are inherently so flawed that they are scarcely worth mentioning. G. BENTSON, *supra* note 107, at 36-37.

121. It is difficult to interpret the meaning of an acquiring firm's industry when that company is a highly diversified conglomerate, as much of any U.S. sample would be.

Even the best of the accounting data studies exhibits serious methodological problems. The most recent and most comprehensive study, by Mueller et al.,[122] compares data for merging firms with those for nonmerging firms in seven countries, using various performance criteria across all the countries over a five year postacquisition period. The authors found that, in general, nonmerging firms were essentially as profitable as merging companies and that there was no support for the hypothesis that merging firms were more profitable after merger than their nonmerging counterparts.[123] They concluded that the evidence does not clearly support any single hypothesis of merger motive or effect.[124]

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122. THE DETERMINANTS, *supra* note 107, at vii-viii. The United States sample included 287 mergers between 1962 and 1972, of which 28 were horizontal.

123. Mueller et al. also use a test for determining whether mergers on balance yield efficiencies or increased market power that is similar to the test that Professors Landes and Posner proposed. THE DETERMINANTS, *supra* note 107, at 39-44. They would infer that efficiencies dominated increased market power if the combined firm's market share increased after the merger (compared to the sum of the market shares of the previous entities). If the combined firm's market share decreased, they would infer market power to be dominant. *See* Landes & Posner, *Market Power in Antitrust Cases*, 94 HARV. L. REV. 937, 973 (1981). While this test is a proposal to evaluate individual mergers, it is ill-suited for autitrust enforcement, because one can only apply it in retrospect. Since firms might require several years to integrate operations and strategies after a merger, and other factors besides operating costs and direct effects of mergers might affect market shares over time, this simple test would often be inadequate to assess the efficiency potential of a merger accurately, even if data were readily available. Moreover, as a practical matter, the test does not help us assess mergers other than horizontal combinations of companies (perhaps even single-product firms) manufacturing homogeneous products. It is of little value with nonhorizontal mergers or changes such as improvements in product quality or increased specialization (such as after a merger, dropping individual product lines with marginal profitability).

124. A recent study based on British data uses a new methodology to evaluate efficiency gains from mergers and comes to a similar conclusion. *See* K. COWLING, P. STONEMAN, J. CUBBIN, J. CABLE, G. HALL, S. DOMBERGER & P. DUTTON, MERGERS AND ECONOMIC PERFORMANCE ch. 4 (1980). Essentially, the authors measure $k = (P_O/P_I) \times (ATC)$, where

  k = the authors' measurement of efficiency;

  P_O = an index of the firm's output price;

  P_I = an index of input prices (assuming fixed input proportions); and

  ATC = total costs as a percentage of sales revenue.

The authors claim that k will decrease with (a) an increase in efficiency, and (b) an increase in monopoly power. *Id.* at 60. Therefore, if a horizontal merger produced a very small decrease in k, they would interpret the result as evidence that the merger produced minimal efficiency gains. *Id.* at 67. Unfortunately, the k measure is very hard to interpret. Since a merger that increased monopoly power would allow the new firm to increase the price of its output and decrease its total costs as a percentage of sales revenue, it is unclear how changes in monopoly power would affect k. Moreover, a change in the quality of output or in product mix over time would affect k since those changes would alter the price of the output and the level of costs. Over time, relative input prices change, and the authors' assumption of fixed input proportions therefore adds unknown biases. For example, during an inflationary period, inventory appreciation would increase accounting profits and lead to a decrease in k without any change in real efficiencies. While the methodology is innovative, the underlying assumptions are so heroic that this study does not provide reliable information on the extent of efficiencies from mergers.

Another recent study based on British accounting data is G. MEEKS, DISAPPOINTING MARRIAGE: A STUDY OF THE GAINS FROM MERGER (1977). It has problems similar to those discussed

Although this study shows enormous insight, its ability to convey an accurate description of the efficiency potential of mergers suffers from three methodological flaws, which we shall discuss in detail. First, the underlying data are too aggregated to show most reasonably likely efficiency effects. Second, the authors' matching technique introduces errors into the data. Finally, accounting conventions give a downward bias to the calculations of postmerger profitability, thereby inherently biasing the study against showing efficiencies from mergers.

In Mueller's study, the acquiring firms on average were ten times as large as the acquired firms.[125] With such a large difference in size— especially in conglomerate acquisitions, where the efficiency effects may extend only to a relatively small part of the merged firm—publicly available data based on results for the combined firm seem to be too aggregated to show efficiency effects, given the large percentage of the firm probably not affected by the merger.[126]

Inherent problems with the matching technique the authors used to obtain their control group of nonmerging firms magnify the aggregation problems. Because there rarely would be nonmerging firms of similar size in the same four-digit industry to compare to merging firms, the authors chose their controls from the same two-digit industry group.[127] Since profits in various four-digit industries in the same two-digit industry group may be imperfectly correlated, the impossibility of making a close match may introduce spurious influences into the data larger than the small efficiency effects one would expect to appear in aggregated performance ratios.[128] The increased "noise" from error in

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in this section. (We find the British custom of referring to target companies as "victims" an amusing convention.)

125. Letter from Dennis Mueller to Alan A. Fisher and Robert H. Lande at 4 (Nov. 23, 1981) (on file with the *California Law Review*) [hereinafter cited as Mueller letter].

126. To see this point, assume a conglomerate merger in which the acquired firm was 10% of the total of the conglomerate after the merger. Suppose also that the acquired portion plus another 10% of the firm had a two percent decrease in costs as a result of efficiencies and that the merger did not affect the remainder of the firm. The total effect on the firm would be to lower costs by approximately 0.4%. It would be extraordinarily difficult to detect such a small change in the numbers from the aggregated data publicly available.

127. THE DETERMINANTS, *supra* note 107, at 277.

128. The FTC Line of Business data demonstrate that this problem can be very serious. *See* BUREAU OF ECONOMICS, U.S. FEDERAL TRADE COMMISSION, STATISTICAL REPORT: ANNUAL LINE OF BUSINESS REPORT 1974 (1981) [hereinafter cited as LINE OF BUSINESS REPORT 1974]; BUREAU OF ECONOMICS, U.S. FEDERAL TRADE COMMISSION, STATISTICAL REPORT: ANNUAL LINE OF BUSINESS REPORT 1975 (1981). To check the extent of the problem, we calculated the year-to-year changes (from 1974 to 1975) in the ratios of operating income to assets, and in the ratios of operating income to sales, for the various four-digit industries in Census Industry Groups 20 (Food and Kindred Products) and 35 (Machinery, Except Electrical). (All figures are in percentages.) Among 26 industries in Industry Group 20, the change in the ratio of operating income to assets ranged from a minimum of −41.1 to a maximum of +16.0, with a mean of −4.1 and a standard deviation of 9.6. The change in the ratio of operating income to sales ranged from −11.9

selecting the correct control group increases the inherent difficulty of determining any true relationship in the data.[129]

Accounting conventions compound these problems: to the extent that the acquisition price exceeded book value, an accountant would report a decrease in profitability.[130] Moreover, an acquisition probably would increase a firm's interest costs.[131] For a firm using normal accounting conventions and borrowing funds to finance a merger, accounting studies such as Mueller's would tend to report decreased profitability for a merger that had no effect on efficiency or profits in

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to +6.7, with a mean of −1.6 and a standard deviation of 3.5. Among the 36 industries in Industry Group 35, the ratio of operating income to assets ranged from a minimum of −15.0 to a maximum of +13.5, with a mean of −0.8 and a standard deviation of 4.2. (In performing the calculations for Industry Group 20, we omitted industries 2024 and 2051, because disclosure problems made the data for these two years noncomparable.)

These figures demonstrate that economists who incorrectly select a four-digit industry can end up with a control group from industries that have very different trends or cycles from those in the merging firms' industries. Line of business data currently permit examination only of data for 2 years. (IRS data are available for more years, but the data have major problems, *see* LINE OF BUSINESS REPORT 1974, *supra*, at 11-14.) If factors other than firm size and merger experience affect various industries in a two-digit industry group differently over time, these year-to-year changes may compound over time. With enough years of Line of Business data, one could perform a Mueller-type study using optimal data, thereby avoiding most of the problems identified in this section.

129. This point is equivalent analytically to the econometric effects from random error in a dependent variable, which increases standard errors and compounds the difficulty in detecting whether any true relationships exist in the data. *See* J. KMENTA, ELEMENTS OF ECONOMETRICS 304-22 (1971).

130. A simple example illustrates this bias. Assume two firms, A and B. Firm A's assets consist of $100 in cash and $100 in plant and equipment; B's assets consist of $50 in plant and equipment. Assume that all assets earn 10% a year—i.e., A earns $10 a year in interest and $10 in profits on operations; B earns $5 a year on operations. Now, let firm A acquire B for $100 in cash, i.e., overpaying by $50. Assume that these assets continue to earn the same return as before—i.e., that the merger generates no efficiencies or diseconomies. Firm A's assets now earn $15 a year on the plant and equipment; B's former stockholders now earn the $10 a year return from the cash. Earnings remain the same $25 in the aggregate. An accountant, however, would find $25 earnings for $250 combined assets for A and B prior to the merger and $15 earnings for $200 in assets after the merger—a decrease in the ratio of profits to assets from 10% to 7.5%—because $10 in earnings left the system and the accountants therefore measure the total amount of assets differently before and after. This merger in effect led to a wealth transfer from A's stockholders to B's stockholders (because of the overpayment); however, there was no inefficiency, despite the decrease in the reported ratio of profits to assets. The firm would also increase its depreciation expense because of the write-up of the assets formerly belonging to B. This accounting change would reduce reported profits even further. *See also* Meeks & Meeks, *Profitability Measures as Indicators of PostMerger Efficiency*, 29 J. IND. ECON. 335 (1981). Meeks and Meeks discuss this bias and others in accounting data, most of which operate in the opposite direction. For U.S. data, however, the main bias appears to be the one from treatment of assets. For additional discussion on problems with accounting data, see F. SCHERER, *supra* note 84, at 272-74.

131. If a firm financed a merger through borrowings, its debt would increase, and therefore its interest cost would increase. If it acquired the company by paying cash, its ratio of current assets to current liabilities (a main determinant of credit worthiness) would decrease, and therefore interest costs would increase. If, however, it financed the merger by issuing new stock, its credit rating might improve because the firm's ratio of debt to equity would decrease.

the sense of resulting in unchanged real flows of (noninterest) costs or profits.[132]

In short, we can learn little from accounting studies. Some authors have interpreted studies based on accounting data as empirical demonstrations that mergers on average have not yielded any efficiencies for the firms involved.[133] Data and methodology limitations, however, probably prevent these studies from measuring any but the most dramatic efficiency effects that might have occurred.[134]

b. Stock Market Studies

The second type of study directly testing efficiency effects of merg-

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132. Even beyond the problems of small expected influences on aggregated measures, uncertain effects from imperfect control firms, and a downward bias from accounting conventions, additional interpretative problems remain. Taking profitability measures as one example, if a horizontal merger increased market power for a dominant firm, an umbrella effect might raise profits more for competitors than for the merging firms. *See* B. Eckbo, Horizontal Mergers, Collusion, and Stockholder Wealth (Feb. 1982) (unpublished manuscript on file with the *California Law Review*). (This phenomenon has particular relevance for studies based on data from Europe, where horizontal mergers are common.) Therefore, a horizontal merger with better profit results for the control firms than for the merging firms is ambiguous—it might indicate an umbrella effect or it might indicate an unsuccessful merger. Alternatively, after a merger, the expanded firm might consolidate assets or reduce duplication of tasks and so reduce its growth rate during the adjustment period. It is therefore hard to place any efficiency interpretation on either a faster or slower growth rate for merging firms compared to control firms.

Another reason why studies that use a Mueller-type methodology generally fail to find any efficiency effects is that Mueller's profit comparisons do not consider the substantial gains to stockholders of the acquired firm. Given competition among potential acquiring firms, nearly all the efficiency gains from a merger would accrue to the stockholders of the acquired firm, with the residual too small to measure by looking only at data for the acquiring firm. In private correspondence with the authors, Mueller noted that payments to stockholders should come out of cash, borrowing, or new equity and should not affect his measures (the flow of profits divided by either sales or some measure of assets). Moreover, he warns that a two percent decrease in profits for the combined firm would offset a 20% gain to stockholders of the acquired firm, given the difference in relative sizes of the two categories of firms in his sample. Mueller letter, *supra* note 125. As we discussed above, *see supra* notes 130-31, the financing of an acquisition may affect measures of profitability, especially profit-to-asset ratios. Omitting gains to stockholders of acquired firms may create less serious problems, however, than those resulting from inexact matching of control firms and the inherent difficulty of finding relatively isolated efficiency effects in aggregated performance data. *See supra* text accompanying notes 127-29.

133. *See, e.g.*, F. SCHERER, *supra* note 84, at 138; Mueller, *supra* note 120, at 344.

134. In a recent paper, Mueller compared changes in market shares at the five-digit level for a subgroup of merging and nonmerging firms taken from the 1000 largest U.S. manufacturing firms in 1950 and 1972. D. Mueller, Mergers and Market Share (Federal Trade Commission Working Paper No. 92, June 1983) (unpublished manuscript on file with the *California Law Review*). Mueller's results, however, are hard to interpret. First, his theoretical model, based on Cournot assumptions, implies that firms would never want to merge whenever there were three or more firms in the industry, since a merger under those conditions would reduce overall profits. *See* Salant, Switzer & Reynolds, *Losses from Horizontal Merger: The Effects of an Exogenous Change in Industry Structure on Cournot-Nash Equilibrium*, 98 Q.J. ECON. 185 (1983). Second, Mueller's empirical work is not closely related to his theoretical model. Third, Mueller attributes any difference in market-share trends between merging and nonmerging groups to the presence or absence of large mergers, without testing any alternative hypotheses.

ers has evolved from developments in modern financial theory. Since 1974, a library of studies has grown from the Capital Asset Pricing Model (CAPM), which predicts a stock's price on the basis of cash dividends paid and the relative riskiness of the stock in the overall market. The residuals (unexplained variations in return to holding the stock) theoretically have an expected value of zero in the absence of some unusual event, such as a merger. The researchers trace the effects of a merger by looking at the behavior of residuals before and after the merger. The methodology attributes significant systematic jumps in the residuals (called "abnormal gains") to the merger.[135]

These studies on the whole are relatively consistent with each other. Stockholders of acquired firms always show large abnormal gains as a result of merger. The unsettled issue is what happens to stockholders of acquiring firms. Some studies find that acquiring stockholders make relatively small gains, some find relatively small losses, and others find essentially no net effect.[136]

To the extent that the empirical studies are reliable, the consensus is that acquiring firms can expect at best a normal rate of return.[137]

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135.   For a fine presentation of the theory, see Monroe, *supra* note 100, at 116-17. G. BEN-STON, *supra* note 107, at 38-39 also presents a good intuitive explanation of the methodology. For the formal model, see Jensen, *Capital Markets: Theory and Evidence*, 3 BELL J. ECON. MGMT. SCI. 357 (1972).

136.   For a detailed discussion of more than a dozen studies, see G. BENSTON, *supra* note 107, at 37-45; Mueller, *supra* note 120, at 323-33; *see generally* R. Posner, *supra* note 120. For a more recent survey, see Halpern, *Corporate Acquisitions: A Theory of Special Cases? A Review of Event Studies Applied to Acquisitions*, 38 J. FIN. 297 (1983).

The studies these authors consider generally the most reliable are Bradley, *Interfirm Tender Offers and the Market for Corporate Control*, 53 J. BUS. 345 (1980); Dodd & Ruback, *Tender Offers and Stockholder Returns: An Empirical Analysis*, 5 J. FIN. ECON. 351 (1977); Halpern, *Empirical Estimates of the Amount and Distribution of Gains to Companies in Mergers*, 46 J. BUS. 554 (1973); Kummer & Hoffmeister, *Valuation Consequences of Cash Tender Offers*, 33 J. FIN. 505 (1978); Langetieg, *An Application of a Three-Factor Performance Index to Measure Stockholder Gains from Mergers*, 6 J. FIN. ECON. 365 (1978); Lorie & Halpern, *Conglomerates: The Rhetoric and the Evidence*, 13 J.L. & ECON. 149 (1970); Mandelker, *Risk and Return: The Case of Merging Firms*, 1 J. FIN. ECON. 303 (1974); Melicher & Rush, *Evidence on the Acquisition-Related Performance of Conglomerate Firms*, 29 J. FIN. 141 (1974); Melicher & Rush, *The Performance of Conglomerate Firms: Recent Risk and Return Experience*, 28 J. FIN. 381 (1973); Weston, Smith & Shrieves, *Conglomerate Performance Using the Capital Asset Pricing Model*, 54 REV. ECON. STATISTICS 357 (1972); P. Asquith, Merger Bids, Uncertainty, and Stockholder Returns (forthcoming in the *Journal of Financial Economics*).

Two more recent studies (with methodologies similar to those employed in the more reliable articles that Mueller, Posner, Benston, and/or Halpern discuss) are Ellert, *Mergers, Antitrust Law Enforcement and Stockholder Returns*, 31 J. FIN. 715 (1976), and B. Eckbo, *supra* note 132. A recent study based on British data reaches very similar conclusions. Firth, *The Profitability of Takeovers and Mergers*, 89 ECON. J. 316 (1979).

137.   Our interpretation of the stock market literature is that it conforms to the theoretical expectation that the stock market behaves competitively. Since these studies focus on conglomerate acquisitions, there would not be any market-power effects and efficiency effects would result largely from management or other synergies that any of a large number of potential acquiring firms should be able to provide. If the empirical studies found that acquiring firms made above-

Why then are acquisitions so popular? One hypothesis is that acquiring firms in conglomerate mergers tend to have relatively high price/earnings ratios in mature, low-risk, slow-growth industries, with unfavorable sales and earnings prospects. Because of the unfavorable longrun prospects, reinvestment of profits in these firms' traditional lines of business would yield marginal returns far below average returns. Moreover, the alternative of remitting the profits as dividends would result in double taxation for stockholders. Under these conditions, the firms seek higher risk acquisition targets in industries with favorable growth and stability prospects, thereby attempting to convert profits into capital gains to obtain tax advantages.[138] Differential tax treatment alone, however, is not an incentive for conglomerate merger if the acquiring firm can reinvest internally at a competitive rate of return. A firm tries to reinvest in whatever sector offers it the highest marginal returns after taxes. Such investment could involve either merger or internal expansion.[139]

That stockholders of acquired firms make significant gains and stockholders of acquiring firms receive normal returns is also consistent with the hypothesis of a competitive stock market.[140] Several economists have concluded that the net gains to stockholders indicate net

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normal returns from their conglomerate acquisitions, one would have to ask what market failure kept the stock market from working competitively. Competition among potential acquiring firms should bid up the acquisition price until target firms capture virtually all the gains from conglomerate acquisitions, leaving essentially normal returns as the expected result for an acquiring firm. For a further discussion, see *infra* note 140. It would be inconsistent with the Capital Asset Pricing Model (CAPM) if the studies showed that acquiring firms obtained abnormal gains from conglomerate acquisitions.

138. *See* F. SCHERER, *supra* note 84, at 132; 1 OFFICE OF THE ASSISTANT SECRETARY FOR POLICY, U.S. DEP'T OF COMMERCE, MERGERS AND ECONOMIC EFFICIENCY 26 (1980) (statement of J. Fred Weston) [hereinafter cited as MERGERS AND ECONOMIC EFFICIENCY]. The paradigm of this model is the cigarette industry, in which firms are becoming essentially marketing conglomerates. Conglomerate acquisitions, of course, can raise stock values for purely financial reasons. For a discussion, see *supra* text accompanying notes 100-03.

139. *See* Monroe, *supra* note 100, at 115.

140. Consider conglomerate acquisitions of the sort included in studies of United States mergers in recent decades. Suppose that purchase of company A appeared attractive because the company appeared poorly managed, it had tax losses that an acquiring firm could use to shelter profits in its other subsidiaries, or the stock market appeared to be undervaluing it. (Any of these reasons would make an acquisition appear attractive, yet only improved management would constitute an efficiency gain.) Even if we ruled out potentially anticompetitive acquisitions because of the antitrust laws, most target firms offering such gains as these would be attractive to numerous potential acquirers. To that extent, we would expect several firms to consider or make offers to acquire firm A. Since firm A's managers and stockholders would know that several potential acquiring firms could benefit from acquiring it, they would require an acquisition premium before they would accept an offer. In theory, A could receive as much as its value to the second most optimistic potential acquiring firm, as long as the stock market was competitive—i.e., as long as acquiring firms competed for targets. Competition among potential acquiring firms therefore would insure that most gains went to the target firms; managers would insist on higher offers if

efficiencies from the mergers.[141] Since the data bases in these studies are mergers permitted by antitrust authorities (primarily conglomerate mergers), this interpretation is far more plausible than an alternative hypothesis that the gains largely represent monopoly-power effects.[142]

Unfortunately, even the stock market studies do not provide clear evidence of the extent of efficiencies from mergers. Some of the problems with these studies mirror the problems (discussed earlier) with the analyses based on accounting data. The basic problem is that gains to stockholders do not necessarily imply efficiency gains. For example, decreased variability in earnings can increase the stock value of a firm independent of any effect on expected (average) earnings.[143]

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they believed that they could obtain more attractive bids. With such competition, we would expect acquiring firms to earn essentially normal returns from conglomerate acquisitions.

A bidding war for tender offers illustrates this point: with only two or three bidders, the acquisition premium jumps quickly, as the recent experiences with Conoco, Marathon Oil, and Bendix/Martin Marietta made so clear. However, because of the typical disparity in size of the two categories of firms, a relatively small loss to stockholders of an acquiring firm can offset a much larger gain to stockholders of an acquired firm. *See supra* note 132.

141. For example, Posner, *Senate Hearings, supra* note 96, pt. 2, at 15, and Benston, G. BEN-STON, *supra* note 107, both interpret the empirical results as evidence that mergers are a method by which the market transfers assets from poorly managed companies to those with superior management. They interpret the improved profitability of better managed assets after the acquisition as evidence that a merger improved efficiency.

142. Reynolds believes that these studies even understate the gains from mergers. *See* 1 MERGERS AND ECONOMIC EFFICIENCY, *supra* note 138, at 26. Reynolds argues that if the stock market is efficient, it discounts the probability that a firm will be acquired and raises the stock price of likely acquisition candidates. Since stock market studies do not adjust for this effect, they underestimate the improvement in stock prices due to merger. Scherer, however, argues that the stock market need not always be in equilibrium, and that the premiums may reflect this disequilibrium (undervalue). *See id.* at 18 (statement by W. Comanor) (citing Scherer). If it is true that the stock market undervalues some firms, the assumptions underlying the CAPM are violated, and the results of empirical studies may be unreliable. Asquith disagrees with Scherer, on the basis of his research finding that eventually unacquired target firms lose the initial increase in stock price from the takeover bid. P. Asquith, *supra* note 136. If the bidding firms identified an undervalued stock, once they released this information to the market, the targeted firm would keep its increased value. If, however, an entrenched management could set up roadblocks to a takeover, then after the failure of a takeover bid its stock price might stay low relative to its value under better management. This scenario would result in the pattern that Asquith found. The best interpretation, however, probably is that the market did not undervalue the stock, because it might be extremely difficult to replace the existing management. The phenomenon that Scherer cited might also reflect a premium necessary to acquire control. *See infra* text accompanying notes 146-48. Also, to the extent that any net gains resulted from exploitation of tax advantages, shareholder gains might exceed social gains (i.e., some "efficiencies" really might be wealth transfers).

143. This result will occur as long as there are both a corporate profits tax and a positive cost of bankruptcy. Monroe, *supra* note 100, at 119-21, presents the financial theory. The steps to this analysis are as follows. Returns to stockholders include the combined effects of two forces. A decrease in earnings variability with no earnings synergy leads to an increase in the value of debt (bonds) and a decrease in the value of stockholdings. This effect alone leads to a transfer of wealth from stockholders to bondholders. *See* Higgins & Schall, *Corporate Bankruptcy and the Conglomerate Merger*, 30 J. FIN. 93 (1975). When the market imperfections attributable to taxes and bankruptcy costs are present, the value of the firm may increase from a pure diversification merger with no earnings synergy. These gains accrue to stockholders. *See* Lewellen, *supra* note

Measured gains to stockholders may also reflect, in part, other wealth transfers (such as tax savings with no social benefit or gains from acquiring undervalued assets at a relatively low price). Finally, any acquisition of a controlling interest in a company requires paying a higher price than does purchase of a negligible share of a company (what the stock price shows at any given time).[144] Integration of operations after a complex merger may also take years, and investigation of stock returns for a relatively brief period after a merger shows at best the market's unbiased prediction of the effects of a merger, not the actual effects. Since the gains to stockholders may reflect a premium for purchase of a controlling interest, the asymmetric effects of corporate income taxes and bankruptcy costs in reducing earnings variability, and/or incorrect (but unbiased) predictions of the market—as well as efficiency effects—stock market studies cannot identify the source of the market revaluation. Although some of the measured gains may reflect increased efficiencies, the stock market evidence also is consistent with a hypothesis that mergers on average led to higher costs, with the diseconomies outweighed by the other factors discussed above.[145]

Inherent methodological and econometric problems compound the difficulty of isolating efficiency from other effects that stock market data summarize. For example, minor differences in experimental design, definition of data, and selection of sample firms all appear to have a major impact on the results.[146] Moreover, we would expect any effi-

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100, at 533. The net effect of a pure diversification merger (with no earnings synergy) is a combination of these two effects. Even without any efficiency gain (change in expected or average earnings), an increase or a decrease in stock value may result merely from a decrease in the variability of earnings combined with the factors that Lewellen mentions.

144. According to the CAPM, at equilibrium, all assets with the same level of systematic risk are perfect substitutes. Therefore, there is no need to charge a premium for acquisition of corporate control. *See* Scholes, *The Market for Securities: Substitution Versus Price Pressure and the Effects of Information on Share Prices*, 45 J. Bus. 179 (1972). For a textual treatment, see E. FAMA, FOUNDATIONS OF FINANCE (1976). Some authors argue, however, that capital markets are not always in equilibrium and that the premium for acquisition of corporate control largely reflects a market adjustment for this disequilibrium. For a cogent discussion, see F. SCHERER, *supra* note 84, at 131-32. All empirical studies show that corporations must pay a premium for acquiring control of another firm, however, regardless of the reasons they offer for the existence of such premiums. For example, Posner reviews nine studies covering parts or all of the period from 1962 to 1979. All found acquisition premiums between 14 and 20%. *See Senate Hearings, supra* note 96, pt. 2, at 15-16. Recent acquisition premiums have been even higher. *See* Meyerson, *Merger Mania and the High Takeover Premiums*, Wall St. J., July 20, 1981, at 14, col. 3. Meyerson cites a study by Professor Salter of the Harvard Business School and Wolf Weinhold, a management consultant, that concluded that by the late 1970's premiums of 100% were "not uncommon" and successful offers averaged about 50%.

145. We assume away any market-power effects for what primarily are conglomerate mergers.

146. *See* Brenner & Downes, *A Critical Evaluation of the Measurement of Conglomerate Performance Using the Capital Asset Pricing Model*, 61 REV. ECON. STATISTICS 292 (1979). To select one example among many inconsistencies in empirical results across studies, Dodd and Ruback note that Ellert and Mandelker differ on whether acquiring firms earn significant positive returns

ciency gains to have small effects on acquiring firms on average, given that acquiring firms tend to be much larger than acquired firms and that efficiency effects generally would not extend to all operations of the merging firms.[147] Both methodological problems and difficulties in isolating efficiency effects counsel extreme caution in interpreting the results of these studies.

c. Case Studies

As we have seen, econometric studies neither prove nor disprove that mergers yield efficiencies on average. Moreover, because of data limitations, conclusive econometric proof may not even be possible. Our analysis, however, does not imply that mergers rarely yield efficiencies; indeed, if antitrust authorities were to permit more mergers with a larger probability of resulting in efficiencies, and if we had better data, we might be able to find clearer evidence of efficiencies. For these reasons, we turn to case studies in the hope of obtaining some defensible generalizations through inductive reasoning. Although generalizations from examples lack randomness, large-sample properties, and uniformity of analysis across observations, well-informed observers frequently have studied and evaluated individual mergers. One can find many such studies in the trade and general business press.

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in the several months before the effective date of a merger. Smiley, in related research, finds results that contradict those of both Mandelker and Ellert on whether target firms earn significant negative returns prior to a tender offer. *See* Dodd & Ruback, *supra* note 136.

When Brenner and Downes corrected for econometric errors, the results changed substantially and significantly. First, the CAPM requires that the sample include only firms whose true systematic risk has remained stable during the period studied. Because many acquiring firms become heavily leveraged (i.e., borrow heavily) during periods of acquisition, and because risk depends heavily on the ratio of debt to equity, in most studies, several firms violate this assumption. When Brenner and Downes replicated an earlier study but omitted firms whose systematic risk had changed over the period of the study, the estimated coefficients decreased and differences among firms moved toward zero. Second, some of the CAPM studies that Brenner and Downes criticized included dividends in their data and others excluded dividends. In the study Brenner and Downes replicated, this difference led to a bias systematically overestimating the rate of return for one group of firms in the sample. Further, there have been six different empirical measures of stock performance in the literature, and some of them are inappropriate for the study of conglomerate performance. *See* Brenner & Downes, *supra*, at 295-96; *see also* Brenner, *The Sensitivity of the Efficient Market Hypothesis to Alternative Specifications of the Market Model*, 34 J. FIN. 915 (1979) (CAPM studies are very sensitive to the specific form of the underlying model); Brown & Warner, *Measuring Security Price Performance*, 8 J. FIN. ECON. 205 (1980) (If the date of the abnormal event is uncertain, as, for example, if there are rumors of a takeover prior to the announcement of the merger, or if a tender offer's ultimate success is uncertain over a period of time, chance alone could generate cumulative abnormal residual patterns as large as those that the CAPM studies typically find.).

147. *See supra* text accompanying note 125. The estimated effects posited by the stock market studies frequently seem to be larger than one would think plausible. *Cf.* Joskow, *Comments on Peltzman*, 24 J.L. & ECON. 449, 452 (1981) (Joskow comes to the same conclusion in a different context). *See also supra* note 126.

In general, observers agree that there is a large variation in success rates among mergers, with many disappointments. One merger consultant estimates that "as many as seven out of ten acquisitions don't meet the expectations of the acquiring parties," although the incidence of outright failures probably is closer to one-third.[148] The stock market even endorses the evaluation that many acquisitions are unwise: many firms have seen their stock prices drop substantially the day that they announced a proposal to make a major acquisition.[149]

The overall evaluations by the stock market and by journalists and stock market analysts suffer the same problem as do the econometric studies: without further analysis, one cannot distinguish a merger leading to inefficiencies from, for example, a merger leading to efficiencies but with such a high acquisition premium that the acquiring firm ended up with a less than normal rate of return on the investment.[150] Despite the inherent problems of lack of randomness and small sample size, detailed case studies may help to supply information that studies based on either accounting or stock market data inadequately address. Individual mergers vary greatly in their achievement of efficiencies: many cases show very significant elimination of duplication, improvement of management, provision of improved product quality, and overall reduction in costs; however, cases of bad planning, mismanaged consolidation, mass exit of skilled managers, and ballooning of costs also are very common. Both results come from horizontal as well as from conglomerate mergers.[151] Perhaps the most striking finding of this case study analysis is that the predictability of where efficiencies would arise has been extremely poor. Some of the classic merger fiascos have been those in which the *ex ante* cases for efficiencies seemed strongest, while

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148. Petzinger, *Troubled Couplings: To Win a Bidding War Doesn't Ensure Success of Merged Companies*, Wall St. J., Sept. 1, 1981, at 1, col. 6 (quoting merger consultant John Arnold). The ultimate failure of a third of all acquisitions is, according to "experts," due to "poor planning, high [acquisition] prices, mismanaged consolidation, or bad luck." *Id.* Note that "high [acquisition] prices" do not necessarily imply that the mergers led to inefficiencies.

149. Meyerson, *Shareholders Often Say No to Takeovers*, Wall St. J., Nov. 16, 1981, at 26, col. 3. Examples of acquiring companies whose stock dropped in price on the first day of trading after a merger announcement include: −$4.85 for Du Pont (Conoco), −$3 for Standard Oil of Ohio (Kennecott), and −$4.50 for Fluor (St. Joe's Minerals). A stock market decrease is an indication that the market considers the acquisition price too high; it does not necessarily imply a prediction that the merger would lead to inefficiencies.

150. Similarly, one could not distinguish a merger leading to efficiencies from one that is successful financially because of tax savings or a low purchase price. To make this further distinction would require more detailed investigation of the merger in question.

151. Vertical mergers seem not to be very common. They typically represent fewer than 10% of all mergers. However, close analysis reveals that statisticians have failed to classify many mergers with vertical aspects as vertical, and have erroneously classified as vertical some mergers that in fact did not have significant vertical overlaps. For a thorough discussion and empirical evidence of the problems with data on vertical mergers, see A. Fisher & R. Sciacca, *supra* note 93, § V.

the great successes of some mergers in achieving important efficiencies came as complete surprises.[152]

Horizontal mergers provide many examples supporting these propositions. Because Clayton Act enforcement has been particularly strict with respect to horizontal acquisitions, many of these examples are from regulated sectors, especially transportation. In railroads, a declining industry with high fixed costs and tremendous competition from alternative transportation modes, researchers offer persuasive evidence of economies and quality improvements easily available from horizontal and vertical mergers.[153] Yet such improvements certainly did not result from the formation of Penn Central.[154] Similarly, in the airline industry, Delta seems to have integrated Northeast very successfully, kept most of Northeast's previous routes, and earned comfortable profits.[155] The merger of North Central Airlines and Southern Airways to form Republic led to superior product quality from efficiencies.[156] However, Pan Am's hopes that National's domestic routes would feed passengers into its international routes have not materialized; by all accounts, that merger has been a disaster.[157] Turning to the nonregulated sector, Heileman has acquired and integrated many small local brewers very successfully, and analysts consider Philip Morris' acquisition of Miller Brewing Company the classic success story in the marketing literature. However, Heublein's acquisition of Hamm's has been very unsuccessful, and the parade of attempts to acquire Pabst has devastated that company.[158]

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152. One of the most notable successes in recent history was a merger in which the winning takeover bid was approximately $1.5 billion higher than the next highest bid. Getschow & Thurow, *Working Marriage: Shell-Belridge Merger Thrives on Technology, Avoids Most Pitfalls*, Wall St. J., Nov. 5, 1981, at 1, col. 6. Shell's estimate of its ability to improve Belridge's productivity was far greater than any other firm's, judging by the fact that its bid was $1.5 billion higher than the next highest offer. Even Shell vastly underestimated how much its technology could increase Belridge's oil output. *See infra* notes 161-62.

Anyone able to create a system to improve the advance predictability of merger efficiencies substantially could become enormously wealthy. Peter Drucker has made a beginning. *See* Drucker, *The Five Rules of Successful Acquisition*, Wall St. J., Oct. 15, 1981, at 28, col. 3. Following Drucker's rules might increase the probability of success, but would not necessarily improve the advance predictablity of the success of a particular merger.

153. *See generally* Harris & Winston, *Potential Benefits of Rail Mergers: An Econometric Analysis of Network Effects on Service Quality*, 65 REV. ECON. STATISTICS 32 (1983); R. Gallamore, Railroad Mergers: Costs, Competition, and the Future Organization of the American Railroad Industry (1969) (unpublished Ph.D. dissertation on file with the *California Law Review*).

154. J. ARGENTI, CORPORATE COLLAPSE: THE CAUSES AND SYMPTOMS 99-120 (1976).

155. We thank Theodore E. Keeler of the University of California and the Brookings Institution for this evaluation of Delta-Northeast. *See also Delta: The World's Most Profitable Airline*, BUS. WK., Aug. 31, 1981, at 68. Delta, however, has had problems dealing with the new deregulated environment. *See, e.g., Airline Woes Catch Up with Delta*, BUS. WK., Nov. 8, 1982, at 131.

156. *See generally* Carlton, Landes & Posner, *supra* note 90.

157. *See generally What the National Merger Did to Pan Am*, BUS. WK., June 22, 1981, at 86.

158. *See* Hall, *A Tale of Two Acquisitions*, U. MICH. BUS. REV., May 1977, at 1; Kinkead,

One of the most surprising successes resulted from LTV-owned Jones and Laughlin's 1978 acquisition of Lykes Corporation's Youngstown Steel, which combined two infamous losers, both unprofitable and declining steelmakers. Analysts referred to the merger as a "suicide pact."[159] However, LTV was able to eliminate duplication, feed plants more conveniently and thereby reduce transportation costs substantially, and emerge profitable even during the first half of 1980, when most steel manufacturers had huge losses.[160]

Shell Oil Company's 1979 acquisition of Belridge provides a similar story. In discussion of the $3.65 billion acquisition price, the biggest surprise was that the next highest bid apparently was worth barely half as much.[161] In this case, everyone, including Shell executives, underestimated the extent to which Shell could use superior management and new, untried technology to raise productivity and thereby lower costs at the Belridge property.[162]

Heileman Toasts the Future with 34 Beers, FORTUNE, June 18, 1979, at 124; Metz, *After Takeover Truce, Pabst Battles to Regain Its Lost Market Shares*, Wall St. J., June 15, 1983, at 1, col. 6. Miller's growth has slowed recently, and its experience since 1981 has been only moderately successful. *See Anheuser-Busch The King of Beer Still Rules*, BUS. WK., July 12, 1982, at 50; *What Blew the Head Off Miller's Profits*, BUS. WK., Feb. 15, 1982, at 39.

159. The merger, by combining the seventh and eighth largest firms, created the third largest domestic steel company. *See* Bernstein, *Who Buys Corporate Losers*, FORTUNE, Jan. 26, 1981, at 60. *See also* Frazier, *Tough Turnaround: Rebuilding of LTV, Begun a Decade Ago, is Picking Up Steam*, Wall St. J., June 29, 1981, at 1, col. 6. One evaluation made at the time stated that the merger "signals further concentration in the troubled steel industry. It raises fears that the creation of a Peun Central of steel might be the result." *Justice Department Notes*, MERGERS & AC- QUISITIONS, Winter 1978, at 49.

160. *See* Bernstein, *supra* note 159; Frazier, *supra* note 159.

161. *See* Getschow & Thurow, *supra* note 152, at 1, col. 6 ("'I'm glad I didn't have John [Bookout's] job of explaining that to their shareholders,' George Keller, Chairman of Standard Oil Co. of California, told a gathering of New York securities analysts. 'The oil's there. The question is whether they could have gotten it for $1.5 billion less.' "). Texaco and Mobil made the next highest known bid, $1.8 billion, for the 65% they did not own already. Analysts valued that bid at approximately $2.15 billion for the total company, recognizing that a majority share carries a higher price per share than minority holdings. The $3.65 billion was the highest acquisition price for any merger prior to the 1981 Du Pont-Conoco merger.

162. *Id.* The acquisition price came to $5.50 per barrel, at least $1 per barrel less than the average domestic finding and development cost, based on known reserves and a conservative estimate of what Shell could recover. In fact, Shell has substantially exceeded its estimated recovery rate from these wells. The superior management has led to increased labor productivity from better (and more) capital equipment and from better incentives. Moreover, Shell management decreased the injury rate to one-sixth of the previous level. Shell even raises citrus fruit on the oil property.

One can speculate that the absence of a large duplicate staff at Belridge was one reason Shell was able to accomplish the merger successfully. Compare this record to the sorry record of Pan Am-National, where the company had to contend with overlapping union jurisdictions and resolved all wage differences by raising the lower rates to the higher levels. *See What the National Merger Did to Pan Am*, *supra* note 157, at 86. The problem of combining duplicate staffs is one reason why analysts were skeptical of the prospects for success of the recent Nabisco-Standard Brands merger. *See* Abrams, Birnbaum & Bronson, *Nabisco, Standard Brands May Find Merging*

Conglomerate acquisitions show the same record of notable and unpredictable successes and failures, even in almost parallel situations, such as consecutive acquisitions of the same corporate subsidiaries. For example, Colgate-Palmolive lost $50 million alone in 1979 from its Helena Rubinstein subsidiary (acquired in 1973) and spent years trying to sell it at a loss; Albi Enterprises purchased it in July 1980 and quickly earned solid profits. FMC Corporation purchased American Viscose Corporation (now Avtex Fibers) in 1963 and sold it to corporate officers in 1976 after losing $45 million in 1974-75. The new management is profitable.[163] RCA is gaining a reputation as a master at acquiring thriving companies, making them flounder, and then selling them to new companies, where they regain their vigor.[164] The major oil companies, in general, have earned a similar reputation from their diversification acquisitions.[165] One of the clearest expressions of management error in acquisitions is that a large percentage (such as more than half in 1976) of announced mergers involve sale of unprofitable or mismatched corporate subsidiaries.[166] Not all conglomerate acquisitions, however, are candidates for a "Misfortune 500." In the marketing literature, the outstanding example is the previously mentioned acquisition of Miller by Philip Morris, where the new management raised Miller from seventh largest to second largest in less than a decade, increasing its market share from four to nineteen percent.[167]

Managers a Difficult Task, Wall St. J., Apr. 24, 1981, at 35, col. 4. Drucker, *supra* note 152, at 28, col. 3, also mentions the problems of merging staff as crucial to the success or failure of a merger.

163. Bernstein, *supra* note 159, at 60.

164. Ehrbar, *Splitting Up RCA*, FORTUNE, Mar. 22, 1982, at 62.

165. Compare the experience in Shell-Belridge to Exxon-Reliance and Mobil-Marcor. *See* Getschow & Thurow, *supra* note 152, at 1, col. 6; Beman, *Exxon's $600-Million Mistake*, FORTUNE, Oct. 19, 1981, at 68 (referring to Exxon's acquisition of Reliance Electric Co. in 1979); Petzinger, *supra* note 148, at 1, col. 6 (discussing the huge and chronic losses of Marcor's Montgomery Ward subsidiary). *See also* Fuller, *Oil: Industry Hits Dry Holes in Attempts to Diversify*, L.A. Times, Oct. 9, 1983, § IV-1, col. 2. After an in-depth analysis, Fuller concludes that all of the eight largest United States oil companies have failed miserably in virtually every diversification effort they have made in the last five years. Several of the acquisitions that were failures with the oil companies became profitable very quickly after the oil companies divested them. We thank Nancy Griffin for this reference.

166. F. SCHERER, *supra* note 84, at 127 n.141. *See also A Corporate Sell-Off Spree*, NEWSWEEK, Mar. 29, 1982, at 62 (noting another acceleration in sell-off activity in 1981-82).

167. *Philip Morris: Turning 7UP into the Miller of Soft Drinks*, BUS. WK., Apr. 2, 1979, at 66.

In discussing the importance of mergers as a way to replace ineffective management, it is instructive to focus on the specific improvements the new management brings to its purchase. With Philip Morris, it was marketing and exploitation of economies of scale in production. *Id.* *See also* Hall, *supra* note 158, at 4-8. *But see* Guyon, *Philip Morris' Seven-Up Co. Slips, Beset by Price Wars and Trouble With Bottlers*, Wall St. J., Oct. 2, 1981, at 29, col. 4 (The same formula appears not to have worked for Philip Morris' more recent purchase of the Seven-Up Co.). United Technologies has exploited research and development synergies from products using related technologies and inside information about its subsidiaries to develop a highly efficient internal capital market. Ehrbar, *United Technologies' Master Plan*, FORTUNE, Sept. 22, 1980, at 96. White Consolidated has exploited scale economies and expertise in cost management to reduce costs in manufacturing. *White Consolidated's New Appliance Punch*, BUS. WK., May 7, 1979, at 94.

It always is dangerous to generalize from examples, especially with small samples and an inability to perform a *ceteris paribus* experiment. Moreover, almost none of these studies used rigorous academic research techniques, and not all may be completely reliable. Nevertheless, there appears to be substantial support for the inductive generalizations that many individual mergers create substantial efficiencies, that many others are notable failures, and that the record of prediction has been very poor in individual cases.[168] The record certainly is too poor to give us any confidence that we can predict the level of cost saving on a case-by-case basis sufficiently accurately to make this prediction a major basis of public policy.

IV

THE TRADEOFF BETWEEN EFFICIENCIES AND MARKET POWER*

A. Introduction

Our analysis so far demonstrates that the antitrust laws permit antitrust enforcers to balance efficiency and market-power effects. All recent proposals to modify merger enforcement have focused on *how* to incorporate expected efficiencies as a positive factor offsetting any possible market-power effects. As we have seen, however, antitrust enforcers and courts once considered potential efficiencies from mergers so undesirable that their expectation sometimes weighed against the legality of a merger.[169] The change in the prevailing view is due largely to a series of articles by Oliver Williamson.[170] Williamson used simple economic analysis to argue that under reasonable assumptions cost effi-

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Gannett has improved product quality and stressed cost efficiencies in expanding into new geographic and product markets. Louis, *Growth Gets Harder at Gannett*, FORTUNE, Apr. 20, 1981, at 118. Heileman has exploited scale efficiencies and marketing expertise in turning many small local brewers into one national beer manufacturer. Kinkead, *supra* note 158, at 124.

A certain strange instance of replacing ineffective management came about unexpectedly. Interstate Stores acquired Toys 'R' Us in 1966 from Charles P. Lazarus, the founder. Losses from Interstate's discount chains resulted in bankruptcy in May 1974. Lazarus was able to keep Toys 'R' Us separate from the remainder of Interstate; its profits paid off Interstate's creditors, and Lazarus became Chief Executive Officer when the firm reorganized around Toys 'R' Us as the surviving entity. The company remains solidly profitable. Sherman, *Where the Dollars 'R,'* FORTUNE, June 1, 1981, at 45; *Saving the Company that Acquired Him*, BUS. WK., Feb. 19, 1979, at 47. No one expected that what Interstate's stockholders obtained from their acquisition of Toys 'R' Us essentially was Lazarus' effective management.

168.   For an extreme example, see *supra* note 167 (discussing Interstate Stores' 1966 acquisition of Toys 'R' Us).

*   We thank our colleagues Frederick I. Johnson, Christopher C. Klein, Michael P. Lynch, John L. Peterman, and Walter Vandaele for many useful comments and suggestions on the material in this Part.

169.   *See* cases discussed *supra* text accompanying notes 54-60.

170.   Williamson developed his model in five separate articles; *see supra* note 10.

ciencies would usually be far greater than the social losses from increased market power. Although Williamson's model drew considerable comment, much of which challenged his quantitative results, the main effects of the dialogue have been to change the economic and legal consensus to regarding efficiencies resulting from merger as socially desirable, and to focus policy discussion on finding the best method for performing the tradeoff analysis to maximize the net benefits from mergers.

In the remainder of this Part, we explore the methodology of a theoretical balancing of efficiencies and market-power effects that decisionmakers could use either on a case-by-case basis or on average through an implicit approach in establishing merger guidelines. We first present Williamson's basic or (to use his terminology) "naive" model in Section B.[171] We then discuss, in Section C, some of the complications of and qualifications to Williamson's model, including incorporation of the wealth-transfer potential of mergers, adjustments for dynamic effects (e.g., changes in product quality, timing, and dispersion effects), and other measurement considerations that increase the difficulty of applying the tradeoff in particular cases. We conclude this Part by exploring at length the mechanics of incorporating wealth transfers into the Williamsonian tradeoff and demonstrate that any consideration for the congressional concern with redistribution greatly affects the results.

The complexities of a generalized Williamsonian tradeoff analysis affect the practice as well as the theory of antitrust enforcement. In moving from theory to practical implementation, the existing literature typically has ignored the transaction costs of merger enforcement. These costs must include the investigation, litigation, uncertainty, and other enforcement costs relating to the mergers in question. We discuss the implications of the tradeoff analysis, as generalized to account for these factors, in Part V.

Throughout this Part, the reader should remember that the ultimate policy question is how decisionmakers can best incorporate the implications of the generalized Williamsonian model into merger policy. As a result of the complexities of a generalized Williamsonian tradeoff, the ideal of a case-by-case balancing of efficiencies and market-power effects becomes too unmanageable to be of any practical value, despite its initial appeal as a theoretical paradigm.

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171. The term "naive model" is Williamson's characterization. *See supra* note 10. Actually, this presentation is only one of the ways that Williamson introduced his model, as a comparison of the articles will reveal. Although the model's basic point is simple, coherent presentation of the model's ramifications is very difficult, *see infra* note 175. The inconsistencies in the model's details, however, should not detract from the value of the general framework.

B. Williamson's "Naive" Model

Williamson's framework is the standard economic methodology of maximizing economic efficiency: the gains from a merger are decreases in resource costs; the losses are the standard deadweight loss of monopoly. Williamson's basic intuitive point is simple: the deadweight loss from decreased production arises from marginal output no longer sold; cost savings, however, extend to all products actually manufactured. Since output still produced typically far exceeds the amount reduced by increased monopoly power, relatively small increases in efficiency can—and usually will—dominate much larger increases in monopoly power, especially if initially the industry is essentially competitive and if demand for the product is relatively inelastic.[172]

Williamson began his naive model assuming an industry in competitive equilibrium, with market price equal to average cost for each firm. He then examined the consequences of two firms merging and simultaneously achieving both cost savings and increased market power.[173] The efficiencies would represent a gain to society, since on

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172. Welfare analysis of merger policy is subject to the usual "second-best" arguments. A merger policy that increases competition may enhance or reduce efficiency depending on market conditions. Economists attempting to determine the relevance of "second-best" outcomes in individual cases face a very difficult, time-consuming, and expensive process. Rarely do they have sufficient data to incorporate second-best factors into any particular antitrust analysis. *See* Schmalensee, *Antitrust and the New Industrial Economics*, AM. ECON. REV. PAPERS & PROC., May 1982, at 24, 26 (1982). To require antitrust policy to consider "second-best" arguments would be burdensome and unworkable. One must treat "second best" considerations as theoretical curiosities or abandon any hope of having a theoretical basis for antitrust policy. *See* R. BORK, *supra* note 38, at 113-14; F. SCHERER, *supra* note 84, at 28-29; Williamson, *The Welfare Tradeoffs*, *supra* note 10, at 23.

173. Throughout this Article, we assume a reasonable solution to the crucial issue of market definition. In many merger cases, the prosecution urges a narrow market definition that overstates potential monopoly power by giving the combining firms relatively high market shares. The defense invariably understates this potential by proposing a very broad market definition that dilutes the firms' shares. Courts then choose a market definition and treat everything designated within the market as homogeneous. They ignore as irrelevant everything not in the market.

In real-world markets, one rarely encounters situations such as courts model. A wide variety of firms create heterogeneous products of differing substitutability. Regardless of where a court draws the market boundaries, not every product included in the market is a perfect substitute, nor are excluded goods nonsubstitutable. Some items not included in the market may, to varying degrees, constrain the monopoly power of included firms, and therefore should be considered in any analysis of market power.

Ideally, one would solve these problems by defining markets in terms of elasticities of demand and supply. *See* Landes & Posner, *supra* note 123, at 939-52; Schmalensee, *Another Look at Market Power*, 95 HARV. L. REV. 1789 (1982) [hereinafter cited as Schmalensee, *Another Look*]. It is very difficult, however, to measure these elasticities for antitrust purposes; *see infra* notes 216-17 and accompanying text.

Courts have not dealt well with market definition, perhaps in large part because "[e]xcept for a casual flirtation with cross elasticities of demand and supply," economists have generally ignored the problem. Stigler, *The Economists and the Problem of Monopoly*, AM. ECON. REV. PAPERS & PROC., May 1982, at 1, 9 (1982). For some of the few attempts by economists to provide a

average, each unit of product required fewer resources to produce. However, if the new firm attempted to restrict output and raise prices, and if there were significant barriers to new competition, *ceteris paribus*, there would be a loss to society.[174]

Consider Diagram IV-1 below. The industry initially is at competitive price $P_1 = AC_1$ and output Q_1.[175] A merger of the sort suggested

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framework for market definition in antitrust, see Comanor, *Diagnosing Monopoly: Positive or Normative Economies: Comment*, Q. REV. ECON. BUS., Summer 1980, at 101; Fisher, *Diagnosing Monopoly: Reply*, Q. REV. ECON. BUS., Summer 1980, at 105; Fisher, *Diagnosing Monopoly*, Q. REV. ECON. BUS., Summer 1979, at 7, 12-17; Schmalensee, *On the Use of Economic Models in Antitrust: The ReaLemon Case*, 127 U. PA. L. REV. 994, 1010-16 (1979). For a cogent discussion of market definition from a law and economics perspective, see Harris & Jorde, *Market Definition in the Merger Guidelines: Implications for Antitrust Enforcement*, 71 CALIF. L. REV. 464 (1983); R. Harris & T. Jorde, Antitrust Market Definition: An Integrated Approach (forthcoming in volume 72 of the *California Law Review*).

For analysis of geographic markets, see Elzinga, *Defining Geographic Market Boundaries*, 26 ANTITRUST BULL. 739 (1981); Elzinga & Hogarty, *The Problem of Geographic Market Delineation in Antimerger Suits*, 18 ANTITRUST BULL. 45 (1973); Werden, *The Use and Misuse of Shipments Data in Defining Geographic Markets*, 26 ANTITRUST BULL. 719 (1981).

174. The Williamsonian welfare tradeoff presupposes a significant probability of both efficiency and market-power effects. For example, one should not oppose potentially anticompetitive mergers whenever the market would quickly erode any market-power effects through entry. *See, e.g.*, 1982 Merger Guidelines, *supra* note 18, § III(B), 47 Fed. Reg. at 28,498, 2 TRADE REG. REP. (CCH) ¶ 4503, at 6881-13. Some analysts go even further and argue that mergers should be presumptively legal unless entry barriers are substantial. *See* R. BORK, *supra* note 38, ch. 16. Even the legislators framing the earliest antitrust statute were aware of the significance of entry barriers. As Sen. Sherman noted, "[I]f other corporations can be formed on equal terms a monopoly is impossible." 21 CONG. REC. 2457 (1890).

The market frequently works more quickly than does federal antitrust enforcement. *See* R. Rogowsky, An Economic Analysis of Structural Relief in Section 7 Enforcement (1982) (unpublished Ph.D. dissertation on file with the *California Law Review*) (providing evidence of how slowly antitrust typically works in merger cases). For earlier evidence, see Elzinga, *The Antimerger Law: Pyrrhic Victories?*, 12 J.L. & ECON. 43 (1969). An important exception is a preliminary injunction. In most cases, a successful preliminary injunction will stop a merger from being consummated, and generally result in its abandonment. However, one of the primary purposes of antitrust enforcement is deterrence. *See, e.g.*, L. SULLIVAN, HANDBOOK OF THE LAW OF ANTITRUST § 70 (1977); Landes & Posner, *supra* note 123, at 953. For this reason, antitrust enforcers might want to prosecute some cases even when one could expect the market to solve any antitrust problems more quickly than antitrust enforcement could.

175. Williamson and nearly every author commenting on his methodology use this diagram. Unfortunately, it is hard to envision a situation that would yield such a diagram. For example, if an individual firm faced a downward-sloping demand curve such as D, it would choose an output where marginal revenue equaled marginal cost (here also equal to average cost). That output would be less than Q_1 and would involve a price in excess of P_1. It is hard enough to envision a situation where a single merger would transform an industry from essentially competitive to essentially monopolistic; it is even more difficult to summarize such a situation in a meaningful diagram.

An alternative assumption is that Diagram IV-1 refers to the entire industry—i.e., the merger permits cartelization of the industry—and that a particular merger resulting in efficiencies occurs within it. Under such an assumption, however, it becomes difficult to discover the effect on industry costs if (a) the merged firms produce only part of the total industry output and the efficiencies accrue only to those firms involved; and (b) other firms alter their outputs (and therefore costs) in response to a postmerger increase in market price. Furthermore, all firms might not face compa-

above would lower average cost from AC_1 to AC_2 and raise price to P_2. Output would fall to Q_2. Area C represents the welfare gain from the cost reduction, the resources saved in producing the new output level. The welfare loss from the higher price, area D, would be the loss of

Diagram IV-1
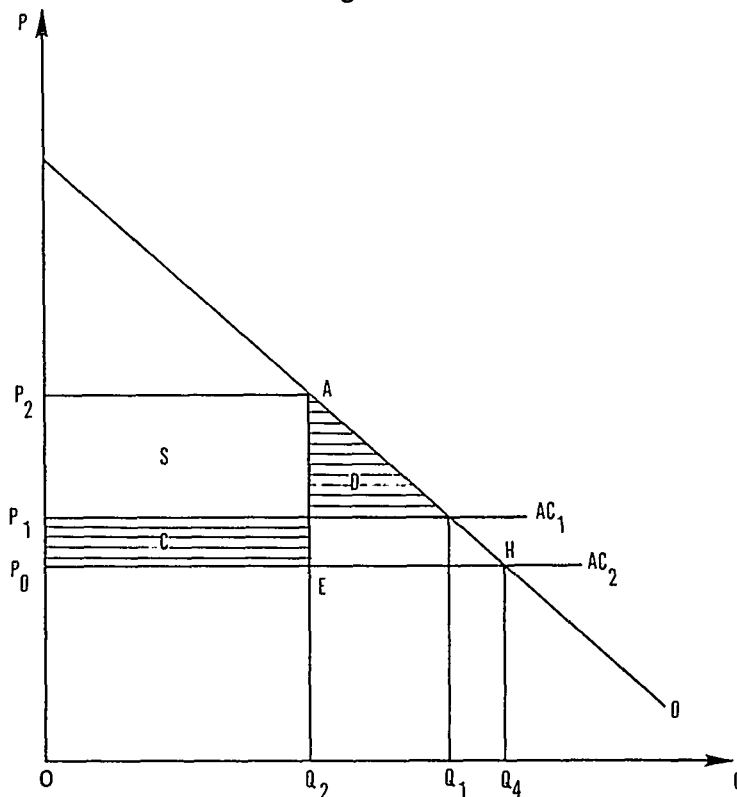
rable demand increases if the merged firm raised its price, because of product differentiation and other issues of imperfect competition. A possible approach is to weigh industry costs by market shares and say that industry average cost falls by some function of the decrease in costs for the merged firm. What are relevant, however, are marginal costs, and their estimation is fraught with difficulty. It is hard enough to estimate changes in costs for the merged firm; it becomes even more difficult also to consider those of other firms. Since the merger would very likely lead to changes in market shares, this approach has problems.

These considerations have two obvious implications. First, as Williamson recognized, many efficiency-creating mergers have negligible market-power effects. One individual merger usually would create minimal market power in an essentially competitive industry. Second, as Jackson and DePrano and Nugent observed, an analysis of tradeoffs between efficiency and market-power effects is more appropriate where the firms involved possess some preexisting market power. As we shall see, *see infra* Section C.3 of Part IV, preexisting market power requires a modification of the details of Williamson's calculations. *See* Williamson, *The Welfare Tradeoffs*, *supra* note 10, at 18. *See also* R. BORK, *supra* note 38, at 108; DePrano & Nugent, *Economies as an Antitrust Defense: Comment*, 59 AM. ECON. REV. 947, 950-52 (1969); Jackson, *The Consideration of Economies in Merger Cases*, 43 J. BUS. 439 (1970).

consumer surplus on consumption forgone because of the higher price. The merger would lead to a net social gain if C were larger than D.[176]

Williamson calculated the percentage cost reduction necessary to offset the allocative inefficiency resulting from a given percentage increase in price from increased monopoly power. The tradeoff obviously depends on the elasticity of demand. Table IV-1 presents the percentage cost reduction that would exactly offset price increases of five, ten, and twenty percent for elasticities of demand ranging from one-half to three. Williamson's conclusion emerges from the Table: except in the unlikely case of both a large probable percentage price increase and a large elasticity of demand, relatively small cost efficiencies would dominate much larger increases in monopoly power in quantitative importance. For example, a merger likely to increase consumer prices by ten percent would have a net social gain if cost efficiencies exceeded two percent, for any demand elasticity up to three. Williamson argued that in most cases one could reasonably expect, so-

Table IV-1

Increase in price (%)	Elasticity of Demand			
	$\eta=3$	$\eta=2$	$\eta=1$	$\eta=\frac{1}{2}$
5	0.44	0.27	0.13	.06
10	2.00	1.21	0.55	0.26
20	10.38	5.76	2.40	1.10

Note: For an interpretation of Table IV-1, see *supra* Section B of Part IV. Table IV-1 is from Williamson, *Economies as an Antitrust Defense Revisited*, 125 U. PA. L. REV. 699, 709 table 1 (1977).

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176. For accurate measurement of deadweight losses and consumer/producer surplus, one must perform welfare analysis using income-compensated, or Hicksian, demand curves. The analysis in this Section, and particularly the diagrams, are technically accurate only if we assume measurement along Hicksian, rather than ordinary (Marshallian), demand curves. *See* Hausman, *Exact Consumer's Surplus and Deadweight Loss*, 71 AM. ECON. REV. 662, 663, 671-74 (1981) (Marshallian demand curves do not measure deadweight losses accurately). For normal goods, estimation using Marshallian demand curves will overstate true deadweight loss from monopoly power; for inferior goods, estimation using Marshallian demand curves will understate true deadweight loss from monopoly power. Normal goods have the property that demand varies directly with income; inferior goods are products for which demand and income vary inversely. For a clear presentation, see R. BILAS, MICROECONOMIC THEORY: A GRAPHICAL ANALYSIS 67-80 (1967).

This technical point, however, is of more theoretical than practical importance. Because one must statistically estimate the demand and supply relationships to calculate deadweight loss, measurement error affects the accuracy of estimates using either Hicksian or Marshallian demand curves. In virtually any situation, measurement errors swamp any errors produced by specifying a Marshallian rather than a Hicksian demand curve. For elaboration, see F. Johnson, The Imprecision of Traditional Welfare Measures in Empirical Applications (FTC Working Paper No. 86, June 1983) (on file with the *California Law Review*).

ciety would be better off accepting mergers that increased both efficiency and market power.

C. Qualifications to Williamson's Naive Model

The naive model underlying Table IV-1 generated extensive discussion, most of it focused on modifications to incorporate refinements. Most of the qualifications actually are points that Williamson himself raised and discussed ably, both in his original article and in later writings.

In both theoretical and policy discussion, Williamson's basic framework requires close scrutiny. Although Williamson started his tradeoff analysis with an assumption that the merger would increase prices,[177] a merger increasing both monopoly power and efficiency would not necessarily increase prices. Economists usually interpret an increase in monopoly power as an increase in the Lerner index, or the percentage markup of price over marginal costs.[178] Even with an increase in monopoly power, however, a firm's profit-maximizing price might decrease, if marginal costs fell sufficiently. Virtually all the discussion in the merger policy literature assumes that price will increase, despite the lack of any convincing theoretical or empirical basis for assessing the effect of increases in both monopoly power and efficiencies on price. The greater the increase in efficiency relative to any increase in market power, the more likely a decrease in price would be. Moreover, any merger that led to a decrease in final product price, or to no change in final product price with lower costs, would have unambiguously positive social welfare effects, even if the Lerner index of monopoly power increased.[179]

Williamson's model not only assumes an increase in price, but also a tradeoff between market power and efficiencies. Not all mergers present such policy choices. A tradeoff is most likely in cases where, for whatever reason, industries are undergoing transition. The "whatever reason," however, probably reflects either increased optimal

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177. One normally would not expect a single merger to be sufficient to permit an increase to the profit-maximizing monopoly level. Indeed, given the current strict antimerger standards, a merger could realistically lead to prices approaching the monopoly level only if it facilitated industrywide collusion. For the view that maintaining high concentration and entry barriers are not sufficient to guarantee the success of collusion, see K. Elzinga, *supra* note 108.

178. The Lerner Index equals (Price-Marginal Cost)/Price. *See* Lerner, *The Concept of Monopoly and the Measurement of Monopoly Power*, 1 REV. ECON. STUD. 157 (1934). For a textual treatment and a discussion of complexities in using the Lerner Index in empirical work, see F. SCHERER, *supra* note 84, at 56, 268-76.

179. This result holds regardless of whether one attributes efficiency and/or wealth redistribution goals to the antimerger laws.

scale compared with historic levels or a declining industry.[180] In either case, the transition would increase concentration and thus, potentially, market power. Regardless, in cases where an industry is transforming, antitrust policy in the long run probably cannot—or should not—stop increases in concentration. In these cases, antitrust enforcement may only increase adjustment costs.

For those mergers presenting a tradeoff, then, Williamson's model offers a compelling theoretical methodology for incorporating efficiency considerations into merger analysis. Much of the force of the model, however, lies in its simplicity and analytic rigor. That simplicity may be misleading, if one views the Williamsonian tradeoff not only as a model that provides rich theoretical insight, but also as a practical basis for incorporating efficiencies into merger enforcement. The precise implications of the tradeoff for the analysis of individual mergers are far less straightforward than Williamson's naive model suggests. As we demonstrate below, numerous qualifications vastly increase the complexity of the Williamsonian tradeoff. In discussing these qualifications, we focus on the extent to which they affect the practicality of implementing a case-by-case balancing of efficiency and market-power concerns along the lines that Williamson outlined.

1. *What One Should Include in the Tradeoff Calculations: Wealth Transfers and Competition to Obtain Monopoly Profits*

Williamson assumed that one should evaluate the tradeoff solely on the basis of allocative efficiency, following the methodology that most economists use.[181] The legislative history of the antimerger statutes unequivocally demonstrates, however, that Congress sought primarily to prevent transfers of wealth from consumers to firms actually

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180. Beer, groceries, and railroads are obvious examples.

181. Economists typically ignore wealth transfers when the dollar amounts of gains and losses are equal. Williamson, *The Welfare Tradeoffs*, *supra* note 10, at 27; Williamson, *Defense Revisited*, *supra* note 10, at 710-11. *See also* R. BORK, *supra* note 38, at 107-12. Williamson points out, however, that:

> a product-specific claim that user and producer interests should be weighted unequally . . . does not vitiate the partial equilibrium model. It merely requires that the appropriate weights be specified. To the extent that purchaser interests are given greater weight than supplier interests, the economies burden is increased, *ceteris paribus*.

Williamson, *Defense Revisited*, *supra* note 10, at 711. He also observes that it not always is clear how to weigh producer and consumer interests:

> For some products, however, the interests of users might warrant greater weight than those of sellers; for other products, such as products produced by disadvantaged minorities and sold to the very rich, a reversal might be indicated. But a general case that user interests greatly outweigh seller interests is not easy to make and possibly reflects a failure to appreciate that profits ramify through the system in ways—such as taxes, dividends, and retained earnings—that greatly attenuate the notion that monolithic producer interests exist and are favored.

Id.

or potentially possessing market power.[182] If antitrust enforcers are to use Williamson's model in enforcement, they must incorporate Congress' clearly expressed intent.

To see the effect of wealth redistribution, consider Diagram IV-1, where rectangular area S represents a transfer from generalized con-

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182. *See supra* Part II. Other potential concerns of merger policy include the political effects of increased market power, harm to small businesses, disincentives to innovation, and non-profit-maximizing behavior. Insofar as these goals are appropriate, they should enter the tradeoff. In each case, such concerns would alter Williamson's conclusions and increase the complexity of the tradeoff.

Political considerations are of obvious importance for merger policy. *See* Kovacic, *The Federal Trade Commission and Congressional Oversight of Antitrust Enforcement*, 17 TULSA L.J. 587 (1982) (a superb analysis of the effects of political factors on FTC decisionmaking). The enormous volume of written material that accompanied a recent proposal to restrict conglomerate mergers demonstrates convincingly that changes in merger enforcement are loaded with political consequences. *See* S. 600, 96th Cong., 1st Sess. § 3a (1979) (section 3a of the proposed Small and Independent Business Protection Act of 1979 included efficiencies defense). Because merger increases the size of the combining entities, political power may increase as well. With an efficiencies defense, mergers might have a greater impact on concentration and hence on the access of firms to political arenas. There is considerable controversy over whether large firms in concentrated industries have had greater success than smaller firms in using political power to limit competition. Williamson, *The Welfare Tradeoffs*, *supra* note 10, at 28-29. For a survey of the empirical evidence, see Siegfried, *The Effects of Conglomerate Mergers on Political Democracy: A Survey*, in THE CONGLOMERATE CORPORATION 25 (R. Blair & R. Lanzillotti eds. 1981).

Permitting some efficiency-producing mergers to go unchecked despite increases in monopoly power might affect the welfare of small businesses. This consideration was important in the congressional debates on the Clayton Act and the Celler-Kefauver Amendment. *See supra* Part II. A Williamsonian merger policy might result in the elimination of some businesses; however, if price umbrellas gave additional protection to marginal firms, more small businesses might survive. Net effects are hard to predict.

It is unclear how a merger policy that allowed an efficiencies defense would affect innovation. The controversy concerning the relationships among firm size, industry concentration, and innovation continues unabated. A merger enabling the combined firm to engage in research and development more effectively might swamp monopoly losses over time, because small differences in the rates of technological progress can have profound effects when compounded over time. However, another merger might enable sufficiently faster growth to eliminate an independent research and development program and therefore increase social losses. *See* Williamson, *The Welfare Tradeoffs*, *supra* note 10, at 29; Williamson, *Defense Revisited*, *supra* note 10, at 712. For an extensive discussion, see F. SCHERER, *supra* note 84, at 404-38.

Many experts allege that non-profit-maximizing behavior frequently motivates mergers. *See* Williamson, *The Welfare Tradeoffs*, *supra* note 10, at 29-30. In this light, increased monopoly power, to the extent that it results from a merger permitted by a Williamsonian tradeoff, might increase the potential for non-profit-maximizing behavior. There is, however, no consensus among economists on the importance of noneconomic factors. *See supra* note 107.

A related argument recommends adding an X-inefficiency cost of monopoly power to the allocative inefficiency cost. X-inefficiency refers to the slack from non-profit-maximizing behavior that imperfect competition generates. *See* Liebenstein, *Allocative Efficiency v. "X-Efficiency,"* 56 AM. ECON. REV. 392 (1966); Siegfried & Wheeler, *Lost Efficiency and Monopoly Power: A Survey*, Q. REV. ECON. & BUS., Spring 1981, at 25 (a survey of empirical evidence concluding that X-inefficiency appears to be substantial); *cf.* Stigler, *The X-istence of X-efficiency* 66 AM. ECON. REV. 213 (1976) (concluding that X-inefficiency is a misinterpretation of the evidence); DiLorenzo, *Corporate Management, Property Rights and the X-istence of X-efficiency*, 48 S. ECON. J. 116 (1981) (same). To the extent that these considerations are important, Williamson's tables overstate the social benefits of merger relative to the social costs.

sumers, who pay higher prices, to the stockholders of the merged firm, who receive monopoly profits. Since wealth-transfer effects almost always swamp allocative efficiency effects (i.e., area S typically is much larger than area C minus area D), any weight given to wealth transfers would affect the results of the tradeoff substantially.[183] Incorporating the congressional mandate to include wealth transfers would frequently require substantial increases in the efficiencies needed to compensate for market-power effects.[184] We discuss some of the complexities of incorporating wealth-transfer concerns in Section D.

A second important "what to include" question concerns the transformation of monopoly profits into costs through competition for the right to the monopoly position.[185] Posner argued that competition for that right would raise costs until all monopoly profits were transformed into costs; the social cost of monopoly should therefore include both area S and area D. In response, Williamson raised the important point that competition would also take the form of entry, which would partly erode the monopoly profits through lower prices. For this reason, Williamson argued that only part of area S should count in the social costs of monopoly.[186]

We have already argued that the legislative history of the antitrust laws requires the inclusion of area S in tradeoff calculations to the extent that this area represents wealth transfers from consumers to firms with market power. Regardless of whether one counts area S because it represents undesirable wealth transfers or inefficient rent-seeking

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183. "Inasmuch as the income distribution [i.e., wealth transfer] which occurs [from a merger] is usually large relative to the size of the dead-weight loss, attaching even a slight weight to income distribution effects can sometimes influence the overall valuation significantly." Williamson, *The Welfare Tradeoffs, supra* note 10, at 28. Bork also acknowledges that if one counted distributive effects in horizontal merger analysis, "the results of the trade-off calculations would be significantly altered." R. BORK, *supra* note 38, at 110.

184. If wealth transfers are not weighted equally to deadweight losses, appropriate weights must be applied before adding. *See infra* text accompanying notes 220-26. Consideration of redistribution effects causes enormously complex economic problems. *See* A. TAKAYAMA, *supra* note 110.

185. Economists frequently use the term "rent-seeking behavior" to describe this phenomenon. The greater the quantitative significance of rent-seeking behavior, *ceteris paribus*, the smaller the net economies from a merger. Williamson discusses this issue at length. Williamson, *Defense Revisited, supra* note 10, at 713 & *passim*. Bork's discussion starts from a different point of view, R. BORK, *supra* note 38, at 112-13. Posner's influential and controversial treatment of this effect has led many authors to refer to this topic as "Posnerian costs." *See* Posner, *The Social Costs of Monopoly and Regulation*, 83 J. POL. ECON. 807 (1975). *See* Siegfried & Wheeler, *supra* note 182 (concluding from a survey of empirical evidence that Posnerian costs are compelling in theory but of uncertain and nondocumented quantitative significance).

186. Timing considerations make the implications of entry important in tradeoff evaluations. *See infra* Section C.2 of Part IV. The ability of nonprice competition to increase demand for a product creates a further complication in Posner's analysis. *See* Posner, *supra* note 185, at 810. An increase in demand would increase the price and/or output levels shown in Diagram IV-I.

behavior, however, one must include area S in the tradeoff calculation.[187]

2. *Dynamic Effects*

Williamson's model assumes a static context that divorces a merger from changes in product quality and from the effects of timing and dispersion of both efficiency and market-power effects. To perform the tradeoff accurately, however, courts and merger enforcement officials must assess the impact of such effects. When added to the inherent complexity of evaluating the tradeoff and the necessity of incorporating wealth-transfer effects, these effects greatly compound our doubts that courts or administrative agencies could perform the tradeoff accurately in individual cases.

a. *Adjustments for Quality Changes*

One of the most important qualifications to Williamson's model is that merger efficiencies can affect product quality as well as costs.[188] Once we recognize the possibility of quality changes, the tradeoff analysis must maximize welfare over three rather than two parameters, thereby vastly increasing the complexity of the analysis. The Williamsonian tradeoff then becomes: "How much of a decrease in costs would compensate for an x percent increase in price, if we also expect quality to increase by y percent (or to decrease by z percent)?"[189] Even in theory, measurement of quality changes is enormously difficult.[190]

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187. Reliance on Diagram IV-I and Table IV-I may mislead policymakers for a third reason relating to the question of what factors to include in the tradeoff analysis. Williamson phrased his naive model in terms of production economies of scale. As Williamson observed, management reorganization efficiencies frequently are both more important quantitatively and more elusive in advance predictability than production economies. *See* Williamson, *Defense Revisited, supra* note 10, at 723 & *passim; see also* R. BORK, *supra* note 38, at 126-27. Consider, for example, a merger of two horizontal competitors who both own an inefficiently small plant. To exploit scale economies, the companies would need to close one or both plants and substitute one larger operation. Most mergers, in fact, would seem to require some reorganization of the business to exploit efficiency potentials in facilities, distribution, and research. *See also* Koo, *A Note on the Social Welfare Loss Due to Monopoly*, 37 S. ECON. J. 212 (1970) (arguing unrealistically that the true social cost of underproduction from monopoly is area AEH in Diagram IV-I, because society could have used subsidies to achieve the socially optimal output of Q_4).

188. *See, e.g.*, Carlton, Landes & Posner, *supra* note 90.

189. We consider mergers likely to lead to decreases in product quality sufficiently probable to merit policy consideration. Consider, for example, a merger between a market leader and a small firm known for manufacturing a superior quality product for a relatively high cost and price. Suppose that the market leader would have to integrate the operations of the acquired firm to attain scale economies. We might expect that the small firm, after integration, would be able to manufacture at a lower cost (efficiencies) but that its quality would decrease toward that of the market leader. If, additionally, the acquisition enhanced the market power of the leading firm, the tradeoff anticipated in this paragraph would be present.

190. The econometric procedure to measure quality changes is hedonics. For an introduction

For products whose quality changes frequently, such as fashion goods or durables with annual model changes, or for products in technologically dynamic industries, predicting or assessing the effect of a merger on product quality would be extremely difficult for expert econometricians and engineers, let alone for government antitrust officials and judges. It is virtually impossible to determine whether a change in quality reflects an efficiency whenever quality and either price or cost change in the same direction.[191] It is virtually hopeless to expect antitrust decisionmakers to take expert witnesses' conflicting predictions of quality changes and balance the "correct" opinions tolerably accurately against estimates of market-power and efficiency results on a case-by-case basis, yet that is what the case-by-case Williamsonian analysis frequently would require.

b. Timing of the Stream of Benefits and Costs

Besides requiring a three-dimensional balancing of quality, efficiency, and market-power effects, a tradeoff analysis must also incorporate timing effects. While Diagram IV-1 shows the social benefits and costs of a merger for a single time period, an accurate tradeoff analysis would focus on the discounted present values of the benefits and costs over time.

This adjustment necessarily involves estimates of how long the new monopoly power might last before entry would erode it, how likely it would be that the firms would achieve the efficiencies without the merger, and how long it would take to achieve the economies through internal growth. One implication of this analysis is that in a growing industry, the gain from a merger intended to achieve economies of scale will decrease over time, because without the merger firms would have attained the scale economies anyway.[192] This implication would

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to the procedure and its complexities, see PRICE INDEXES AND QUALITY CHANGE: STUDIES IN NEW METHODS OF MEASUREMENT (Z. Griliches ed. 1971).

191. A lower quality product selling for a lower price might reflect efficiencies, if the price decrease reflected sufficient cost savings. However, lower costs and lower quality also might reflect higher mark-ups—i.e. increased monopoly power. Indeed, with a sufficient decrease in quality, a firm might be able to lower price even if its costs rose for a given level of quality—i.e. if the merger led to inefficiencies. Similarly, if a firm manufactured a higher quality product for a higher price, the firm's costs might have increased or decreased (for a given rate and volume of production of goods of a given quality), and the monopoly power (mark-up of price over costs) might have increased or decreased. The evidentiary burden of determining whether higher quality fully justifies a higher price or whether a decrease in price is sufficient to compensate for a decrease in quality, is especially onerous, because both quality and cost levels are especially difficult to establish in a litigation setting.

192. See Jackson, *supra* note 175; Ross, *Economies as an Antitrust Defense: Comment*, 58 AM. ECON. REV. 1371 (1968). Williamson responded that this argument makes sense only if one could expect the efficiency results within a very few years; otherwise, the effect would not be of sufficient quantitative importance to change his general conclusion. Moreover, Williamson, Bork, and

not always be relevant for nonproduction-related efficiencies from business reorganization or replacement of ineffective management. Some efficiencies available from merger are beyond the realistic expectations of acquired firms relying on internal growth. For these situations, the relevant policy question is whether some alternative merger with less serious market-power effects might offer the same efficiency potential.

Despite these qualifications, consideration of internal expansion tends to decrease the net social benefit from merger. However, consideration of entry works the other way.[193] Unless entry barriers were very high, the market quickly would eliminate most monopoly gains from a merger.[194] Where one could expect entry, area D would diminish over time compared with area C, and the present-value calculation would tip in favor of allowing mergers involving a tradeoff.[195]

c. *Dispersion Effects of the Merger: Umbrella Effects, Incipiency, Oligopoly, and the Probability of Collusion*

An accurate calculation of the net social costs or benefits of a merger also requires consideration of the potential effects of the merger on the structure of an industry as a whole. For example, if the newly created firm were large relative to the industry, it might provide a price umbrella under which other firms could behave competitively.[196] Similarly, if the merger sufficiently increased the probability of industry-wide collusion, an even larger price increase might arise, again affecting a larger portion of the industry than that achieving efficiencies from the merger.[197] In some cases, however, cost savings might extend

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Muris all question the presumption that internal expansion is always socially preferable to expansion through merger. *See* Williamson, *Allocative Efficiency, supra* note 10, at 106; R. BORK, *supra* note 38, at 130; Muris, *supra* note 16, at 390; *see also infra* note 262.

193. Although Williamson raises the importance of entry considerations, he does not address their implications in this context. *See* Williamson, *Reply, supra* note 10, at 957.

194. *See supra* note 174. For monopoly gains not eroded by entry, rent-seeking activity could convert some or even much of the remainder to higher costs. *See supra* text accompanying notes 185-87.

195. The formula for calculating deadweight loss over time depends on the shortrun and longrun deadweight losses and the rate of decay of the deadweight loss over time. *See* Schmalensee, *Another Look, supra* note 173, at 1794-95.

Dennis Mueller notes that it is inconsistent to argue that (a) mergers are necessary because they permit efficiencies to be achieved more quickly than through internal growth, and (b) efficiency effects can only be evaluated properly after several years, because the cost savings may not appear until then. The more one believes (a), the more convincing one should find interpretations such as Mueller's, *see supra* note 134, that mergers tend not to create efficiencies, because efficiency effects (on average) are hard to find from empirical evidence. Mueller letter, *supra* note 125.

196. Williamson, *The Welfare Tradeoffs, supra* note 10, at 27.

197. Firms with different cost structures would prefer different prices. Even assuming that these firms are likely to collude tacitly, one could not predict the price that the firms ultimately

more widely than market-power effects. Especially if it involved two multiproduct firms with only partial horizontal overlaps, the merger could produce synergies or benefits for other products.[198] These effects could therefore make the tradeoff calculation either more or less favorable toward permitting mergers.

Incipiency raises a similar concern: one can envision several mergers, none of which would be objectionable on Williamson's trade-off criterion, that in combination would cause substantially increased market power.[199] The more mergers there are, the more likely collusive behavior becomes, especially once concentration reaches levels appropriately characterized as oligopolistic, unless entry barriers are very low. Incipiency arguments, however, have often arisen in cases where industries were so unconcentrated that there was no realistic fear of collusion.[200] There is no consensus on what levels of concentration make collusion more likely.[201] If there were, presumably, we could account for the probability of collusion in calculating the aftermerger monopoly power and thus· enter it directly into Williamson's model. Unfortunately, while we know that Congress sought to deter incipient increases in market power,[202] we have neither evidence of the weight that one should give to this point nor a good theory for predicting when incipiency might be important.

Under certain restrictive assumptions, an oligopoly model permits resolution of the efficiencies/market-power tradeoff.[203] Since situations likely to pose policy tradeoffs between increased market power and efficiencies would typically increase the market power of an already existing oligopoly, modeling of this sort holds promise of yielding important insights. Perhaps the most important lesson of oligopoly

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would adopt. For a sampling of oligopoly pricing models, see F. SCHERER, *supra* note 84, at 151-266. In recent years some economists have become more skeptical of the likelihood of success of tacit collusion. For a discussion, see K. Elzinga, *supra* note 108.

198.   Williamson, *Defense Revisited*, *supra* note 10, at 712.

199.   Williamson, *The Welfare Tradeoffs*, *supra* note 10, at 26; Williamson, *Defense Revisited*, *supra* note 10, at 710.

200.   Williamson's analysis implies that for two reasons efficiency considerations usually do not support bringing antitrust cases on incipiency grounds. First, relatively small cost efficiencies supposedly provide greater social gains than losses resulting from relatively large price increases due to increased market power; second, plaintiffs argue incipiency where market-power effects are likely to be very small. In very unconcentrated industries, the most probable explanation for a series of mergers is that some consolidation offers efficiency gains. *See* R. BORK, *supra* note 38, at 130-31 (arguing this last point forcefully). For evidence with respect to vertical mergers, see A. Fisher & R. Sciacca, *supra* note 93, §§ IV(C), V(C).

201.   The only consensus is that below a four-firm concentration ratio of 55%-65%, supracompetitive pricing is unlikely. *See* P. Pautler, *supra* note 11; K. Elzinga, *supra* note 108.

202.   *See supra* Part II; Lande, *supra* note 31, at 136.

203.   For a discussion of the model and its implications, see *infra* text accompanying notes 223-26. For an interesting discussion of oligopoly models in a merger context, see Ordover, Sykes & Willig, *Herfindahl Concentration, Rivalry, and Mergers*, 95 HARV. L. REV. 1787 (1982).

models is that interfirm rivalry is frequently a more important source of price increase from a merger than is any change in concentration itself.[204] This model and the large effects of changes in the underlying assumptions show that the welfare balancing is very sensitive to the specific conditions in the industry and that error in analyzing an individual case can lead to very incorrect conclusions.

3. Other Measurement Ambiguities

Measurement ambiguities further complicate attempts to apply the model to particular cases. Williamson's model assumes a circumscribed range of mergers: (1) those satisfying certain demand curve specifications; (2) those in an industry with no initial monopoly power; (3) those with price increases not exceeding thirty percent; and (4) those in an industry with an elasticity of demand of less than three. Once we relax any of these assumptions, the range of cost savings necessary to offset anticipated price increases widens so substantially that a given percentage of cost savings would no longer presumably offset much greater price increases from a merger. These additional considerations reinforce our conclusion that merger enforcement officials would virtually never be able to quantify the costs and benefits of particular mergers accurately enough for the kind of objective balancing that the naive model makes appear so simple.

The first indication of measurement ambiguity in the Williamsonian methodology came in a 1970 article.[205] Table IV-2 presents Jackson's recomputations of Williamson's calculations (Table IV-1).

Table IV-2

Increase in price (%)	Elasticity of Demand (η)			
	$\eta=3$	$\eta=2$	$\eta=1$	$\eta=\frac{1}{2}$
5	0.44	0.27	0.13	0.06
10	2.14	1.24	0.55	0.26
20	15.00	6.66	2.49	1.11
30	N/A	22.49	6.42	2.64

Note: For an interpretation of Table IV-2, see *supra* Section C.4 of Part IV. "N/A" indicates that for the elasticity of demand in question (measured at the competitive price), a monopolist would not raise price by that great a percentage.

Source: For $\eta=\frac{1}{2}$, $\eta=1$, and $\eta=2$, Jackson, *The Consideration of Economies in Merger Cases*, 43 J. Bus. 439, 443 (1970); for $\eta=3$, calculated by Christopher C. Klein based on *id.*

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204. *See generally* Ordover, Sykes & Willig, *supra* note 203.
205. *See* Jackson, *supra* note 175.

Although this table apparently measured exactly the same tradeoff as did Williamson's, its estimates of the required percentage cost reductions diverge from and exceed Williamson's estimates in every case— and by as much as fifty percent in some cases. The difference, which becomes increasingly dramatic as the price rise and/or demand elasticity increase(s), results from the different assumptions the authors made about the specifications of the demand relationship.[206] This example illustrates the subtleties of welfare analysis: even when authors agree on the fundamental framework and supposedly measure the same thing, the estimates are sensitive to small changes in the specification of the model. Unfortunately, we have little theoretical or empirical basis to choose between these specifications and others equally consistent with economic theory.[207]

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206. This result occurs because Jackson assumes a linear demand curve, while Williamson assumes a curve with constaut elasticity. Williamsou's diagrams, however, use a straight line. Diagram IV-2 superimposes these two types of curves. Given equal price increases, the loss in consumer surplus is always less from a bowed Williamsonian curve than from a straight line. The effect becomes increasingly dramatic as price and/or demand elasticity increase(s). (We are grateful to our colleague Christopher C. Klein for help with the material in this Subsection.)

Diagram IV-2
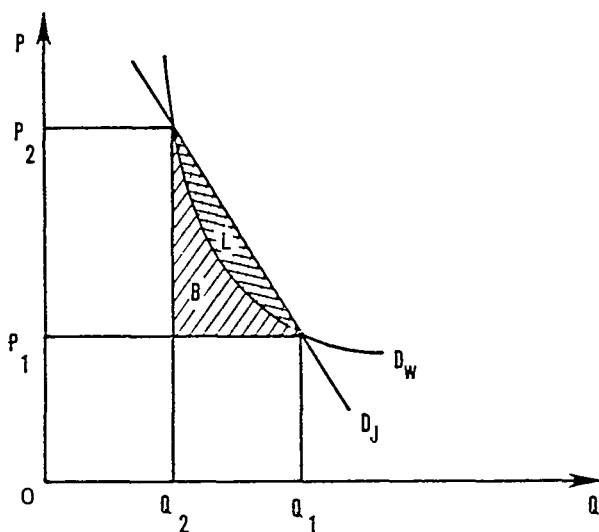
B is the deadweight loss according to Williamson.

B + L is the deadweight loss according to Jacksou.

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207. Technically, one can specify any demand function that satisfies mathematical conditions known as "Slutsky restrictions." Many mathematical forms meet this requirement, and there is no theoretical basis to choose one over another. Empirically, one should choose the demand function that best fits the data. Where, as with a merger, one must predict market effects in advance, empirical evidence provides no guidance for resolving the questiou of what demand specification

More important than specification of the demand relationship is the assumption in Williamson's naive model that there is no initial monopoly power. If the premerger industrial structure includes some market power (as one would expect in most situations where a single merger would increase monopoly power), the naive model undercounts the deadweight loss and wealth transfers by omitting the forgone profits on output no longer produced.[208] Williamson's naive model ignores

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to use. The basic source is D. McFadden & S. Winter, Lecture Notes on Consumer Theory (unpublished manuscript on file with the *California Law Review*). For a more accessible source, see H. VARIAN, MICROECONOMIC ANALYSIS ch. 3 (1978); sources cited *id. See also* Hanoch, *Production and Demand Models with Direct and Indirect Implicit Additivity*, 43 ECONOMETRICA 395 (1975).

208. Diagram IV-3 illustrates this point. *See* DePrano & Nugent, *supra* note 175, at 950-52; Jackson, *supra* note 175, at 441-43.

Diagram IV-3
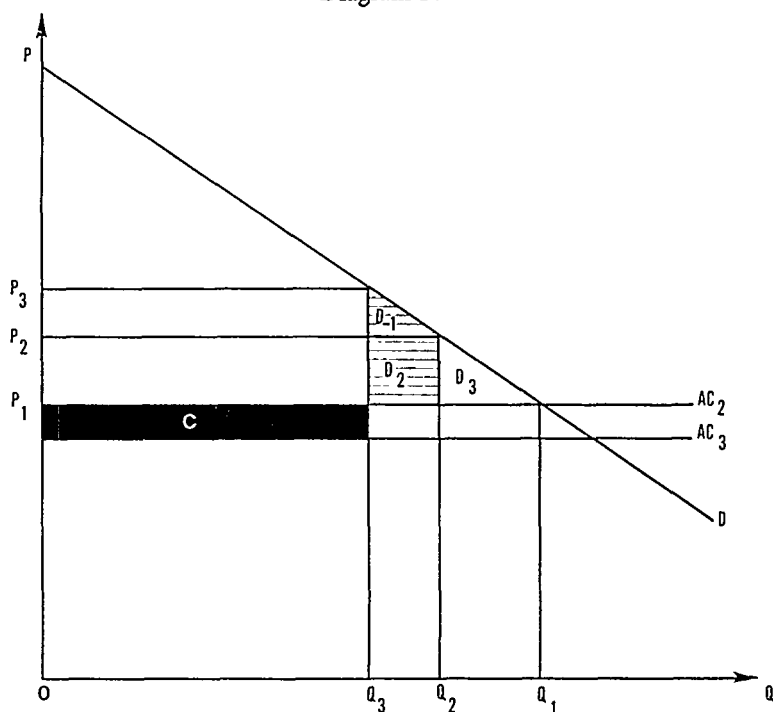
Diagram IV-1 indicates the deadweight loss from increased monopoly power as the triangular area above the initial price (area D). With preexisting market power, as in Diagram IV-3, however, we assume that the merging firm was initially operating at output Q_2 and price P_2. Increased monopoly power leads to a decrease in output from Q_2 to Q_3. The deadweight loss then includes the loss in consumers' surplus (area D_1) and the loss in producers' surplus (or profits) due to the reduction in output from Q_2 to Q_3 (area D_2). Williamson uses area D in Diagram IV-1 instead of area D_1 in Diagram IV-3 and therefore undercounts the deadweight loss by the amount of area D_2. Note finally that output Q_1-Q_2 and triangular area D_3 are irrelevant in the case of preexisting market power. The correct tradeoff requires a comparison of area C and

this component of the social cost of a merger that increases market power. Williamson agrees with this analysis; his response is that the critics greatly overstate the correction factor to be applied.[209] Regardless of the amount of correction, however, the direction is clear: the greater the preexisting market power, *ceteris paribus*, the greater the expected cost efficiencies should be to permit a merger likely to increase monopoly power. Also, the greater the elasticity of demand for the product in question, the stronger this conclusion becomes.[210] Recent oligopoly models further demonstrate how sensitive estimation of the tradeoff calculation is to the underlying conditions in the

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the sum of areas D_1 plus D_2. Wealth-transfer considerations, however, would modify this trade-off even further. *See infra* Section D of Part IV.

209. *See* Williamson, *Reply, supra* note 10. Table IV-3 summarizes the effects of initial market power and elasticities of demand. Jackson's estimates are higher than the others because of his different demand specificatiou. *See supra* note 206. Williamson argues that initial degrees of monopoly power in excess of K = 1.06 are highly unlikely. Williamson, *Reply, supra* note 10, at 957. *See also infra* note 212.

Table IV-3

Elasticity of Demand (η)

Increase in price (%)	$\eta=2$				$\eta=1$				$\eta=\frac{1}{2}$			
	K=1.05	K=1.10	K=1.20	K=1.50	K=1.05	K=1.10	K=1.20	K=1.50	K=1.05	K=1.10	K=1.20	K=1.50
5	0.78	1.28	3.66	5.38	0.38	0.64	1.47	2.69	0.19	0.32	0.67	1.34
10	2.15	3.10	9.00	11.50	1.03	1.55	3.44	5.75	0.50	0.78	1.54	2.88
20	6.82	8.40	28.00	26.00	3.10	4.20	12.33	13.00	1.48	2.10	3.92	6.50
30	14.28	15.90	72.00	43.50	6.21	7.95	18.42	21.75	2.90	3.97	7.29	10.88

Notes:

η is the absolute value of the elasticity of demand.

K is the measure of preexisting market power, equal to P_2/AC_2 in Diagram IV-3.

For an interpretation and explanation of the apparent inconsistencies in the numbers, see *supra* notes 206 & 209.

Sources:

For K = 1.05: Williamson, *Economies as an Antitrust Defense: Reply*, 59 AM. ECON. REV. 954, 957 (1969).

For K = 1.20: Jackson, *The Consideration of Economies in Merger Cases*, 43 J. BUS. 439, 443 (1970).

For K = 1.10 and K = 1.50: DePrano & Nugent, *Economies as an Antitrust Defense: Comment*, 59 AM. ECON. REV. 947, 951 (1969).

210. It is difficult to be very precise in formulating or using the Williamsonian methodology when a firm has monopoly power, since the degree of monopoly power and elasticity of demand are jointly determined. *See infra* note 216.

Siegfried and Wheeler's recent survey of the empirical evidence on production inefficiency relates this evidence to market structure (concentration). Siegfried & Wheeler, *supra* note 182, at 31. They conclude that the social costs of suboptimal capacity are greatest in moderately concentrated industries. In the authors' words, "empirical studies all indicate support for . . . a positive relationship between market concentration and efficiency based on optimal plant sizes, suggesting that the tradeoff between allocative efficiency and optimal scale cost efficiency is a real one." *Id.* at 33 (footnotes omitted).

industry.[211]

Williamson's model also assumes that prices will not rise by more than thirty percent. Of course, it is impossible to predict the amount that prices might rise because of a merger (and even very difficult to predict whether they would rise at all). Nevertheless, there have certainly been instances where exploitation of market power led to price increases of far more than thirty percent; oil price increases of more than one thousand percent during the 1970's might be the best known example. Although there is no evidence that price increases of more than thirty percent are likely from mergers, neither is there evidence that such increases would be so rare that they should have no influence on merger policy.[212] Moreover, it is not easy to say how large expected efficiencies must be to offset very large price increases, except that *ceteris paribus* the larger the anticipated increase, the greater the level of offsetting cost efficiencies must be.[213]

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211. *See, e.g.*, Ordover, Sykes & Willig, *supra* note 203; *infra* text accompanying notes 223-26.

212. New econometric estimates of the Lerner Index (the ratio of price to marginal cost) have been produced since the exchange between Williamson and his critics. *See* Geithman, Marvel & Weiss, *Concentration, Price, and Critical Concentration Ratios*, 63 REV. ECON. STATISTICS 346 (1981). The studies that they consider analytically superior imply that the relationship between concentration and the degree of monopoly power varies widely across industries, and that values of K (*supra* note 209) well in excess of 1.06 certainly do occur. For example, Kessel's 1971 study of competition in the tax-exempt bond market showed that, *ceteris paribus*, the underwriter's spread for general obligation bonds was $5.09 per $1000 of issues higher with one underwriter bidding than with 12 or more bidders. The differential in the spread (relative to 12 or more bidders) dropped quickly as the number of bidders increased: $2.50 with two bidders, $1.69 with four bidders, $0.72 with six bidders, and 0.29 with eight bidders. Kessel, *A Study of the Effects of Competition in the Tax-Exempt Bond Market*, 79 J. POL. ECON. 706 (1971); *see also* Geithman, Marvel & Weiss, *supra* at 347-48 (summarizing the relevant data). Although it is not easy to translate these estimates into an estimate of K, the data show a clear and strong effect of the number of firms on the price.

Marion, Mueller, Cotterrill, Geithman & Schmelzer, *The Price and Profit Performance of Leading Food Chains*, 61 AM. J. AGRIC. ECON. 420 (1979), provides additional evidence on the degree of monopoly power in food retailing during 1970-74. Table 3 of their paper, *id.* at 430 table 3, implies that, *ceteris paribus*, a metropolitan area with a 4-firm concentration ratio of 50% could have price-cost ratios in food retailing as high as 11.4%. With a 4-firm concentration margin of 80%, the price-cost margins could be as high as 18.2%. (The methodology was to find the highest price-cost margin implied by taking, for each equation in the table, the coefficient for the 4-firm concentration ratio, adding two standard errors, and multiplying by .5 or by .8.)

Posner, *supra* note 185, provides further estimates of price increases from monopoly power as estimated by various authors at different dates. These estimates range between 11% and 66% from regulation and between 30% and 100% from cartels. These estimates provide further warning that monopoly markups, at least in the short run, may exceed the levels that Williamson suggested.

213. Estimation of demand relationships becomes increasingly unreliable as price changes grow larger. Jackson's estimates, based on a straight-line demand curve, explode for prices and/or elasticities greater than those in Table IV-2. Williamson's assumption of constant elasticity of demand probably provides low estimates for cost efficiencies associated with large price changes. Since total revenue (price times quantity) reaches a maximum for some price, under reasonable microeconomic assumptions, demand will be more elastic at higher prices than at lower prices. Williamson's assumption of constant elasticity of demand, however, is inconsistent with that conclusion. *See* J. HIRSHLEIFER, PRICE THEORY AND APPLICATIONS 113-24, 280 (1976); *see also*

Further, Williamson's calculations only consider allocative ineffi-
ciency for products with an elasticity of demand less than or equal to
three. Empirical work shows that elasticities of demand for successful
brands of consumer products vary between one and fifteen, with the
majority in the 2.5 to five range. Admittedly, the interpretation of this
evidence is very controversial;[214] moreover, the elasticity of demand
varies with the time period for adjustment,[215] making the choice of
time period critical. Nevertheless, if demand elasticities of as much as
five are not uncommon, the efficiencies necessary to compensate for
possible market-power effects would increase dramatically.

One cannot, however, give equal weight to all combinations of
elasticities of demand and probable percentage increases in price from
market power, because these two quantities are interrelated. Thus, the
greater the elasticity of demand, *ceteris paribus*, the lower the profit-
maximizing increase in price for a given increase in monopoly power.
Since the decrease in costs required to offset enhanced market power
increases with an increase in the percentage the merged firm raises its
prices and an increase in the elasticity of demand, the relationship be-
tween these parameters greatly increases the difficulty of predicting
welfare effects from individual mergers.[216] The measurement difficul-
ties increase for mergers between multiproduct firms whose products
are either substitutes or complements. In these cases, the deadweight
loss calculation must include consideration of cross as well as individ-
ual elasticities of demand.[217]

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supra note 212. If elasticity increased as price increased, the cost savings required to offset a given
price rise would increase. *See supra* Tables IV-1 & IV-2.

214. *See* L. TELSER, COMPETITION, COLLUSION AND GAME THEORY 274-306 (1972); Landes
& Posner, *supra* note 123, at 956-57. Individual brands in heterogeneous product industry groups
usually display the highest elasticities of demand (in absolute values). Mergers between mul-
tiproduct firms or companies in industries with relatively homogeneous products typically would
involve less extreme elasticities of demand. Since demand is less elastic over an entire industry
than for portions of industries, one cannot calculate the probable social welfare effects of mergers
without considering the effects of dispersion on the elasticity of demand. *See supra* Section C.2.c
of Part IV. For the effects of different elasticities of demand and different initial degrees of market
power, see Table IV-3, *discussed at supra* note 209.

215. Alchian and Allen consider this reality so important that they call it the Second Funda-
mental Law of Demand: *"The longer any price change persists, the greater the elasticity . . . Elas-
ticity of demand is greater in the longer run than in the shorter run."* A. ALCHIAN & W. ALLEN,
UNIVERSITY ECONOMICS, ELEMENTS OF INQUIRY 63 (3d ed. 1972) (emphasis in original). For
empirical evidence of this relationship, see L. TELSER, *supra* note 214, at 274-300.

216. For a firm with monopoly power, $MR = P [1 - (1/\eta)]$. MR = marginal revenue, P =
price, and η = the absolute value of the elasticity of demand. A profit-maximizing firm chooses
that level of output for which MR = MC. (MC is marginal cost.) Therefore, for a given MC, the
greater η, the lower the profit-maximizing price. For a more thorough treatment of the
microeconomics, see E. MANSFIELD, *supra* note 53, at 105.

217. R. Schmalensee, Another Look at Market Power in Antitrust 3-5 & app. A (July 1981)
(unpublished manuscript on file with the *California Law Review*).

The net effect of these various qualifications is that small differences in the elasticity of demand, specifications of the demand relationship, expected rise in price-cost margins, or anticipated cost savings from expected efficiencies can change the tradeoff dramatically in individual cases. More fundamentally, as we saw in Part III, the record of prediction of efficiencies from mergers has been so poor that one should be very skeptical of the predictions in any given case. Similarly, the economics profession increasingly is finding that we cannot predict market-power effects as well as we had thought in the past.[218] These severe measurement problems create serious doubt that either the enforcement authorities or the courts could perform a Williamsonian tradeoff analysis accurately in individual cases.[219]

D. The Tradeoff Subject to Legal Constraints

The preceding analysis explores numerous adjustments required for an accurate case-by-case tradeoff analysis of mergers likely to result in both increased market power and efficiencies. Of all the adjustments, however, incorporating wealth transfers dominates, for two reasons. First, the legislative history of the antimerger statutes demonstrates that the primary concern of Congress was with wealth transfers.[220] Second, for reasons that we discuss below, wealth transfers typically dominate efficiency effects in magnitude. Given these facts, it is surprising that the extensive literature on the Williamsonian methodology does not include any detailed examination of how one would incorporate wealth transfers into the tradeoff calculation. We therefore explore this issue in this Section.

In approaching wealth transfers for a tradeoff analysis, the first problem is that the legislative history provides us with no guidance as to the precise relative weights of wealth transfers and efficiency effects. Giving any weight at all to redistribution would greatly affect the welfare tradeoff, because in general the redistribution effect (area S in Diagram IV-1) is many times greater than the deadweight loss (area D in

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218. *See* P. Pautler, *supra* note 11.

219. We have not yet mentioned investigation, litigation, and other enforcement costs. *See* Williamson, *The Welfare Tradeoffs*, *supra* note 10, at 24. We discuss the implications of these costs at length below, *see infra* Part V.

220. Some antitrust scholars would only count efficiency considerations. *See, e.g.*, R. BORK, *supra* note 38, at 57-66; Muris, *supra* note 16. Others, however, would exclude or greatly minimize the role of efficiencies. *See, e.g.*, Bok, *supra* note 33; Ponsoldt, *The Expansion of Horizontal Merger Defenses After* General Dynamics: *A Suggested Reconsideration of Sherman Act Principles*, 12 LOY. U. CHI. L.J. 361, 398 (1981). In Section A of Part II, however, we established that Congress wanted to include both considerations, although the legislators considered wealth transfers more important than efficiency effects. Williamson discusses the procedure and the pros and cons of incorporating wealth transfers into merger analysis. *See* Williamson, *The Welfare Tradeoffs*, *supra* note 10, at 27-28; Williamson, *Defense Revisited*, *supra* note 10, at 710-11.

Diagram IV-1). Table IV-4 shows the ratio of the wealth-transfer effect to the deadweight loss for various combinations of elasticities of demand and percentage price increases, under two demand specifications.

Table IV-4
Ratio of Wealth Transfers to Deadweight Loss

A. Williamsonian Assumption (Constant Elasticity of Demand)

Increase in price (%)	Elasticity of Demand			
	$\eta=3$	$\eta=2$	$\eta=1$	$\eta=\frac{1}{2}$
5	12.7	19.5	40.0	81.0
10	6.0	9.5	20.0	41.0
20	2.7	4.5	10.0	21.0
30	1.7	2.9	6.7	14.3

B. Jacksonian Assumption (Straight-Line Demand)

Increase in price (%)	Elasticity of Demand			
	$\eta=3$	$\eta=2$	$\eta=1$	$\eta=\frac{1}{2}$
5	14.0	21.0	42.0	84.0
10	7.3	11.0	22.0	44.0
20	4.0	6.0	12.0	24.0
30	2.9	4.3	8.7	17.3

Notes:

1. Section A assumes constant elasticity of demand and is therefore comparable to the estimates in Table IV-1. Section B assumes straightline demand and is therefore comparable to the estimates in Table IV-2. For commentary on the difference in these assumptions, see *supra* note 206 and Diagram IV-2.

2. Section A is calculated from Posner, *The Social Costs of Monopoly and Regulation*, 83 J. POL. ECON. 807, 814 (1975), using the reciprocal of equation (6). Section B is calculated from *id.* at 815, using the reciprocal of equation (11).

As the percentage increase in price or the elasticity of demand decreases, the redistribution effect becomes dramatically larger than the deadweight loss. Since the elasticity of demand and the probable percentage price increase are interrelated,[221] in most mergers fitting the Williamsonian conditions the redistribution effect is likely to be between approximately four and forty times the deadweight loss.

In making the tradeoff calculations, it is relatively simple to add wealth transfers to the Williamsonian model. Since the price increase and cost savings hypothesized under the model both apply to the same

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221. *See supra* note 216.

level of output (Q_2 in Diagram IV-1), a price increase of a given percentage would be offset exactly by a cost savings of the same percentage, weighting distribution and efficiency effects equally. One then can add the percentage cost savings required to offset wealth-transfer effects to the figures in Tables IV-1, IV-2, and IV-3 to give the percentage cost savings required to offset both efficiency and redistribution effects.

It is not clear, however, how much to weight distribution against efficiency effects. If the only issue were determining the intent of Congress, and the only criterion for so doing were the legislative history of the antimerger laws (i.e., a "strict constructionist" interpretation), wealth transfers would weigh much more heavily than efficiency.[222] One decision rule along these lines would be that merger policy should consider only prevention of unfair wealth transfers from consumers to firms with market power and that the Government therefore should not permit any mergers likely to cause higher final-product prices. Subject to this constraint, antitrust policy would maximize efficiency. Under this policy, antitrust enforcement would permit only mergers with anticipated cost savings sufficient to permit the final price to remain constant or fall, despite any increased monopoly power. Table IV-5 and the Afterword[223] address the question of how great cost savings must be to offset increased market power and keep prices constant. The Afterword gives the maximum estimate under the extreme assumption that the merger in question would lead the market from purely competitive to purely monopolistic pricing. The required efficiencies are so large that as a practical matter one would never find them. For example, with an elasticity of demand of 2.0 at the competitive price, a merger would have to decrease marginal costs by fifty percent to keep price constant.[224] However, it is hard to imagine how a single merger could move an industry from purely competitive to purely monopolistic

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222. *See supra* Section A of Part II. In theory, one could implement this policy decision any number of ways. One method, for example, would be to consider efficiencies a "tipping" factor when the decisionmaker was unsure about redistributive effects. Alternatively, one could limit consideration to those "significant and certain" efficiencies that outweighed relatively uncertain and small wealth-transfer effects. Another method to implement this policy would be to use presumptions or evidentiary requirements to minimize the impact of efficiencies; e.g., place the burden of proving substantial efficiencies upon the merging defendants. Finally, one might limit consideration to those efficiencies likely to offset market power effects to such an extent that product price probably would decrease. For reasons discussed in the text, however, we doubt that any of these procedures would be viable on an individual-case basis.

223. Fisher, Lande & Vandaele, *Afterword: Could a Merger Lead to Both Monopoly and a Lower Price?*, 71 CALIF. L. REV. 1697 (1983).

224. Fisher, Lande & Vandaele, *supra* note 223, at 1704 table 1. Further, when a merger creates efficiencies for only part of the industry but permits all firms to increase price, the condition is even more extreme. If, for example, the merger combined firms with a total market share of 60%, the cost reduction required to yield a 50% decrease in costs for the industry as a whole would be 50/.6, or 83.3% for the merging firms.

pricing, unless the merger enabled a previously competitive industry to police industrywide collusion. More realistic is the assumption that a merger would move an industry from one level of oligopoly to another, higher level. Then, under certain restrictive assumptions, Table IV-5 demonstrates that realistically obtainable levels of cost savings would offset increased market power and keep price constant. This Table also permits us to tie the required cost savings to the 1982 Merger Guidelines, which focus primarily on preventing oligopolies from enhancing their ability to raise prices, to assess how large efficiencies would have to be to keep final-product price from increasing as a result of a merger in an oligopoly. For example, a merger between firms of roughly equal size in a highly concentrated industry with an elasticity of demand around 1.0 to 1.5 probably would be permitted under the Guidelines if it did not raise the Herfindahl-Hirschman Index (HHI) by more than fifty, yet such a merger could raise consumer prices unless costs fell by 2.67% to 5%.[225] If the model applied for moderately concentrated industries, a merger that raised the HHI by not more than 100 points could require cost savings of 3.4% to nearly 7.5% to keep final-product price from increasing. This oligopoly model, however, is very sensitive to the underlying assumptions; for example, if the industry were sufficiently concentrated for the largest firms to operate interdependently, the levels of efficiencies required to keep price constant would increase dramatically.[226]

Our reading of the legislative history, however, is that Congress would have permitted some tradeoff between wealth transfers and efficiency effects. Suppose, for example, that one decided to weight transfers twice as heavily as efficiency. If, then, one expected a ten percent price increase and accepted the figures in Table IV-1, one would add twenty percentage points to the required cost savings from that Table

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225. For a definition of the HHI, see *infra* note 325. For a definition of "highly concentrated" and "moderately concentrated" under the 1982 Merger Guidelines, see *infra* text accompanying note 345.

226. Table IV-5 and the related discussion are based on Ordover, Sykes & Willig, *supra* note 203, at 1857, 1871. The underlying assumptions are crucial. For example, if the firms behaved competitively, i.e. took competitive measures in reaction to output changes of rivals, then much smaller efficiencies would suffice to offset increased market power and keep price from increasing. For an argument that this result would be likely, see K. Elzinga, *supra* note 108. Since this table gives the level of efficiencies for which price would remain constant, there would be no wealth transfer from a price increase to offset the social benefits of lower costs. The numbers in this table therefore are not comparable to the figures in Tables IV-1, IV-2, and IV-3; some lesser amount of efficiencies would be sufficient to offset the effects of higher prices and leave social welfare (under economists' definition, ignoring wealth transfers) unchanged. For further discussion, see Fisher, Lande & Vandaele, *supra* note 223, at 1704 table 1 notes.

Table IV-5

S_1	S_2	$S_1 + S_2$	ΔHHI $= 2S_1S_2$	Cost Saving Necessary to Keep Price Constant, for Various Values of η				
				3.0	2.0	1.5	1.0	.5
5	5	10	50	1.67	2.5	3.33	5.0	10.0
10	2.5	12.5	50	1.33	2.0	2.67	4.0	8.0
25	1	26	50	.64	.96	1.28	1.92	3.85
10	5	15	100	2.22	3.33	4.44	6.67	13.33
12.5	4	16.5	100	2.02	3.03	4.04	6.06	12.12
17	3	20	102	1.7	2.55	3.4	5.1	10.2
7	7	14	98	2.33	3.5	4.57	7.0	14.0
8	7	15	112	2.49	3.73	4.98	7.47	14.93
9	9	18	162	3.0	4.5	6.0	9.0	18.0
10	10	20	200	3.3	5.0	6.67	10.0	20.0
20	5	25	200	2.67	4.0	5.33	8.0	16.0
15	15	30	450	5.0	7.5	10.0	15.0	30.0
30	10	40	600	5.0	7.5	10.0	15.0	30.0
20	20	40	800	6.67	10.0	13.33	20.0	40.0
30	30	60	1800	10.0	15.0	20.0	30.0	60.0

Notes:

S_1, S_2 Market shares of the two merging firms

ΔHHI   Change in the Herfindahl-Hirschman Index resulting from the merger

η Elasticity of demand at the prevailing price

1. Columns 5-9 show the reduction in marginal costs of the merging firms, as a percentage of the original price, sufficient to offset increased market power from a merger of firms with market shares S_1 and S_2, for elasticities of demand of 3.0, 2.0, 1.5, 1.0, and .5, under the assumptions in note 2 below. The reduction in marginal costs, as a percentage of the original price, sufficient to keep that price constant, is R, where

$$R = \frac{2S_1S_2}{(S_1 + S_2)\eta} = \frac{\Delta HHI}{(S_1 + S_2)\eta}$$

2. The figures in the table assume an oligopolistic industry with barriers preventing new entry, a homogeneous product, multiple firms with market power, no competitive fringe, and a "Cournot assumption." "Cournot assumption" means that firms assume that their competitors will not react to changes in their output. (E.g., if firm A increases its output enough to lower industry price, we assume that other firms will neither reduce their output to keep prices up nor increase their output, thereby putting more downward pressure on price.)

3. The "Cournot assumption" is vital to the table. If firms cooperated (tacitly colluded to some degree), substantially greater reductions in marginal cost would be required to keep price constant. If, however, the merger of small firms created another large firm to increase competitive behavior, substantially smaller reductions in marginal cost would give the same result of no change in price.

4. Under the assumptions in note 2 above, the cost reductions *overstate considerably* the reduction in marginal cost necessary for the merger to be socially efficient. With no increase in price, there is no additional deadweight loss from additional output restriction and no additional transfer from consumers to business firms; the reduction in costs therefore represents pure social gain. Note, however, the obvious point that social welfare would be increased even more if industry output increased in response to a reduction in marginal cost.

5. For additional discussion, see *supra* text accompanying notes 223-26.

Table IV-5 is derived from Ordover, Sykes & Willig, *Herfindahl Concentration, Rivalry, and Mergers*, 95 HARV. L. REV. 1857, 1871 (1982).

to account for all undesirable effects of mergers. Giving this much weight to wealth transfers would make it hard to find any occasion when anticipated efficiencies could be great enough to make one willing to accept a merger likely to enable the merged firm to raise prices that much.

Although the legislative history of the antimerger laws demonstrates that distributive effects were of primary importance to Congress, the implications of the "strict constructionist" approach would trouble many analysts. Indeed, most economists argue that the antitrust laws are a very poor method of wealth redistribution, and that sound public policy requires one to separate redistributive concerns completely from efficiencies analysis.[227] Moreover, the "strict constructionist" approach essentially minimizes all the post-1950 learning about the efficiencies likely to result from mergers and their importance to society.[228] Fortunately, the antitrust laws, especially the Federal Trade Commission Act, require analysts to incorporate their understanding of the latest economic, business, and policy developments.[229] Although excluding wealth transfers entirely would be contrary to congressional intent, antitrust decisionmakers surely have the mandate to give more weight to efficiencies than Congress did in 1950.[230] For example, suppose the enforcement authorities believed that it was appropriate to weight wealth transfers one-half as heavily as efficiency effects and that this weighting was not inconsistent with the will of Congress. Then, if they accepted the figures in Table IV-1, a merger expected to result in a ten percent price increase would require 5.0 percentage points more cost savings than those shown in Table IV-1. In this case, if elasticity of demand were 1.0, marginal costs would have to decrease by 5.55% to offset both the efficiency and wealth transfer effects of a ten percent increase in price.

In short, the permissible variation from the original congressional expression would involve (a) the decisionmakers' and the reviewing courts' calculations of the strength and clarity of the concern of Con-

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227. For a good overview of this argument, see Elzinga, *The Goals of Antitrust: Other Than Competition and Efficiency, What Else Counts?*, 125 U. PA. L. REV. 1191 (1977). *See also* R. BORK, *supra* note 38, at 111; Landes & Posner, *supra* note 123, at 954. Although his context is broader than antitrust enforcement, Professor Williamson's conclusion is especially appropriate to antitrust policy: "To the extent . . . that redistribution is needed, this should be accomplished mainly through governmental programs to transfer generalized purchasing power. Using the corporation for this purpose is apt to be both ineffective and detrimental to its performance in efficiency respects." Williamson, *supra* note 62, at 65-66 (footnotes omitted).

228. *See supra* Part III; P. Pautler, *supra* note 11.

229. *See supra* Section B.2 of Part II.

230. As an extreme example, the decisioumakers could consider wealth distribution only when they expected the efficiency benefits roughly to equal the deadweight loss. *But see supra* note 222.

gress for each of the two factors; (b) the enforcers' opinions regarding the desirability of implementing redistributive concerns compared with that of encouraging efficiencies from mergers; and (c) the jurisprudential question of how much discretion the antitrust statutes give to decisionmaking authorities. While we feel comfortable concluding that public policy should count efficiency more heavily and wealth transfers less heavily than Congress desired in 1950, we make no recommendation of the optimal weighting scheme. Regardless of the ultimate decision, we repeat our caveat that this weighting of wealth transfers and allocative inefficiency against productive efficiency concerns is unworkable on a case-by-case basis.

E. Conclusion

Williamson's methodology has had an enormous positive impact on antitrust policy. Scholars now generally accept the proposition that efficiencies are a major benefit of mergers and the expectation of efficiencies is not a justification for opposing a merger. Moreover, Williamson demonstrated that in many cases efficiencies will be more important quantitatively than market-power effects. The debate now is over the best method for antitrust policy to incorporate efficiency considerations.

As the discussion in this Part has demonstrated, there are a host of severe and probably overwhelming problems in any attempt to quantify the tradeoff analysis, particularly on a case-by-case basis. First and most important, both efficiencies and market-power effects from mergers are extremely difficult to predict, either as to the probability of their existence or likely size. Second, both the wealth-transfer concerns of Congress and the Posnerian costs of monopoly suggest that the analysis should somehow include area S in Diagram IV-1 in the calculation Third, refinement to adjust for changes in quality is crucial, yet it vastly complicates the analysis. Fourth, both the timing of the stream of benefits and costs and the dispersion effects of the merger—umbrella effects, incipiency concerns, and the probability of collusion—strongly affect the analysis, yet they are seldom capable of accurate estimation before a merger. Moreover, the measurement problems that the tradeoff creates are likely to be overwhelming. The terms of the tradeoff are very sensitive to small uncertainties concerning a number of items of necessary information, such as the probable demand elasticities, specifications of the demand and cost functions, and the probable degree of oligopolistic coordination. Finally, the Williamsonian analysis must include enforcement, litigation, and uncertainty costs of antitrust policy, as we discuss in detail in Part V. These and other problems dis-

cussed in this Part greatly complicate accurate use of the tradeoff analysis.

By far the most important question for policy, in our view, is whether after all these complications, Williamson's tradeoff methodology is precise enough to form the basis of a case-by-case evaluation of mergers. The problems that we have already discussed, by themselves, would lead us to a presumption that a case-by-case efficiencies defense is impractical. In the next Part, we shall further examine the pros and cons of alternative methods of translating Williamson's insights into antitrust policy.

V
IMPLICATIONS OF EFFICIENCIES FOR MERGER
ENFORCEMENT AND LITIGATION*

A. Introduction: Methods of Incorporating Efficiency Considerations

As we indicated in the Introduction to Part IV, analysts increasingly recognize that firm size and market share are positively correlated with efficiencies and that mergers may often result in lower costs. Our analysis thus far has shown, however, that evidence of efficiencies and the results of the Williamsonian tradeoff are often uncertain and imprecise. Because of the importance and the difficulty of assessing efficiencies evidence, the courts, the Commission, and the Justice Department have been struggling to accommodate both efficiencies and market power in merger enforcement. The 1982 Merger Guidelines and the Federal Trade Commission Statement on Horizontal Mergers seem to offer two approaches to the dilemma: they raise somewhat the levels at which the Government will challenge mergers, and the enforcement agencies will use their discretion to abstain from prosecuting because of anticipated efficiencies, at least under certain very limited circumstances.

The Guidelines will not end debate on how best to incorporate efficiencies into merger enforcement. Indeed, they do not bind the courts, which still must face the question of how to incorporate efficiencies into judicial analysis. Despite the difficulty of assessing the evidence, some commentators would allow a complete efficiencies defense,[231] while others would allow only the litigation of certain types of evidence.[232] Faced with defendants' arguments that efficiencies

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231. *See, e.g.*, Muris, *supra* note 16.

232. *See* 4 P. AREEDA & D. TURNER, *supra* note 17, ¶ 943, at 158; *see also infra* text accompanying notes 260-77.

should militate against liability, courts, agencies, and prosecutors must evaluate how best to address efficiency concerns in merger enforcement.[233]

Merger analysis can incorporate efficiencies in one of two ways: on an individual or case-by-case basis, or through general presumptions. In other words, courts or agency officials may consider the efficiency aspects of each individual merger, or they may decline to analyze probable cost savings from each individual merger and instead incorporate presumptions about average results into a set of guidelines. Implementation of either approach can be through prosecutorial discretion or by judicial rule. In this Part, we start by analyzing some important policy aspects of the case-by-case approach and then consider specific case-by-case proposals, including a partial efficiencies defense and prosecutorial discretion. We compare the case-by-case approach with an implicit alternative, accounting for efficiencies by adjusting the Merger Guidelines' thresholds. Because of the inherent difficulties of a case-by-case approach, we recommend that the prosecutors and judges incorporate efficiency considerations into a set of guidelines for determining when to prohibit mergers. Finally, we develop a general framework, using error analysis, to analyze any potential policy for incorporating efficiency considerations into merger analysis and use it to support our conclusion that implicit consideration of efficiencies is superior to any case-by-case approach.

B. *The Case-by-Case Approach*

1. *Central Policy Issues*

In analyzing alternative means of addressing efficiency concerns, we start with the assumption that Congress meant merger enforcement to be workable and easy to administer.[234] We also assume that anti-

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233. Mergers may enhance the efficiency of the combining firms in such diverse areas as management, distribution, and production. The difficult issue is whether to consider such efficiency gains as at least a partial offset to the potential anticompetitive effects of a merger, given the inherent difficulty of predicting and measuring efficiencies. In contrast to previously discussed issues, the question here is not really whether efficiencies reduce or enhance the market-power effects of a merger, but whether one should treat efficiencies as an independent, countervailing factor in merger analysis.

234. Professor Bork states:

There must surely be a canon of statutory construction holding that, other things being equal, courts should attribute to the legislature a policy intent which, because of the scope and nature of a body of law, makes that law effective in achieving its goals, renders the law internally consistent, and makes for ease of judicial administration.

R. BORK, *supra* note 38, at 69. *See also* Ehrlich & Posner, *An Economic Analysis of Legal Rulemaking*, 3 J. LEGAL STUD. 257 (1974); Reynolds, *The Economics of Antitrust Enforcement: Theory and Measurement*, 68 GEO. L.J. 1121 (1980); Schwartz, *An Overview of the Economics of Antitrust Enforcement*, 68 GEO. L.J. 1075, 1087-91 (1980).

trust policy should maximize deterrence and permission.[235] Given these assumptions, we doubt the wisdom of a case-by-case approach. In theory, of course, one would want to perform a Williamsonian tradeoff in each individual merger. This approach, however, is enormously complex and may be impossible to implement. The difficulties of predicting and demonstrating efficiencies and of evaluating the Williamsonian tradeoff become more obvious when one analyzes in detail the case-by-case approach in light of three policy issues vital to merger enforcement: standard and burden of proof, predictability, and the ability of the Commission and the courts to determine the probable extent of efficiency and market-power effects from individual mergers.

a. Standard and Burden of Proof

Whenever decisions are to be based on evidence, one of the most fundamental questions is what standard of proof to require. For an efficiencies defense, should we require that the cost savings be possible, probable, or virtually certain? That efficiencies arise for both firms, or for just one?[236] That they be one percent, five percent, or twenty percent to compensate for market-power effects? Should proof of efficiencies be dispositive or merely one factor in the analysis?

Any case-by-case efficiencies defense raises tremendous proof problems for litigants and for the prosecutors or judges who must evaluate the evidence. Many of the most important efficiencies, such as transaction-cost savings, are incapable of accurate prediction, measurement, or evaluation, especially by an outsider before a merger. Even where efficiencies are substantial, they sometimes arise only gradually, over a period of several years after the merger. For every expert predicting efficiencies and/or quality improvements from a particular merger, another will testify that they are unlikely. Further, the merging corporations have inside information and trade secrets that outsiders cannot challenge effectively. Finally, an efficiencies defense would

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235. Professors Landes and Posner remind us that:

> The benefits of antitrust enforcement are not limited to the restoration of competitive conditions in the particular market in which the case is brought, but include deterrent effects in other markets. The existence of such deterrent benefits is an argument for occasionally bringing a suit against a small monopolist, so that other small monopolists will be deterred, even if most cases are brought against large monopolists. This point argues against announcing a threshold market size below which the exercise of monopoly power will be deemed lawful.

Landes & Posner, *supra* note 123, at 953. *See also* Block, Nold & Sidak, *The Deterrent Effect of Antitrust Enforcement*, 89 J. POL. ECON. 429 (1981); Easterbrook, *Predatory Strategies and Counterstrategies*, 48 U. CHI. L. REV. 263, 282 (1981); Ehrlich & Posner, *supra* note 234, at 262, 275-77.

236. Areeda and Turner note that "[a]n important justification for the defense is that it would create an additional efficient competitor. A merger between an already efficient firm and an inefficiently small firm would not do that." 4 P. AREEDA & D. TURNER, *supra* note 17, ¶ 961, at 196.

require numerous cost calculations and quality comparisons that would probably be complicated, lengthy, expensive, and controversial.[237]

Because of the resistance of efficiency considerations to explicit demonstration, the side with the burden of proof would probably lose most cases. If the merging parties bore the burden, even a "preponderance of the evidence" standard would permit few additional mergers. A fortiori, if an efficiencies defense required "clear and convincing" evidence, or the equivalent, as the 1982 Merger Guidelines and the Federal Trade Commission efficiency consideration proposals do, it would have an extremely limited effect on the outcome of the litigation or prosecutorial decision. In our view, one rarely could call premerger predictions of efficiencies "clear and convincing" evidence.[238] Nevertheless, attempts to meet that burden might substantially increase litigation costs. In short, given the weight of the burden, a case-by-case defense might be a very expensive cosmetic.

b. *Predictability*

The issue of predictability is central to any merger enforcement program and to the analysis of any case-by-case evaluation of efficiencies.[239] Merger enforcement must maximize certainty about the legality of any given merger—i.e., the probability that a given merger will

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237. Allocation of cost to appropriate product markets, geographic markets, and time frames often are matters of great controversy. Posner and Easterbrook write:

> Courts have required cost studies that bear little relation to the way an economist reckons cost; then, when the expensive studies have been tendered, courts routinely announce that the data is not conclusive. (Indeed, it rarely is.) The presumption of illegality carries the day; the cost-based defense fails. This seems the likely fate of an efficiencies defense . . . [which] requires not simply a computation of marginal cost at hypothetical levels of production under hypothetical management in a hypothetical (reconstructed) firm.

R. POSNER & F. EASTERBROOK, ANTITRUST CASES, ECONOMIC NOTES AND OTHER MATERIALS 920 (1981).

238. *See supra* Section B.2 of Part III.

239. Nobel Laureate Frederick von Hayek and Professor Henry Simons emphasized the importance of clear, objective rules of law to protecting citizens from abuses of government.

> Nothing distinguishes more clearly conditions in a free country from those in a country under arbitrary government than the observance in the former of the great principle known as the Rule of Law. Stripped of all technicalities, this means that government in all its actions is bound by rules fixed and announced beforehand—rules which make it possible to foresee with fair certainty how the authority will use its coercive powers in given circumstances and to plan one's individual affairs on the basis of this knowledge . . . . [T]he discretion left to the executive organs wielding coercive power should be reduced as much as possible . . . .

F. HAYEK, THE ROAD TO SERFDOM 72-73 (1944) (footnote omitted).

> National government should be government by law, by legislative rules, and by legislation which follows clear, announced rules of policy . . . . Only by adherence to the rule of law and to announced rules of policy may a people have strong government without granting inordinate, arbitrary power to ruling parties, factions, or majorities of the moment.

H. SIMONS, ECONOMIC POLICY FOR A FREE SOCIETY 18-19 (1948).

face a legal challenge and that the challenge will succeed. Uncertainty entails several costs: it can increase firms' costs of finding desirable mergers and may even deter firms from attempting some potentially desirable mergers.[240] Consequently, an increase in predictability should result in savings, such as a reduction in legal fees due to an increase in the settlement rate.[241]

Any type of a case-by-case approach would greatly increase business uncertainty.[242] Businessmen may be less concerned with the relative merits of applicable rules than with knowing exactly what the rules will be and how the enforcement agencies and courts will interpret them.[243] An antitrust policy that enabled businessmen to plan with relative certainty would make the merger enforcement standards simple and determinable in advance. Although the uncertainty stemming from market definition is unavoidable, an efficiencies defense would exacerbate the problem. The managements and boards of directors of the acquiring and acquired firms would have a consuming interest in knowing the probable legality of a prospective merger, as would arbitrageurs and banks approached for credit. Typically, interested parties would ask the advice of outside counsel, who would not have intimate knowledge of the details of the industry and probably could not always evaluate claims of likely efficiency or market-power effects without their own investigations. The lawyers would have as little as a few hours to form an opinion on the basis of which their clients might risk hundreds of millions of dollars.[244] Not only would the attorneys have to decide on incomplete information, but their opinions would also have to consider the probability of challenge by the enforcement agencies, which in turn would act on different but still incomplete

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240. The prospect of using ambiguous legal standards to help thwart an unwanted takeover also encourages wasteful defensive maneuvers by potential targets. Such activity wastes executives' time and adversely interferes with corporate decisionmaking. *See, e.g.*, Nazem, *supra* note 96 (discussing Marshall Fields' myriad of costly activities for avoiding an unwanted takeover).

241. *See* Posner, *An Economic Approach to Legal Procedure and Judicial Administration*, 2 J. LEGAL STUD. 399, 423-26 (1973) (an increase in predictability of outcome will lead to an increase in settlement rate).

242. One might initially believe that businessmen would welcome this uncertainty, because some additional mergers at least would be possible. However, if antitrust enforcers instead made the guidelines very objective, raised them to account for efficiencies, and then followed them very closely, the overall decrease in uncertainty would free businesses to attempt any number of conforming transactions. We believe that the reduced uncertainty of the latter approach would generally help businesses' longrun planning more than the prohibitions would hurt it. *See also infra* note 243.

243. For example, William P. Tavoulareas, President of Mobil Oil Corp., complained bitterly about the legal vagaries that mired his company's takeover bids: "The antitrust laws are not precise . . . . Tell us what the rules are and we'll live within them." Nicholson, *Mobil's Tavoulareas: One Tough Cookie*, NEWSWEEK, Dec. 28, 1981, at 53-54.

244. An experienced member of the private antitrust bar recounted to us that he has been in the latter situation on several occasions.

information.[245]

The introduction of a case-by-case efficiencies defense would vastly complicate the antitrust counselors' already difficult tasks. The attorneys would have to make a rough judgment as to the likely result of the Williamsonian tradeoff, a nightmarish task even for skilled economists working with extensive inside information and ample time. Of course, after the lawyers made their decision, they would have to explain it to their clients. Since sophisticated clients usually want the reasoning behind their lawyers' recommendations, the counselors also would have to convince the corporate managers, board of directors, bank officials, or arbitrageurs how the efficiencies defense would be resolved. If the attorneys failed to explain the tradeoff convincingly, the executives' uncertainty about the merger's ultimate legality would increase. Even if the counselors were able to form an opinion, and even if the clients accepted it, the added uncertainty would prevent many mergers, largely because clients would know that they could not rely on their lawyers' advice.

c. The Ability of the Commission and the Courts

Merger policy must recognize the limited ability of courts and the Commission to assess efficiencies accurately. In asking the courts and Commission to address issues they cannot handle adequately, we risk judicial ad hocery, an erosion of confidence in the judicial system, and increased costs of business uncertainty and antitrust enforcement.

The case-by-case approach in any form would lead to litigation with efficiencies as a central issue.[246] The Commission and the courts would have to identify both probable market-power and efficiency effects and trade them off against each other. As we have seen, accurate prediction and assessment of both types of effects are enormously difficult. The courts would have particular difficulty predicting market-power and efficiencies effects because each party would find experts to present its own competing analysis of these questions. Faced with conflicting expert testimony, courts would have to evaluate those claims even though such a task would be outside their fields of expertise.

The market-power/efficiencies tradeoff may not only be beyond

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245. Under the terms of the Hart-Scott-Rodino Antitrust Improvements Act, the merging parties must provide antitrust enforcers with certain information on their transaction and then wait 30 days (15 days for a cash tender offer), during which time they cannot merge. The enforcers can either allow the parties to consummate the merger or ask for additional information. 15 U.S.C. § 18a(b)(1)(B) (1982). The parties typically provide this information within two days to two weeks. After receiving the necessary information, the enforcers have 20 days (10 days for a cash tender offer) in which to obtain a hold-separate order or preliminary injunction. 15 U.S.C. § 18a(e)(2) (1982).

246. *See infra* text accompanying notes 271, 289-90.

judges' expertise, but may be beyond the limits of reliable adjudication. The judiciary is best suited to adjudicate problems of an "either-or" variety where the issue is deciding which side is correct.[247] An efficiencies defense, however, requires a multivariate inquiry that balances not only market-power and efficiency effects, but quality changes as well.[248] Each factor is related to the other "as are strands of a spider web. If one strand is pulled, a complex pattern of readjustments will occur throughout the entire web."[249] Given the nature of the multivariate problem, lawyers usually cannot meaningfully isolate one factor from another. Nor can judges rely on traditional step-by-step reasoning. Judges therefore are unlikely to render opinions that will guide future business and legal decisions.[250]

Given their lack of economic expertise and faced with a problem ill suited to adjudication, judges will likely rely on the clearest command of the legislative history and resolve all doubts on the side of caution toward possible market-power effects. If they did, litigation would become more frequent and more expensive, with additional mergers being permitted only if neither Government nor private litigants challenged them. Judges seriously attempting to resolve the conflict on a case-by-case basis would probably resort to ad hoc presumptions and often make "wrong"[251] decisions.

Other commentators share our view that decisionmakers cannot adequately analyze market-power/efficiencies tradeoffs. Judge (then Professor) Bork very eloquently stated some of the reasons for this conclusion:

> Passably accurate measurement of the actual situation [including an estimate of efficiencies and deadweight loss] is not even a theoretical possibility; much less is there any hope of arriving at a correct estimate of the hypothetical situation. Consider two of the factors that would have to be known: the demand curve over all possible relevant ranges of output and the marginal cost curve over those same ranges. Only by knowing where marginal cost and demand intersect could one know whether there was a restriction of output and what its size was. *Nobody knows these curves.* Even the companies involved do not . . . .

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247. Bok, *supra* note 33, at 291 ("In the complex statistical and theoretical jungle of a merger proceeding, few disputes actually fit this description.").

248. *See supra* text accompanying notes 188-91.

249. Henderson, *Judicial Review of Manufacturers' Conscious Design Choices: The Limits of Adjudication*, 73 COLUM. L. REV. 1531, 1536 (1973) (discussing the notion of "polycentric" decisionmaking in the design defect context). Professor Henderson draws this concept from Fuller, *Adjudication and the Rule of Law*, 1960 PROC. AM. SOC'Y INT'L L. 1, and M. POLYANI, THE LOGIC OF LIBERTY 170-84 (1951).

250. Henderson, *supra* note 249, at 1531-39; Fuller, *supra* note 249, at 3-5.

251. We define a "wrong" decision as one where, *ex post*, with complete information, the decisionmaker would have judged the Williamsonian tradeoff the other way.

There is a good reason why firms do not know these things, and it is the same reason why *they cannot be known through an antitrust trial.* The demand curve is not known because it changes continually and because the company is not constantly plotting it by running its prices up and down. The attempt to do so might make a minor contribution to science, but quite a research grant would be required, since the losses incurred in an attempt by a major company might make serious inroads on the resources of even the Ford Foundation.[252]

A large number of commentators have come to similar conclusions concerning the difficulty of measuring the required quantities.[253] Even commentators who analyze mergers totally in terms of efficiency believe that the case-by-case defense is unworkable and that the better alternative is to use presumptions, such as raising the Guidelines' threshold level for challenging mergers[254] or only attempting to identify mergers that might result in higher prices for consumers,[255] supplemented, of course, by prosecutorial discretion.[256]

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252. R. BORK, *supra* note 38, at 125-26 (emphasis added).

253. *See, e.g., id.*; R. POSNER, *supra* note 7, at 112-13; Landes & Posner, *supra* note 123, at 953-56. *But see* Muris, *supra* note 16.

Professor Posner writes:

I would not allow a generalized defense of efficiency. Not only is the measurement of efficiency (whether based on economics of scale, superior management, or whatever) an intractable subject for litigation; but an estimate of a challenged merger's cost savings could not be utilized in determining the total economic effect of the merger unless an estimate was also made of the monopoly costs of the merger—and we simply do not know enough about the effect of marginal increases in the concentration ratio under different market conditions to predict the price effects, and hence monopoly costs, of a challenged merger, against which to compare the projected cost savings of the merger.

R. POSNER, *supra* note 7, at 112-13 (footnote omitted).

Professors Landes and Posner discuss the difficulties in litigating just one of the factors necessary to an efficiencies defense. While an exact measurement of monopoly power requires a knowledge of elasticities, Landes and Posner conclude that "unfortunately . . . these elasticities will rarely be known and are not easily determinable (at least by the methods of litigation)." Landes & Posner, *supra* note 123, at 956. In the same article, Landes and Posner suggest that there are "perhaps very few" cases "where the market elasticity of demand and the elasticity of supply of the competitive fringe are known." *Id.* at 953.

254. Even though Professors Bork and Posner reject a case-by-case consideration of efficiencies, expected cost savings largely form the basis of their proposal for raising the threshold for challenging mergers under the Guidelines. R. BORK, *supra* note 38, at 221-22 (Bork would permit mergers until firms reached market shares of approximately 30-40%); R. POSNER, *supra* note 7, at 112.

255. Joskow, *Comments on Pitofsky,* in ANTITRUST LAW AND ECONOMICS 196, 199 (O. Williamson ed. 1980) ("In short, if the result of the merger is an increase in price due to monopoly power and an associated reduction in consumer welfare, the court must focus on the 'monopoly' aspects of the merger even if there are associated 'economies' in production cost . . . .").

This solution conforms with part of Professor Bork's analysis of the legislative history of the Sherman Act: "The touchstone of illegality is raising prices to consumers. There were no exceptions." Bork, *Legislative Intent and the Policy of the Sherman Act,* 9 J.L. & ECON. 7, 16 (1966). *But see* R. BORK, *supra* note 38, at 50-71 (advocating merger policy based solely on efficiency considerations).

256. Professor Williamson concludes that efficiencies should be a factor in shaping the Merger Guidelines, but based on prosecutorial discretion rather than on a case-by-case basis.

The courts themselves have recognized their limited ability to handle similar kinds of complex economic tradeoffs. For example, in *United States v. Philadelphia National Bank*,[257] the Supreme Court declined to consider whether a merger producing anticompetitive effects in one market should be permitted because of its procompetitive effects in another:

> [A] merger the effect of which "may be substantially to lessen competition" is not saved because, on some ultimate reckoning of social or economic debits and credits, it may be deemed beneficial. A value choice of such magnitude is beyond the ordinary limits of judicial competence, and in any event has been made for us already, by Congress when it enacted the amended § 7. Congress determined to preserve our traditionally competitive economy. It therefore proscribed anticompetitive mergers, the benign and the malignant alike, fully aware, we must assume, that some price might have to be paid.[258]

While the Court was considering a balancing of costs and benefits from different markets, the same reasoning applies to a case-by-case efficiencies defense as well. The accumulated wisdom of generations of antitrust courts is that judicial attempts to make complex economic tradeoffs lead merely to judicial chaos.[259]

Williamson, *Defense Revisited, supra* note 10, at 734-35. His solution is: "Cases in which anticompetitive effects are of a highly speculative nature, but for which a reasonably plausible showing of real economies can be made, might be suppressed administratively." *Id.* at 729. However, he adds an interesting qualification:

> I do not think it feasible or rewarding for the courts to entertain explicitly an economies defense involving a full-blown tradeoff assessment. The courts may nevertheless find it instructive to permit arguments pertaining to technological and transactional economies to be brought before them. For one thing, permitting such arguments assures that economies will not be regarded perversely as anticompetitive. Additionally, an economies defense may help put the relevant issues in perspective. If the government argues that a merger has an anticompetitive purpose or effect, when, in fact, the evidence of either is extremely thin and speculative, permitting the defense to demonstrate that nontrivial economies exist presumably will make the court more reluctant to accept the government's contentions. On the other hand, when economies cannot be shown to exist or appear to be negligible, courts will perceive little social loss in holding for the government.

Id. at 728. *See also* Edwards, Joffe, Kolasky, McGowan, Mendez-Penate, Ordover, Proger, Soloman & Toepke, *Proposed Revisions of the Justice Department's Merger Guidelines*, 81 COLUM. L. REV. 1543, 1561 (1981).

257. 374 U.S. 321 (1963).

258. *Id.* at 371. As the Commission noted in FTC v. Procter & Gamble Co., "Not surprisingly, the less sophisticated in economic matters a lawyer is, the more 'thorough' a job of economic inquiry he is likely to believe necessary." 63 F.T.C. 1465, 1557 (1963) (footnote omitted). We would add, "Not surprisingly, the less sophisticated in litigation matters an economist is, the more 'thorough' a job of judicial inquiry he is likely to believe necessary."

259. For example, in Northern Pac. Ry. v. United States, 356 U.S. 1, 5 (1958), the Court noted that rule of reason analysis is "often wholly fruitless" and leads to an "incredibly complicated and prolonged" inquiry. In United States v. Topco Assocs., 405 U.S. 596, 609 & n.10 (1972), the Court expressed a reluctance to "ramble through the wilds of economic theory" and observed that "courts are of limited ability in examining difficult economic problems." In Standard Oil Co. v. United States, 337 U.S. 293, 310 (1949), the Court noted that to require proof of an increase in

2. Types of Limited Case-by-Case Approaches

a. A Partial Efficiencies Defense

One can distinguish two versions of the case-by-case approach:[260] a full efficiencies defense,[261] including consideration of all factors likely to affect costs, and a partial efficiencies defense, limited to the consideration of the most significant or concretely demonstrable factors[262] or,

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competition would be a "standard of proof, if not virtually impossible to meet, at least most ill-suited for ascertainment by courts."

260. In practice, however, the realistic alternatives might not be completely different. United States v. General Dynamics Corp., 415 U.S. 486 (1974), generally calls for a broad economic inquiry into the effects of a merger. When judges have weak courtroom control or accept arguments under the *General Dynamics* test, some efficiencies evidence will reach the court. The more weight defendants believe that the enforcement agencies and the courts will give to efficiency considerations as part of their decision process, *see infra* note 284, the more they will collect and emphasize such evidence. Factfinders might err on the side of admitting efficiencies evidence to avoid the possibility of an appellate decision that the exclusion was "arbitrary and capricious." Further, if plaintiffs tried to limit consideration to "relatively provable" types of evidence, *see infra* text accompanying notes 271-72, defendants would argue that the distinction made no sense because they had evidence they could prove to be concrete if only given the chance. Since the distinction between concrete and speculative evidence is vague, we would not be surprised if many judges operating under a supposedly limited efficiencies defense were to allow the admission of most efficiencies evidence.

261. A complete efficiencies defense would allow the litigation of a merger's anticipated efficiencies in the enforcement proceeding. However, such a defense probably should be confined to consideration of productive efficiency gains, as opposed to redistributive profits or mere tax savings. *See* 4 P. AREEDA & D. TURNER, *supra* note 17, ¶¶ 956-959. After examining the problems and alternatives, Professor Muris, perhaps the leading advocate of a complete efficiencies defense, concluded that "although an efficiency justification will make merger proceedings more complex, the issue is a suitable one for litigation." Muris, *supra*, note 16, at 431-32.

262. *See, e.g.*, 4 P. AREEDA & D. TURNER, *supra* note 17, ¶ 939, at 147-48. Areeda and Turner write:

1. The defense should not be available where market demand is growing substantially, unless entry clearly is easy.
2. The defense should be limited to cases in which both merging firms suffer from substantial cost disadvantages of 5 percent, or more, from diseconomies of scale.
3. The defense should be limited to economies in (a) plant size, (b) plant specialization, where there is product complementarity and the diseconomies extend to 70-80 percent of the firm's output; and possibly economies in (c) distribution, (d) research and development, and (e) promotion, though in each of the last three instances, the case is weak and there are qualifications.
4. Proof meeting the above specifications . . . should constitute an absolute defense.

Id.

Areeda and Turner consider and reject four possible objections to a partial efficiencies defense: that scale economies would only occur in cases of companies whose market share is too small to violate a presumptive rule of illegality; that the failing company defense would probably permit firms operating substantially below minimum efficient scale to merge; that firms could achieve merger efficiencies through the competitively preferable methods of internal expansion or joint ventures; and that efficiencies are inherently difficult to prove. *Id.* ¶ 943, at 158.

We do not entirely agree with Areeda and Turner. For example, they overemphasize scale economies (not always the main source of efficiencies from mergers) and seem to overstate the ease of attaining efficiencies through internal growth. Further, some authors believe that internal expansion is not necessarily a competitively preferable substitute for expansion through merger. *See* R. BORK, *supra* note 38, at 130; Muris, *supra* note 16, at 389-92; Williamson, *Allocative Effi-*

alternatively, to consideration of efficiencies within a "gray zone."[263] Under each of these alternatives, efficiencies could be litigated or merely considered by prosecutors when they decide whether to challenge the merger. For example, Chairman Miller has proposed that scale-type efficiencies be made an acceptable defense in merger litigation;[264] and the Justice Department, in its 1982 Merger Guidelines, has stated that it will consider efficiencies in otherwise "close cases."[265]

Seemingly, a partial efficiencies defense offers an attractive alternative to courts and prosecutors. The intent is to lessen the inherent uncertainty of a case-by-case approach by limiting the inquiry to easily proven efficiencies. As an individualized approach, it also offers the theoretical advantage of permitting many more mergers likely to result

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ciency, supra note 10, at 106. Moreover, if all firms tried to increase scale economies through internal expansion, industry output would expand substantially with no guarantee those firms could sell the expanded output at a price that would cover costs. Thus, large increases in economies of scale often would require some consolidation—either by merger or by bankruptcy of some of the firms. It might not be competitively preferable to have the adjustment to increased scale economies occur through bankruptcy rather than merger. Finally, we find Areeda and Turner's fourth argument more convincing than they do. *Cf. infra* note 267 (despite their opinion that a limited efficiencies defense is appropriate, Areeda and Turner are very sensitive to the limitations of the judicial process).

263.   Under this approach, the Government almost never would challenge mergers involving relatively small market shares; on the other hand, it would not permit an efficiencies defense where a merger would create relatively large market shares. Only in some clearly specified "gray zone" would the rules allow an efficiencies defense. Although they would be tempered, the same advantages and disadvantages of a complete efficiencies defense would apply to this proposal.

264.   Footnote 22 of the FTC Statement reads: "Chairman Miller disagrees with this conclusion [that the Commission should not permit a case-by-case efficiencies defense] and believes that scale-type efficiencies should be considered as part of the legal analysis, consistent with the statutory scheme underlying Section 7 of the Clayton Act . . ." (citations omitted). *See* FTC Statement, *supra* note 19, § IV n.22, TRADE REG. REP. No. 546, at 81 n.22. For the majority position, see *infra* note 279.

265.

    In the overwhelming majority of cases, the Guidelines will allow firms to achieve available efficiencies through mergers without interference from the Department. 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.

1982 Merger Guidelines, *supra* note 18, § V(A), 47 Fed. Reg. at 28,502, 2 TRADE REG. REP. (CCH) ¶ 4505, at 6881-19 (footnote omitted).

    At a minimum, the Department will require clear and convincing evidence that the merger will produce substantial cost savings resulting from the realization of scale economies, integration of production facilities, or multi-plant operations which are already enjoyed by one or more firms in the industry and that equivalent results could not be achieved within a comparable period of time through internal expansion or through a merger that threatened less competitive harm. In any event, the Department will consider such efficiencies only in resolving otherwise close cases.

1982 Merger Guidelines, *supra* note 18, § V(A) n.53, 47 Fed. Reg. at 28,502 n.53, 2 TRADE REG. REP. (CCH) ¶ 4505, at 6881-19 n.53. Even before the Government issued the new Guidelines, in exceptional circumstances both enforcement agencies informally considered efficiencies in their exercise of prosecutorial discretion.

in efficiencies.[266] We believe, however, that attempts to implement a partial efficiencies defense are unrealistic; in practice any case-by-case approach is likely to become a full efficiencies defense.

A partial efficiencies defense might overcome some, but not all, of the evidentiary problems of the hardest-to-prove types of efficiencies.[267] It might require that permissible efficiencies be large or relatively provable and certain, such as efficiencies due to economies of plant specialization or plant size[268] or cost savings from reduced transportation;[269] or that there be proof of some similar efficient operation already in existence and a matter of public record; or that the evidence be from a party not involved in the transaction in question; or that the acquiring company had a successful record of improving acquired companies; or that the evidence be clear and convincing, as in the 1982 Merger Guidelines.[270] It would not, however, permit conjecture concerning the benefits that might arise if the merger were allowed.

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266. Further, by explicitly affirming the desirability and probable approval of efficiency-creating mergers, this policy might encourage businessmen to undertake mergers for efficiency rather than tax or other reasons.

267. Professors Areeda and Turner cogently discuss problems with a case-by-case efficiencies defense. *See* 4 P. AREEDA & D. TURNER, *supra* note 17, ¶¶ 943-949, at 157-75. Professor Turner notes in particular:

Taken literally, section 7 asks for a predictive economic judgment, a conclusion as to the probability of various possible economic consequences of a merger, and an assessment of the substantiality of those effects. Except in the most obvious cases, economic theory simply does not permit confident judgments on these issues even when all the economically relevant facts have been duly assembled. . . . [Further,] the effectiveness of the statute would largely be destroyed if the outcome of cases turned on a review of all the economic facts. With limited enforcement resources, few cases could be brought. . . . Inevitably, the number of mergers with substantial anticompetitive effects would tend to increase.

Consequently, there is little to be lost and much to be gained by directing the law toward rationally-based general rules that are framed in terms of what seem to be particularly significant factual issues, capable of easy resolution.

Turner, *Conglomerate Mergers and Section 7 of the Clayton Act*, 78 HARV. L. REV. 1313, 1318-19 (1965).

After recognizing these problems, Areeda and Turner attempt to minimize them by strictly limiting their proposed partial efficiencies defense. *See supra* note 262.

268. *See* 4 P. AREEDA & D. TURNER, *supra* note 17, at ¶ 949, at 157-58. Note, however, that many "probable" and "virtually certain" merger efficiencies seem not to have occurred, *ex post*. Further, problems in combining managements and operations might offset operating efficiencies. *See supra* Section B.2 of Part III.

269. Robert W. Doyle, Jr., an experienced FTC litigator, made this suggestion. He investigated a merger where the firms involved produced identical products from plants on opposite sides of the United States. Since each firm sold nationwide, it was relatively easy to estimate the savings in transportation costs. However, it was impossible to predict in advance the effects on costs of combining managements and other aspects of operations.

270. Areeda and Turner believe that some other types of efficiencies are inherently speculative and therefore should not constitute valid defenses in merger proceedings: "(a) plant specialization economies where there is no product complementarity, or where diseconomies affect a small part of output; or for economies in (b) capital cost, (c) procurement, (d) overhead, or (e) the combination of complementary resources." 4 P. AREEDA & D. TURNER, *supra* note 17, ¶ 949, at 175.

Although seemingly more manageable than a full efficiencies defense, the partial efficiencies defense would still suffer from the inherent difficulties of a case-by-case approach. While the defense might exclude the efficiencies most difficult to measure, it would neither alter their inherent unpredictability nor make it any easier to trade off efficiency and market-power effects, let alone to assess probable changes in product quality. It would suffer as well from the business problems stemming from this unpredictability: long, complex, and expensive litigation; application errors; and lack of support in the legislative history or current case law.

Further, prosecutors or judges might very well not be able to limit an efficiencies defense to "most provable" types of evidence. Having once permitted consideration of any efficiencies, a court might be reluctant to exclude evidence of other kinds of efficiencies, especially if it believed that a reviewing court might consider its distinction between relatively provable and relatively speculative efficiencies arbitrary and capricious. Moreover, if the Commission were to adopt Chairman Miller's proposal, parties challenged by the Justice Department might argue that since either the Commission or the Justice Department could have challenged the merger, it was arbitrary and capricious for the Commission but not the federal courts to admit evidence of efficiencies.[271] Since prosecutors might be unable to exclude less provable evidence—and the parties would have additional legal fights on the admissibility of such evidence—the partial efficiencies defense could conceivably involve even greater litigation cost than a full efficiencies defense until the courts resolve the admissibility question. The introduction of speculative material into evidence would increase investigation and litigation costs substantially, regardless of whether the courts gave the evidence any probative value. If this worst case scenario came true, there would be a parade of above-Guidelines mergers with the parties arguing efficiencies defenses.[272]

Finally, a partial efficiencies defense might not even immunize a significant number of efficiency-producing mergers. First, the defense probably would exclude many of the most important efficiencies arising in mergers, such as those concerning management or transaction costs.[273] Second, the litigants would face formidable difficulties in

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271. *See* Sims & Blumenthal, *New Merger Guidelines Provide No Real Surprises*, Legal Times, June 21, 1982, at 17, col. 1, at 24, col. 4.

272. Note that regulatory agencies approved such classic unsuccessful mergers as Pan Am-National and those forming Penn Central largely on efficiency grounds. *See* J. ARGENTI, *supra* note 154; *What the National Merger Did to Pan Am*, *supra* note 157.

273. Areeda and Turner's proposal, *see supra* note 262, would exclude transaction-cost economies. However, many economists believe that "mergers for conventional scale economy reasons are much less common than mergers for transactional-economy reasons." Williamson, *Defense*

proving even relatively measurable efficiencies. For example, if the merging parties were required to prove that they suffered from diseconomies of scale (as opposed to suffering losses or declining market shares),[274] the proof would seem to require a comparison of the merging firms' costs with those of competitors not parties to the merger. Since these purportedly more efficient firms typically would be extremely reluctant to allow competitors to study their operations—and antitrust enforcers would be equally reluctant to permit rival firms to share cost data, even if the firms agreed—this proof requirement would seem to be virtually impossible to meet.[275] Further, if there were reason to expect changes in product quality as well as in market power and costs, the tradeoff analysis would become enormously more complex, both in theory and in actual measurement.[276] Similarly, it would be extremely difficult for merging firms to prove that they could not attain the anticipated efficiencies or quality improvements through internal expansion or a less anticompetitive merger.

Given the proof problems, a case-by-case efficiencies defense generally would be very limited in practical effect. In either full or limited form, it would permit few additional mergers, as long as the standard of proof were high. In its limited form, the defense would either accommodate only a few of the most important efficiencies, or, more likely, judges would expand it beyond its nominal limits to include all or nearly all efficiencies evidence,[277] thereby inviting complex, expensive, and unpredictable litigation.

b. Prosecutorial Discretion

One possible solution to the problems of case-by-case litigation of efficiencies is to have prosecutors consider efficiencies as one factor in

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Revisited, supra note 10, at 723. Williamson's observation reflects the present interpretation of the Clayton Act which severely restricts horizontal mergers. With an efficiencies defense and/or higher horizontal merger guidelines, mergers to exploit scale economies would become somewhat more common, and this quotation would be more controversial.

274. *See supra* note 262.

275. It would be quite uncommon for two firms in an industry to be significantly less efficient than a competitor, *see supra* note 262, for such a large disadvantage would tend to drive them out of business quickly. However, this statement assumes that the market was performing competitively. If not, the analysis becomes much more complex. For example, preexisting market power might provide an umbrella to shield inefficient competitors and enable them to expand relative to the market leader over time. Indeed, an expansive "failing company" defense might largely subsume this entire type of proposal. For a recent attempt to expand the failing company exception, see FTC Statement, *supra* note 19.

276. *See supra* text accompanying notes 188-91.

277. Unlike a failing company defense, which applies only to a relatively discrete subsample of merging firms, a company involved in a merger always could assert that its merger would produce virtually every type of potential efficiency.

their discretion.[278] The Federal Trade Commission, for example, has announced that it will consider evidence of expected efficiencies on a case-by-case basis in its discretion in issuing complaints,[279] and the Justice Department, in its 1982 Merger Guidelines, has concurred at least in part.[280] Even before revision of the Guidelines, prosecutors had informally taken efficiency considerations into account in exceptional cases; the prosecutorial approach in general has a number of advantages,[281] but it fails to address the fundamental problem of a case-by-case approach: allowing a prosecutor rather than a judge to weigh efficiencies and market power does not lessen the inherent difficulty of the task.

Administrative discretion could in fact increase the difficulty. The Government would have to rely heavily on testimony from company experts of doubtful credibility.[282] Similarly, prosecutors might have

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278. This suggestion would entail an internal, nonadversarial balancing of market-power and efficiency considerations by the prosecutor with no right of appeal. Williamson favors this approach. *See supra* note 256. The procedure could incorporate time limits for an administrative decision but would have to include a standard of proof for considering efficiencies: possible, probable, or virtually certain. Within this general approach, there are several possiblities, including: (a) to consider all efficiencies; (b) to consider only certain "relatively concrete" types of efficiencies; (c) to establish an informal "gray zone" and only consider efficiencies arising from mergers that fall within this zone.

279.

> There are two ways merger guidelines might take efficiencies into account. One way is by raising the market share thresholds so that economies of scale generally can be realized to the fullest extent possible. The Commission supports an adjustment in the numerical criteria, in part, for this reason. Such an approach, however, may not account for all possible efficiencies. To accomplish the latter objective, an efficiencies defense could be allowed in individual cases. Of necessity, such a defense would require an assessment of both the magnitude of the efficiencies anticipated from their merger and the relative weight to accord this evidence vis-a-vis the potential market power effects of the merger.
>
> To minimize measurement difficulties, it has been suggested that an efficiencies defense could be limited to measurable operating efficiencies, such as production or plant economies of scale. These efficiencies are also more likely to be of the kind that may eventually represent an improved state of the art available to all producers. While such evidence is appropriate for consideration by the agency in the exercise of its prosecutorial discretion at the precomplaint stage, the Commission believes that there are too many analytical ambiguities associated with the issue of efficiencies to treat it as a legally cognizable defense. To the extent that efficiencies are considered by the Commission as a policy matter, the party or parties raising this issue must provide the Commission with substantial evidence that the resulting cost savings could not have been obtained without the merger and clearly outweigh any increase in market power.

FTC Statement, *supra* note 19 (citations omitted). Chairman Miller would have gone even further. *See supra* note 264.

280. 1982 Merger Guidelines, *supra* note 18, § V(A), 47 Fed. Reg. at 28,502, 2 TRADE REG. REP. (CCH) ¶ 4505, at 6881-19. For the text, see *supra* note 265.

281. This approach would be faster than a full efficiencies approach, might be more predictable for businesses, and might lessen litigation expenses, particularly when the prosecutor could consider the tradeoff informally prior to consummation of a friendly merger. If done properly, in theory it might permit most significant merger efficiencies while avoiding many litigation problems.

282. Such testimony would be especially suspicious if based on information collected after a

difficulty viewing the evidence objectively.[283] Moreover, the administrative process might not obtain approval any faster than litigation would, because an evaluation of cost efficiencies usually would be complex, and the prosecutor would have less time than in litigation. With possible additional delays, issues of the need for and likelihood of obtaining interim relief inevitably would arise. Such complications, together with the possibility of government challenge, would dissolve many planned mergers.[284]

The merits of this solution also depend on the amount of trust we have in the enforcers' wisdom and political neutrality. Standards that varied with changes in administration and therefore led to unequal treatment of similar mergers would lead to increased inequity and unpredictability for business. Further, prosecutorial discretion might heighten uncertainty, not diminish it, because there would be two standards, one precomplaint and a different one postcomplaint. Although one would hope that this solution would protect mergers leading to truly significant efficiencies,[285] it is probably best suited to dealing only with exceptional cases.

To the extent that the Federal Trade Commission and Justice Department follow their written policies of stringent proof requirements and limit their "prosecutorial discretion" to truly exceptional cases, their policies will avoid the worst consequences of this approach. However, the more the antitrust enforcers limit application of their discretion, the less protection the policies will provide for efficiency-producing mergers. The Commission's proposal requires that cost savings be unobtainable without the merger and that they clearly outweigh any increase in market power.[286] The Justice Department will limit consideration of efficiencies to otherwise close cases. Merger partici-

merger for the Government's investigation or for trial, rather than on internal documents prepared for purposes of examining a proposed acquisition.

283. Rogowsky argues further that the reward system for antitrust administrators creates a bias in favor of prosecution. Although he recognizes that strong leadership can overcome this bias, experience makes him wary of expecting all administrations to fight successfully a reward system that favors excessive enforcement. R. Rogowsky, *supra* note 174, at 155-59.

284. A little hypocrisy might be prudent. If the enforcers were to announce in writing that they would consider all types of efficiencies in every case, they would likely be besieged with contrived evidence that would add little and serve only to increase litigation costs. In contrast, by not announcing a readiness to entertain efficiency arguments and by considering efficiencies only as an unofficial matter of discretion, the enforcers might discourage all but the truly significant instances from coming forward.

285. Any enforcer imprudent enough to question a merger case involving exceptional, truly significant, highly probable efficiencies with only a minimal possibility of market-power effects would only create political problems for himself. *See generally* Kovacic, *supra* note 182.

286. 1982 FTC Statement, *supra* note 19, TRADE REG. REP. No. 546, at 73. Such proof probably would require all the conditions discussed at *infra* note 289, plus a clear prediction of the extent of the increase in market power. See *supra* text accompanying notes 114-17 for a brief summary of some of the problems of demonstrating market-power effects.

pants would have to demonstrate "clear and convincing" evidence of operating scale efficiencies, integration of production facilities, or multiplant efficiencies already enjoyed by one or more existing competitors that would not be attainable through internal expansion or through a merger threatening less competitive harm.[287] Both agencies' evidentiary requirements would be virtually impossible to meet.[288] Moreover, under either the Commission's or the Department's proposals, it also would seem virtually impossible to prove that the merging firms could not attain particular efficiencies through internal growth or through an acquisition less threatening to competition.[289] By setting a high burden of proof and by limiting consideration to "rare cases," the Justice Department has said in effect that it will not consider efficiencies case-by-case as part of its prosecutorial discretion. Although not limited to rare cases, the Commission's standard in practice should prove very similar to the Justice Department's proposal, unless a change in the Commission leads to a change in policy.

Despite the limited consideration of efficiencies in the Commission's proposal, it or any other prosecutorial discretion proposal has the potential to increase merger litigation. Case-by-case evaluation invites attorneys to attempt to meet the Commission's stringent requirements. Merging parties failing to meet those requirements could appeal, alleging biased prosecutorial consideration. Although the prosecutor's decision is not meant to be appealable, many firms would petition the courts to consider their efficiencies "fairly."

Despite all the problems, an occasional investigation may involve an above-Guidelines merger where the anticipated efficiencies appear so dramatic and certain that virtually everyone would agree that the merger would be socially desirable.[290] One would want an exception clause to cover such cases. Our caution is that the exceptions must be truly exceptional and rare, or they will defeat the *raison d'être* of guidelines—i.e., once the exceptions apply in other than extremely rare cases,

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287. *See supra* text accompanying notes 236-38. Moreover, these conditions are only "minimum" requirements; the Guidelines do not specify additional requirements. 1982 Merger Guidelines, *supra* note 18, § V(A) n.53, 47 Fed. Reg. at 28,502 n.53, 2 TRADE REG. REP. (CCH) ¶ 4505, at 6881-19 n.53.

288. *See supra* text accompanying notes 236-38.

289. The proof would appear to require demonstration that (a) the acquiring firm could make the acquired firm more efficient; (b) the firms involved could not obtain such efficiencies through internal growth; and (c) neither firm could obtain such efficiencies through an acquisition involving a smaller horizontal competitor or through a non-horizontal merger. It seems an impossible burden to prove all these conditions, especially to prove the lack of less anticompetitive alternatives.

290. We approach this topic with extreme reluctance, remembering that promoters justified acquisitions such as the mergers forming Penn Central and Pan American's acquisition of National Airlines on precisely these grounds. *See supra* notes 154 & 157.

predictability decreases, firms try to push the limits of the law, and litigation and business uncertainty costs skyrocket. Recognizing that the Government probably would not prosecute such a case anyway, we would accept a standard similar to that for horizontal price fixing:[291] follow the Guidelines on a per se basis, and only make a rare exception for *truly extraordinary* situations where it would seem to be a great travesty to do otherwise.

c. Proposals Based on a Specific Level of Efficiencies

The leading efficiencies defense proposals attempt to circumvent many of the practical problems of a tradeoff analysis by permitting mergers that exceed a specified threshold of efficiencies. This hybrid solution combines the presumptive and case-by-case approaches. It would examine the economies side of the Williamsonian tradeoff case by case, but would simplify the market-power side by presuming that some predetermined level of efficiencies typically would more than compensate for market-power effects. Clearly, one would partially resolve the market-power ambiguities of the Williamsonian tradeoff by preestablishing the efficiencies requirement. Not surprisingly, however, opinions about the required level of economies vary widely: Areeda and Turner would require five percent;[292] Muris, only 1.5%.[293] The congressional directives to err on the side of preventing the formation of market power and to give heavy weight to wealth-transfer effects (which neither Areeda and Turner nor Muris considered) suggest that the figure should be quite large,[294] very possibly larger than one reasonably could expect from the vast majority of efficiency-creating mergers.[295]

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291. *Compare* BMI v. CBS, 441 U.S. 1 (1979), *with* Arizona v. Maricopa County Medical Soc'y, 457 U.S. 332 (1982). In *BMI*, the Court permitted a blanket licensing provision tantamount to horizontal price-fixing, despite the per se rule, because there seemed to be no workable alternative that would reimburse composers (thereby providing a financial incentive to compose new music) without unduly restricting the use of already composed music. In *Maricopa*, by contrast, the Court demonstrated that the exceptions to the per se rule—i.e., the *BMI* exception—would be very rare. The Court refused to consider whether a medical insurance company's reimbursement plan (horizontal *maximum* price fixing) kept prices reasonable or whether the system generated efficiencies. We believe that such a strict standard for limiting exceptions to our Guideline approach to efficiencies would keep litigation and business uncertainty costs under control.

292. *See* 4 P. AREEDA & D. TURNER, *supra* note 17, ¶ 939, at 147-48.

293. *See* Muris, *supra* note 16, at 388 n.23.

294. Recall that we should include in our calculations the portion of area S from Diagram IV-1 (representing wealth redistribution and/or Posnerian costs of monopoly) not likely to be eroded by entry. Since that area would probably be many times larger than the area representing deadweight loss, this adjustment alone would increase the necessary cost reduction substantially. *See supra* notes 182-83 and Section D of Part IV.

295. For example, Areeda and Turner's requirement of a probable five percent cost savings for both merging firms, together with their other requirements designed to exclude trivial or spec-

The more fundamental problem, however, is that although mergers frequently lead to efficiencies, there is no way to predict accurately whether any individual merger will in fact lead to the hoped-for cost savings. Rather than use presumptions to simplify only one side of the Williamsonian tradeoff, we would go further and use presumptions for both sides—i.e., resolve the entire problem implicitly.

C. A Simpler Alternative: Implicit Incorporation of Efficiencies

An implicit approach to the incorporation of efficiencies would provide a simple alternative to the complexity and the measurement problems of a case-by-case evaluation. By raising the market-share thresholds of presumptive illegality to account for potential efficiency gains, this approach would permit the realization of some, but not all, of the efficiencies likely to result from mergers. Although it would surely miss many important potential efficiency gains,[296] it would have the advantages of simplifying litigation and increasing certainty and predictability. There are two aspects to an implicit approach. First, it would set the Merger Guidelines at a level that would permit mergers likely to yield efficiencies but not likely to lessen competition substantially.[297] Second, it would balance market-power and efficiency effects implicitly. Under this approach, the Merger Guidelines should be more permissive than they would be if they considered only market-power effects.[298]

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ulative efficiencies evidence, would probably be very difficult to meet and therefore would probably result in proof of few efficiencies. Moreover, their standards do not give any weight to wealth-transfer considerations. *See* 4 P. AREEDA & D. TURNER, *supra* note 17, ¶ 939, at 147-48; *id*. ¶ 949, at 175.

296. Efficiencies that even higher merger guidelines would not permit present troublesome questions. Since the economies of scale discussion, *supra* text accompanying note 111-13, suggests that full exploitation of scale economies sometimes might require large market shares, reasonable observers might conclude that a particular merger, although somewhat above the Guidelines' market-share levels, would probably produce efficiencies. Even a decisionmaker analyzing the legislative history of the Celler-Kefauver Amendment and concluding that Congress gave little weight to economies would surely hesitate to "block really important increases in efficiency." *See* Bok, *supra* note 33, at 318. If one is unwilling to let the rare exceptions make bad law, there appear to be three possible solutions, which are not mutually exclusive. The first is to have a very restrictive efficiencies defense. *See supra* note 262 (Areeda and Turner's proposal). The second alternative is to trust prosecutorial discretion to minimize the harm. *But see supra* notes 284, 289-90, and accompanying text. The third is to realize that no antimerger system will be able to attain all of its goals perfectly and forgo some highly probable efficiency benefits to obtain an otherwise workable system. The third alternative has the benefit of minimizing the litigation and uncertainty costs of merger enforcement. Moreover, we repeat our caveat from Section B of Part III: even highly probable efficiencies frequently do not materialize.

297. A substantial lessening of competition, of course, already is the statutory standard. Clayton Act § 7, 15 U.S.C. § 18 (1982).

298. However, if we believed that, on the average, market power first occurs at certain concentration levels, we might choose to establish the threshold of presumptive illegality at a slightly

D. The Tradeoff in Light of Implementation Errors

Evaluating the policy alternatives outlined above requires considering not only the accuracy of each alternative, but also its implementation costs. Most policy discussion has not addressed such costs. Rather, commentators have emphasized what we call Type 1 and Type 2 error; that is, stopping beneficial mergers and allowing undesirable mergers.[299] However, merger policy can make a third type of error. Type 3 error occurs when compliance with merger policy creates excessive costs to businesses, enforcers, and decisionmakers.[300] Quantitatively it is very significant, and any policy that ignores it runs substantial risk of departing from an optimal social result.

Table V-1 compares five alternative enforcement policies with respect to Types 1, 2, and 3 error. In general, any attempt to minimize one type of error requires increasing at least one of the others.[301] Ideally, we would be able to quantify each of the errors and choose a policy that minimized the sum of all three.[302] In fact, we have very little data on how large any of the three errors would be likely to be under any of the alternatives. Because of this lack of data, reasonable people,

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lower level in light of the incipiency mandate of § 7. Optimal guidelines therefore require some balancing of efficiency and deterrence concerns.

299. For a survey of the empirical evidence on the extent of the efficiency costs of monopoly power, see F. SCHERER, *supra* note 84, at 459-71. For caution in interpreting this evidence, see *supra* note 176.

300. Proper consideration of these errors would require examination of a given policy's effects on a firm's decision to merge. Further, Ehrlich and Posner note that more precisely formulated rules would lower litigation costs, raise settlement rates, and provide greater deterrence and permission. Ehrlich & Posner, *supra* note 234, at 264-65, 275.

301. This analysis uses the common notion of expected value for the various errors. The expected value of a random variable, such as Types 1, 2, or 3 error, is defined as $\sum_i x_i p_i$, where

(choosing Type 1 error as an example) x_i is the value of Type 1 error for each possible outcome i, and p_i is the probability of outcome i arising. *See, e.g.*, T. YAMANE, MATHEMATICS FOR ECONOMISTS: AN ELEMENTARY SURVEY 414 (1962). Although Type 1 or 2 error may be large in any individual merger enforcement decision, as evaluated *ex post*, the relevant consideration for enforcement policy is the sum of the expected values of each of the errors, *ex ante*. For a mathematical treatment of the concepts in this Section, see A. Fisher & R. Sciacca, *supra* note 93, § VI. The individual errors need not carry equal weights. For example, Congress indicated that Type 2 error should count more heavily than Type 1 error. *See supra* Part II.

For a groundbreaking attempt to measure Types 1 and 2 error in determining an optimal predation rule likely to have acceptably low Type 3 error, see Zerbe & Cooper, *An Empirical and Theoretical Comparison of Alternative Predation Rules*, 61 TEX. L. REV. 655 (1982).

302. We might not, however, want to minimize precisely the sum of the expected values of the three types of errors. For example, even if the probability of one of the three types of error were low, if the error would be unacceptably large, we might wish to avoid that policy even though an unweighted cost-benefit analysis would direct us to that solution. In general, this reasoning means that we should weigh the three types of error to minimize the expected value of the welfare loss from errors in merger policy. For a general treatment of the methodology, see Friedman & Savage, *The Utility Analysis of Choices Involving Risk*, 56 J. POL. ECON. 279 (1948), *reprinted in* A.E.A. READINGS IN PRICE THEORY 57 (G. Stigler & K. Boulding eds. 1952).

with different assumptions about the relative magnitudes of the errors, can differ on the optimal enforcement policy. Congress and the courts seem clearly to weight Type 2 error much more heavily than Type 1 error.[303] Congress' distaste for Type 2 error may reflect a belief that consumers would bear the costs of market-power increases and that the firm gaining market power would obtain most of the gains from increased efficiency.[304]

Table V-1

Comparison of Error Magnitudes Under Alternative Approaches to the Incorporation of Efficiencies in Merger Analysis

Proposal	Type 1 Error: Stopping Desirable Mergers	Type 2 Error: Allowing Undesirable Mergers	Type 3 Error: Excessive Uncertainty, Enforcement, and Litigation Costs
Per se legality for all mergers	Zero	Maximizes	Zero
Per se illegality, except for de minimis mergers	Maximizes	Zero	Low
Full case-by-case efficienicies defense	Moderate	Substantial	Maximizes
Partial case-by-case efficiencies defense	Substantial	Substantial	Substantial
Raising the Merger Guidelines (but no explicit efficiencies exemption)	Moderate[1]	Moderate[1]	Low

Note:
[1] This judgment depends on where the Guidelines are set. Relatively higher Guidelines shares, for example, would cause Type 1 error to decrease and Type 2 error to increase.

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303. *See supra* Part II.

304. If a firm with market power gained both efficiencies and additional market power, it is unclear whether that firm would raise or lower its price. Analysis of this question is very complex, as the discussion in Part IV demonstrates. *See also* Fisher, Lande & Vandaele, *supra* note 223. If such a firm were to gain only cost savings, with its market power unchanged, in general it would pass a portion of those savings on to consumers in the form of lower prices. For a basic economic analysis, see R. MUSGRAVE & P. MUSGRAVE, PUBLIC FINANCE IN THEORY AND PRACTICE 466-67 (1973). Another interesting question is, "Who bears the burden of Type 3 error costs?" Taxpayers bear prosecution and enforcement costs for government cases. Firms with or gaining monopoly pewer would be able to pass through some, but not all, of their Type 3 error costs. Firms without the ability to raise their prices above a competitive level would bear the entire burden of their Type 3 error costs. However, in the long run, if some change greatly increased economies of scale

The following hypotheticals show how the error tradeoff would operate. If a case-by-case efficiencies defense would correctly identify ninety percent of merger efficiencies, fail to find market-power effects ten percent of the time, and be able to balance market-power and efficiency effects correctly ninety percent of the time, then a case-by-case approach would certainly be justified, unless Type 3 error were very large. Numbers nearer to fifty percent, however, would militate against a case-by-case solution. Similarly, if a market-share guideline approach to the tradeoff would permit ninety percent of all merger efficiencies and only ten percent of the time would permit imminent or incipient increases in market power not compensated by the efficiency increases, the implicit incorporation of efficiencies through higher guideline thresholds would be justified.

Although no one can know what the actual numbers might be, we believe that the probability of making correct judgments through case-by-case analysis is unacceptably close to fifty percent. And given the large uncertainty in predicting both market-power and efficiency effects,[305] we believe that a single rule based on market shares and other objective criteria would more likely than not decrease, and certainly could not substantially increase, the sum of Types 1 and 2 error relative to a case-by-case approach—and Type 3 error would certainly decrease significantly.

Policy discussions, however, all too often ignore Type 3 error costs,[306] which in case-by-case consideration of efficiency factors would probably be very high. Any form of an efficiencies defense would demand extra time and other expenses from corporate planners and executives, defense attorneys, expert witnesses, prosecutors, · and enforcement decisionmakers. Many indirect costs, such as those stem-

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and necessitated a consolidation of a previously competitive industry through merger and/or internal expansion of all surviving firms, the analysis would be far more complex. The ability of firms to shift some of the Type 3 error costs to consumers would depend on whether new entrants would face the same costs and whether the consolidation of the industry led to market power for firms in longrun equilibrium. For the underlying analysis, see *id.*; E. MANSFIELD, *supra* note 53.

305. *See supra* Part III; P. Pautler, *supra* note 11.

306. For an interesting and admittedly extreme example of excessive Type 3 error, see Braeutigam's discussion of the effects of Phillips Petroleum Co. v. Wisconsin, 347 U.S. 672 (1954), a decision that the Federal Power Commission should regulate the wellhead price of natural gas: Between 1954 and 1960 "the Commission had accumulated some 11,091 rate schedules and 33,231 supplements to those schedules from 3,372 independent producers," and by 1960 "there were 3,278 producer rate increase filings under suspension and awaiting hearing and decisions." Braeutigam, *The Deregulation of Natural Gas*, in CASE STUDIES IN REGULATION: REVOLUTION AND REFORM 142, 150 (L. Weiss & M. Klass eds. 1981) (citations omitted). The Commission had the impossible task of making thousands of individual rate determinations using methods traditionally employed in public utilities rate cases. The Commission estimated that it would not finish its 1960 caseload until the year 2043. *Id.*

ming from greater business uncertainty, probably would also be large. One obviously cannot accurately predict the extra costs associated either with merger litigation or with a case-by-case efficiencies defense. These costs would vary considerably, ranging up to an amount comparable to the estimated $13.5 million in private legal fees alone that the attempts by DuPont, Seagram, and Mobil to acquire Conoco generated.[307]

The private[308] and government[309] data we have analyzed are high-

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307. *See* Brill, *Conoco: Great Plays and Errors in Bar's World Series*, AM. LAW., Nov. 1981, at 40, col. 3. These figures do not include government agencies' costs of evaluating the merger. Similarly, the lawyers for the winnning side in U.S. Steel's 1981 takeover of Marathon Oil Co. billed a total of $7 million in fees. *See* Nat'l L.J., Feb. 15, 1982, at 2, col. 2. We thank James M. Giffin for this information.

308. An experienced member of the private Antitrust Bar supplied us with the following estimates for the cost to a firm of litigating a merger case, as of 1982. He provided both low and moderate estimates, but declined to provide a high estimate because, as the estimated $13.5 million total for legal fees in the Conoco takeover situation illustrates, *see supra* text accompanying note 307, the high estimates can be astronomical. Because of the influence of expensive cases, the average cost per merger case should exceed the moderate estimate by some unknown amount.

Stage	Low Estimate	Moderate Estimate
Preliminary Injunction	$100,000	$200,000
Discovery (assuming 25 depositions and 10,000 documents)	$250,000	$500,000
Trial (assuming 6 to 10 weeks)	$250,000	$500,000
Appeal	$100,000	$200,000
TOTAL	$700,000	$1,400,000

Of course, many mergers do not go to a full trial or appeal. On the other hand, these figures do not include the value of corporate executives' lost time, the effects of uncertainty on business planning, or the cost of a corporation's time lost in complying with discovery. These costs in many cases may exceed the charges that outside counsel bill. And, of course, for every merger case litigated, there are antitrust couuseling and corporate planning expenses for additional ventures that do not result in consummated mergers. Since our totals only reflect litigated cases, our figures understate the legal and other costs associated with mergers. For example, Type 3 error also includes the value of executives' time and other resources spent by firms inquiring into and defending against takeovers. *See, e.g.,* Nazem, *supra* note 96.

One way to check these figures would be to compare them with the estimates of the Government's costs, *see infra* note 309. Fully litigated merger cases (including simultaneous complaint/ consents) have an expected cost to the Government of approximately 9,800 professional hours, according to our best estimates. If outside counsel on average billed at $125 per hour, and if private litigants had an expected professional staff workload equal to that of the Government, the expected cost to a private litigant of defending against a government merger complaint would be approximately $1.2 million per case. This estimate is similar to that given us by our consultant from the private bar. The costs would be higher if the average private litigant spent more hours than the government staff or if average billing exceeded $125 per hour.

309. Federal Trade Commission records indicate that the Commission issued 75 complaints in merger cases between January 1, 1974 and September 30, 1981, or approximately nine per year. During 1974-1981, Department of Justice records indicate 56 merger complaints, or seven per year. (During 1969-1973, however, the Justice Department averaged 18 merger complaints per year, while the FTC averaged only eight annually.)

An analysis of internal FTC and Justice Department data indicates that the two agencies averaged approximately 9800 hours of professional staff regular time (excluding unpaid overtime) per merger case during 1974-1981. (The FTC has billed greater average hours per merger case than the Justice Department, partly because (1) the FTC has had a larger percentage of fully

ly imprecise and include only part of the costs of Type 3 error.[310] Nevertheless, the data suggest that the average cost to society of litigation accompanying a merger case is well in excess of $1 million and probably at least two or three times this amount.[311] Assuming an average of

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litigated cases, (2) the FTC's procedure includes an administrative hearing with appeal to the Commission, an extra layer of litigation relative to the Justice Department's filing in district courts, and (3) according to one senior Justice Department litigator, district court judges sometimes set unrealistically quick trial schedules.)

Professional staff time during fiscal 1981 cost the FTC approximately $40 per hour, including employee benefits, support personnel, the Commissioners' staff and expenses, and other overhead. The equivalent figure for the Justice Department was approximately 10% lower. Since FTC costs include court costs for matters before administrative law judges and the Commission, and Justice Department costs do not include district court costs, we use $40 per hour as our estimate of the cost per professional staff hour, including all government costs.

Multiplying the professional staff hours by the cost per hour gives approximately $400,000 as the Government's expected cost of a merger complaint. We thank FTC employees Joseph Zytnick, Donna Dalehite, David Pender, Alan Proctor, and Edward E. Quist for substantial help with the Commission data. We also thank Ralph Justus, A. Rod Paolini, Charles T. Schmidt, and John Clark for many hours of help in collecting, tabulating, and interpreting data for the Justice Department. Our estimation process was fairly involved; we shall provide elaboration upon request.

310. Our data may undercount the number and hence the costs of merger cases. For example, our data exclude the many hundreds of merger investigations that the Commission and Justice Department closed without issuing a complaint. A second possible omission is that the Commission also might have classified some unknown number of merger complaints under another violation code. Third, our estimates exclude such costs to merging firms as executives' time, court costs, expert consultants' fees, search and copying costs for files on matters questioned in the merger investigations and cases, time employees spend complying with discovery and aiding the outside legal staff, and the effects of uncertainty over the personal impact of a possible merger on workers' productivity. Finally, the probability of a challenge to a desired merger might lead a cautious management to choose a business strategy that, although having a lower expected profitability, would at least minimize the probability of litigation. It is very difficult to quantify these costs, though it is easy to see they might be substantial in the aggregate.

As one indication that the nonlitigation-cost component of Type 3 error might be huge, concern over employee displacement after a merger is widespread enough that *Business Week* recently devoted a Personal Business Supplement to "holding on in a takeover." The article reported that "of 1300 executives—with incomes of between $30,000 and $215,000—who were 'severed' in the 18 months ending Aug. 31[, 1982], a disquieting 32% were let go during mergers, takeovers, and the like. (Only 25% were fired because of the recession. . .)" *See Holding on in a Takeover*, BUS. WK., Sept. 27, 1982, at 118.

311. Our best estimate of the Government's average litigation cost for a merger case is approximately $400,000, *see supra* note 309; private litigation costs might exceed $1.2 million, excluding appeals, *see supra* note 308. A case involving two private parties could easily exceed $3 million. Moreover, a case prior to consummation of a merger could easily involve three parties—the Government and two private parties—all running up Type 3 error costs. In short, it is hard to imagine how the average litigation cost per merger case (for both sides combined, including appeals) could fail to be well in excess of $1 million.

Both our estimates of hours spent and fees may be very conservative. For example, a few government merger cases have necessitated approximately 40,000 professional hours, resulting in a cost to the Government of $1.6 million per case, evaluated in 1981 costs. Moreover, in private merger cases (takeover fights), fees in the range of $400 to $600 per attorney per hour may not be uncommon, because law firms calculate that time pressures, "responsibility assumed, and the result achieved" merit charges of a least two to three times the base rate. *See* Bernstein, *Profit Pressures on the Big Law Firms*, FORTUNE, Apr. 19, 1982, at 84. Given premium rates, total

approximately twenty to twenty-five merger cases per year,[312] a conservative estimate of the total annual litigation cost to society is within the range of $25 million to $75 million, with a best estimate of at least $50 million.[313]

An efficiencies defense would raise these Type 3 error costs considerably.[314] Experienced litigators, from both the Government and the

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litigation costs in major private suits could easily exceed $10 million per case and Type 3 error goes far beyond litigation costs, *see supra* note 310. In fairness, we recognize that the costs would be substantially lower for short, simple investigations and trials. It is dangerous to bet on a short, simple trial, however.

312. We assume nine Federal Trade Commission and seven Department of Justice cases per year, *see supra* note 309. We also assume five private antitrust cases per year, based on a search that produced 41 reported private merger antitrust cases filed during 1974-1981. (Approximately 60% of the private merger cases probably involved challenges by targets of hostile takeovers. Such was the percentage over the longer period of 1969-1981.)

The search of private cases included a Lexis computer search, supplemented by cases listed in MERGERS AND THE PRIVATE ANTITRUST SUIT: THE PRIVATE ENFORCEMENT OF SECTION VII OF THE CLAYTON ACT POLICY AND LAW app. C (ABA Antitrust Section, Monograph No. 1 1977), cases indexed as a Clayton § 7 violation in Trade Cas. (CCH) (various issues), and cases we found cited in various legal articles. We investigated each decision, eliminated cases where merger complaints were not central issues, and catalogued the cases as best we could by year of the initial merger complaint.

This procedure clearly undercounts private merger cases, because not all filings or decisions are reported. During 1970-1978, between 877 and 1611 private antitrust cases were filed each year. Among a sample of 352 private cases filed in the Southern District of New York during 1973-1978 (299 with sufficient data to determine the primary violation alleged), 19 involved complaints alleging illegal mergers or joint ventures. *See* NATIONAL ECONOMIC RESEARCH ASSOC., INC., A STATISTICAL ANALYSIS OF PRIVATE ANTITRUST LITIGATION: FINAL REPORT 27-29 table B6 (1979). These data imply that one district alone accounted for at least three private merger cases per year during a period for which we count only five private cases annually for all courts. While undoubtedly many of these cases were small, and few destined for trial, the net impression is that our search gives a very conservative estimate of the amount of private merger litigation.

313. Our low estimate assumes 20 cases per year at an average litigation cost of $1.25 million per case, or $25 million; the high estimate assumes 25 cases per year at an average cost of $3 million per case, or $75 million. The most probable estimate would be $50 million per year, assuming 16 government cases at an average cost of $1.65 million, five large private cases averaging at least $3 million each, and numerous smaller private cases per year, costing nearly $10 million in total. This figure excludes the government and private costs of more than a hundred merger investigations per year where the Government does not file a complaint.

314. Any moves toward negotiated settlements short of litigation would decrease the Type 3 error costs of merger enforcement very substantially, both by decreasing the total number of hours of expensive attorney, expert witness, and related support staff time for both sides and by decreasing the time during which uncertainty over the resolution of the matter would distract management and employees from other corporate activities. The current administration certainly has been making a serious attempt to decrease the incidence and length of litigation. For a discussion of the pros and cons of this approach, see Taylor, *Bending of 'Fix-It-First Rule' in Mergers Drawing Criticism to Justice Department*, Wall St. J., Feb. 9, 1983, at 33, col. 4.

The Department has been able to reduce litigation in large part because it has refused to consider efficiencies defenses. However, if the Government were to invite firms to defend otherwise anticompetitive mergers on the basis of anticipated efficiencies, we would expect substantial disagreement on the tradeoff and therefore a far lower percentage of cases in which the two sides would be able to negotiate a mutually agreeable settlement. Further, we cannot generalize a trend to negotiation to private cases or future administrations. Moreover, unless negotiation increased

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private bar, believe that a case-by-case efficiencies defense would raise Type 3 error costs by thirty to one hundred percent.[315] Even assuming the same number of merger trials, the direct additional litigation cost of an efficiencies defense would probably run between \$7.5 million and \$75 million per year, with the best estimate around \$30 million.[316] Since merger investigations would have to include efficiency considerations, they would be more complex and costly,[317] and firms' costs of responding to government investigations also would increase. Moreover, an efficiencies defense would probably increase the number of contested merger cases.[318] These estimates also do not allow for an increased number of cases, increased costs attributable to investigations closed before a complaint, employee time expended, or the effect of increased legal uncertainty on corporate behavior. Because of these exclusions, an efficiencies defense could easily increase Type 3 error by \$100 million or more per year.

These very rough estimates are, of course, relevant primarily in

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the level of predictability of the ultimate legality of a merger, relative to litigation, the trend would not affect many of the uncertainty components of Type 3 error. For these reasons, we believe that the historic numbers are the proper ones to use as the basis for predictions of the effects of an efficiencies defense on the litigation-cost component of Type 3 error.

315. The litigators we consulted generally predicted that an efficiencies defense would increase discovery and trial time by between 50 and 100%, with total litigation costs increased by some smaller percentage. Since an efficiencies defense would open both the investigation and the trial to all aspects of a firm's business operations, some of our more experienced litigator-consultants thought that an efficiencies defense could cause a substantial increase in litigation costs for merger cases. Although Posner and Easterbrook do not give precise estimates, they predict that "the defense could bog down litigation for years." R. POSNER & F. EASTERBROOK, *supra* note 237, at 920.

316. The range of estimates runs from increasing \$25 million by around 30% to doubling a cost of around \$75 million. The most probable outcome might be to increase approximately \$50 million by around 60%, resulting in an expected increment of approximately \$30 million per year. Efficiency issues would also render merger investigations more complex. Consequently, total litigation-related costs would increase by more than this amount. *See infra* note 317.

317. It is very difficult to estimate the cost of non-complaint merger investigations. First, the Government does not necessarily classify all merger investigations as "merger" cases. For example, the Government might classify a merger involving two petroleum companies as an "energy" case. Second, we do not know how many merger investigations eventually will lead to complaints. Thus, for a given year, we do not know either the number of hours that each agency charged to non-complaint merger investigations or the total budget for merger investigations and cases.

318. Increased uncertainty over the balancing of anticompetitive and efficiency effects probably would lead to more mergers attempted and challenged. *See supra* text accompanying notes 239-45. Further, with government antitrust enforcement agencies informally increasing the evidentiary burden on their staffs to demonstrate possible market-power effects, we would expect more private litigation, particularly in contested takeovers. However, an efficiencies defense would make merger litigation vastly more expensive. Thus, unless the Government raised its merger enforcement budget, and unless private litigants were willing to pay much greater Type 3 costs, the added expenses could somewhat limit the extent to which an efficiencies defense would raise the number of merger cases. Even if the probability of challenge decreased, an efficiencies defense would still result in increased social costs through decreased deterrence and increased Type 2 error.

comparison with the costs of Types 1 and 2 error, and we do not attempt to estimate these costs.[319] Although Type 3 error would increase substantially, there is no reason to believe that a case-by-case efficiencies defense would reduce the sum of Types 1 and 2 error. Moreover, raising the Guidelines threshold level for merger challenges and disallowing an efficiencies defense would be more likely than not to involve a lower sum of Types 1 and 2 error than a case-by-case efficiencies defense. The problems inherent in identifying efficiencies and performing the tradeoff analysis suggest that even if an efficiencies defense led to reduced Types 1 and 2 error, the reduction would probably be small and more than offset by greatly increased Type 3 error.[320]

E.   Conclusion

A system that considered all relevant facts in the hope of achieving a better merger decision would almost certainly produce judicial chaos.[321] Merely to identify mergers that "might" increase the market power of existing firms is a highly controversial undertaking. When one takes into account the incipiency concern of Congress, it becomes even more difficult. Rather than complicate this situation by instituting a case-by-case efficiencies defense, we would incorporate efficiency concerns by adjusting the Guidelines' threshold for challenging mergers and urging the Government and the courts to follow them with practically no exceptions. This change would have the effect of allowing more merger efficiencies and weeding out many of the mergers whose effect on market power was unduly speculative, without increasing litigation and business adjustment costs excessively.

VI
PRACTICAL IMPLEMENTATION CONSIDERATIONS: THE 1982 MERGER GUIDELINES*

A.   Introduction

Although case-by-case evaluation of market-power and efficiency

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319. *See*, e.g., *supra* note 299.

320. Further, the prospect of high legal fees could discourage mergers where the firms involved considered the efficiency gains difficult to prove. Greatly increased litigation costs, combined with greater uncertainty over a merger's ultimate legality, would discourage many potentially efficiency-increasing mergers. Thus, although the primary goal of an efficiencies defense would be to encourage efficiency-creating mergers, a case-by-case efficiencies defense might very well have the opposite effect. In contrast, our proposal of an implicit approach should certainly increase the number of efficiency-increasing mergers.

321. For a vivid example in an administrative context, see *supra* note 306.

   * We thank Tyler A. Baker, David A. Nelson, Clark R. Silcox, Tom D. Smith, an anonymous member of the private bar, and our colleagues William E. Kovacic and Robert A. Rogowsky for many useful comments and suggestions on the material in this Part.

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effects is compelling in theory, the direct costs of enforcement and the difficulties of judicial implementation demonstrate the inherent impracticality of this theoretical ideal. Moreover, the indirect costs of business uncertainty and the inevitable increased litigation costs convince us that more limited compromises, such as partial efficiencies defenses or proposals based on specific levels of efficiencies, also fail to solve the many inherent problems of any case-by-case approach involving either litigation or prosecutorial discretion. Rather, we are convinced that the best compromise, which would minimize the expected value of the sum of Types 1, 2, and 3 error, would be an implicit approach: raising the threshold level of the Merger Guidelines to correct for efficiencies on average, with strict, objective, easily comprehended standards.

In this Part, we sketch the practical implementation of the approach we recommend. Most specifically, where should the numerical standards be to satisfy the concerns of Congress as embodied in the antimerger statutes? Are the 1982 Guidelines consistent with congressional dictates? How should merger guidelines balance the frequently competing goals of maximizing flexibility and predictability while minimizing implementation costs? To what extent do the 1982 Guidelines manage this balancing task?

B. What Market-Share Standards Would Best Incorporate Congressional Intent and Economic Knowledge?

For the Guidelines to satisfy the dictates of Congress,[322] they must guard against both imminent and incipient wealth transfers and allocative inefficiency due to increased market power and afford maximum opportunity for achievement of economies from mergers. The relative weight of wealth transfers, efficiencies, and incipiency largely determines the level at which antitrust enforcers and the courts should set the Guidelines.[323]

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322. It is more difficult to predict the effects of the Guidelines on Congress' principal non-economic goals of preserving opportunities for small businesses and preventing the acquisition of social and political power by large corporations. We follow the 1982 Guidelines and omit discussion of these issues.

323. To summarize the Justice Department's numerical guidelines: The Department is "unlikely" to challenge mergers resulting in a post-merger Herfindahl-Hirschman Index (HHI) below 1000. When the post-merger HHI is between 1000 and 1800, the Department will be "unlikely" to challenge mergers producing an increase in the HHI of less than 100 points and "more likely than not" to challenge mergers that increase the HHI by more than 100 points. When the post-merger HHI is above 1800, the Department will be "unlikely" to challenge mergers producing an increase in the HHI of less than 50 points. For mergers producing an HHI increase of between 50 and 100 points, the Department "will base its decision whether to challenge the merger on the post-merger concentration of the market, the size of the resulting increase in concentration, and the presence or absence of the factors discussed in the sections of the Guidelines concerning ease of entry and

Congress' main concern was clearly to prevent unfair transfers of wealth from consumers to firms with market power. The empirical literature finds little evidence of market power arising below a four-firm concentration ratio (C_4) of fifty-five to sixty-five percent,[324] which corresponds to an HHI[325] of roughly 1000 to 1800.[326] Moreover, recent evidence suggests that market power may not be a significant problem even at higher concentration levels.[327] Even disregarding efficiencies, redistributive concerns do not justify preventing mergers leading to concentration levels below the fifty-five to sixty-five percent range.[328]

Efficiency concerns, however, favor permitting mergers to achieve even higher levels of concentration. The economies-of-scale studies, to

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other factors that might facilitate the creation, enhancement or facilitation of single firm market power or collusion." The Department is "likely" to challenge mergers in this region that increase the HHI by 100 points or more. In addition, the Department is "likely" to challenge the merger of any firm with a market share of at least one percent with the leading firm in the market, provided that the leading firm has a market share that is at least 35% and is approximately twice as large as that of the second largest firm in the market. (For calculation of the HHI and changes in the HHI, see *infra* note 325.) Data supplemental to the HHI are crucial to the Department's enforcement decisions. These indicators include the ease of entry and factors that might facilitate or undermine collusive behavior. *See* 1982 Merger Guidelines, *supra* note 18, § III, 47 Fed. Reg. at 28,498-99, 2 TRADE REG. REP. (CCH) ¶ 4503, at 6881-11 to 6881-15.

In most respects, the FTC intends its Guidelines to parallel the Justice Department Guidelines closely. The FTC Statement on Horizontal Mergers states that the Commission will give "considerable weight" to the Justice Department Guidelines in its decisions. FTC Statement, *supra* note 19, § I, TRADE REG. REP. (CCH) No. 546, at 73. One cannot interpret this statement precisely, but since the FTC Statement emphasizes the inadequacy of market-share data as a guide without providing its own numbers, a reasonable conclusion is that the Commission will use the Justice Department's numerical guidelines only insofar as market-share data influence the Commission's enforcement standards. Furthermore, the Commission may rely less closely on the Department's nonmarket-share criteria and instead may primarily use the nonmarket-share factors set forth in its analysis.

324. *See supra* text accompanying note 114.

325. One calculates the HHI by summing the squares of the individual market shares of all the firms in the market. *See, e.g.*, F. SCHERER, *supra* note 84, at 58. Most authors, including Scherer, calculate the HHI as ranging between 0 and 1.0, and thus implicitly use fractional market shares. The Justice Department, however, interprets market shares as percentages ranging from 0 to 100, drops the decimal and defines the HHI range as 0 to 10,000. *See generally* 1982 Merger Guidelines, *supra* note 18, § III(A), 47 Fed. Reg. at 28,497 n.29, 2 TRADE REG. REP. (CCH) ¶ 4503, at 6881-11 n.29. This stylistic difference does not affect the interpretation of the HHI.

326. For a given C_4, HHI reaches its maximum with single-firm dominance and its minimum where firms one through four share C_4 equally and all other firms are of negligible size. For $C_4 = 55$, the maximum possible HHI would have one firm with 52% and 48 firms each with one percent, yielding an HHI of 2752; the minimum possible HHI would have 4 firms with shares of 14, 14, 14, 13, and 45 firms each with one percent, yielding an HHI of 802. However, one generally would not expect to see these extreme market-share combinations. Based on more typical market-share distributions, $C_4 = 55$ corresponds approximately to a range in the HHI of roughly 1000 to 1600. Similarly, $C_4 = 65$ has a theoretical range of roughly 1092 to 3892 but a more typical expected range of approximately 1200 to 1800. For further discussion, see Pautler, *A Guide to the Herfindahl Index for Antitrust Attorneys*, 5 RESEARCH L. & ECON. 167 (1983).

327. *See supra* text accompanying notes 114-17.

328. We are speaking in general terms. Even with C_4 less than 55%, one would wish to guard against unlikely situations such as single-firm dominance.

the extent that one can believe them, show that significant economies frequently arise at least up to market shares of ten to fifteen percent and occasionally to twenty percent or more.[329] The studies showing the relationship between market share and profitability lend some support to the conclusion that mergers up to even higher levels can improve efficiencies.[330] This evidence accords with wealth redistribution analysis in implying that guidelines for horizontal mergers should permit attainment of C_4 of at least sixty-five percent or HHI of around 1200 to 1800.[331] Merely giving any positive weight to efficiency would raise the market-share levels based solely on wealth-transfer concerns; further weight to efficiency would raise the levels even more.

The incipiency concerns of Congress, however, imply some adjustment. We have noted that judges might treat incipiency as a command to err on the side of strict merger enforcement, to weight Type 2 error more heavily than Type 1 error, to prevent trends that might eventually lead to market power, and to be concerned with relatively low probabilities of supracompetitive pricing.[332] Stressing the incipiency concern would lower the guideline threshold, since, except for very small mergers, there usually is at least some chance that a merger might lead to market power. Any determination of the Guidelines' proper threshold is subjective, depending on one's perception of the relative strength of congressional concerns for wealth transfers, incipiency, and efficiency, and on the weight of economic evidence.

1. The Guidelines and the Dictates of Congress

a. The Philosophy Behind the Guidelines

It is difficult to know the extent to which the 1982 Federal Trade Commission and Justice Department Guidelines weighed efficiencies, wealth transfers, and incipiency.[333] Assistant Attorney General Baxter

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329. *See supra* Section B.1 of Part III.

330. *See supra* text accompanying notes 114-17.

331. *Id.* Further, scale and certain other operating economies, the types most likely to require horizontal merger, frequently require additional changes, such as the replacement of two small plants with one larger, more efficient plant. In such cases, merger is but one part of a process of achieving efficiencies. Where attainment of efficiencies requires construction or enlargement of plant operations, internal expansion might be an easier route to efficiencies, unless product differentiation rendered the marginal cost of expanding sales lower through acquisition of additional established brand names. These complexities compound the difficulty in establishing ideal guidelines based solely on efficiency criteria.

332. *See supra* note 49 and text accompanying notes 46-49.

333. We do not discuss the Justice Department's Non-Horizontal Merger Guidelines. For a demonstration that the Vertical Guidelines do not correspond exactly to economic criteria, *see* A. Fisher & R. Sciacca, *supra* note 93, §§ III & IV. The Federal Trade Commission statement only discusses horizontal mergers.

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believes that efficiency is the only concern of antitrust.[334] Thus, although the Guidelines mention wealth transfers that result from market power[335] and incipiency,[336] it is unclear to what extent and with what relative weight these factors influenced the setting of the Guidelines. The moderate concentration levels of the Justice Department Guidelines[337] are consistent with a methodology of resolving most assumptions and policy tradeoffs in favor of strict merger enforcement—in itself a form of incipiency. Absent this consideration, one would have expected higher market-share and concentration levels in the Guidelines.[338] Thus, although the Guidelines apparently did not factor in wealth-transfer concerns, the end result of numerical standards not inconsistent with the intent of Congress indicates that the authors must have given strong weight to incipiency.

b. The 1982 and 1968 Guidelines

In evaluating the Merger Guidelines as a means to account implicitly for efficiencies, one must consider how much the Justice Department in fact raised the Guidelines. The 1968 Guidelines weighed market shares and C_4; in contrast, the 1982 Justice Department Guidelines, to which the Federal Trade Commission will give "considerable weight,"[339] depend on the level of and changes in the HHI. The two measures, however, are highly correlated,[340] and there is theoretical support for the use of both.[341]

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334. Taylor, *A Talk with Antitrust Chief William Baxter*, Wall St. J., Mar. 4, 1982, at 28, col. 3 (quoting Baxter as having said that "the sole goal of antitrust is economic efficiency"). Baxter has also stated:

> The fundamental premise of our economic system is that the free market will achieve the greatest possible efficiency in the allocation of resources and thereby yield maximum productivity. The federal antitrust laws were enacted to safeguard the processes of the free market. One of my principal objectives since joining the Department has been to attempt to ensure that the antitrust laws are enforced and interpreted to achieve that goal.

Productivity in the American Economy, 1982: Hearings Before the Subcomm. on Employment and Productivity of the Senate Comm. on Labor and Human Resources, 97th Cong., 2d Sess. 478 (1982) (statement of William F. Baxter, Assistant Att'y Gen., Antitrust Division, U.S. Dep't of Justice).

335. "The result [of market power] is a transfer of wealth from buyers to sellers and misallocation of resources." 1982 Merger Guidelines, *supra* note 18, § 1, 47 Fed. Reg. at 28,494, 2 TRADE REG. REP. (CCH) ¶ 4501, at 6881-7.

336. "The Guidelines reflect the congressional intent that merger enforcement should interdict competitive problems in their incipiency." *Id.*

337. *See supra* note 323.

338. *See infra* text accompanying notes 340-42; *infra* note 353.

339. *See supra* note 323.

340. Kwoka, *supra* note 114.

341. For recent demonstrations that C_4 and HHI can both be theoretically valid indices of monopoly power, see Cowling & Waterson, *Price-Cost Margins and Market Structure*, 43 ECONOMICA 267 (1976), and Kelly, *A Generalized Interpretation of the Herfindahl Index*, 48 S. ECON. J. 50 (1981). For additional studies, see Pautler, *supra* note 326, at 189 n.30. For a discus-

The relative usefulness of C_4 and the HHI depends upon the criteria one uses to evaluate them: each is somewhat better at encouraging or preventing some of the concerns of merger policy. The HHI, for example, by squaring individual firms' market shares, gives greater weight to leading firms and effectively ignores small firms. Thus, the HHI is probably better at preventing market power resulting from single-firm dominance. To the extent that a given market-share level is necessary to achieve economies of scale, however, market-share standards might have a small advantage over the HHI. An HHI standard would prevent most mergers in an already concentrated market; by contrast, a rule such as one permitting mergers summing to not more than fifteen percent of a market would avoid this problem. Further, any standard focusing more on the level of concentration than upon its increase invites a general rush toward merger, since firms not among the first to merge might lose the opportunity. In markets dominated by one large firm, a fifteen percent rule also might be more likely to permit the emergence of firms able to challenge the leaders' market power.[342] And finally, the HHI may be somewhat more difficult to calculate[343] and explain to businessmen.[344]

Given the high correlation between the HHI and C_4, we can evaluate how closely the new Guidelines compare to the 1968 Guidelines and to recent court decisions. Both sets of Guidelines divide markets into moderately and highly concentrated zones based on roughly equivalent criteria (whether C_4 is less or greater than seventy-five and whether the HHI is less or greater than 1800); the 1982 Guidelines add a third zone (essentially unconcentrated, or an HHI of less than 1000). The criteria of C_4 of seventy-five and an HHI of 1800 are quite closely comparable.[345] Within each zone, the 1968 Guidelines focus on the sum of the firms' market shares; the 1982 Guidelines, on the change in

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sion of the superiorities of HHI over C_4, see R. POSNER & F. EASTERBROOK, *supra* note 237, at 462.

342. *See generally* Kwoka, *The Effect of Market Share Distribution on Industry Performance*, 61 REV. ECON. STATISTICS 101 (1979); J. Kwoka & D. Ravenscraft, *supra* note 114.

343. Merging firms usually can calculate their own market shares from submissions to the Census Bureau or other trade sources and from overall market data. It frequently will be more difficult to calculate the shares of competitors. The change in HHI, the product of the merging firms' market shares, therefore, will be easy to identify. The overall HHI, however, is subject to more uncertainty. Since the HHI squares firms' individual shares, it also squares any errors. An error in the share of a large firm, unless offset by an equal and opposite error in the calculation of the share of a firm nearly as large, can distort the HHI substantially. Errors in C_4, however, enter without squaring, so there is no asymmetry between errors in the shares of larger and smaller firms.

344. While antitrust lawyers will have little trouble adapting to an HHI standard, many clients will remain somewhat perplexed that the Government would be "likely" to challenge their proposed merger because something called an "HHI" of 1427 increased by 112 points.

345. Although $C_4 = 75$ has a theoretical range of approximately 1432 to 5212 for the HHI, for

the HHI. Since the change in the HHI equals twice the product of the merging firms' shares,[346] one can calculate the change in the HHI directly from the individual firm market shares and compare the two sets of Guidelines. The 1968 Guidelines permitted a change in the HHI of fifty to eighty in moderately concentrated markets and a change in HHI of thirty to forty in highly concentrated markets. The new Guidelines raise these numbers slightly, to one hundred and to fifty, respectively.

In large part, however, focusing on the numerical standards masks the major change in the Guidelines: the new methodology requiring broader market definitions probably loosened merger enforcement standards far more than did the change due to different numerical figures. The 1982 Guidelines highlight the importance of market definition and incorporate two important changes—explicit consideration of entry barriers and a stronger burden of proof on the plaintiff to demonstrate potential market power—that in combination typically would result in broader market definitions and lower calculated market shares. Although these changes are binding on the Government, they will not be binding on private plaintiffs unless the courts adopt them.[347]

In some respects, the courts appear to have anticipated this loosening of the Guidelines by several years. In horizontal merger decisions since 1977, the courts have generally permitted combinations of market shares totaling less than fifteen percent—and up to nineteen percent when the acquired parties have had less than two percent.[348] The new standard for moderately concentrated industries (HHI between 1000 nd 1800) permits combinations totaling roughly fourteen percent or less

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the most likely market-share distributions, the range in HHI would be roughly 1600 to 2300. Thus an HHI of 1800 is within a range centered near C_4 of 75. *See also supra* note 326.

Oligopoly models imply that under restrictive assumptions, the 1982 Justice Department HHI standards could permit mergers that would raise consumer prices in the absence of fairly large cost savings. These models, however, are very controversial, and the results are very sensitive to the underlying assumptions. *See supra* notes 223-26 and accompanying text.

346. *See* Pautler, *supra* note 326, at 173-74.

347. A detailed discussion of market definition is beyond the scope of our paper. For a thorough discussion and critique of market definition issues, see R. Harris & T. Jorde, *supra* note 173. For a demonstration that broader market definitions typically reduce market shares, see J. BAIN, *supra* note 115, at 128-32. We generally approve of the changes in market definition in the 1982 Justice Department Merger Guidelines for the reasons discussed below, *see infra* text accompanying notes 349-54. However, although the Federal Trade Commission and Justice Department currently favor the new market definition standards, a future administration could change that decision. Furthermore, the Justice Department's first attempt to convince the courts to adopt its new methodology ended in a resounding defeat, though largely because of legal strategy. For a discussion, see Werthheimer, *DOJ Tries Out Its 5-Percent Geographic Market Test*, Legal Times, Aug. 30, 1982, at 17.

348. R. Rogowsky, The Justice Department's Merger Guidelines: A Study in the Application of the Rule (Aug. 1982) (unpublished manuscript on file with the *California Law Review*) (forthcoming in volume 6 of *Research in Law and Economics*).

when the firms are approximately of equal size and allows a firm with twenty percent to acquire up to 2.5%.

The numerical standards in the new Guidelines, then, are more consistent than the old numbers with current economic theory, empirical evidence, and recent case law. They are also at least broadly consistent with the dictates of Congress. These considerations should help the enforcement agencies in arguing for the Guidelines before the courts. If the courts adopt the Guidelines, there will be a decrease in the uncertainty that must have prevailed from having two sets of standards: the increasingly obsolete 1968 Guidelines and the somewhat more permissive judicial decisions.

The second part of our policy prescription is that the Government and courts apply guidelines strictly and make rare exceptions. We next evaluate the 1982 Guidelines on the basis of this criterion, to illustrate how to apply the prescription in practice.

C. *Enforcing Merger Guidelines: Flexibility, Predictability, and Implementation Costs*

The 1982 Merger Guidelines earn a mixed rating with respect to their success in limiting flexibility to maximize predictability and minimize implementation costs. Probably the most innovative and promising feature is the bold attempt to advance beyond the old, often arbitrary, market definition standards.[349] However, the Guidelines suffer from the competing concerns of the antitrust agencies as both standard setters and enforcers. Compromises that enhance the agencies' flexibility and ability to prosecute merger violations reduce the usefulness of the Guidelines as objective, predictable standards that can reduce Type 3 error of merger enforcement. By trying to put too much into the Guidelines, the Government missed an opportunity to make the Merger Guidelines an even more successful reform.

The new market definition standard in the 1982 Guidelines should add to the predictability of one of the most important issues in merger litigation. Rather than searching for any market where firms' shares and the concentration level exceed the Guidelines numbers, the agencies will search for the broadest market definition under which the included products have a significant effect on each others' prices. Since market shares tend to be lower in broadly defined than in narrowly defined markets,[350] this change alone represents a major loosening of the Guidelines.

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349. *See, e.g.*, L. SULLIVAN, *supra* note 174, §§ 12-22, at 41-75 (discussing the arbitrary quality of the old market definition standards).

350. *See supra* note 347.

Although in most cases it will be impossible to apply all of the five percent rules, these tests may weed out numerous challenges and confine market definition disputes to a relatively narrow range. If so, the final market definition should at least be somewhat reasonable.[351] The Guidelines will focus dispute on whether the transportation-cost differential exceeds five percent, whether potential competitors could switch production to sell the relevant product within six months, whether customers could switch buying patterns within one year, and whether significant entry is likely within two years. In all cases, the choice of the cutoff number is entirely arbitrary[352] but generally reasonable and useful. Formerly, dispute would have involved investigation into (a) what is a reasonable standard for both time and the percentage increase in price, and (b) whether the case in question meets or exceeds whatever standards the agency or court selected for that particular merger. Now, with generally reasonable choices in the new Guidelines,[353] dispute will

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351. For a critique of the Justice Department's approach to market definition, see Harris & Jorde, *supra* note 173; R. Harris & T. Jorde, *supra* note 173.

352. Although all the choices were arbitrary and one could dispute each choice both in general and as applied to individual cases, we believe that most observers will consider the choices reasonable, if not ideal. *But see infra* note 353. Given that current knowledge does not indicate numerical guidelines for these factors, dispute over the numbers seems to be of little value, particularly if repeated on a case-by-case basis and subject to the discretion of different enforcers and different courts.

353. In many respects, moreover, the numerical standards are not what one normally would have expected from someone of Assistant Attorney General Baxter's political and economic persuasion. For example, the Guidelines state that if entry would require more than two years, the Department will infer significant entry barriers. *See* 1982 Merger Guidelines, *supra* note 18, § III(B), 47 Fed. Reg. at 28,498, 2 TRADE REG. REP. (CCH) ¶ 4503, at 6881-13. Baxter may have believed that most judges would accept a relatively low number from an extremely conservative source. The alternatives of no number at all or a time period that many judges would ignore as "overly conservative," would have deprived business of advance guidance by encouraging judges to choose their own thresholds. Indeed, in the case of entry barriers, Baxter's numerical standard seems too low. Entry involves several types of lags, and it is hard to envision many cases where an entry response to a five percent price increase would be completed within two years. Entry lags include (a) a recognition lag, the time required for potential entrants to realize that a price rise will be prolonged enough to justify an entry response; (b) a study lag, the time required to study the market, its prospects for entry, and establish a suitable location and plan for entry; (c) a decision lag, the time required to discuss and obtain approval for the entry decision through the corporate bureaucracy; and (d) various implementation lags, including the time required to make financial arrangements, obtain the necessary government permits, hire a design and construction team, complete actual construction, and start up production. We assume that firms can avoid further lags by finding customers and setting up marketing and distribution facilities during the process of (a) through (d). If antitrust enforcers interpret the entry standard as requiring the entire process of entry within two years, they will probably evaluate the vast majority of industries as having substantial entry barriers.

However, not everyone shares our interpretation that the two-year entry standard should include the recognition and decision lags. The Department explicitly assumes away the recognition lag. *See* 1982 Merger Guidelines, *supra* note 18, § II n.10, 42 Fed. Reg. at 28,495 n.10, 2 TRADE REG. REP. (CCH) ¶ 4502, at 6881-8 n.10. In the words of Tyler A. Baker, one of the project leaders,

narrow to point (b), the more objective of the two points of dispute.[354]

For an illustration of the benefits of the new approach, consider the evaluation of transportation-cost data, one of the most important determinants of geographic markets. Before the announcement of the new Guidelines, the enforcer first had to determine the magnitudes of the transportation costs between relevant areas and then decide how significant the difference was. Now, since the Government standard will be five percent, the tasks will be simpler. Moreover, the parties to the proposed transaction also know that the enforcers will evaluate the merger with a five percent standard. Using their own data, they can perform the same calculations. Although in close cases this procedure will not tell the parties what geographic market the enforcers will urge, in many instances the evidence will be clear. Since judges will probably rely heavily upon the five percent standards, defendants are now better able to predict the ultimate disposition of what is usually a major dispute in antitrust cases.

Although the text is less clear [on the decision lag] . . . my sense was that the issue was also assumed away by those of us who were involved in the drafting. Thus, the relevant consideration for purposes of applying the standards in the Guidelines is how long it would take a firm to be in the market once a decision was made to enter.

See Letter from Tyler A. Baker to Alan A. Fisher and Robert H. Lande (Sept. 14, 1982) (on file with the *California Law Review*). Baker notes that the interpretation is his own and does not necessarily represent the official position of the Department of Justice, either at the time of the drafting of the 1982 Guidelines or at the present.

354. Despite the improved Guidelines, reasonable decisionmakers still can differ, especially in close cases, largely because of uncertainty over market definition. Analysis of a hypothetical merger provides an illustration.

Suppose that (a) two firms want to merge in, let us say, the western wicket market, (b) the HHI levels and increase are somewhat above the Guideline thresholds, and (c) the market-share levels would only raise concern under the definition of the western wicket market. After using the Justice Department and FTC Guidelines, decisionmaker A might decide that he is 70% certain he has defined the product market correctly. Suppose additionally that A is 80% sure he has defined the geographic market properly and 90% sure that significant entry barriers exist. Assuming that these determinations are statistically independent, A will conclude there is a $.70 \times .80 \times .90 = .504$, or a one in two chance that there is a market within which significant market power could arise. Suppose that decisionmaker B, viewing the same somewhat ambiguous and slightly contradictory evidence, believes the relevant percentages are .40, .50, and .60. B will calculate a 12% probability of a troublesome market.

Suppose further that A, after giving primary deference to the Guideline's presumptions concerning market share/concentration levels likely to indicate market power and adjusting for factors increasing or decreasing the probability of collusion, believes there is a 60% chance that the merger will result in significant sustained market power. Suppose that B believes the probability is only 40%. Decisionmaker A will conclude that there is a $.50 \times .60 = .30$, or 30% chance that the merger will enhance market power. Following the directive of Congress to err towards strict merger enforcement, A will want to block the merger. Decisionmaker B, however, will conclude that there is only a $.12 \times .40 = .048$, or 4.8% chance of competitive harm and that this probability is too low to justify a challenge to the merger. Decisionmaker C, giving relatively little weight to deterrence considerations, might agree with A's numbers but consider a 30% probability of in-

The new Guidelines will increase predictability of some, but not all, aspects of merger legality. Indeed, one of the earliest commentaries on the new Justice Department Merger Guidelines faulted them for being too complex and, at the same time, having perverse results under certain circumstances.[355] This juxtaposition of criticisms illustrates one of the basic tradeoffs of writing guidelines of any sort. To be useful, guidelines must be simple and general; to be simple and general in a complex world, they cannot be correct in every case.[356] Indeed, there is a tradeoff between (a) greater simplicity and predictability and (b) greater accuracy or realism. For example, increasing the accuracy of merger guidelines (i.e., lowering the sum of Types 1 and 2 error) has increasing marginal cost in Type 3 error and decreasing marginal benefit in the expected sum of Types 1 and 2 error.[357] Attempting greater precision in the assessment of market-power and efficiency effects of mergers demands more information from businesses, more evaluation by advisors, and more detailed and costly investigations by enforcement agencies (along with inevitable delays in determining final legality), while it necessarily decreases predictability of the ultimate outcome. In contrast, relatively simple rules can deter most obviously undesirable mergers and permit most obviously beneficial mergers. The remaining questionable mergers tend to be of marginal concern. Following this analysis, "optimal" merger guidelines would add complexity only until the marginal benefit and marginal cost of greater accuracy were equalized. Accuracy beyond that point would create additional Type 3 error greater than expected savings from decreased Types 1 and 2 error.[358] This analysis demonstrates the fallacy of criticizing guidelines for occasionally reaching incorrect decisions: to be

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creased market power too low to justify challenge; D, in contrast, might agree with B's numbers but place great weight on deterrence and avoidance of Type 2 error, and therefore choose to challenge a merger with barely a five percent probability of competitive harm.

355. *See* Sims & Blumenthal, *supra* note 271, at 17.

356. Milton Friedman has noted that a theory cannot be completely realistic if it is to be useful. *See* Friedman, *The Methodology of Positive Economics*, in ESSAYS IN POSITIVE ECONOMICS 3, 32 (1966) ("Any attempt to move very far in achieving this kind of 'realism' is certain to render a theory utterly useless.").

357. Moreover, enforcers and courts might misunderstand and misapply overly complex rules. If so, the sum of Types 1 and 2 error could increase.

358. We can illustrate this point with one of the most basic graphs from elementary microeconomic theory, as in Diagram VI-1. The expected marginal cost (MC) of greater precision in merger decisions increases with the percentage of correct decisions; the expected marginal benefit (MB) decreases. Optimal merger guidelines would choose the level of precision at Q*, where the expected marginal costs and marginal benefits are equal. We expect to make some incorrect merger decisions, because it would be too costly to expend resources for a small marginal expected gain.

useful they cannot do otherwise.[359] Deciding a few more marginal mergers correctly does not justify risking two major goals of guidelines: establishing "safe harbors" of legal behavior and deterring illegal behavior.

The Government's conflicting goals as policymaker and prosecutor affect the choice of the level of generality for merger guidelines, a choice in which the antitrust agencies have considerable discretion. As policymaker, the Government wants simple, predictable, general rules; as prosecutor, it wants exceptions to facilitate enforcement discretion and litigation strategy in individual cases. The Justice Department Guidelines try to accommodate both goals: they generally come through clearly and with precise numbers (in terms of the HHI, changes in the HHI, five percent price increase limits, and designated

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Diagram VI-1
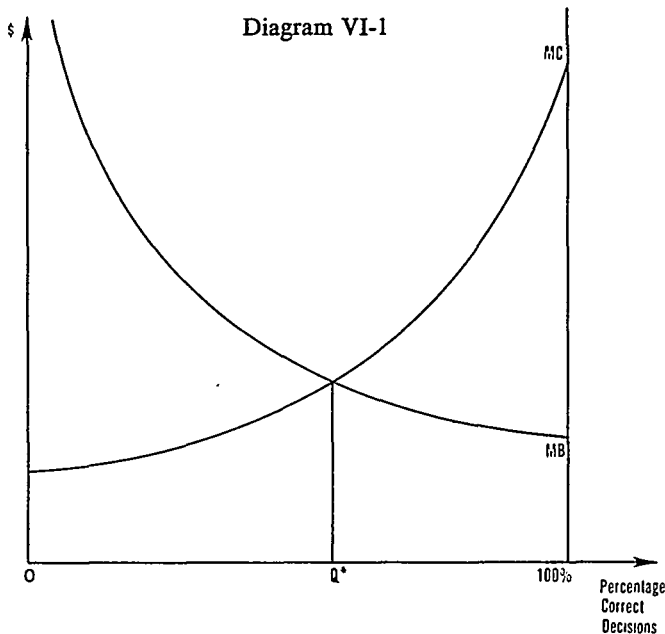
MC = Expected value of Type 3 error cost for increasing the accuracy of merger enforcement decisions by an additional percentage point through more complex guidelines, additional exceptions to the guidelines, and additional investigation and litigation.

MB = Expected value of the reduction in the sum of Types 1 and 2 error from increasing the accuracy of merger enforcement decisions by an additional percentage point by improving determination in successively "closer decisions." (I.e., we assume a procedure that determines the easiest and most obvious enforcement decisions first, through the simplest guidelines, and then moves to consideration of successively more complex cases.)

359. *See generally* Friedman, *supra* note 356.

numbers of months for various types of demand and supply adjustments), but they leave ample room for evasion.

The evasions are of two types: exception clauses, under which the Department may prosecute below-Guidelines cases or decide not to prosecute above-Guidelines mergers,[360] and a specific statement that the Department may litigate cases under standards different from those it announced in its Guidelines.[361] Although some extra flexibility in the Guidelines heightens their usefulness to the Government in its dual role of policy setting and enforcement, inconsistency or uncertainty in interpretation has several undesirable consequences: it makes merger policy discretionary (amounting to de facto changes in the law when the Government changes), decreases business predictability, and increases the probability of private litigation. Moreover, the more often enforcers depart from the numerical standards, the less likely it is that the courts will adopt the new Guidelines. These consequences will all have the effect of increasing Type 3 error. Although the current Administration may invoke the exceptions judiciously and rarely, a more interventionist administration could use the same Guidelines to challenge mergers very aggressively.[362] The specific language is a guide to the degree of flexibility. Note, by contrast, the very different flavor the Department gives to its efficiencies exception: "Except in extraordinary cases, the Department will not consider a claim of specific efficiencies as a mitigating factor for a merger . . . ."[363] The text and footnote

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360. The new Justice Department market-share and concentration guidelines "represent generalizations to which some exceptions are inevitable. In appropriate cases, the Department will challenge mergers . . . regardless of whether they are covered by the specific standards." *See* 1982 Merger Guidelines, *supra* note 18, § I, 47 Fed. Reg. at 28,494, 2 TRADE REG. REP. (CCH) ¶ 4501, at 6881-7. "The Department is more likely than not to challenge mergers" under some market share/concentration conditions, or when certain nonmarket-share conditions are particularly conducive to collusion. *Id.* § III(A)(1)(b), 47 Fed. Reg. at 28,497, 2 TRADE REG. REP. (CCH) ¶ 4503, at 6881-12.

361. *Id.*

362. This point highlights the relative values of rules and discretion in the administration of law. In the opinion of Professor Davis:

> [T]he greatest and most frequent injustice occurs at the discretion end of the scale, where rules and principles provide little or no guidance, where emotions of deciding officers may affect what they do, where political or other favoritism may influence decisions, and where the imperfections of human nature are often reflected in the choices made.

K. DAVIS, DISCRETIONARY JUSTICE, A PRELIMINARY INQUIRY at v (1977). Davis concludes, "The vast quantities of unnecessary discretionary power that have grown up in our system should be cut back, and the discretionary power that is found to be necessary should be properly confined, structured, and checked." *Id.* at 216.

363. 1982 Merger Guidelines, *supra* note 18, § V(A), 47 Fed. Reg. at 28,502, 2 TRADE REG. REP (CCH) ¶ 4505, at 6881-19. The footnote continues to clarify the rarity of this exception by requiring, at a minimum, "clear and convincing evidence" and restricting consideration to "otherwise close cases." *Id.* § V(A) n.53, 47 Fed. Reg. at 28,502 n.53, 2 TRADE REG. REP. (CCH) ¶ 4505, at 6881-19 n.53. For the complete language, see *supra* note 265.

make it apparent that the Justice Department will almost never accept an efficiencies defense; this rule is clear and informative.

Because under the new Guidelines the probability of challenge depends on market share, concentration, and various other, more subjective factors, the legality of a given merger may easily be doubtful. Risk-averse firms may cancel questionable mergers because of the greater legal uncertainty; aggressive firms may attempt mergers with a significant probability of challenge in the hope of convincing the agencies not to prosecute. Uncertainty may lead to greater demand for legal and economic expertise to evaluate the probable legality of potential mergers, more challenges to mergers, and fewer mergers by risk-averse firms. While the new Guidelines represent a net improvement, they are likely to create more Type 3 error than more rigid guidelines would have.

The externalities from overflexible merger standards extend into private litigation. Since under the new Guidelines enforcement appears substantially looser and unduly subjective, competitors, hostile takeover targets, and other interested parties are more likely to bring private suits against potentially threatening mergers. If it became public knowledge that prosecutors exercised discretion to permit some mergers with probable anticompetitive effects because of expected efficiencies, threatened competitors would have an increased incentive to sue in an attempt to stop competitors from attaining the anticipated economies and resulting competitive advantage. With overstrict merger enforcement during most of the first three decades of the Celler-Kefauver Amendment, private antitrust enforcement was not nearly so common for mergers as for other antitrust violations.[364]

Finally, the more flexible the Merger Guidelines are, the less likely courts are to incorporate them into case law in the long run. If the Guidelines appear to be subject to frequent exceptions, courts understandably will be reluctant to rely on them as a general presumptive standard. Indeed, the Guidelines' discussion of the factors affecting the

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364. A STATISTICAL ANALYSIS OF PRIVATE ANTITRUST LITIGATION, *supra* note 312, at 1, reports that 95% of all antitrust cases between 1970 and 1978 were private. In contrast, our investigation showed that between 1974 and 1981, only 24% of all reported merger cases were private, although underreporting of small or routine private cases undoubtedly gives this figure a downward bias. *See supra* notes 309, 312. However, we would be very surprised if a complete tally would show a private percentage among all merger cases anywhere near 95%.

The courts have been increasingly strict in adding requirements for private litigants to obtain standing in private challenges under § 7 of the Clayton Act. *See, e.g.*, Susman, *Standing in Private Antitrust Cases: Where Is The Supreme Court Going?*, 52 ANTITRUST L.J. 465 (1983); 2 P. AREEDA & D. TURNER, *supra* note 17, ¶¶ 333-349, at 160-266. If the courts believed that under the 1982 Guidelines the Government was failing to prosecute mergers that raised market power, they might possibly be more lenient on standing to challenge a merger under the Clayton Act or even under § 2 of the Sherman Act (illegal monopolization).

exercise of market power is so general that noneconomist judges might find it more confusing than helpful.[365] If, however, the antitrust enforcement agencies issued clear standards and relied on them over a long period with rare exceptions, the Government's confidence in them would encourage courts to rely on them as well.

D.   Conclusion

Both the Federal Trade Commission Statement and Justice Department Guidelines demonstrate the complexity of the analysis required to determine whether a given merger is likely to enhance market power. Our analysis[366] demonstrates the complexity of predicting and measuring efficiency effects, either case by case or on average. We applaud the Guidelines' attempts to use numerical values to improve market definition practice and generally approve of the standards they establish. We would have preferred much more rigid Guidelines, making few exceptions other than for barriers to entry, failing companies, regulated industries, and industries with a history of antitrust violations. The structural approach has many flaws, as we discussed at length. However, in large part because of the unreliability of the relationship between objective data (such as market structure) and both market power and efficiencies, prediction of results in individual cases is even more uncertain. For this reason, and because of the enormous cost and hopeless complexity of performing a complete welfare tradeoff on a case-by-case basis, we vastly prefer a simple, highly structural, objective, and definite approach to merger enforcement, one based on predictable criteria. By giving substantial weight to nonstructural factors, the new Guidelines may increase litigation costs and uncertainty. We hope that, with use, the present Guidelines will move toward greater rigidity, especially with respect to "safe harbors," and thereby provide the business community with the predictability that can reduce Type 3 error substantially.

VII
SUMMARY AND CONCLUSION

An ideal merger standard would prevent all market power that might be achieved through mergers, while permitting all possible efficiencies. This ideal standard would be so clear and predictable that it would minimize litigation costs, provide businessmen with optimal incentives, and enable the courts and the Commission to decide each case

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365. For example, since there is no guidance on the appropriate weighting of each factor, one can envision some judges mechanically counting the total number of factors facilitating and inhibiting collusion.

366. *See supra* Section B of Part III.

correctly. It would also fully reflect Congress' goal of stopping the formation of market power in its incipiency.

No standard, of course, can fully accomplish these objectives. Each makes compromises and gives rise to an unknown number of errors of uncertain magnitudes. The task is therefore to find an approach that will achieve most of these objectives reasonably well with few and relatively inconsequential application errors.

When Congress debated the Clayton Act and the Celler-Kefauver Amendment, its overriding concern was preventing substantial increases in monopoly power through merger. Although Congress considered wealth transfers through increased prices much more important than efficiency gains, it generally did not view the two goals as conflicting. Rather, the prevailing view seemed to be that diligent antitrust enforcement would prevent the emergence of market power likely to harm consumers, and increase—or at least not significantly impair—corporate efficiency.

The courts have generally agreed with Congress that market power is much more important than efficiencies. Early decisions sometimes held that efficiencies from mergers were undesirable because they might enable the combining firms to increase their monopoly power. More recently, however, courts have found that (a) market-power and efficiency goals may sometimes conflict; (b) resolution of this conflict in individual cases is too complex for judicial treatment; and (c) given this conflict, the congressional mandate is to resolve all doubt in favor of strict enforcement of the antitrust statutes, thereby minimizing the probability of increasing monopoly power through merger.

Since the passage of the antimerger acts, analysts have increasingly come to appreciate the extent to which mergers can be a source of efficiencies. Types of cost savings from mergers may include plant-level savings, multiplant economies, and synergies from factors such as research and development, marketing, distribution, and management. Evidence on the extent of efficiencies from mergers is both indirect and direct. With respect to indirect evidence, economic research has not delineated a precise market share or firm size above which firms realize few or no efficiencies. The best studies, based on a total of only thirty-five industries, suggest that economies of scale and of multiplant operation frequently justify a ten to fifteen percent firm share—sometimes twenty percent or more. Substantial additional evidence, however, suggests that larger firms tend to have lower costs than their smaller competitors—i.e., firms sometimes can attain additional efficiencies from growth beyond the previously noted levels. Many of these economies, however, would theoretically seem achievable from sources other than horizontal merger.

Empirical evidence on the extent of efficiencies from mergers in general is conflicting and difficult to interpret. Existing large sample studies focus on performance criteria, such as stock prices and profitability, and therefore measure a combination of price (market-power) and cost (efficiency) effects, without an effective means of separating the two. Moreover, all the studies suffer from a sensitivity problem: the efficiency effects likely to occur from a merger would normally be small quantitatively compared to all the factors comprising a firm's overall rate of profit or stock price. This problem is especially severe for United States data, where most mergers have been conglomerate and where any efficiency effects would typically accrue only to part of the combined operations.

Despite their flaws, existing studies tend to show that acquired firms gain substantially from merger. The dispute is over whether acquiring firms on average earn a normal rate of return (i.e., confirming that the market for corporate acquisitions is essentially competitive) or slightly more or less than a normal rate of return. Given the methodological weaknesses of existing studies and the inherent data and econometric problems, scholars may never be able to answer this question conclusively. Regardless, any net gains from corporate acquisition can reflect so many different factors that it is a leap of faith to attribute these gains to increased efficiencies. The vast body of empirical evidence thus yields little conclusive information on the efficiency effects of mergers.

Individual case studies and inductive analysis are more useful and show that many individual mergers have created substantial efficiencies, many others have been fiascos, and the record of predictions for individual cases has been shockingly poor—too poor to inspire confidence that any prediction of the level of cost savings could be sufficiently accurate to be a major basis of public policy.

Although mergers often result in efficiencies, the optimal way to incorporate these cost savings creates severe theoretical and practical problems. Some mergers reasonably likely to create efficiencies are unlikely to result in higher prices for consumers. Such mergers are desirable whether one evaluates them in terms of efficiencies or wealth transfers. However, mergers likely to increase market power sufficiently to lead to higher consumer prices would create a welfare trade-off. Williamson showed that, as a first approximation, the net welfare effect of such mergers depends on a number of factors, including the decrease in marginal costs, the elasticity of demand for the product, and the increase in market power. A complete analysis would also include other factors, such as wealth transfers, possible changes in product quality, the timing and dispersion of the market-power and

efficiency effects, political impact, technological progress, and the costs of rent-seeking behavior by firms with monopoly power. Many severe measurement problems plague attempts to perform this analysis accurately in individual cases. Thus, even if we felt confident that experts could accurately predict the extent of both increased market power and greater efficiencies in a given merger, we cannot feel confident of their ability to perform the required welfare analysis—i.e, to determine that level of efficiencies necessary to balance market-power effects—in individual cases.

Considering the welfare tradeoff from a practical point of view reinforces these observations. The extent of efficiencies from a given merger usually is unpredictable in advance, and the best guesses are typically those of industry insiders with vested interests, whose credibility with government prosecutors and the courts must be open to question. Many of the most important efficiencies, such as management or transaction-cost savings, are virtually impossible to predict and measure accurately before a merger, especially by outsiders. Even when mergers lead to efficiencies, integration of the firms can sometimes take years, during which changes in other market conditions complicate measurement. Policymakers certainly could not undertake a Williamsonian tradeoff analysis in time to determine the legality of a merger before consummation. Moreover, experience in similar types of litigation shows that the elasticity of demand and cost calculations required for an efficiencies defense or tradeoff analysis will be complicated, lengthy, expensive, and controversial.

The unpredictability of results on an individual basis makes accurate case-by-case balancing of market-share and efficiency effects a virtual impossibility. For prosecutorial discretion, the Government would have to rely on guesses supported by possibly self-serving testimony of company experts and by a staff investigation of such complexity that delays or hasty judgments would be inevitable. Litigation would be enormously complex, because the tradeoff evaluation would require investigation of virtually all aspects and operations of the merging firms and of their major competitors, including highly sensitive and confidential cost data. The inherent delays would generate questions of interim relief. Under the evidentiary standards of the 1982 Federal Trade Commission Statement and Justice Department Merger Guidelines, it would be virtually impossible to meet the burden of proof for an efficiencies defense. The defense would in fact permit additional mergers only if the courts and the Federal Trade Commission required only speculative presentations of hoped-for efficiencies. Regardless of the evidentiary standard, the most probable result would be vastly in-

creased investigation and litigation costs and greater uncertainty for merging firms.

We return to the theme of predictability because we believe that any antitrust enforcement system must, above all, be as objective and predictable as possible. Although businessmen might well welcome an efficiencies defense, we believe that they would be even more pleased with clear, simple, objective guidelines with numerical standards raised to incorporate efficiency considerations implicitly.

Our classification of the departure from ideal enforcement into three types of error summarizes these issues. Type 3 cost already is very large, currently running as much as $75 million a year or more for litigation costs alone for Clayton Act Section 7 cases, according to our best estimates. Our analysis convinces us that a case-by-case efficiencies defense would increase these costs very substantially, yet we expect that such a change would purchase nothing in terms of reduced Types 1 and 2 error.

Our preference is for simple, objective merger guidelines designed to maximize predictability of the ultimate legality of any given merger. Rather than attempt to judge mergers optimally in individual cases, we would use guidelines based on relatively few of the most important and objective structural determinants of probable market-share effects. We would account for efficiency effects implicitly, by raising the standards of presumptive illegality, rather than attempt case-by-case prediction of ultimate effects. This approach would deter most obviously undesirable mergers, permit the great bulk of mergers most likely to have important efficiency effects, and minimize Type 3 error. Attempts to improve decisions on the remaining, most marginal mergers would have a high percentage of error and vastly increase Type 3 error; the sum of Types 1, 2, and 3 error would be virtually certain to increase under case-by-case tradeoff analysis.

The 1982 Federal Trade Commission Statement and Justice Department Merger Guidelines are consistent with our recommendation to raise the Guidelines' thresholds for challenging mergers, largely for efficiency reasons. The numerical levels are reasonable and close to standards in recent court decisions, and they fairly balance the competing congressional concerns with wealth transfers, efficiency, and incipiency. The new Guidelines, however, are less clear on whether the enforcement agencies actually will consider efficiencies in individual cases. The evidentiary requirements in both statements are so restrictive that if the agencies follow them as written, the Government will continue to drop merger investigations for efficiency reasons only in very rare instances. Departures from the strict written standards, however, especially with a change in the composition of the Federal Trade

Commission, could lead to a full efficiencies defense being forced on the Commission, the Justice Department, and the courts, with the resulting social costs of vastly greater business uncertainty, litigation, and enforcement expenses, and no reason to expect any net compensating gains.