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APPRAISING MERGER EFFICIENCIES
Herbert Hovenkamp*

INTRODUCTION

Mergers of business firms violate the antitrust laws when they threaten to lessen competition, which generally means a price increase resulting from reduced output. The principal statutory vehicle for addressing mergers under the antitrust laws is Section 7 of the Clayton Act, which condemns both stock and asset acquisitions where “the effect of such acquisition may be substantially to lessen competition, or to tend to create a monopoly.”¹ The statute itself neither defines “substantially . . . lessen competition” nor provides for an efficiency defense. As a result some courts continue to doubt whether the defense exists at all.² Section 7 is enforced by both the Antitrust Division of the Department of Justice (“Antitrust Division”) and the Federal Trade Commission (“FTC”). While private plaintiffs are also empowered to enforce Section 7 through both damages and equity actions, their impact on merger law has been relatively small.³

Mergers of relatively small firms in competitive markets almost never pose the Clayton Act threats. When markets are more concentrated or products are differentiated, however, the threat of a merger resulting in higher prices looms larger.⁴ At the same time, a merger that threatens a price increase may also enable the post-

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¹ 15 U.S.C. § 18 (2012):

No person . . . shall acquire, directly or indirectly, the whole or any part of the stock or other share capital and no person . . . shall acquire the whole or any part of the assets of another person . . . where in any line of commerce or in any activity affecting commerce in any section of the country, the effect of such acquisition may be substantially to lessen competition, or to tend to create a monopoly.

Prior to 1950, many mergers were challenged under Section 1 of the Sherman Act, and a few are even today. Today, a few mergers are challenged under Section 1, but more are challenged under Section 7 of the Sherman Act. *See* 4 PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW ¶ 906 (4th ed. 2016).

² *E.g.*, Fed. Trade Comm’n v. Penn State Hershey Medical Center, 838 F.3d 327, 347–48 (3d Cir. 2016) (neither Supreme Court nor Third Circuit has adopted the defense and the Supreme Court has “cast doubt on its availability”).

³ On private merger challenges, see 2A PHILLIP E. AREEDA ET AL., ANTITRUST LAW ¶ 356 (4th ed. 2014).

⁴ *See infra* notes 145–146 and accompanying text.

merger firm to reduce its costs or improve its product.⁵ Few areas of merger law are more controversial than the treatment of such efficiency claims, which are often raised but almost never found to justify a merger that has been shown to be prima facie unlawful. The decisions that credit claimed efficiencies as justification typically also find that the government failed to make out its prima facie case against the merger.⁶ Thus, in those cases acknowledgement of efficiencies is simply dicta.

Nevertheless, attitudes toward mergers are heavily driven by assumptions about efficiency gains. If mergers of competitors never produced efficiency gains but simply reduced the number of competitors, a strong presumption against them would be warranted. But we tolerate most mergers because of a background, highly generalized belief that most—or at least many—do produce cost savings or improvements in products, services, or distribution. Those who think that significant efficiency gains are likely to be both present and strong in most mergers would prefer to give merging firms the benefit of the doubt, and perhaps adjust proof burdens accordingly.⁷ By contrast, those who believe that many mergers produce few or trivial efficiency gains would narrow the defense or perhaps even eliminate it.⁸

Acting jointly, the Antitrust Division and FTC (“Agencies”) have issued Horizontal Merger Guidelines (“Merger Guidelines”), most recently updated in 2010, which set out the standards for merger review.⁹ The Merger Guidelines address both the elements of a prima facie case and the requirements of an efficiency defense.¹⁰ Under the Merger Guidelines’ approach, merger analysis takes efficiencies into account in two ways. First, certain categorical assumptions about efficiencies are made in determining where the

⁵ See 4A AREEDA & HOVENKAMP, *supra* note 1, ¶¶ 970–76.

⁶ E.g., Fed. Trade Comm’n v. Freeman Hosp., 911 F. Supp. 1213, 1224, 1227 (W.D. Mo. 1995), *aff’d*, 69 F.3d 260 (8th Cir. 1995) (finding substantial efficiencies from elimination of overhead expenses, but rejecting the FTC’s case on market definition grounds). On the burden-shifting framework applied in merger analysis see *infra*, text accompanying notes 131–133.

⁷ See *infra*, text accompanying notes 43–44.

⁸ See Amanda P. Reeves & Maurice E. Stucke, *Behavioral Antitrust*, 86 IND. L.J. 1527, 1560–63 (2011); Spencer Weber Waller, *Corporate Governance and Competition Policy*, 18 GEO. MASON. L. REV. 833, 873–79 (2011).

⁹ See generally U.S. DEP’T OF JUSTICE & FED. TRADE COMM’N, HORIZONTAL MERGER GUIDELINES (2010), <https://www.ftc.gov/sites/default/files/attachments/merger-review/100819hmg.pdf> [hereinafter 2010 HORIZONTAL MERGER GUIDELINES].

¹⁰ *Id.* § 10.

line for prima facie illegality should be drawn.¹¹ Second, however, the Merger Guidelines recognize a specific efficiencies “defense” that is available once prima facie illegality has been established; the burden of proof for an efficiencies defense ordinarily lies with the defendant, or the proponents of the merger.¹²

Recent empirical literature suggests that merger policy today is under deterrent. That is, current enforcement policy is more likely to permit an anticompetitive merger than to prohibit a harmless one.¹³ At the same time, however, the fault appears not to lie with the efficiencies defense. The defense has rarely been successfully raised to justify a merger after the government has made out a prima facie case of illegality. Thus, the under deterrence problem must lie in the prima facie case itself.

In highly competitive, undifferentiated markets anticompetitive price increases (or quality reductions) are unlikely to be a motivating factor for a merger. The post-merger firm still lacks significant market power, and the market is no more conducive to collusion than it had been prior to the merger. In that case efficiency gains must be the rationale for the merger. But as markets become more concentrated or differentiated, anticompetitive consequences become more plausible. More concentrated markets encourage collusion or other forms of coordinated interaction,¹⁴ particularly when there are only three, four, or a few more firms in the post-merger market.¹⁵ In markets that are differentiated by product or

¹¹ See discussion *infra*, text accompanying notes 32–41.

¹² See discussion *infra*, text accompanying notes 32–41.

¹³ See discussion *infra*, text accompanying notes 90–91.

¹⁴ The term “coordinated interaction” refers to both explicit price fixing and more tacit forms of collusion. The 2010 Horizontal Merger Guidelines give this definition:

Coordinated interaction involves conduct by multiple firms that is profitable for each of them only as a result of the accommodating reactions of the others. These reactions can blunt a firm’s incentive to offer customers better deals by undercutting the extent to which such a move would win business away from rivals. They also can enhance a firm’s incentive to raise prices, by assuaging the fear that such a move would lose customers to rivals. Coordinated interaction includes a range of conduct. Coordinated interaction can involve the explicit negotiation of a common understanding of how firms will compete or refrain from competing. Such conduct typically would itself violate the antitrust laws. Coordinated interaction also can involve a similar common understanding that is not explicitly negotiated but would be enforced by the detection and punishment of deviations that would undermine the coordinated interaction. Coordinated interaction alternatively can involve parallel accommodating conduct not pursuant to a prior understanding.

2010 HORIZONTAL MERGER GUIDELINES, *supra* note 9, § 7.

¹⁵ See 4 AREEDA & HOVENKAMP, *supra* note 1, ¶¶ 916–18.

geography, mergers between relatively “proximate” firms in product or geographical space can facilitate unilateral price increases.¹⁶ This may also be true for markets in which information flow is limited or markets characterized by auction style pricing.¹⁷ As the case for either of these anticompetitive outcomes becomes stronger, so does the strength of a noncompetitive explanation for the motivation underlying a merger.

The “substantially lessen competition” language of Section 7 of the Clayton Act is not self-defining, and it has meant different things at different times.¹⁸ Lessening competition could be a reference to simple rivalry, or the number of firms in a market. Under that understanding, every horizontal merger lessens competition by reducing the number of rivals. The statutory phrase might also refer to general welfare, which would trade off possible consumer injuries against efficiency gains.¹⁹ Finally, it could be a reference to output and prices: a merger “substantially” lessens competition if it reduces output in the market and results in increased prices. This definition comes closest to the approach to merger policy reflected in the 2010 Horizontal Merger Guidelines and applied today by both the Agencies and the courts.²⁰

Section 7 of the Clayton Act was substantially amended in 1950 by the Celler-Kefauver Act,²¹ which was first applied by the Supreme Court in its 1962 *Brown Shoe*²² decision. Neither the original language of Section 7 nor the amended language ever mention efficiencies as a defense, although there are some references to such a rationale in the legislative history of the revisions.²³

¹⁶ See 2010 HORIZONTAL MERGER GUIDELINES, *supra* note 9, § 6; 4 AREEDA & HOVENKAMP, *supra* note 1, ¶ 914.

¹⁷ See Gregory J. Werden, *The Relevant Market Concept in Antitrust Law*, in GLOBAL ANTITRUST ECONOMICS: CURRENT ISSUES IN ANTITRUST AND LAW & ECONOMICS 117, 122–24 (Douglas H. Ginsburg & Joshua D. Wright eds., 2016). See generally, Gregory J. Werden, *The Relevant Market: Possible and Productive*, ANTITRUST L.J. ONLINE, Apr. 2014, at 1, http://www.americanbar.org/content/dam/aba/publishing/antitrust_law_journal/at_alj_werden.authcheckdam.pdf. In an auction market it is often the buyers rather than the products that are differentiated. For example, even an auction for a fungible product could end up in a bidding war among two or three bidders, and eliminating one of these by merger could affect the price.

¹⁸ Clayton Antitrust Act of 1914 § 7, 15 U.S.C. § 18 (2012).

¹⁹ See discussion *infra*, text accompanying notes 64–70.

²⁰ 2010 HORIZONTAL MERGER GUIDELINES, *supra* note 9, § 1.

²¹ Celler-Kefauver Act, Pub. L. No. 81-899, 64 Stat. 1125 (1950) (codified as amended at 15 U.S.C. § 18 (2012)).

²² *Brown Shoe Co. v. United States*, 370 U.S. 294, 325 (1962).

²³ For example, during the debates Senator Estes Kefauver asked about a merger of two newspapers “in order to save the expense of operating in two separate buildings.” Senator Herbert O’Conor replied that

However, the statute does condemn only those mergers that may “substantially lessen” competition.²⁴ Therefore, an efficiencies defense may be built in, so to speak, to the extent that cost savings can reduce or completely offset the threat to competition. That is, the very concept of substantially lessening competition refers to competitive harm that outweighs any likely efficiencies.

Brown Shoe did not raise the issue, but it clearly did not recognize an efficiency defense to a merger. To the contrary, the Supreme Court approved of the district court's analysis that the merger should be condemned precisely *because* it enabled the post-merger firm to produce shoes of better quality or at a lower cost, thus injuring its rivals.²⁵ Five years later the Supreme Court reaffirmed that view, concluding that “[p]ossible [efficiencies] cannot be used as a defense to illegality.”²⁶ There, the Court reasoned that although Congress “was aware that some mergers which lessen competition may also result in [efficiencies]” it “struck the balance in favor of protecting competition.”²⁷

But merger policy changed remarkably in the 1970s and the years that followed. The government did not take very seriously the general proposition that a merger should be condemned simply because it reduced costs or improved products.²⁸ Indeed, in 1968 the

such a merger would not be unlawful because if that were the only effect “competition would be stimulated rather than lessened.” 96 CONG. REC. 16,456 (1950) (statements of Sen. Kefauver and Sen. O’Conor).

²⁴ 15 U.S.C. § 18 (2012).

²⁵ See *United States v. Brown Shoe Co.*, 179 F. Supp. 721, 738 (E.D. Mo. 1959), *aff’d* 380 U.S. 294 (1962):

[I]ndependent retailers of shoes are having a harder and harder time in competing with company-owned and company-controlled retail outlets. National advertising by large concerns has increased their brand name acceptability and retail stores handling the brand named shoes have a definite advertising advantage. Company-owned and company-controlled retail stores have definite advantages in buying and credit; they have further advantages in advertising, insurance, inventory control . . . and price control. These advantages result in lower prices or in higher quality for the same price and the independent retailer can no longer compete . . .

See *Fed. Trade Comm’n v. Penn State Hershey Medical Center*, 838 F.3d 327, 347–48 (3d Cir. 2016) (noting *Brown Shoe*’s rejection of efficiencies defense).

²⁶ *Fed. Trade Comm’n v. Procter & Gamble Co.*, 386 U.S. 568, 580 (1967).

²⁷ *Id.*

²⁸ See Richard J. Gilbert & Hillary Greene, *Merging Innovation into Antitrust Agency Enforcement of the Clayton Act*, 83 GEO. WASH. L. REV. 1919, 1927 (2015) (explaining that the 1968 Merger Guidelines were concerned with mergers which discouraged price competition and encouraged inefficient production methods). There were a few exceptions. See, e.g., *Allis-Chalmers Mfg. Co. v. White Consol. Indus.*, 414 F.2d 506, 515–18 (3d Cir. 1969) (condemning a merger between a manufacturer of rolling mills, used in the production of steel, and a manufacturer of the electric hook-ups for such mills, because the merger would create “the only company capable of designing, producing

Antitrust Division's first set of Merger Guidelines acknowledged that “improvements in efficiency” should be treated as a mitigating factor in merger law.²⁹ Nevertheless, the Antitrust Division concluded that the ordinary market concentration standards used for assessing merger illegality should be sufficient because challenges to mergers of “companies operating significantly below the size necessary to achieve significant economies of scale” would be rare.³⁰ In other words, the substantive standards of illegality already assumed and accounted for merger efficiencies. Beginning in 1982, the Merger Guidelines elaborated more on an efficiency defense.³¹ Since that time the defense has been expanded in successive editions of the Merger Guidelines, but the fact remains that the defense has almost never been asserted successfully against a *prima facie* unlawful merger.

While evidence suggests that current merger policy is under deterrent, an efficiencies defense rarely results in a successful rebuttal of an established *prima facie* case of a merger’s illegality—suggesting that the problem lies elsewhere. This Article begins by describing the burden shifting framework employed in challenged merger litigation under the Merger Guidelines in Part I. Part II, explores the welfare standard underlying the Merger Guidelines, particularly in relation to the efficiency defense, by analyzing and considering the general welfare and consumer welfare standards as well as welfare tradeoff models. Part III analyzes how efficiency claims are assessed—and how they should be assessed—by courts under the Merger Guidelines.

I. “DEFENSE” OR PRIMA FACIE CASE?

Today courts assessing mergers apply a burden shifting framework in which the government or private plaintiff challenging a merger must first establish a *prima facie* case of illegality.³² Most

and installing a complete metal rolling mill,” and this “would raise higher the already significant barriers to the entry of others.”)

²⁹ U.S. DEP’T OF JUSTICE, ANTITRUST DIVISION, MERGER GUIDELINES ¶ 10 (1968), <http://www.justice.gov/sites/default/files/atr/legacy/2007/07/11/11247.pdf> [hereinafter 1968 MERGER GUIDELINES].

³⁰ *Id.*

³¹ See U.S. DEP’T OF JUSTICE, ANTITRUST DIVISION, MERGER GUIDELINES 29 (1982), <http://www.justice.gov/archives/atr/1982-merger-guidelines>.

³² This burden shifting framework is generally identified with the decision in *United States v. Baker Hughes, Inc.*, 908 F.2d 981, 982–83, 983 n.3 (D.C. Cir. 1990). See also discussion *infra*, text accompanying notes 108–112.

mergers are challenged for one of two reasons. First is the traditional rationale that the merger will reduce the number of firms in a market. In highly concentrated markets this will increase the likelihood of price fixing or other forms of coordinated interaction that threatens to reduce output and raise prices. Alternatively, in product differentiated markets certain firms may be more adjacent in product space, usually because of product similarity or occasionally due to geographic proximity; whereas other firms are more remote. A merger of two of the more adjacent firms can permit a price increase between those two firms while the rest of the market remains mostly unaffected. This “unilateral effects” theory has been quite upsetting to traditional merger analysis, and may not even require a market definition.³³ The underlying principle is that a firm’s ability to raise its price profitability depends on the number of sales it will lose. If a firm acquires a close rival, fewer sales will be diverted away from the merging firms, and a price increase is more likely to be profitable.³⁴ In auction markets, even if the product is undifferentiated buyers may not be. A merger that eliminates competition between, say, the highest and second highest bidder can also harm competition.³⁵

If the merger challenge’s initial analysis suggests that under either the traditional concentration theory or the unilateral effects theory the merger will increase prices, the burden shifts to the proponents of the merger to show efficiencies. These must be either cost reductions, product improvements, or other innovation that result from the merger.³⁶ Whether this evidence of efficiencies is sufficient to rebut the challenger’s prima facie case depends on a number of factors, including the particular welfare test that the merger analysis applies;³⁷ the nature of the claimed efficiencies,³⁸ the

³³ See Joseph Farrell & Carl Shapiro, *Antitrust Evaluation of Horizontal Mergers: An Economic Alternative to Market Definition*, 10 B.E. J. OF THEORETICAL ECON. 1, art. 9, 14–15 (2010). For a simple, nontechnical explanation, see Carl Shapiro, *Mergers with Differentiated Products*, ANTITRUST, Spring 1996, at 23, 23.

³⁴ See HERBERT HOVENKAMP, FEDERAL ANTITRUST POLICY: THE LAW OF COMPETITION AND ITS PRACTICE § 12.3d (5th ed. 2015). On the history, see Herbert Hovenkamp, *Re-Imagining Antitrust: The Revisionist Work of Richard S. Markovits*, 94 TEX. L. REV. 1221, 1230–33 (2016).

³⁵ See Gregory J. Werden & Luke M. Froeb, *Choosing Among Tools for Assessing Unilateral Merger Effect*, 7 EURO. COMPETITION J. 155, 173–74 (2011).

³⁶ On the latter, see Gilbert & Greene, *supra* note 28, at 1929, 1939–40 (concluding that the Agencies’ recognition of innovation as a qualifying efficiency must be more specific and empirically supported, and the Agencies must be more transparent about how innovation claims are evaluated).

³⁷ See discussion *infra*, text accompanying notes 64–128.

³⁸ See discussion *infra*, text accompanying notes 158–165.

robustness of the evidence for them,³⁹ and their magnitude in relation to the predicted competitive harm;⁴⁰ and whether or not the claimed efficiencies are “merger specific.”⁴¹

Today, the view held by the Agencies and expressed in the Merger Guidelines is that most mergers are socially beneficial because they lead to cost reductions or improved output, but with a few exceptions.⁴² As a result, a background assumption about efficiencies is built into the initial analysis. Indeed, since the Reagan administration the government has challenged fewer than 2% of the mergers that are sufficiently large that they must be reported.⁴³ This makes an efficiency defense theoretically relevant although perhaps not essential. One might conclude, as the 1968 Merger Guidelines did, that the market structure standards used by the Agencies are sufficiently tolerant to take the general run of efficiencies into account.⁴⁴

Many mergers challenged for unilateral effects are evaluated under an economic “upward pricing pressure” model that predicts the change in the firms’ profit maximizing price before and after the merger.⁴⁵ The models as applied often include a built in general “credit” for presumed efficiency gains, typically 10% of marginal cost,⁴⁶ rather than seeking to quantify efficiencies on a case-by-case

³⁹ See discussion *infra*, text accompanying notes 131–138.

⁴⁰ See discussion *infra*, text accompanying notes 64–70.

⁴¹ See discussion *infra*, text accompanying notes 120–193.

⁴² See generally, 2010 HORIZONTAL MERGER GUIDELINES, *supra* note 9, at 1. See also, U.S. DEP’T OF JUSTICE, ANTITRUST DIV. & FED. TRADE COMM’N, COMMENTARY ON THE HORIZONTAL MERGER GUIDELINES 49 (2006), <http://www.justice.gov/sites/default/files/atr/legacy/2006/04/27/215247.pdf> [hereinafter COMMENTARY ON THE HORIZONTAL MERGER GUIDELINES (2006)].

⁴³ Fewer than 1% of acquisitions were challenged during the George W. Bush administration. The Obama administration was more aggressive, challenging about 1.5% of mergers. Even this number is lower than the long-term average of 1.8% since the Reagan administration. See Melissa Maleske, *How Antitrust Authorities View Mergers and Acquisitions*, INSIDECOUNSEL (Mar. 26, 2013), <http://www.insidecounsel.com/2013/03/26/how-antitrust-authorities-view-mergers-and-acquisi>.

⁴⁴ See COMMENTARY ON THE HORIZONTAL MERGER GUIDELINES (2006), *supra* note 42, at 49–59 (listing numerous cases in which consideration of efficiencies guided an Agency decision not to challenge a merger).

⁴⁵ See Farrell & Shapiro, *supra* note 33, at 11, 28–29; Carl Shapiro, *The 2010 Horizontal Merger Guidelines: From Hedgehog to Fox in Forty Years*, 71 ANTITRUST L.J. 49, 71–75 (2010); Joseph Simons & Malcolm Coate, *Upward Pressure on Price Analysis: Issues and Implications for Merger Policy*, 6 EUR. COMPETITION J. 377, 378–79 (2010).

⁴⁶ On how efficiency claims are considered prior to a challenge decision, see Darren S. Tucker, *A Survey of Evidence Leading to Second Requests at the FTC*, 78 ANTITRUST L.J. 591, 601–02 (2013). See also Elizabeth M. Bailey et al., *Merger Screens: Market Share-Based Approaches versus “Upward Pricing Pressure,”* ANTITRUST SOURCE 1, 6–7 (Feb. 2010), http://www.americanbar.org/content/dam/aba/publishing/antitrust_source/Feb10_Leonard2_25f.authcheckdam.pdf; Serge Moresi, *The Use of Upward Price Pressure Indices in Merger Analysis*, ANTITRUST SOURCE 1, 2–4 (2010),

basis.⁴⁷ In practice this approach need not differ all that much from the structural approach taken in earlier editions of the Merger Guidelines that suggested that efficiencies were simply assumed in the market structure analysis. Under the market structure approach, prediction of merger efficiencies becomes part of the government's prima facie evaluation.⁴⁸ Without providing detail, the 2010 Merger Guidelines state that the Agencies themselves will “look for reliable evidence” of efficiencies in their initial assessment,⁴⁹ and that the economic models that the Agencies use to evaluate unilateral effects “can incorporate merger-specific efficiencies.”⁵⁰ In sum, the Agency may simply assume efficiency gains of a certain magnitude or it may incorporate explicit evidence of such gains.

Of course, an arbitrary efficiency credit given in advance of specific claims can either under- or overstate efficiencies. In practice, the process of merger analysis contemplates a fairly generalized efficiency credit at early review stages, but more detailed and case-specific inquiries later.⁵¹ In any event, no matter what the government's opening analysis contemplates, once a serious efficiency defense is raised in litigation the government must meet it. The 2010 Merger Guidelines acknowledge that specific merger efficiency claims need to be evaluated on a case-by-case basis; they list some important factors whose effects vary from one situation to another.⁵² To be sure, relevant case law consistently insists on case-

http://www.americanbar.org/content/dam/aba/publishing/antitrust_source/Feb10_Moresi2_25f.authcheckdam.pdf.

⁴⁷ See Dennis Carlton, *Revising the Horizontal Merger Guidelines*, 6 J. COMPETITION L. & ECON. 619, 644 (2010); Farrell & Shapiro, *supra* note 33, at 8–9. *But see* Steven C. Salop & Serge Moresi, Comment on the Federal Trade Commission's Horizontal Merger Guidelines Review Project (No. P092900) (Nov. 9, 2009), https://www.ftc.gov/sites/default/files/documents/public_comments/horizontal-merger-guidelines-review-project-545095-00032/545095-00032.pdf; Werden & Froeb, *supra* note 35, at 169–70.

⁴⁸ See, e.g., 2010 HORIZONTAL MERGER GUIDELINES, *supra* note 9, § 6.1, ex.19 (acknowledging that once a price increase is predicted, “[f]urther analysis is required to account for repositioning, entry and efficiencies.”).

⁴⁹ *Id.* § 2.2.1.

⁵⁰ *Id.* § 6.1.

⁵¹ James Langenfeld & Gregory G. Wrobel, *Upward Pricing Pressure Analysis under the 2010 Horizontal Merger Guidelines*, ANTITRUST, Fall 2010, at 21, 24–25.

⁵² See 2010 HORIZONTAL MERGER GUIDELINES, *supra* note 9, § 10:

The Agencies have found that certain types of efficiencies are more likely to be cognizable and substantial than others. For example, efficiencies resulting from shifting production among facilities formerly owned separately, which enable the merging firms to reduce the incremental cost of production, are more likely to be susceptible to verification and are less likely to result from anticompetitive reductions in output. Other efficiencies, such as those relating to research and development, are potentially substantial but are generally less susceptible to

by-case evaluation, which naturally requires some kind of measurement in each individual case where efficiencies are claimed.⁵³

In 1976 Richard Posner advocated against any efficiencies defense that would require case specific measurement. He concluded that “the measurement of efficiency (whether based on economies of scale, superior management, or whatever) [is] an intractable subject for litigation.”⁵⁴ A quarter of a century later, Judge Posner largely adhered to his position.⁵⁵ Consistent expansions of the efficiency discussion in subsequent editions of the Merger Guidelines, as well as its frequent assertion in litigation, indicates that Posner did not have the last word on this subject.⁵⁶ At the same time, litigants' general lack of success in establishing the defense suggests that as a practical matter he may be right after all.

Mergers are not the only area where efficiencies are relevant to antitrust law. Many practices that are challenged under antitrust law's rule of reason simultaneously threaten competitive harm while promising efficiency gains. The purpose of the rule of reason in these situations is to determine whether the participants have sufficient market power to make an anticompetitive restraint plausible and, if so, whether the restraint really does threaten to harm competition by increasing prices or excluding rivals unreasonably.⁵⁷ If such a threat is found, the proponents of the arrangement can defend the action by showing that the arrangement produces offsetting efficiencies.⁵⁸ But even if the defense is successfully claimed, the challenger can still go

verification and may be the result of anticompetitive output reductions. Yet others, such as those relating to procurement, management, or capital cost, are less likely to be merger-specific or substantial, or may not be cognizable for other reasons.

See, e.g., *United States v. Oracle Corp.*, 331 F. Supp. 2d 1098, 1175 (N.D. Cal. 2004) (stating that claimed efficiencies such as increased future innovation are not verifiable, particularly in light of the fact that no contemporaneous internal documents discussed them; the government nevertheless lost on relevant market issue). On sufficiency, see *Fed. Trade Comm'n v. Libbey, Inc.*, 211 F. Supp. 2d 34, 52–53 (D.D.C. 2002) (holding that efficiencies were insufficient to overcome a high market concentration, whether or not they were verifiable).

⁵³ *See* discussion *infra*, text accompanying notes 90–95.

⁵⁴ RICHARD A. POSNER, *ANTITRUST LAW: AN ECONOMIC PERSPECTIVE* 112 (1976).

⁵⁵ RICHARD A. POSNER, *ANTITRUST LAW* 133 (2d ed. 2001).

⁵⁶ *See* discussion *infra*, text accompanying notes 36–53.

⁵⁷ *See* 7 PHILLIP E. AREEDA & HERBERT HOVENKAMP, *ANTITRUST LAW*, ¶ 1500 (3d ed. 2010); Herbert Hovenkamp, *Antitrust Balancing*, 12 N.Y.U. J.L. & BUS. 369, 371 (2016); Herbert Hovenkamp, *The Rule of Reason* (working paper, Jan. 2, 2017), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2885916.

⁵⁸ *See* 7 AREEDA & HOVENKAMP, *supra* note 57, ¶ 1504b.

on to prevail by showing a “less restrictive alternative” that would achieve the efficiencies but without the restraint's harm to competition.⁵⁹ This less restrictive alternative analysis is a rough equivalent to the Merger Guidelines' requirement that claimed efficiencies be “merger specific.”⁶⁰ That is, the proponents of the merger must show that they could not reasonably have attained the claimed efficiencies through some less harmful way other than the contemplated merger.⁶¹ As demonstrated below, the requirement that claimed efficiencies be “merger specific” makes a great deal of sense under a general welfare test for competitive harm from mergers.⁶² It makes considerably less sense, however, under the quasi-consumer welfare test that the Agencies actually employ.⁶³

II. ASSESSING MERGER EFFICIENCIES UNDER ALTERNATIVE WELFARE MODELS

How efficiencies are assessed in merger analysis partly depends on the underlying goals of the antitrust laws—in particular, on which definition of “welfare” the antitrust laws apply. As a matter of theory, merger efficiency analysis is one area where the choice of a welfare standard test matters to both the enforcement Agencies and the courts. Today, the principal debate over antitrust welfare tests concerns whether antitrust policy should adopt a “general welfare” or a “consumer welfare” approach. As a basic matter, the general

⁵⁹ Scott Hemphill, *Less Restrictive Alternatives in Antitrust Law*, 116 COLUM. L. REV. 927, 929 (2016). See also 7 AREEDA & HOVENKAMP, *supra* note 57, ¶ 1505.

⁶⁰ 2010 HORIZONTAL MERGER GUIDELINES, *supra* note 9, § 10.

⁶¹ See Fed. Trade Comm'n v. Cardinal Health, 12 F. Supp. 2d 34, 63 (D.D.C. 1998) (observing that while merging hospitals presented significant evidence of cost savings,

The critical question raised by the efficiencies defense is whether the projected savings from the mergers are enough to overcome the evidence that tends to show that possibly greater benefits can be achieved by the public through existing, continued competition. The Defendants simply have not made their case on this point.

See also Fed. Trade Comm'n v. Penn State Hershey Medical Ctr., 838 F.3d 327, 351 (3d Cir. 2016) (increased ability to engage in risk-based contracting not merger specific); See also Fed. Trade Comm'n v. Staples, Inc., 970 F. Supp. 1066, 1090 (D.D.C. 1997) (rejecting an efficiency study submitted by the defendant that purported to show large cost savings, stating that “the evidence shows that the defendants did not accurately calculate which projected cost savings were merger specific and which were, in fact, not related to the merger.”). The court also rejected the methodology that the defendants used to calculate the cost savings, and found no support for the conclusion that two-thirds of the savings would be passed on to customers. *Id.*

⁶² See discussion *infra*, text accompanying notes 184–189.

⁶³ See discussion *infra*, text accompanying notes 190–191.

welfare test is more difficult to apply and makes merger challenges more difficult.

A. *Choosing a Welfare Model: Consumer Welfare Under the 2010 Horizontal Merger Guidelines*

“General welfare” tests in antitrust are derived from a conception of Kaldor-Hicks efficiency, sometimes called “potential” Pareto efficiency.⁶⁴ Under this standard a practice is said to be efficient even though it produces both gains and losses, provided that the gains exceed the losses.⁶⁵ The term “potential” Pareto is helpful for understanding such situations. A pure Pareto improvement implies only gains, or at least gains and indifference, for everyone—there are no losers.⁶⁶ But a practice is efficient in the “potential” Pareto sense if the gainers gain enough that they could completely compensate the losers, leaving the losers indifferent.⁶⁷ In that case, ex post compensation from gainers to losers would turn the practice into a Pareto improvement.⁶⁸ Importantly, the potential Pareto test does not require that losers actually *be* compensated, but only that the gainers' gains be large enough to make satisfactory compensation possible.⁶⁹ For example, a merger that produced \$5 million in efficiency gains while raising aggregate prices by \$4 million would be counted as efficient, assuming it did no other harm beyond raising prices. The gains in this example are large enough to permit the gainers (merging firms) to compensate the losers (consumers paying a higher price) fully, and still have some gains left over. Again, the fact that the post-merger firm does not actually distribute the gains to the consumers paying a higher is irrelevant.

By contrast, a “consumer welfare” standard effectively requires a form of actual compensation.⁷⁰ The \$5 million efficiency gain in the example would satisfy the test only if at least \$4 million of it were actually passed on to consumers, thus yielding prices that are no higher than they were prior to the merger. Here, if consumers

⁶⁴ For an introduction, see HOVENKAMP, *supra* note 34, § 2.3c.

⁶⁵ *Id.*

⁶⁶ *Id.*

⁶⁷ *Id.*

⁶⁸ *Id.*

⁶⁹ *Id.*

⁷⁰ See HOVENKAMP, *supra* note 34, § 2.3c.

suffer harm, it does not matter that producers are benefitted by an even greater amount. The merger that raises aggregate prices by \$4 million should be condemned, whether or not offsetting efficiency gains exceed \$4 million.

The choice between these two antitrust welfare models has been fiercely debated for decades.⁷¹ In 1978 Robert H. Bork famously described his approach to antitrust as adopting a “consumer welfare” model, when in fact it was based entirely on general welfare.⁷² And while both sides of the debate have strong supporters and detractors, the debate has had relatively little explicit impact on antitrust case law outside of the merger context. That said, in the Supreme Court’s 2013 *Federal Trade Commission v. Actavis, Inc.*⁷³ decision, all eight participating Justices appeared to accept a consumer welfare model.⁷⁴

While the 2010 Merger Guidelines never uses the term “consumer welfare,” that appears to be the definition the drafters had in mind when articulating the tradeoff between competitive threats and efficiencies. The Merger Guidelines state that cognizable efficiencies must be “of a character and magnitude such that the merger is not likely to be anticompetitive in any relevant market.”⁷⁵ In making that determination, the Agencies consider whether the efficiencies are “sufficient to reverse the merger’s potential to harm customers in the relevant market, e.g., by preventing price increases in that market.”⁷⁶ As a result, a merger will not ordinarily be approved unless it makes consumers no worse off than they were prior to the merger. Of course, where the effect of efficiencies passed on to consumers is sufficiently large so as to keep prices at pre-merger levels there is no consumer harm in the first place. And

⁷¹ See, e.g., Kenneth Heyer, *Consumer Welfare and the Legacy of Robert Bork*, 57 J.L. & ECON. S19, S26–31 (2014); Herbert Hovenkamp, *Implementing Antitrust’s Welfare Goals*, 81 FORDHAM L. REV. 2471, 2474–77 (2013); Barak Orbach, *How Antitrust Lost Its Goal*, 81 FORDHAM L. REV. 2253, 2274–77 (2013); Alan J. Meese, *Debunking the Purchaser Welfare Account of Section 2 of the Sherman Act: How Harvard Brought Us a Total Welfare Standard and Why We Should Keep It*, 85 N.Y.U. L. REV. 659, 660–67 (2010); John B. Kirkwood & Robert H. Lande, *The Fundamental Goal of Antitrust: Protecting Consumers, Not Increasing Efficiency*, 84 NOTRE DAME L. REV. 191, 237–40 (2008); Herbert Hovenkamp, *Antitrust Policy After Chicago*, 84 MICH. L. REV. 213, 234 (1985); Robert H. Lande, *Wealth Transfers as the Original and Primary Concern of Antitrust: The Efficiency Interpretation Challenged*, 34 HASTINGS L.J. 65, 69 (1982).

⁷² ROBERT H. BORK, *THE ANTITRUST PARADOX: A POLICY AT WAR WITH ITSELF* 107–15 (1978).

⁷³ Fed. Trade Comm’n v. Actavis, Inc., 133 S. Ct. 2223 (2013).

⁷⁴ *Id.* at 2234–35, 2238. Justice Alito did not participate.

⁷⁵ 2010 HORIZONTAL MERGER GUIDELINES, *supra* note 9, § 10.

⁷⁶ *Id.* The use of “e.g.” is very likely intended to suggest that the government might approve some kind of consumer gain as an alternative to price effects, but these are not stated.

though the Merger Guidelines may seem to leave a small amount of wiggle room for approving a merger that actually results in a price increase, it has proven to not be very much.

In fact, one is hard pressed to find *any* American antitrust decision where the court clearly found that a practice (merger or otherwise) actually injured consumers by raising prices, but then approved the practice by concluding that consumer losses were more than offset by efficiency gains.⁷⁷ That is, the cases tend toward a consumer welfare approach—even if they rarely articulate it.

B. Welfare “Tradeoffs”

Under either articulation of a welfare test, welfare “tradeoff” models attempt to guide legal policy by assessing both the harms and benefits of a particular practice and balancing them against each other. The best-known welfare tradeoff model for mergers was developed by Oliver E. Williamson, and applies a general welfare test.⁷⁸ However, even under a consumer welfare model, assessment of tradeoffs is necessary. The lines of legality are simply drawn in a different place. In a general welfare model, legality requires that producer gains be sufficiently large to offset consumer losses, but consumer losses are still acceptable.⁷⁹ By contrast, in a consumer welfare model, the efficiency gains must be so large that the resulting price to consumers is no higher than prior to the merger.⁸⁰ Assuming that the savings show up in variable costs,⁸¹ increased savings from efficiencies will cause the post-merger firm's profit-maximizing price

⁷⁷ Canadian antitrust law, which adopts a total welfare approach, includes one much debated decision, which both recognized that a challenged merger between two producers of liquefied gas would cause a price increase, but approved the merger because it was thought to produce even larger offsetting efficiencies. *Comm’r of Competition v. Superior Propane, Inc.*, 2003 F.C.A. 53, para. 57–58 (Can.); see Daniel J. Gifford & Robert T. Kudrie, *Rhetoric and Reality in the Merger Standards of the United States, Canada, and the European Union*, 72 ANTITRUST L.J. 423, 454–56 (2005); Darwin V. Neher, et al., *Lessons from the Superior-ICB Merger*, 12 GEO. MASON L. REV. 289, 306–07 (2003); Richard O. Zerbe, Jr. & Sunny Knott, *An Economic Justification for a Price Standard in Merger Policy: The Merger of Superior Propane and ICG Propane*, in 21 RESEARCH IN LAW & ECONOMICS: ANTITRUST LAW & ECONOMICS 409, 416–18 (John B. Kirkwood ed., 2004).

⁷⁸ Oliver E. Williamson, *Economies as an Antitrust Defense: The Welfare Trade-Offs*, 58 AMER. ECON. REV. 18 (1968); see also 4A AREEDA & HOVENKAMP, *supra* note 1, ¶¶ 970–76; Robert Pitofsky, *Efficiencies in Defense of Mergers: Two Years After*, 7 GEO. MASON L. REV. 485, 485–87 (1999); Oliver E. Williamson, *Economies as an Antitrust Defense Revisited*, 125 U. PA. L. REV. 699, 706–09 (1977).

⁷⁹ Hovenkamp, *supra* note 71, at 2472–77.

⁸⁰ *Id.*

⁸¹ On different types of cost savings, see discussion *infra*, text accompanying notes 158–171.

to be lower. If the structural effects of a merger generally tend to push prices upward when efficiencies are not present, it will take larger efficiency gains to produce legality under a consumer welfare test than under a general welfare test.

Williamson's welfare tradeoff model, illustrated by Figure 1 below, shows a market that was perfectly competitive prior to a merger, with price (P_1) equal to cost (C_1).⁸² The merger has two results. First, it enables the firm to raise its price from P_1 to P_2 . Secondly, efficiencies resulting from the merger permit the firm to reduce its costs from C_1 to C_2 . Triangle A_1 represents the deadweight loss to consumers, while oblong rectangle A_2 represents gains that accrue to the firm as a result of the merger-created efficiencies.⁸³ In this case, while the efficiency gains are significant, they do not completely offset the price increase, so the price rises. Merger analysis under a general welfare test would require the fact finder to determine whether the area of triangle A_1 (consumer deadweight loss) was greater or less than the area of rectangle A_2 (producer gains). Williamson then showed that a relatively modest efficiency gain would be sufficient to make such a merger welfare increasing rather than welfare reducing under the general welfare test.⁸⁴ By contrast, under a consumer welfare test this merger would be unlawful because the post-merger price is higher than the pre-merger price.⁸⁵ Williamson did not address that issue.

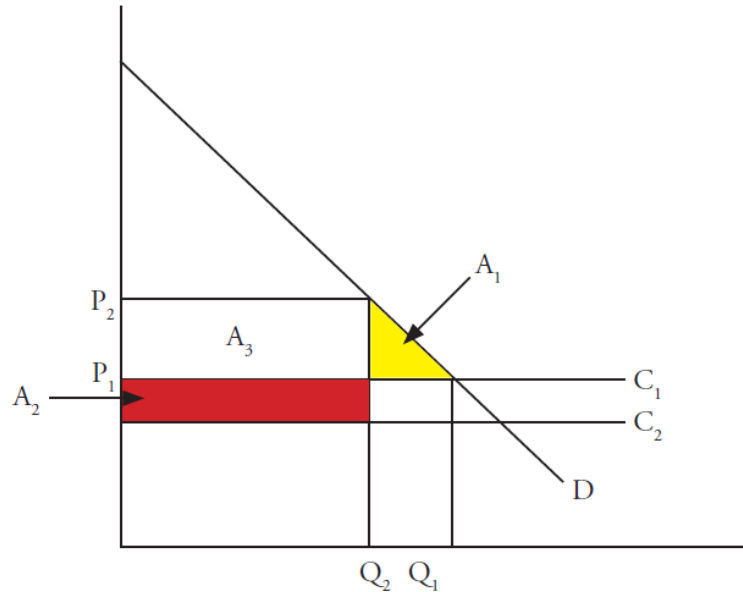
⁸² Oliver E. Williamson, *Economies as an Antitrust Defense Revisited*, 125 U. PA. L. REV. 699, 707 (1977).

⁸³ *Id.* at 708.

⁸⁴ *Id.* at 709.

⁸⁵ See Hovenkamp, *supra* note 71, at 2473 ("If consumers are harmed (either by reduced output or product quality or by higher prices resulting from the exercise of market power), then this fact trumps any amount of offsetting gains to producers and presumably to others.").

Figure 1



Williamson described his own model as “naive,” and it is subject to several qualifications, some quite severe.⁸⁶ First, the most common historical reason for condemning mergers is that they facilitate collusion, or “coordinated interaction” in the terms of the 2010 Horizontal Merger Guidelines.⁸⁷ Successful collusion reduces output and raises price above cost.⁸⁸ But collusion is a market wide phenomenon, not simply limited to the merging parties. As a result, mergers that facilitate coordinated interaction permit all firms in the market to raise their prices, a fact that has been borne out both theoretically and empirically.⁸⁹ For example, suppose the merger in Figure 1 created a post-merger firm with a 40% market share, in the process facilitating collusion with other firms. In that case, though the full 100% of firms in the market might likely collude and raise their prices, the efficiencies created by the merger would benefit only

⁸⁶ Williamson, *supra* note 82, at 706; *see also* Hovenkamp, *supra* note 79, at 2480.

⁸⁷ 2010 HORIZONTAL MERGER GUIDELINES, *supra* note 9, § 7.1.

⁸⁸ *See id.* § 1.

⁸⁹ *See* Martin K. Perry & Robert H. Porter, *Oligopoly and the Incentive for Horizontal Merger*, 75 AM. ECON. REV. 219, 220 (1985); George J. Stigler, *Monopoly and Oligopoly by Merger*, 40 AM. ECON. REV. 23, 31–33 (1950) (merging benefits other firms in the market); *see also* Matthew Weinberg, *The Price Effects of Horizontal Mergers*, 4 J. COMPETITION L. & ECON. 433, 436–38 (2008) (summarizing several empirical studies concluding that in most cases subsequent to mergers rival firms as well as the merger partners increased their prices).

the post-merger firm, with its 40% market share. In order to assess the true social cost of such a merger, one must look at harm across all sales, including the sales of the firms constituting the 60% of the market that did not realize any post-merger efficiencies—but merely enjoyed the price increase. All else being the same, the consumer deadweight loss would be two-and-one-half times larger than Williamson's figure suggests.

This critique actually had more force at the time Williamson published his paper in 1968 than it does today. At that time, courts were frequently condemning mergers on the basis of market concentration, despite relatively small (by today's standards) post-merger market shares, often on the order of 10% or less.⁹⁰ As a result, if such a merger facilitated collusion, the price effects would very likely dwarf the efficiency effects. By contrast, today a merger of two firms, each with 20% market share, would very likely be challenged on collusion grounds only if one or more other firms in the market were also quite large.⁹¹ In any event, if the merger is condemned on the fear of market wide coordination, then the analysis must consider price effects across all firms whose coordinated prices rise, while the relevant efficiencies accrue only to the post-merger firm. In the *Federal Trade Commission v. H.J. Heinz Co.*⁹² baby food case, where the merger was challenged on concentration increasing grounds, the merging partners (Heinz and Beech-Nut) together controlled a little less than 35% of the market.⁹³ In the *Saint Alphonus Medical Center—NAMPA, Inc. v. St. Luke's Health System*⁹⁴ case, also challenged on concentration increasing grounds, the post-merger firm accounted for 70% to 80% of the relevant market.⁹⁵ Full assessment of efficiencies in either of these

⁹⁰ *United States v. Von's Grocery Co.*, 384 U.S. 270, 272 (1966) (condemning the merger of two small grocery chains with a combined market share of 7.5% of a highly competitive market); see also 1968 MERGER GUIDELINES, *supra* note 29, § 4 (identifying as “highly concentrated” a market in which the acquiring and acquired firm each had at least 4% of the market).

⁹¹ Assuming a concentration threshold of 2500 HHI, and a market of A=20, B=20, C=20, D=20, E=10, F=10, the post merger-HHI after a merger between A and B would be 2600, which the 2010 Guidelines would identify as highly concentrated. See 2010 HORIZONTAL MERGER GUIDELINES, *supra* note 9, § 5.3.

⁹² *Fed. Trade Comm'n v. H.J. Heinz Co.*, 246 F.3d 708 (D.C. Cir. 2001).

⁹³ *Id.* at 718 n.14.

⁹⁴ See *Saint Alphonus Medical Center-Nampa, Inc. v. St. Luke's Health Sys.*, Nos. 1:12-CV-00560-BLW, 1:13-CV-00116-BLW, 2014 WL 407446, at *1 (D. Idaho Jan. 24, 2014), *aff'd*, 778 F.3d 775 (9th Cir. 2015).

⁹⁵ *Id.* at *13.

cases would require the court to consider the price impact on non-merging competitors.

In unilateral effects cases, it is possible and even quite likely that non-merging parties will increase their prices as well, although not by as much as the prices of the merging firms increase.⁹⁶ For example, non-merging firms might reposition themselves in order to take advantage of the fact that two rivals, now having become one, raised their price and reduced their output.⁹⁷ One likely result is that these non-merging competitors produce more but also charge higher prices, given that total market output is smaller as a result of the merger.⁹⁸ Once again, the non-merging firms may produce additional consumer harm but no offsetting efficiencies.

The 2010 Horizontal Merger Guidelines generally require that the post-merger firm's prices be no higher than they were prior to the merger.⁹⁹ If that is the case, the prices of non-merging competitors would not ordinarily increase either, for they would be forced to match a downward rather than upward price movement. That is, if merger efficiencies actually led to lower prices, not only would consumers of the post-merger firm benefit, but so too would consumers of other firms in the market that were forced to compete with the post-merger firm's lower price. So the Williamson model errs in both directions, depending on whether the post-merger firm's prices go up or down.

A second, related problem with the Williamson model is that it assumed that A_1 in the figure was the entire social cost of a merger. That might be true in some cases, but not necessarily in others. The merger contemplated by the model is highly profitable, producing gains equal to A_2 (efficiency) + A_3 (noncompetitive pricing).¹⁰⁰ A firm pursuing these profits would be willing to spend up to the value of such profits in order to obtain them. Whether the investments made in pursuit of these profits are themselves efficient would

⁹⁶ See Gregory J. Werden & Luke M. Froeb, *Unilateral Competitive Effects of Horizontal Mergers*, in HANDBOOK OF ANTITRUST ECONOMICS 43, 46 (Paolo Buccirossi ed., 2008).

⁹⁷ See Jonathan B. Baker & David Reitman, *Research Topics in Unilateral Effects Analysis*, in RESEARCH HANDBOOK ON THE ECONOMICS OF ANTITRUST LAW 25, 25 (Einer Elhauge ed., 2012); Werden & Froeb, *supra* note 97, at 51.

⁹⁸ Gregory J. Werden, *Unilateral Competitive Effects of Horizontal Mergers I: Basic Concepts and Models*, in 2 ISSUES IN COMPETITION LAW AND POLICY 1319, 1322, 1327 (2008).

⁹⁹ 2010 HORIZONTAL MERGER GUIDELINES, *supra* note 9, § 2.1.1.

¹⁰⁰ Oliver E. Williamson, *Economies as an Antitrust Defense: The Welfare Trade-Offs*, 58 AM. ECON. REV. 18, 21 (1968).

depend on the circumstances, but in at least some circumstances they would not be. For example, the firm might engage in noncompetitive pricing to beat down the value of a rival's firm before acquiring it.¹⁰¹

1. Output Reducing Mergers Under a General Welfare Standard

A third and quite significant problem with Williamson's naive model is that if the merger results in higher prices, the efficiencies must occur at output levels that are lower than they were prior to the merger. Of course, efficiencies might be so substantial that post-merger output is higher, and prices lower, than pre-merger levels. But in that case there is nothing to trade off—both producers and consumers would benefit from the merger. The “tradeoff” model in Figure 1 comes into play only when the merger causes a reduction in output (a shift from Q_1 to Q_2 in the figure) but also causes significant efficiency gains.

The most common efficiency is the economy of scale—i.e., cost reductions that accrue as output is increased. The 1968 Merger Guidelines recognized economies of scale as the only relevant efficiency.¹⁰² Over some longer run, even a merger that results in a short-term output reduction might facilitate economies of scale. For example, two firms might operate inefficiently small plants with a capacity of fifty units each. The new post-merger firm might sell eighty units, and an eighty unit plant might be more efficient than a fifty unit plant. But the merger itself does not create the modern eighty unit plant. Rather, it simply gives the post-merger firm two inefficiently small fifty unit plants. Perhaps one plant can be re-engineered and the other closed, but this does not follow naturally and it raises questions about whether the claimed efficiency was really merger specific.¹⁰³ For example, perhaps either firm acting alone could have built a larger more efficient plant.

Other qualifying efficiencies might also accrue at reduced output levels. But, while attaining efficiencies at lower output levels is not impossible, each claim must be explained and proven. For instance, the post-merger firm might reallocate production so that

¹⁰¹ See generally, Richard A. Posner, *The Social Cost of Monopoly and Regulation*, 83 J. POL. ECON. 807 (1975).

¹⁰² 1968 MERGER GUIDELINES, *supra* note 29, ¶ 10.

¹⁰³ On “merger specific” efficiencies, see discussion *infra*, text accompanying notes 190–193.

each plant is more specialized after the merger. Or the merger might facilitate cost reducing vertical integration by enabling better use of supply sources or distribution networks. Some efficiencies, such as better management or better intellectual property, might certainly be attained at lower output; but these tend not to be merger specific, because they can be acquired by other means. Otherwise they are very difficult to prove.¹⁰⁴ Still other efficiencies, like the increased ability to compete in a larger market, might be plausible but appear to imply that output will be larger after the merger.¹⁰⁵

One possibility for efficiencies at lower output is a merger that shifts production from one merging firm's obsolete, high cost plant to the other merging firm's more modern, low cost plant. In the *Heinz* case, the district court found that the contested merger would permit Beech-Nut, which had an obsolete plant, to transfer production to merger partner Heinz, whose plant was modern but underutilized.¹⁰⁶ Such a transfer of output might reduce variable costs of production even though aggregate output was lower than the output of the two firms prior to the merger.¹⁰⁷

One problem with this defense is that it proceeds from the premise that only one of the merging firms was inefficient, while the other was not. But the rationale for considering efficiencies is that the merger introduces a more efficient firm into the market.¹⁰⁸ A merger between two firms that are both inefficient for reasons relating either to scale or technological obsolescence can accomplish that.¹⁰⁹ However, if one of the firms is already efficient, then the merger does not add an efficient firm to the market; it only increases concentration.¹¹⁰ The rationale for approving such a merger is protecting the inefficiently small firm from losing out in a competitive struggle. In this case, for example, Heinz had an efficient yet underutilized plant.¹¹¹ The ordinary competitive outcome would be that Heinz would produce more, particularly given its lower

¹⁰⁴ Fed. Trade Comm'n v. H.J. Heinz Co., 246 F.3d 708, 721–22 (D.C. Cir. 2001).

¹⁰⁵ Fed. Trade Comm'n v. Freeman Hosp., 911 F. Supp. 1213, 1224 (W.D. Mo. 1995), *aff'd*, 69 F.3d 260 (8th Cir. 1995) (accepting defense that merging hospitals would be able to compete better at the regional level and would have less overhead and administrative duplication; Eighth Circuit denied the FTC's request for an injunction, mainly for failure to show relevant geographic market).

¹⁰⁶ *H.J. Heinz Co.*, 246 F.3d at 721.

¹⁰⁷ *Id.*

¹⁰⁸ See 4A AREEDA & HOVENKAMP, *supra* note 1, ¶ 901.

¹⁰⁹ *Id.*

¹¹⁰ *Id.* ¶ 976b.

¹¹¹ *H.J. Heinz Co.*, 246 F.3d at 721.

variable costs. Beech-Nut might go out of business or it might figure out ways to modernize. But protecting an inefficient rival from competition is neither the rationale underlying merger policy in general nor the efficiency defense in particular.¹¹² Of course, if the more efficient firm were to acquire the less efficient firm and, after cost reductions, produce just as much as it had prior to the merger, then there would be no harm and thus no illegality.

The problem of efficiencies at lower output under a general welfare model disappears under the consumer welfare standard, because the merger would be approved only if output were at least as high after the merger as it had been before. Assuming the merger were *prima facie* unlawful, the proponents would have to show that efficiencies were so substantial that output would be as high or higher subsequent to the merger, and consumer prices as low or lower.

2. The Assumption of Pre-Merger Perfect Competition

A fourth problem with Williamson's model is also severe. Williamson assumed a market that was perfectly competitive prior to the merger but monopolized thereafter.¹¹³ Virtually no challenged mergers today fall into that category. Most mergers attacked on coordination increasing grounds occur in moderately concentrated markets where pre-merger prices are already substantially above marginal cost.¹¹⁴ The same thing is very likely true in unilateral effects cases involving product differentiated firms where the merger partners are reasonably close to one another in product space and most non-merging firms are more remote. In product differentiated markets where this is possible, pre-merger prices are almost never at marginal cost.¹¹⁵ When pre-merger prices are above the competitive level to begin with, the situation can depart quite far from Williamson's model, as Figure 2 illustrates.

¹¹² 4A AREEDA & HOVENKAMP, *supra* note 1, ¶ 901.

¹¹³ See Williamson, *supra* note 100, at 21.

¹¹⁴ 2010 Horizontal Merger Guidelines, *supra* note 9, §§ 5.3, 7.1.

¹¹⁵ *Id.* § 6.1.

Figure 2

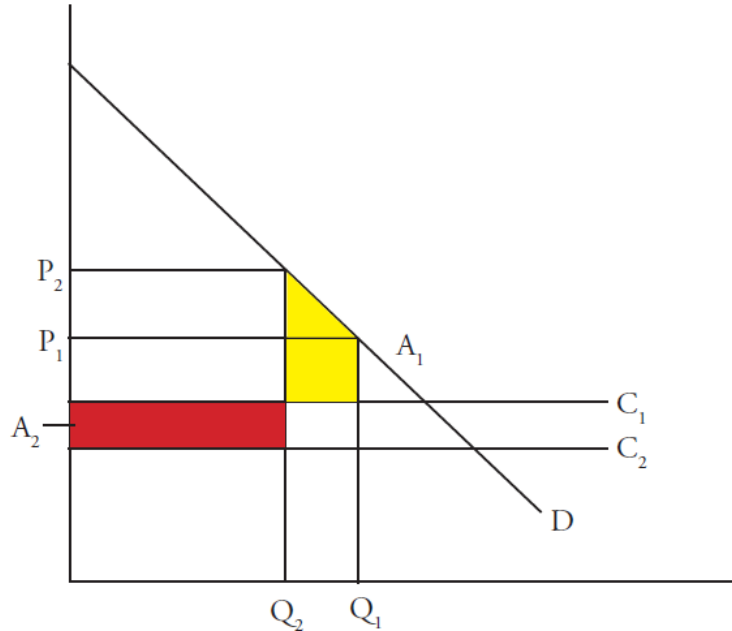


Figure 2 shows the same market as Figure 1, with a price increase (P_1 to P_2) and output reduction (Q_1 to Q_2) of the same magnitude.¹¹⁶ The difference is that the price in Figure 2 is already above marginal cost prior to the merger. In Figure 1 P_1 and C_1 are the same, while in Figure 2 P_1 is higher than C_1 . This situation creates two notable differences from Figure 1. First, the total loss that results from the merger is greater. The triangular top part of A_1 , the consumer deadweight loss triangle, is the same size, but in addition the lower part of A_1 represents lost profits to producers who are producing less as a result of the merger, and in an area where margins are higher than in Figure 1.¹¹⁷ Second, because output in Figure 2 is lower to begin with, given the higher prices prior to the merger, the efficiency gains are spread over a smaller output than in Figure 1. As a result, while A_2 (efficiency gains) is clearly larger than A_1 (consumer + producer losses) in Figure 1, in Figure 2 it is not.

As Figure 2 illustrates, a price increase of the same magnitude (P_1 to P_2 in both figures), coupled with per unit efficiencies that are also of the same magnitude, produces larger net

¹¹⁶ See, e.g., W. KIP VISCUSI ET. AL., *ECONOMICS OF REGULATION AND ANTITRUST* 213 (4th ed. 2005).

¹¹⁷ The profit change from an output decrease is the number of units multiplied by the margin.

welfare losses when the pre-merger margins were larger to begin with. The consumer-welfare based efficiency test in the Merger Guidelines does not require that the post-merger price be competitive, though.¹¹⁸ It merely requires that the post-merger price be no higher than the pre-merger price.¹¹⁹ That means that the price reduction attributable to efficiencies must be at least large enough to offset the merger's propensity to increase prices when efficiencies are not taken into account.

The figures assume that the output reduction resulting from the merger is the same in the two situations that they describe.¹²⁰ Whether or not that is true depends on a number of factors, including the overall market structure, the degree of competition between the merging firms, the shape of the demand curve, as well as the competitiveness of third firms.¹²¹ At one extreme, if two perfect competitors in a larger competitive market should merge there will likely be no output reduction at all because, even collectively, they have no power over price. By contrast, the situation that Williamson contemplated was a duopoly of two firms behaving as perfect competitors prior to the merger (i.e., in Bertrand competition), but then having a monopoly thereafter.¹²² In that case, output would go from the competitive level to the monopoly level—an extremely rare situation.

In contrast, Figure 2 describes a market that was not perfectly competitive prior to the merger. In that case, the magnitude of the output reduction is heavily driven by the degree of competitiveness between the merging parties, and thus by the size of price/cost margins.¹²³ In general, if the difference between the pre-merger markets is merely the intensity of interparty competition, then the output reduction will always be larger where the pre-merger market was more competitive to begin with.¹²⁴ But if the difference is merely how closely the merging parties compete with third party rivals, then

¹¹⁸ 2010 HORIZONTAL MERGER GUIDELINES, *supra* note 9, § 10.

¹¹⁹ *Id.*

¹²⁰ Compare VISCUSI ET. AL., *supra* note 116, at 213, with Williamson, *supra* note 82, at 707. Thank you to Erik N. Hovenkamp for these observations.

¹²¹ VISCUSI, ET. AL., *supra* note 116, at 213; see also HOVENKAMP, *supra* note 34, § 12.1a.

¹²² See Williamson, *supra* note 82, at 706.

¹²³ VISCUSI, ET. AL., *supra* note 116, at 213.

¹²⁴ 2010 HORIZONTAL MERGER GUIDELINES, *supra* note 9, § 10.

the merger's output reduction will be larger where the market was *less* competitive beforehand.¹²⁵

If the merging parties hardly competed with each other at all prior to the merger, then the output reduction from the merger will be very small. Conversely, if the merging parties are extremely close competitors, then it will be large, approaching the duopoly to monopoly outcome in extreme cases. This of course is the rationale for unilateral effects merger theory, which arose after Williamson wrote his article.¹²⁶ However, another factor at play in unilateral effects analysis is the relative proximity of the next best firms who are not parties to the merger.¹²⁷ For example, if the two merging firms are very close in product space, but firm three is also very close, then the output reduction will be relatively less to the extent that firm three is in a position to steal output from the post-merger firm.

The problem of pre-merger supracompetitive prices illustrated in Figure 2 is most evident and significant under a general welfare test. In markets where pre-merger price/cost margins are already high, it takes a much larger efficiency gain to offset a price increase and output reduction of a given magnitude. Looking back across merger cases brought in the last three decades, one common characteristic is that the markets were already relatively concentrated prior to the merger.¹²⁸ That suggests that the market illustrated by Figure 2 comes much closer to reality than the one suggested by Figure 1.

III. ASSESSING EFFICIENCY CLAIMS

In a merger challenge, the government has the burden of making out a *prima facie* case of anticompetitive effects.¹²⁹ Under the consumer welfare test, this means establishing that the merger threatens a price increase in at least one market or a showing of some other effect that will cause a substantial lessening of competition.¹³⁰

¹²⁵ *Id.*

¹²⁶ On the history of unilateral effects analysis, see generally Herbert Hovenkamp, *Reimagining Antitrust: The Revisionist Work of Richard S. Markovits*, 94 TEX. L. REV. 1221 (2016).

¹²⁷ 2010 HORIZONTAL MERGER GUIDELINES, *supra* note 9, § 6.1.

¹²⁸ See sources cited *infra* notes 145–146.

¹²⁹ See *supra* Part I.

¹³⁰ 2010 HORIZONTAL MERGER GUIDELINES, *supra* note 9, § 10.

A. *Burdens of Production and Proof*

If the government is successful in establishing its prima facie case, the burden then shifts to the defendant to rebut the claim with a showing of merger specific efficiencies.¹³¹ This burden shifting framework is sometimes referred to as the “*Baker Hughes*”¹³² formulation, developed in that decision and later articulated by the D.C. Circuit in the *Heinz* case:

First the government must show that the merger would produce a firm controlling an undue percentage share of the relevant market, and [would] result [] in a significant increase in the concentration of firms in that market. Such a showing establishes a presumption that the merger will substantially lessen competition. To rebut the presumption, the defendants must produce evidence that show [s] that the market-share statistics [give] an inaccurate account of the [merger's] probable effects on competition in the relevant market. If the defendant successfully rebuts the presumption [of illegality], the burden of producing additional evidence of anticompetitive effect shifts to the government, and merges with the ultimate burden of persuasion, which remains with the government at all times.¹³³

The test, as formulated in these decisions, refers to mergers challenged on concentration increasing grounds, but the approach under unilateral effects analysis is similar.¹³⁴

¹³¹ See *infra* text accompanying note 133.

¹³² E.g., Roger D. Blair, et al., *Hospital Mergers and Economic Efficiency*, 91 WASH. L. REV. 1, 66 (2016).

¹³³ Fed. Trade Comm’n v. H.J. Heinz Co., 246 F.3d 708, 715 (D.C. Cir. 2001) (quoting *United States v. Baker Hughes, Inc.*, 908 F.2d 981, 982–83 (D.C. Cir. 1990)) (citations and quotations omitted). See also *Saint Alphonsus Med. Ctr.-Nampa Inc. v. St. Luke’s Health Sys.*, 778 F.3d 775, 783 (9th Cir. 2015) (similar); *In re Se. Milk Antitrust Litig.*, 739 F.3d 262, 271–72 (6th Cir. 2014), *cert. denied*, 135 S. Ct. 676 (2014) (similar, dicta); *United States v. Bazaarvoice, Inc.*, No. 13-CV-00133-WHO, 2014 WL 203966, *64 (N.D. Cal. Jan. 8, 2014) (similar); *United States v. H & R Block, Inc.*, 833 F. Supp. 2d 36 (D.D.C. 2011). See also *Fed. Trade Comm’n v. Univ. Health*, 938 F.2d 1206, 1218–19 (11th Cir. 1991) (citations omitted):

The government usually makes a prima facie case by showing that the acquisition at issue would produce “a firm controlling an undue percentage share of the relevant market, and [would] result [] in a significant increase in the concentration of firms in that market.” . . . If the government makes this showing, a presumption of illegality arises. To rebut this presumption, the defendant must produce evidence that “show[s] that the market-share statistics [give] an inaccurate account of the acquisition[’s] probable effect[] on competition” in the relevant market . . . “If the defendant successfully rebuts the presumption [of illegality], the burden of producing additional evidence of anticompetitive effect shifts to the government . . .” [Some courts speak of a double shift: once the defendant meets the burden of showing efficiencies the burden shifts back to the government, which is entitled to present] “additional evidence of anticompetitive effects.”

¹³⁴ See, e.g., *Fed. Trade Comm’n v. Sysco Corp.*, 113 F. Supp. 3d 1, 23 (D.D.C. 2015); *Fed. Trade Comm’n v. CCC Holdings, Inc.*, 605 F. Supp. 2d 26, 44 (D.D.C. 2009).

Several academics and practitioners have observed that courts require stricter proof of merger-generated efficiencies than of predicted anticompetitive effects.¹³⁵ This might seem odd in a system that ordinarily places most of the litigation burden on plaintiffs, but in fact it is not. To a significant extent, evidence concerning predicted price effects relates to the market and predictions of consumer behavior.¹³⁶ By contrast, evidence of efficiencies typically relates to a firm's own internal production and processes. It makes sense that general market predictions and analysis—supported by widely embraced economic tools and observable by many—requires less proof than does a unique efficiency claim dependent on information that is often unobservable to outsiders. Or, as stated in the Merger Guidelines, “much of the information relating to efficiencies is uniquely in the possession of the merging firms.”¹³⁷ Further, information is asymmetrical: firms almost always know more about their own internal processes and the costs of changing them than any outsider, including the merger enforcement Agencies. And, even with this imbalance, merger enforcement remains under deterrent.¹³⁸

B. *Price Effects of Marginal but Consummated Mergers*

If merger policy is to be fact based, then one must consider how well the current set of models and evidentiary requirements serve the goals of merger enforcement policy. If these requirements result in fairly routine condemnation of competitively harmless mergers, then a correction should be sought. The same would also be true if harmful mergers are routinely approved. In 2007, the federally created Antitrust Modernization Commission issued a call for more empirical work on the effect of merger decisions.¹³⁹ Since then, a

¹³⁵ Daniel A. Crane, *Rethinking Merger Efficiencies*, 110 MICH. L. REV. 347, 348 (2011) (“[T]he government is accorded greater evidentiary leniency in proving anticompetitive effects than the merging parties are in proving offsetting efficiencies.”). *See also In Re Ardagh Group, S.A.*, Fed. Trade Comm’n File No. 131-0087 (Apr. 11, 2014) (Wright, Com’r, dissenting), https://www.ftc.gov/system/files/documents/public_statements/568821/140411ardaghstmt.pdf (protesting that “the burden facing the agency with respect to the likelihood of anticompetitive effects should be in parity with that faced by the parties with respect to efficiencies”).

¹³⁶ *See, e.g., Crane, supra* note 135, at 373.

¹³⁷ 2010 HORIZONTAL MERGER GUIDELINES, *supra* note 9, § 10.

¹³⁸ *See infra* note 152 and accompanying text.

¹³⁹ ANTITRUST MODERNIZATION COMM’N, REPORT AND RECOMMENDATIONS 50 (2007), http://govinfo.library.unt.edu/amc/report_recommendation/amc_final_report.pdf (urging the agencies to

large number of studies have examined the post-merger performance of mergers approved by the Agencies (including mergers approved contingent on partial divestitures or other corrective measures).¹⁴⁰ If merger enforcement is operating as it should be, then mergers threatening price increases should be condemned and those that survive should prove harmless. While the empirical evidence is not unanimous, however, it strongly suggests that current merger policy tends to underestimate harm, overestimate efficiencies, or some combination of the two.¹⁴¹

The assumption must be that firms making acquisitions are acting rationally. Firms know their own business better than the generalist government antitrust agencies do, particularly when the relevant information is specific to the firm(s) rather than the market as a whole. As noted above, that is almost always true of efficiency claims.¹⁴² Second, as profit-maximizing actors that are responsible to their shareholders, firms will usually make acquisitions only if they anticipate profiting from them—and we should expect that they will perform due diligence in assessing the source of those profits. Not uncommonly, firms contemplating mergers hire expert consultants to evaluate proposed transaction, looking for likely sources of profit.¹⁴³

The due diligence point is doubly relevant given that the overall track record of post-merger firm value and profit performance is quite troublesome. A large portion of acquisitions ultimately contribute little or nothing to the value of the merging firms, particularly the acquiring firm.¹⁴⁴ Thus, firms contemplating mergers

do more retrospective research on effects of merger enforcement decisions). *See also* Orley C. Ashenfelter et. al., *Generating Evidence to Guide Merger Enforcement* 1 (Nat'l Bureau of Econ. Research, Working Paper No. 14798, 2009), <http://www.nber.org/papers/w14798.pdf>.

¹⁴⁰ *See* Ashenfelter et. al., *supra* note 139, at 4–5.

¹⁴¹ *Id.*

¹⁴² *See* discussion *supra*, text accompanying notes 135–138.

¹⁴³ *E.g.*, Fed. Trade Comm'n v. Sysco Corp., 113 F. Supp. 3d 1, 82 (D.D.C. 2015) (noting that the parties engaged in detailed pre-acquisition study directed by an independent consulting firm in order to come up with estimate of merger efficiencies “Sysco, USF, and McKinsey reviewed a back-breaking amount of information from the merging firms, analyzed historical integration data, modeled possible cost-savings opportunities, and built a new organizational structure around the companies’ combined customer base, and designed detailed day 1, day 100, and year 1 plans for integration.”). Several consulting firms hold themselves out as acquisition consultants for this purpose. *See, e.g.*, AM. FORTUNE, <http://www.fortunebta.com/mergers-a-acquisitions/business-acquisition-services/> (last visited Jan. 31, 2017); CHARLES RIVER ASSOCS., <http://www.crai.com/engagement/analyzed-effects-merger-digital-storage-and-networking> (last visited Jan. 31, 2017); BAIN & CO., <http://bain.com/consulting-services/mergers-and-acquisitions/index.aspx> (last visited Jan. 31, 2017).

¹⁴⁴ *See* BARBARA S. PETITT & KENNETH R. FERRIS, VALUATION FOR MERGERS AND ACQUISITIONS 8 (2d ed. 2013) (stating that the value of acquired firms will go up in the short term, while value of the acquirer declines in both short and medium terms); G.A. Jarrell et. al., *The Market for Corporate*

are hardly wading into territory where profitability is assured. As a result, one should presume that firms examine transactions very carefully before moving forward. In turn, requiring firms to prove merger-specific efficiencies when such mergers are challenged should not be unreasonably onerous. In fact, a firm that has not already done so in advance is not behaving rationally.

Assuming that post-merger market structure supports the rationality inference, a firm that cannot convince itself that a merger will reduce costs or improve product quality must believe that a merger's profits will come from post-acquisition price increases. The available data on post-merger product pricing following mergers in concentrated or product differentiated markets is not encouraging. Several studies have found that the returns to merging are higher when industries are more concentrated.¹⁴⁵ Indeed, consummated mergers in highly concentrated markets subject to close government scrutiny tend to yield higher prices.¹⁴⁶ In one FTC study, whose results appear to be very robust, grocery store mergers in

Control: The Empirical Evidence Since 1980, 2 J. ECON. PERSP. 49, 66 (1988). A classic study of David J. Ravenscraft & Frederic M. Scherer, *The Profitability of Mergers* 14 (Fed. Trade Comm'n Working Paper No. 136, 1986), <https://www.ftc.gov/sites/default/files/documents/reports/profitability-mergers/wp136.pdf> (finding merged firms to be significantly less profitable than a control group that had not merged).

¹⁴⁵ Joseph Farrell & Carl Shapiro, *Horizontal Mergers: An Equilibrium Analysis*, 80 AM. ECON. REV. 107, 119 (1990) (greater profitability and incentives to merge in more concentrated industries); Dick Hackbarth & Jianjun Miao, *The Dynamics of Mergers and Acquisitions in Oligopolistic Industries*, 36 J. ECON. DYNAMICS & CONTROL 585, 604 (2012); see generally Jonathan B. Baker, *The Case for Antitrust Enforcement*, 17 J. ECON. PERSP. 27 (2003); Jerry A. Hausman & Gregory K. Leonard, *Economic Analysis of Differentiated Products Mergers Using Real World Data*, 5 GEO. MASON L. REV. 321 (1997).

¹⁴⁶ E.g., Orley Ashenfelter et al., *Did Robert Bork Understate the Competitive Impact of Mergers? Evidence from Consummated Mergers*, 57 J.L. & ECON. S67, S74 (2014) (relying on studies finding higher post-merger prices in a wide assortment of industries); Orley Ashenfelter & Daniel Hosken, *The Effect of Mergers on Consumer Prices Evidence from Five Mergers on the Enforcement Margin*, 53 J. L. & ECON. 417, 455–58 (2010) (increases in four out of five analyzed mergers); Orley C. Ashenfelter et al., *The Price Effects of a Larger Merger of Manufacturers: A Case Study of Maytag-Whirlpool*, 5 AMERICAN ECON. J.: ECON. POLICY 239, 259 (2013); Matthew Weinberg, *The Price Effects of Horizontal Mergers*, 4 J. COMPETITION L. & ECON. 433, 434 (2008) (prices generally increase after mergers in concentrated markets); see generally, Awi Federgruen & Margaret Pierson, *The Impact of Horizontal Mergers and Acquisitions in Price Competition Models* (Harv. Bus. School Working Paper No. 12-031, 2011), <http://www.hbs.edu/faculty/Publication%20Files/12-031.pdf>; Jonathan B. Baker & Daniel L. Rubinfeld, *Empirical Methods in Antitrust Litigation: Review and Critique*, 6 AM. L. & ECON. REV. 386 (1999); see also Michael D. Whinston, *Antitrust Policy Toward Horizontal Mergers*, in 3 HANDBOOK OF INDUS. ORG. 2371, 2425–35 (M. Armstrong & R. Porter eds., 2007) (including a survey of empirical studies); Michael J. Doane, et al, *Predicting Price Effects from Retail Mergers 2* (Vanderbilt Univ. Owen Graduate Sch. of Mgmt. Working Paper No. 2034464, 2013); Robert B. Kulick, *Horizontal Mergers, Prices, and Productivity 2* (SSRN Working Paper, 2015), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2637961 (finding price increases exceeding productivity cost savings in mergers in the ready-mix concrete industry subsequent to promulgation of 1982 Merger Guidelines).

concentrated markets produced significant increases in product prices, while those in less concentrated markets tended to produce price decreases.¹⁴⁷ Similarly, most studies of carefully scrutinized but ultimately approved airline mergers indicate post-acquisition price increases, often substantial.¹⁴⁸ The same thing is generally true of mergers in banking,¹⁴⁹ health care,¹⁵⁰ and health insurance.¹⁵¹ Whether any of these mergers created significant offsetting efficiencies is hard to say—but it is apparent that whatever their significance, the magnitude of the efficiencies were not sufficient to offset price increases. As a result, these mergers should have been challenged under the standards articulated in the Merger Guidelines. The data shows that no general case can be made that merger policy as applied today is over deterrent, either because prima facie cases are too easy

¹⁴⁷ Daniel Hosken et al., *Do Retail Mergers Affect Competition? Evidence from Grocery Retailing* 1, 3 (Fed. Trade Comm'n Bureau of Econ. Working Paper No. 313, 2012), <https://www.ftc.gov/sites/default/files/documents/reports/do-retail-mergers-affect-competition%2%A0-evidence-grocery-retailing/wp313.pdf>; see also David E. Davis, *Price and Promotion Effects of Supermarket Mergers*, 8 J. AGRIC. & FOOD INDUS. ORG. 1, 1 (2010).

¹⁴⁸ Severin Borenstein, *Airline Mergers, Airport Dominance, and Market Power*, 80 AM. ECON. REV. 400, 402 (1990) (merger of TWA and Ozark airlines led to price increases 9% above industry averages); John Kwoka & Evgenia Shumilkina, *The Price Effect of Eliminating Potential Competition: Evidence from an Airline Merger*, 58 J. INDUS. ECON. 767, 769 (2010) (examining USAir/Piedmont merger: large price effects where the two airlines were actual competitors; smaller but positive price effects where one airline was a potential competitor); E. Han Kim & Vijay Singal, *Mergers and Market Power: Evidence from the Airline Industry*, 83 AM. ECON. REV. 549, 550 (1993); Craig T. Peters, *Evaluating the Performance of Merger Simulation: Evidence from the U.S. Airline Industry* 49 J.L. & ECON. 627, 647 (2006). One contrary study is Dennis W. Carlton, et al., *Are Legacy Airline Mergers Pro- or Anti-Competitive? Evidence from Recent U.S. Airline Mergers* (working paper, Oct. 25, 2016), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2851954 (finding improved post-merger performance).

¹⁴⁹ Robin A. Prager and Timothy H. Hannan, *Do Substantial Horizontal Mergers Generate Significant Price Effects? Evidence from the Banking Industry*, 46 J. INDUS. ECON. 433, 450 (1998) (bank mergers in more concentrated markets significantly increased market power).

¹⁵⁰ Jose R. Guardado et al., *The Price Effects of a Large Merger of Health Insurers: A Case Study of UnitedHealth-Sierra*, 16 HEALTH MGMT. POL'Y & INNOVATION 1, 2 (2013) (health insurers; case study showing post-merger price increases); Deborah Haas-Wilson & Christopher Garmon, *Hospital Mergers and Competitive Effects: Two Retrospective Analysis*, 18 J. ECON. OF BUS. 17, 30 (2011) (finding significant price increases following merger of Evanston Northwestern and Highland Park Hospitals in greater Chicago); Leemore Dafny, *Estimation and Identification of Merger Effects: An Application to Hospital Mergers*, 52 J.L. & ECON. 523, 544 (2009) (hospitals; similar); Steven Tenn, *The Price Effects of Hospital Mergers: A Case Study of the Sutter-Summit Transaction*, 18 INT'L J. ECON. OF BUS. 65, 79 (2011) (finding large price effect from a closely scrutinized but approved merger); Ranjani A. Krishnan & Hema Krishnan, *Effects of Hospital Mergers and Acquisitions on Prices*, 56 J. BUS. RES. 647, 655 (2003) (higher prices and margins).

¹⁵¹ See Leemore S. Dafny, *Evaluating the Impact of Health Insurance Industry Consolidation: Learning from Experience*, THE COMMONWEALTH FUND 1 (Nov. 2015), <http://www.commonwealthfund.org/publications/issue-briefs/2015/nov/evaluating-insurance-industry-consolidation>; see generally Leemore Dafny et al., *Paying a Premium on Your Premium? Consolidation in the U.S. Health Insurance Industry*, 102 AM. ECON. REV. 1161 (2012).

to make or qualifying efficiencies are too difficult to prove.¹⁵² Regardless, more work certainly needs to be done in this area.¹⁵³

These studies do not, and could not, assess the price effects of mergers that were successfully challenged or abandoned. However, it seems highly unlikely that the Agencies systematically challenge many harmless mergers while letting many harmful ones go through. While individual errors are possible, the consummated mergers reported in these studies must be regarded as more benign than those mergers that were never completed because of a successful government challenge.

These findings also suggest that traditional concentration increasing merger analysis must be taken seriously. The Herfindahl-Hirschmann Index (“HHI”) numbers in the 2010 Merger Guidelines were revised upwards from those in previous versions of the Guidelines.¹⁵⁴ The Merger Guidelines promulgated between 1982 and 1992 identified an HHI of 1800 as “highly concentrated,” while the 2010 Guidelines have moved that number to 2500.¹⁵⁵ This shift may have been a result of a common complaint about enforcement policy between 1992 and 2010—that the Agencies did not really follow the Merger Guidelines.¹⁵⁶ During that period, the Agencies in fact

¹⁵² For a more pessimistic conclusion drawn by one prominent industrial organization economist, see JOHN KWOKA, *MERGERS, MERGER CONTROL, AND REMEDIES: A RETROSPECTIVE ANALYSIS OF U.S. POLICY* 156, 158 (2015) (a comprehensive study concluding that “For all cases in which the agencies challenged mergers, the outcome was nonetheless an average price increase of 7.71 percent, indicating incorrect determinations or ineffective remedies.... [M]ost studied mergers result in competitive harm, usually in the form of higher price.”); *see also id.* at 155 (“Of all mergers that resulted in price increases, the agencies acted in only 38 percent of cases, suggesting substantial under-enforcement . . .”). *See also* Michael Vita & F. David Osinski, *Johns Kwoka’s Mergers, Merger Control, and Remedies: A Critical Review* (Fed. Trade Comm’n Working Paper, Dec. 22, 2016), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2888485 (reviewing Kwoka book).

¹⁵³ *See* Gregory J. Werden, *Inconvenient Truths on Merger Retrospective Studies*, 3 J. ANTITRUST ENFORCEMENT 287, 288 (2015) (questioning approach taken by several of the studies showing price increases).

¹⁵⁴ 2010 HORIZONTAL MERGER GUIDELINES, *supra* note 9, § 5.3.

¹⁵⁵ U.S. DEP’T OF JUSTICE & FED. TRADE COMM’N, HORIZONTAL MERGER GUIDELINES § 1.5 (1992), <https://www.ftc.gov/sites/default/files/attachments/merger-review/hmg.pdf>.

¹⁵⁶ The American Antitrust Institute made this complaint rather forcefully. *See, e.g., The Next Antitrust Agenda: The American Antitrust Institute’s Transition Report on Competition Policy to the 44th President of the United States*, AM. ANTITRUST INST. 141 (2008),

http://www.antitrustinstitute.org/files/Mergers%20Chapter%20from%20AAI%20Transition%20Report_100520082108.pdf; *see also* Deborah L. Feinstein, *The Revised Merger Guidelines: Did the Agencies Heed the Lessons of the Past?*, ANTITRUST SOURCE 3 (Oct. 2010),

http://www.americanbar.org/content/dam/aba/publishing/antitrust_source/Oct10_Feinstein10_21f.authc.heckdam.pdf. The HHI, or Herfindahl-Hirschman Index, is the sum of the squares of the market shares of all firms in the market. On use of the HHI in merger analysis, *see* HOVENKAMP, *supra* note 34, § 12.4a. For example, a market with four 20% firms and two 10% firms would have an HHI of 20²+ 20²+ 10²+ 10².

challenged mergers facilitating coordinated interaction only on concentration thresholds far higher than the Guidelines suggested.¹⁵⁷ Whether the revision was justified on the basis of the empirical evidence is difficult to say, but both predictability interests in policy making as well as the historical record suggest that the 2010 Merger Guidelines need to be enforced more literally than were the predecessors.

C. *Estimating Merger-Induced Variable Cost Savings*

The approach taken in the 2010 Merger Guidelines requires not only that significant efficiencies be proven, but also that these be sufficiently “passed on” to consumers that that the post-merger price is no higher than the pre-merger price.¹⁵⁸ The main ingredients in computing pass through are the nature of the cost savings and the elasticity of demand facing the post-merger firm.¹⁵⁹ Variable costs savings will show up in marginal cost and thus be calculated directly into the post-merger firm's prices. By contrast, fixed costs do not ordinarily affect the price and thus would not be passed through, at least in the short run.¹⁶⁰ However, in practice the line between fixed and variable costs is fairly soft, depending on such factors as use depreciation and the length of the “run” that one is looking at.¹⁶¹ For example, over the long run, increased investment in fixed cost infrastructure or IP rights could produce lower consumer prices, but these effects are unlikely to show up immediately.¹⁶² Empirically, there is some evidence that upward changes in costs are more readily passed through than downward changes, at least over the short run.¹⁶³ Pass through is rarely 100%, but where a firm possesses some level of market power, a certain percentage of variable cost savings should

¹⁵⁷ $20^2 + 20^2 + 10^2 + 10^2$ or 2200. *Id.* It would be considered moderately concentrated under the Guidelines. *Id.*

¹⁵⁸ Feinstein, *supra* note 156, at 3.

¹⁵⁹ 2010 HORIZONTAL MERGER GUIDELINES, *supra* note 9, § 6.1.

¹⁶⁰ *Id.*

¹⁶¹ See 3A AREEDA & HOVENKAMP, *supra* note 1, ¶ 740.

¹⁶² See *id.*

¹⁶³ On the problems in classifying costs as fixed or variable for antitrust purposes, see *id.*

¹⁶⁴ Robert A. Ritz, *The Simple Economics of Asymmetric Cost Pass-Through* 9 (Univ. of Cambridge Energy Policy Research Grp., Working Paper No. 1515, 2015), <http://www.econ.cam.ac.uk/research/repec/cam/pdf/cwpe1515.pdf>; see generally Sam Peltzman, *Prices Rise Faster than They Fall*, 108 J. POL. ECON. 466 (2000).

be passed on.¹⁶⁴ By contrast, under perfect competition¹⁶⁵ in an undifferentiated product, cost reductions resulting from efficiencies that accrue to a single firm or a small number of firms are not passed on. A competitive firm will increase its output but, facing a horizontal demand curve, has no incentive to reduce its price.

In computing the effects of downward changes in variable costs, care must be taken that the effects relate properly to the predicted impact on *overall* costs. This is particularly true for manufactured products whose principal costs include raw materials, power, labor, or other inputs whose costs are not readily affected by the merger. For example, while generic raw materials are a variable cost, mergers rarely have a significant impact on material acquisition costs. The *Heinz* baby food case illustrates some of the problems.¹⁶⁶ The defendants claimed that variable costs were roughly 43% lower in the acquiring firm's modern facility.¹⁶⁷ The court found the figure to be much less, more in the range of 20%.¹⁶⁸ More importantly, however, were some other factors. First, the cost savings applied only to the production that was shifted from the obsolete plant—the production that was already located in the more efficient plant enjoyed no further cost savings.¹⁶⁹

Second, variable cost savings almost never apply to *all* variable costs, and in many cases they may apply only to a small percentage. To illustrate, in the making of strained peas for baby food, both the peas and the processing are variable costs. However, the merger does nothing to change the market price of peas. Suppose that the variable cost of producing a \$100 batch of strained peas is \$90 for raw materials (peas) and \$10 for processing. A very substantial 20% reduction in the cost of processing will reduce the \$10 processing costs to \$8, but it does nothing to the cost of the peas. As a result this 20% reduction in processing cost amounts to a 2%

¹⁶⁴ See Luke M. Froeb & Gregory J. Werden, *A Robust Test for Consumer Welfare Enhancing Mergers Among Sellers of a Homogeneous Product*, 58 ECON. LETTERS 367, 367 (1998); Jerry A. Hausman & Gregory K. Leonard, *Efficiencies from the Consumer Viewpoint*, 7 GEO. L. REV. 707, 727 (1999); Gregory J. Werden, *A Robust Test for Consumer Welfare Enhancing Mergers Among Sellers of Differentiated Products*, 44 J. INDUS. ECON. 409, 409 (1996).

¹⁶⁵ See N. GREGORY MANKIW, *PRINCIPLES OF ECONOMICS* 280 (7th ed. 2015).

¹⁶⁶ Fed. Trade Comm'n v. H.J. Heinz Co., 246 F.3d 708 (D.C. Cir. 2001).

¹⁶⁷ *Id.* at 721.

¹⁶⁸ *Id.*

¹⁶⁹ *Id.*

reduction in overall cost.¹⁷⁰ The previously noted across-the-board assumptions of 10% cost reductions in first pass merger assumptions assume that *overall* variable costs decline as a result of the merger.¹⁷¹ That assumption is probably highly optimistic across a wide variety of industries, depending on what percentage of variable costs are actually reduced by the more efficient reduction that the merger promises. Raw materials, labor, and utilities are all components of variable costs, but few mergers do anything to change the *per unit* cost of these inputs.

D. *Measurement Difficulties*

Assessing the overall impact of a merger subject to significant, evidence based efficiency claims is difficult. The 2010 Merger Guidelines suggests the difficulty by its highly general statement on “balancing” anticompetitive effects against claimed efficiencies:

The greater the potential adverse competitive effect of a merger, the greater must be the cognizable efficiencies, and the more they must be passed through to customers, for the Agencies to conclude that the merger will not have an anticompetitive effect in the relevant market. When the potential adverse competitive effect of a merger is likely to be particularly substantial, extraordinarily great cognizable efficiencies would be necessary to prevent the merger from being anticompetitive. In adhering to this approach, the Agencies are mindful that the antitrust laws give competition, not internal operational efficiency, primacy in protecting customers. In the Agencies’ experience, efficiencies are most likely to make a difference in merger analysis when the likely adverse competitive effects, absent the efficiencies, are not great. Efficiencies almost never justify a merger to monopoly or near-monopoly. Just as adverse competitive effects can arise along multiple dimensions of conduct, such as pricing and new product development, so too can efficiencies operate along multiple dimensions. Similarly, purported efficiency claims based on lower prices can be undermined if they rest on reductions in product quality or variety that customers value.¹⁷²

The Merger Guidelines contain nothing more precise relating the magnitude of required efficiencies to the threat level.

Assessing mergers under a consumer welfare test is simpler than assessing them under a general welfare test, at least *until* one gets to the problem of estimating pass through. Under either

¹⁷⁰ See *id.*; see also 4A AREEDA & HOVENKAMP, *supra* note 1, ¶ 974 (providing an example of how reduced production costs do not reflect the total overall costs).

¹⁷¹ See discussion *supra*, text accompanying note 46.

¹⁷² 2010 HORIZONTAL MERGER GUIDELINES, *supra* note 9, § 6.1.

standard, once the requirements for a prima facie case have been met, administering merger policy with an efficiency defense requires the challenger (and the courts) to find some way to consider both price effects and efficiency effects.¹⁷³ Literal “balancing” of competitive harms against efficiency gains is virtually impossible.¹⁷⁴ Balancing requires the fact finder to come up with cardinal (i.e., specific unit) measurements, and then net them out against each other.¹⁷⁵ Competitive harms and efficiency effects are rarely amenable to such a process. Rather, the Agencies and the courts employ a very rough scale to conclude that the larger the predicted price increase or likelihood of anticompetitive effects, the greater the showing of efficiencies will be required.¹⁷⁶

Under a general welfare test, the fact finder must make cardinal assessments of both harms and benefits.¹⁷⁷ Analyzing a merger would require computation of the deadweight loss accruing to consumers, the magnitude of efficiency gains (cost savings per unit multiplied by the number of units of post-merger production), and then netting these two numbers against one another.¹⁷⁸ The merger is efficient, and thus lawful, if the efficiency gains outweigh the deadweight loss.¹⁷⁹ This analysis requires information not merely about the price impact of the merger, but also about the shape of the demand curve and price-cost margins before and after the merger. For example, the mergers in Figure 1 and Figure 2 above have the same output reduction and price increase, but losses in Figure 2 are greater than in Figure 1 because price-cost margins are higher, both prior and subsequent to the merger. Computing deadweight loss requires knowledge not only about the price-cost margin, but also about the shape of the demand curve in the region between the actual price and the competitive price.¹⁸⁰

¹⁷³ For an argument that false positives are less important than false negatives because price-increasing mergers cannot readily be corrected by other antitrust provisions such as § 1 or § 2 of the Sherman Act, see Lawrence M. Frankel, *The Flawed Institutional Design of U.S. Merger Review: Stacking the Deck Against Enforcement*, 2008 UTAH L. REV. 159, 171 (2008).

¹⁷⁴ See 4A AREEDA & HOVENKAMP, *supra* note 1, ¶ 976c (“‘Balancing’ implies an ability to assign a common unit of measurement to the two things being balanced, and determine which outweighs the other. Except in the clearest cases, this is simply not what courts are capable of doing.”); see generally Hovenkamp, *supra* note 57.

¹⁷⁵ Hovenkamp, *supra* note 57, at 173.

¹⁷⁶ *Id.* at 373–74.

¹⁷⁷ *Id.* at 379.

¹⁷⁸ *Id.* at 379–80.

¹⁷⁹ *Id.* at 382.

¹⁸⁰ *Id.*

By contrast, under a consumer welfare test one needs to know only whether the merger will cause output to go down and prices to go up—that is, whether there will be any increase in consumer prices at all. This requires information about the predicted price impact of the merger, offset by the efficiency reduction.¹⁸¹ Thus, the biggest difference between the two standards is that under a general welfare standard, the magnitude of efficiencies will have to be traded against consumer *welfare* losses. But, under a consumer welfare standard, the price impact of efficiencies will have to be traded against any upward pressure on price. That latter number is nearly always easier to determine.¹⁸²

Both approaches can produce both easy and hard cases. The easiest cases, of course, will be mergers in competitive markets or where entry is easy and there clearly could not be a durable price increase. But in those cases efficiencies need not be measured at all, because there is no *prima facie* case of illegality.¹⁸³ At the other extreme will be highly threatening mergers where the evidence for proffered efficiencies is weak.

One unique complicating factor in merger analysis under a consumer welfare test is the pass through requirement. Pass through considers the extent to which reduced costs resulting from efficiency gains are passed on to consumers—principally by lower prices—but conceivably by higher quality or improved services as well.¹⁸⁴ Pass through is irrelevant under a general welfare test, and thus need not be computed; all that would matter is whether efficiency gains outweigh consumer welfare losses. The approach taken by the 2010 Merger Guidelines, however, requires that post-merger prices be no higher than pre-merger prices.¹⁸⁵ This does not require a precise measurement of pass through, but only that pass through be shown to be at least large enough to offset fully any price increase threatened by the merger.¹⁸⁶ Thus, once the challenger makes out a *prima facie* case, the burden shifts to the defendant to show both offsetting efficiencies and that a sufficient amount of the savings will be passed

¹⁸¹ Hovenkamp, *supra* note 57, at 380.

¹⁸² *Id.* at 383.

¹⁸³ *Id.* at 380.

¹⁸⁴ On the difficulties in measuring merger-induced changes in quality, see Roger D. Blair et al., *Hospital Mergers and Economic Efficiency*, 91 WASH. L. REV. 1, 44–45 (2016) (focusing on hospital mergers).

¹⁸⁵ 2010 HORIZONTAL MERGER GUIDELINES, *supra* note 9, § 2.1.

¹⁸⁶ *Id.* § 10.

on to correct the price increase. Furthermore, “the greater the potential adverse competitive effect of a merger, the greater must be the cognizable efficiencies, and the more they must be passed through to customers”¹⁸⁷ Initially this requirement was treated with a great deal of skepticism, mainly because it was thought to be too difficult to prove.¹⁸⁸ But today, techniques are being developed that permit at least an approximation of pass through.¹⁸⁹

E. “Merger Specific” Efficiencies: Important or Irrelevant?

The Merger Guidelines emphasize that efficiencies must be “merger specific”—that is, the proponents of the merger must show that the efficiencies could not readily be attained other than by the challenged merger.¹⁹⁰ This element is critical under a general welfare

¹⁸⁷ *Id.*

¹⁸⁸ Timothy J. Muris, *The Government and Merger Efficiencies: Still Hostile After All These Years*, 7 GEO. MASON L. REV. 729, 733 (1999) (arguing against rigid pass-on requirement); Robert Pitofsky, *Proposals for Revised United States Merger Enforcement in a Global Economy*, 81 GEO. L.J. 195, 207–08 (1993) (proof of pass-on requirement would be too difficult); accord Joseph F. Brodley, *Proof of Efficiencies in Mergers and Joint Ventures*, 64 ANTITRUST L.J. 575, 584 (1996) (agreeing with Pitofsky); see also Dennis A. Yao & Thomas N. Dahdouh, *Information Problems in Merger Decision Making and Their Impact on Development of an Efficiencies Defense*, 62 ANTITRUST L.J. 23, 41–43 (1993) (indicating that a strict pass-on requirement “may foreclose any consideration of efficiencies because it is so difficult to establish and because it prevents consideration of even large efficiencies if there is only some probability that such efficiencies will be passed on to consumers”); accord U.S. FED. TRADE COMM’N, ANTICIPATING THE 21ST CENTURY: CONSUMER PROTECTION POLICY IN THE NEW HIGH-TECH GLOBAL MARKETPLACE 1–9 (1996), https://www.ftc.gov/system/files/documents/reports/anticipating-21st-century-competition-policy-new-high-tech-global-marketplace/gc_v2.pdf.

¹⁸⁹ See, e.g., Joseph Farrell & Carl Shapiro, *Recapture, Pass-Through, and Market Definition*, 76 ANTITRUST L.J. 585, 592 (2010); Sonia Jaffe & E. Glen Weyl, *The First-Order Approach to Merger Analysis*, 5 AM. ECON. J. MICROECONOMICS 188, 188–89 (2013); see also David Balto, *The Efficiency Defense in Merger Review: Progress or Stagnation*, 16 ANTITRUST 74, 78 (Fall 2001) (noting the difficulty of computing pass on when the merger increases the market structure so as to lessen the amount of competition); U.S. DEP’T OF JUSTICE, ANTITRUST DIV., THE MERGER GUIDELINES AND THE INTEGRATION OF EFFICIENCIES INTO ANTITRUST REVIEW OF HORIZONTAL MERGERS (last visited Jan. 1, 2017) (the Antitrust Division’s own statement, including a historical perspective, authored by William J. Kolasky & Andrew R. Dick), <http://www.justice.gov/archives/atr/merger-guidelines-and-integration-efficiencies-antitrust-review-horizontal-mergers>.

¹⁹⁰ See 2010 HORIZONTAL MERGER GUIDELINES, *supra* note 9, § 10:

The Agencies credit only those efficiencies likely to be accomplished with the proposed merger and unlikely to be accomplished in the absence of either the proposed merger or another means having comparable anticompetitive effects. These are termed merger-specific efficiencies. Only alternatives that are practical in the business situation faced by the merging firms are considered in making this determination. The Agencies do not insist upon a less restrictive alternative that is merely theoretical.

The Guidelines add in a footnote, *id.* § 10 n.13:

The Agencies will not deem efficiencies to be merger-specific if they could be attained by practical alternatives that mitigate competitive concerns, such as

test, where the question is whether efficiencies serve to justify a merger that actually raises prices. If the same efficiencies could be generated without the merger, then society could have the efficiency's social gains without sustaining the merger's welfare losses. And, one of the best engines for producing efficiencies is competition—a merger might be a convenient way to achieving cost savings, but often competition will work as well as or better than a merger, while leaving a more competitive market structure.

But why must efficiencies be merger specific under the Merger Guidelines' quasi-consumer welfare approach? The Guidelines require *both* that the efficiencies be of sufficient magnitude to reverse completely any price increase, *and* that the claimed efficiencies be merger specific.¹⁹¹ This approach is perplexing. First, if the efficiencies are not of sufficient magnitude to offset fully any propensity toward a price increase, then the efficiency defense will be rejected whether or not the claimed efficiencies are merger specific. However, if the efficiencies are in fact of sufficient magnitude to predict that the post-merger price will be no higher than the pre-merger price, then why do we care? Such a merger does not harm consumers, and as a result, is not anticompetitive. Indeed, such a merger appears to be nearly a pure welfare improvement: it benefits the merging parties by reducing their costs. It makes consumers no worse off or else benefits them. The likely harm is to competitors of the post-merger firm, who must now compete against the merged firm's reduced costs. In other words, if we consistently apply the consumer welfare approach that the Merger Guidelines lay out, we should not care if the efficiencies are merger specific, so long as the predicted post-merger price is no higher than the pre-merger price.

divestiture or licensing. If a merger affects not whether but only when an efficiency would be achieved, only the timing advantage is a merger-specific efficiency.

See also Fed. Trade Comm'n v. Sysco Corp., 113 F. Supp. 3d 1, 85 (D.D.C. 2015) (stating that claimed efficiencies are not shown to be merger specific when a substantial amount could be achieved by means other than merger); United States v. Bazaarvoice, Inc., No. 13-CV-00133-WHO, 2014 WL 203966, at *50 (N.D. Cal. Jan. 8, 2014) (where the court found that the defendants' claimed defense that the merger would provide them with better quality marketing data were both conjectural and not merger specific, but also concluded that prices would rise); United States v. H & R Block, Inc., 833 F. Supp. 2d 36, 90 (D.D.C. 2011) (numerous claimed efficiencies including consolidation of debit card and other financial accounts neither verifiable or shown to be merger specific); Fed. Trade Comm'n v. CCC Holdings, 605 F. Supp. 2d 26, 75 (D.D.C. 2009) (efficiency claim of increased innovation in the future rejected because it was not shown to be either verifiable or merger specific).

¹⁹¹ 2010 HORIZONTAL MERGER GUIDELINES, *supra* note 9, § 4.

One possible reason for requiring merger specific efficiencies is that, if the efficiencies are attainable by some means other than a merger, the result might be lower prices *and* a consumer benefit via increased competition. In that case, consumers would be better off if the firm(s) in question attained their efficiencies by means other than a merger. While that might be factually true, this approach is difficult to reconcile with a statute that condemns mergers only if they may “substantially lessen” competition, and not merely because they fail to benefit competition as much as some alternative.¹⁹²

For example, suppose that the government makes out a prima facie case that a merger will injure consumers by \$4 million as a result of higher prices if efficiencies are ignored. The defendants are able to show an efficiency of \$5 million, however, more than \$4 million of which will be passed on. As a result, consumers are no worse off as a result of the merger. At that point the merger has been shown not to cause any competitive harm under the Merger Guidelines’ test, and it should not matter whether the efficiencies are merger specific. The challenger might say that the efficiencies could be attained by some other means and that, without the merger, prices would fall even further. But that position is not justified by the language of Section 7 of the Clayton Act, which condemns mergers only under a “lessen competition” standard.¹⁹³ And, if instead it is shown that post-merger prices will be higher, then the efficiency defense will be rejected—once again, it does not matter whether the efficiencies are merger specific.

F. *Efficiencies Relating to Innovation and Intellectual Property Rights*

The 2010 Horizontal Merger Guidelines statement on efficiencies include two paragraphs on research, development, and innovation efficiencies:

Other efficiencies, such as those relating to research and development, are potentially substantial but are generally less susceptible to verification and may be the result of anticompetitive output reductions. Yet others, such as those relating to procurement, management, or capital cost, are less likely to be merger-specific or substantial, or may not be cognizable for other reasons.

¹⁹² See 5 AREEDA & HOVENKAMP, *supra* note 1, ¶¶ 1127–31. This is one reason that both the Agencies and the courts have largely abandoned the “actual potential entrant” doctrine of conglomerate mergers. Under it, a merger was condemned on the theory that if the merger partner had entered the market *de novo* the market would have been more competitive, but the merger served to preserve the status quo.

¹⁹³ *Id.* ¶ 1128d.

When evaluating the effects of a merger on innovation, the Agencies consider the ability of the merged firm to conduct research or development more effectively. Such efficiencies may spur innovation but not affect short-term pricing. The Agencies also consider the ability of the merged firm to appropriate a greater fraction of the benefits resulting from its innovations. Licensing and intellectual property conditions may be important to this enquiry, as they affect the ability of a firm to appropriate the benefits of its innovation. Research and development cost savings may be substantial and yet not be cognizable efficiencies because they are difficult to verify or result from anticompetitive reductions in innovative activities.¹⁹⁴

The Merger Guidelines do not mention whether the inefficiencies in these cases must apply to both of the merging firms or only one. It is relatively easy to imagine situations where one laggard firm can improve its position by piggybacking on a more effective researcher. But in that scenario, an efficient firm is not being added to the market; such a merger serves only to protect an inefficient firm from the competitive process.¹⁹⁵

Is it conceivable that two firms, each in a disadvantaged position because of lack of innovation, can overcome their disadvantages through merger? Yes, but it is hard to see a situation in which such a gain would be merger specific.¹⁹⁶ Most obviously, the firms could cross license as an alternative to merging in order to achieve the same result. Cross license agreements, particularly where they are nonexclusive, can give each firm access to the other's technology without necessarily impairing competition between the two firms at all.¹⁹⁷ Cross licensing need not be accompanied by product price fixing and would likely be unlawful if it did.¹⁹⁸ By contrast, after the merger the two firms could set any joint price they wished.

Research facilities may be a different matter, and could in some cases resemble production facilities more than research and development as such. For example, two firms might each have inadequate research facilities that could profit from being enlarged or modernized. Here, as is the case for production facilities, the merger does not create a single efficient facility, but rather leaves the resulting firm with two inefficient ones. However, the merger might enable the post-merger firm to specialize its research, just as a

¹⁹⁴ 2010 HORIZONTAL MERGER GUIDELINES, *supra* note 9, § 10.

¹⁹⁵ On the requirement that both pre-merger firms be inefficient, see discussion *supra*, text accompanying notes 101–102.

¹⁹⁶ See 4A AREEDA & HOVENKAMP, *supra* note 1, ¶ 975g (which is severely skeptical).

¹⁹⁷ See Herbert Hovenkamp, *Antitrust and the Patent System*, 76 OHIO ST. L.J. 467, 467–77 (2015) (noting that cross license agreements only impair competition if they go “beyond the scope”).

¹⁹⁸ See *id.* at 524–29.

merger of production facilities might enable increased plant specialization. If one facility conducts research of a given type while the other takes the remainder, each might be able to operate at a more efficient scale and produce positive net results.

Other efficiency claims relate to larger customer bases for intellectual property rights, but these should generally be rejected. For example, in *United States v. Oracle Corp.*,¹⁹⁹ a merger challenge ultimately rejected on unrelated grounds, the court also rejected the argument that a merger of two software rivals would give the merged firm a larger customer base over which to spread the results of its research and development.²⁰⁰ The court did not reject the argument on principle. Instead, it found inadequate support in the record.²⁰¹ Similarly, in *Heinz*, Heinz claimed that while merger partner Beech-Nut had an outmoded and inferior production facility, it had superior baby food recipes.²⁰² The D.C. Circuit found that “recipe consolidation” that might occur when two producers of baby food merged was not merger specific.²⁰³

One problem with arguments about IP sharing is how to limit them. Combining all of the world's word processing programs, tax programs, recipes, or other competing commercial programs would certainly enlarge the customer base; right up to the point that one firm controlled 100% of the market. But one could say the same thing about fast food fried chicken or ice cream. If one ignores product and service differentiation, IP rights are natural monopolies.

¹⁹⁹ *United States v. Oracle Corp.*, 331 F. Supp. 2d 1098 (N.D. Cal. 2004).

²⁰⁰ *Id.* at 1173–75.

²⁰¹ *Id.* at 1775.

²⁰² *Fed. Trade Comm'n v. H.J. Heinz Co.*, 246 F.3d 708, 720 (D.C. Cir. 2001).

²⁰³ *Id.* at 721–22. As the court observed:

[T]he district court never explained why Heinz could not achieve the kind of efficiencies urged without merger. As noted, the principal merger benefit asserted for Heinz is the acquisition of Beech-Nut's better recipes, which will allegedly make its product more attractive and permit expanded sales at prices lower than those charged by Beech-Nut, which produces at an inefficient plant. Yet, neither the district court nor the appellees addressed the question whether Heinz could obtain the benefit of better recipes by investing more money in product development and promotion—say, by an amount less than the amount Heinz would spend to acquire Beech-Nut. At oral argument, Heinz's counsel agreed that the taste of Heinz's products was not so bad that no amount of money could improve the brand's consumer appeal. That being the case, the question is how much Heinz would have to spend to make its product equivalent to the Beech-Nut product and hence whether Heinz could achieve the efficiencies of merger without eliminating Beech-Nut as a competitor. The district court, however, undertook no inquiry in this regard. In short, the district court failed to make the kind of factual determinations necessary to render the appellees' efficiency defense sufficiently concrete to offset the FTC's prima facie showing.

Once the first copy has been created, additional copies cost almost nothing.

Of course, that is where the rub comes in. The reason that all of the world's software entertainment companies do not jointly produce the same game is that customers appreciate product variety just as they appreciate lower cost. It must be remembered that these “enlarged customer base” arguments are to be considered only *after* a prima facie case of illegality has been made out against a merger. In most cases, product differentiation preserves at least imperfect competition. By contrast, a merger unites the two firms into one. In any event, licensing of IP rights would almost always be an available alternative, so the claimed efficiency is not merger specific.

In sum, once a prima facie case for a price-increasing merger has been made out, it is probably best to reject any argument that sharing of intellectual property rights is efficient because it enlarges the base over which sharing occurs. The rare exception might arise in relation to standardized products, like an electronic medical record system, where the interest in product differentiation is very likely not substantial. For example, the *St. Luke's* decision considered the merging firms' defense that the merger would permit the post-merger firm to have access to Epic, an electronic medical record system that St. Lukes already had, but its merger partner did not.²⁰⁴ The court rejected the defense, not on principle, but because the claimed efficiency was found not to be merger specific, and in any event inadequate to counteract the predicted price increases.²⁰⁵ In any event, one wonders why licensing would not be a superior alternative to merger.

CONCLUSION

Merger analysis today depends more on economic models and simulations than at any time in our history. That development is both good and important, but one must not forget that most judges have only a limited capacity to address the strengths and weaknesses of technical models. At the same time, the case law of mergers is descriptively thick and provides many alternative accounts of competition and business choices. This too is a good thing, because

²⁰⁴ Saint Alphonsus Med. Ctr.-Nampa Inc. v. St. Luke's Health Sys., 778 F.3d 775, 791 (9th Cir. 2015).

²⁰⁵ *Id.* at 791–92.

ultimately, the legal analysis has to fit the facts.²⁰⁶ The result that this creates is what appears to be heavy reliance on models in order to make predictions and also in the expert analysis that goes into preparation for litigation. Once judges listen to testimony and write their opinions, however, the accounts become descriptively thick and fact specific.

In the final analysis, the effectiveness of merger policy depends on results, rather than any particular combination of analytic models and descriptively rich stories. Although more empirical work needs to be done, what we have at this time suggests that current merger policy, if anything, underestimates competitive harm, exaggerates passed-on efficiencies, or produces some combination of both.

Evidence of efficiencies has rarely succeeded in rebutting an accepted prima facie case of illegality. As a result, the fault must lie with the prima facie case, not with the efficiency defense. The defense is, if anything, too generous to the merging parties. This might call for reconsideration of Judge Posner's conclusion that the problem of merger-specific proof of efficiencies is intractable and should be abandoned.²⁰⁷ However, the one thing it does *not* do is suggest that we need to lighten the burden once it has shifted to defendants. Not, at least, until there is evidence that many competitively harmless mergers are being condemned, and that is hardly where we are today.

²⁰⁶ See e.g., Fed. Trade Comm'n v. H.J. Heinz Co., 116 F. Supp. 2d 190 (D.D.C. 2000), *rev'd*, 246 F.3d 708 (D.C. Cir. 2001) (a heavily modeled case in which the court relied mainly on a factually thick description of the parties' business strategies, differences in technology, recipes, and distribution practices).

²⁰⁷ See discussion *supra*, text accompanying notes 53–54.