

Chapter 62

CONGLOMERATE MERGERS

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This chapter provides an overview of the economics of conglomerate mergers, with a focus on the potential for an increase in its product portfolio to lead to conduct that is anticompetitive. The economics of portfolio power indicates that a conglomerate merger that results in a firm posttransaction having a larger portfolio or product range may have the ability and incentive to engage in anticompetitive conduct. The key question for enforcement is how and whether to identify transactions that might give rise to an anticompetitive effect because of portfolio power, especially since most such transactions will be procompetitive. The chapter traces the evolution of conglomerate enforcement policy in the United States and Europe and considers the appropriateness of current enforcement policy.

1. Introduction

Perhaps no more disheartening evidence of antitrust's intellectual decline can be cited than the government's demonstrated ability to win conglomerate merger cases without ever advancing a plausible economic argument. Basic analysis shows that there is no threat to competition in any conglomerate merger, and it is good that the campaign against conglomerates has abated.¹

This is the first paragraph in Robert Bork's chapter on conglomerate mergers in *The Antitrust Paradox*, which was published in 1978, shortly after corporate enthusiasm for diversification and conglomerate mergers had peaked in the United States and after enforcement and, to a certain extent, policy concern in the United States had abated. Over the next 30 years, conglomerate merger enforcement essentially disappeared in the United States. In 2001, however, the concern over conglomerate mergers and their impact on competition made headline news with the decision by the European Commission to enjoin the pending merger between General Electric and Honeywell.² The decision by the European Commission to block the GE-Honeywell transaction, largely but not exclusively on a conglomerate theory of anticompetitive harm, brought sharp condemnation from the U.S. Department of Justice (DOJ), which had cleared the

* University of Calgary. This chapter is drawn from and updates JEFFREY CHURCH, THE IMPACT OF VERTICAL AND CONGLOMERATE MERGERS ON COMPETITION (Final Report for the Directorate-General for Competition, Directorate B Merger Task Force, European Commission, 2004). I would like to express my gratitude to Claes Bengtsson, Miguel de la Mano, and Guillaume Lorient for their comments. I am particularly grateful to Dale Collins and Vincent Verouden for their extensive comments.

1. ROBERT BORK, THE ANTITRUST PARADOX 246 (1978).

2. Case No. COMP/M.2220, Gen. Elec./Honeywell, Commission Decision of 3 July 2001, available at http://ec.europa.eu/comm/competition/mergers/cases/decisions/m2220_en.pdf, upheld in part in Case T-210/01, Gen. Elec. Co. v. Comm'n, 2005 E.C.R. 11-5575. See generally Jeremy Grant & Damien J. Neven, *The Attempted Merger Between General Electric and Honeywell: A Case Study of Transatlantic Conflict*, 1 J. COMPETITION L. & ECON. 595 (2005).

transaction.³ Although GE-Honeywell was not the only transaction that the European Commission had enjoined based on conglomerate effects,⁴ the firestorm of controversy over that decision, as well as judicial setbacks on other Commission merger prohibitions (notably *Airtours/First Choice*,⁵ *Scheinder/Legrand*,⁶ and *Tetra Laval/Sidal*⁷), led the Commission to initiate a number of merger control reforms. Included in the program of reform was the goal of publishing guidelines for nonhorizontal mergers, which the Commission did in 2007.⁸

This chapter has two objectives. The first is to provide a review of the economics literature on the competitive effects of conglomerate mergers. To that end, the chapter considers the main theories relevant for an understanding of conglomerate mergers that will result in anticompetitive harm.⁹ The theories are assessed for their relevance and

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3. In the United States, in order to resolve horizontal concerns GE agreed with the DOJ to divest Honeywell's helicopter engine business and to license a new competitor to maintain and repair certain Honeywell engines. See Deborah Platt Majoras, Deputy Ass't Att'y Gen., U.S. Dep't of Justice Antitrust Div., GE-Honeywell: The U.S. Decision, Remarks Before the State Bar of Georgia Antitrust Law Section (Nov. 29, 2001), available at <http://www.usdoj.gov/atr/public/speeches/9893.pdf>. The DOJ had no conglomerate concerns and criticized the European Commission theories of conglomerate harm in a press release and in speeches by several enforcement officials. See Press Release, U.S. Dep't of Justice Antitrust Div., Statement by Assistant Attorney General Charles A. James on the EU's Decision Regarding the GE/Honeywell Acquisition (July 3, 2001), available at http://www.usdoj.gov/atr/public/press_releases/2001/8510.pdf; Charles A. James, Ass't Att'y Gen., U.S. Dep't of Justice Antitrust Div., International Antitrust in the Bush Administration, Remarks Before the Canadian Bar Association Annual Fall Conference on Competition Law (Sept. 21, 2001), available at <http://www.usdoj.gov/atr/public/speeches/9100.pdf>; Majoras, *supra*; William J. Kolasky, *Conglomerate Mergers and Range Effects: It's a Long Way from Chicago to Brussels*, 10 GEO. MASON L. REV. 533 (2002).
 4. For other transactions challenged on theories of conglomerate harm, see, e.g., Case COMP/M.2416, *Tetra Laval/Sidel*, Commission Decision of 13 Jan. 2003, available at <http://eurequa.univ-paris1.fr/membres/tropeano/pdf/polconc/artciles0607/tetralavalsidel.pdf>, *annulled*, Case T-5/02, *Tetra Laval v. Comm'n*, 2002 E.C.R. II-4381, *confirmed*, Case C-12/03P, *Comm'n v. Tetra Laval BV*, 2005 E.C.R. I-987; Case COMP/M.1630, *Air Liquide/BOC*, Commission Decision of 18 Jan. 2000, available at http://ec.europa.eu/comm/competition/mergers/cases/decisions/m1630_en.pdf; Case IV/M.938 *Guinness/Grand Metropolitan*, Commission Decision of 15 Oct. 1997, available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31998D0602:EN:HTML>.
 5. Case T-342/99, *Airtours v. Comm'n*, 2002 E.C.R. II-2585, *annulling* Case IV/M.1524, *Airtours/First Choice*, Commission Decision of 22 Sept. 1999, available at http://ec.europa.eu/comm/competition/mergers/cases/decisions/m1524_19990922_610_en.pdf.
 6. Case T-310/01, *Schneider Elec. v. Comm'n*, 2002 E.C.R. II-4071, *annulling* Case COMP/M.2283, *Schneider/Legrand*, Commission Decision of 10 Oct. 2001, available at http://ec.europa.eu/comm/competition/mergers/cases/decisions/m2283_20011010_610_en.pdf.
 7. Case C-12/03P, *Comm'n v. Tetra Laval BV*, 2005 E.C.R. I-987, *confirming* Case T-5/02, *Tetra Laval v. Comm'n*, 2002 E.C.R. II-4381, *annulling* Case No. COMP/M.2416, *Tetra Laval/Sidel*, Commission Decision of 13 Jan. 2003, available at <http://eurequa.univ-paris1.fr/membres/tropeano/pdf/polconc/artciles0607/tetralavalsidel.pdf>.
 8. EUROPEAN COMMISSION, GUIDELINES ON THE ASSESSMENT OF NON-HORIZONTAL MERGERS UNDER THE COUNCIL REGULATION ON THE CONTROL OF CONCENTRATIONS BETWEEN UNDERTAKINGS (Nov. 28, 2007) [hereinafter EU NON-HORIZONTAL MERGER GUIDELINES], available at <http://ec.europa.eu/comm/competition/mergers/legislation/nonhorizontalguidelines.pdf>.
 9. Anticompetitive harm means harm to competition, not competitors. Under a consumer welfare standard, anticompetitive harm arises when consumer surplus is reduced. Under a total welfare standard, anticompetitive harm arises when total surplus is reduced.

usefulness for informing welfare-enhancing antitrust enforcement. The second objective is to discuss the implications that the economics has for designing appropriate liability rules for conglomerate mergers, as well as the content, form, and usefulness of conglomerate merger guidelines.

Section 2 begins with some taxonomy, distinguishing horizontal, vertical, and conglomerate mergers, and then further distinguishing complementary product, neighboring product, and unrelated product conglomerate mergers.

Section 3 briefly reviews the history of conglomerate merger enforcement in the United States and the parallels between concerns regarding conglomerate mergers in the 1960s in the United States with the more recent concerns in Europe. The traditional concern was that a conglomerate merger could be anticompetitive if it resulted in entrenchment or reciprocity.¹⁰ The modern assessment of the competitive effects of a conglomerate merger starts from the observation that a conglomerate merger involving the acquisition of complements, products in neighboring markets, or unrelated goods creates the possibility postmerger for the conglomerate to engage in tying or bundling, or to make acquired complements incompatible with the products of its rivals (direct foreclosure).

Section 4 begins the discussion of the economics of conglomerate mergers by considering the Cournot effect, which explains why the pricing incentives of a conglomerate monopolist of two complements lead it to charge lower prices for both complements than would be the case if the complements were provided by separate monopolists. This section also provides a short discussion of the Chicago School's views on tying and why tying is unlikely to have negative implications for welfare. It concludes by considering nonprice efficiencies that may arise from a conglomerate merger, as distinct from pricing efficiencies (the Cournot effect).

Sections 5, 6, and 7 consider the modern theories of tying, bundling, and direct foreclosure and their implications for the antitrust analysis of conglomerate mergers. The focus on tying, bundling, and direct foreclosure reflects the dominant concerns of the modern European Community (EC) cases: the anticompetitive advantages a conglomerate might realize because of an increase in its portfolio or range of products. Section 8 discusses optimal enforcement policy and the role, value, and nature of conglomerate merger guidelines. Section 9 offers brief conclusions.

10. Three other prevalent concerns are not addressed in this chapter. First, a conglomerate merger might lead to a substantial lessening of competition because it eliminates a potential entrant. In such a case, the merger is horizontal and the analysis of its effects on competition will largely follow that for horizontal mergers. Second, the conglomerate merger might give rise to a coordinated effect by creating multimarket contact, so that posttransaction the merged firm and one or more other firms will compete against each other in more than one antitrust market. The hypothesis of multimarket conduct is that multiplicity of contact across markets makes the coordinated exercise of market power easier. See, e.g., JEFFREY CHURCH, *THE IMPACT OF VERTICAL AND CONGLOMERATE MERGERS ON COMPETITION* § 5.3.2 (Final Report for the Directorate-General for Competition, Directorate B Merger Task Force, European Commission, 2004), available at http://ec.europa.eu/comm/competition/mergers/studies_reports/studies_reports.html; John T. Scott, *Multimarket Contacts*, which appears as Chapter 63 in this book. Finally, explicit consideration is not given to how the effect of a conglomerate merger might, through changes in financial leverage, affect competition. See CHURCH, *supra*, § 6.

2. Some taxonomy

A horizontal merger occurs when the products of the merging firms are in the same antitrust market, so that premerger the firms are significant competitive constraints on each other. A nonhorizontal merger occurs when the products of the parties to the transaction are in separate antitrust markets. Traditionally, nonhorizontal mergers are divided into vertical and conglomerate mergers. In a vertical merger, the merging firms are located at different stages of production or distribution, with one firm producing an input used by the other firm. Postmerger, the firms vertically integrate, so that a single firm performs both stages of production. A conglomerate merger is neither horizontal nor vertical; that is, the merging firms neither compete with one another in the same antitrust market nor does one supply the other with an input.

It is useful to adopt a three-way classification for conglomerate mergers based on the relationship of the products of the merging firms. In particular, the products may be (1) complementary, (2) neighboring, or (3) unrelated.

In a complementary product merger, the merging firms produce products that are complementary from the perspective of the consumer: the consumer buys the products individually and then assembles them for consumption. Complementary product mergers are closely related to vertical mergers. In a vertical merger, the downstream firm buys a complement (in the form of an input) from the upstream firm and then “packages” this complement along with other inputs for sale as a single product to consumers. Essentially, the distinction between complementary product mergers and vertical mergers is based on the identity of the assembler: the consumer or the downstream firm. For this reason, the economics of complementary product mergers is often similar to that of vertical mergers.

In a neighboring products merger, the products of the merging firms are not complements but are in “neighboring” markets. Products are in neighboring markets when they are purchased by a common pool of buyers. Two common occurrences of neighboring products are (1) when the products are independent of each other or at most weak substitutes but share the same distribution channels, giving rise to distribution economies; and (2) when there are advantages associated with providing consumers with a range of products, whether substitutes or independent, so that the demand at the level of the firm depends on the extent of its product range. Where the locus of competition between firms involves consumers considering the range of products produced by a firm, then from the perspective of the firm the products will be complements.

In a “pure” conglomerate merger, the products of the merging firms are not related on either the demand or supply side. That is, the products involved are neither (1) significant substitutes, and so have no significant horizontal relationship; (2) part of a customer/supplier transaction between the parties to the transaction, and so have no vertical relationship; nor (3) complements or in neighboring markets.

Antitrust concerns typically arise only if a conglomerate merger results in an increase in market power and as a result there is an anticompetitive effect. Just as in a horizontal merger, a conglomerate merger can result in an increase in market power because of either a unilateral or a coordinated effect. A unilateral effect occurs in a conglomerate merger if products of other producers postmerger are no longer as attractive substitutes

as they were premerger, thereby creating market power for the conglomerate firm. This might result because the products of competitors postmerger have lower quality or higher prices, or because competitors are somehow excluded or prevented from entry. A coordinated effect occurs if, postmerger, it is easier for the remaining firms (or some subset) to coordinate their competitive activities and so collectively exercise market power. The literature on the anticompetitive rationales and effect of conglomerate mergers considered in this chapter are based on identifying how the transaction changes incentives and/or constraints on the conglomerate, thereby enhancing its market power *and* harming either consumers or efficiency.

3. Enforcement policy in the United States and Europe

This section begins with an overview of the rise in the 1960s, the fall in the 1980s, and the continued dormancy of conglomerate merger enforcement in the United States. It then considers the more recent enforcement experience in Europe, beginning in the 1990s and culminating with the European Commission's controversial decision to prohibit the acquisition by General Electric of Honeywell in 2001. The section concludes by noting the parallels in the experience in the two jurisdictions and the likely convergence in enforcement approach and policy.

3.1. *History of conglomerate merger enforcement policy in the United States*

In 1950, Congress in the Celler-Kefauver Amendments¹¹ extended the reach of Section 7 of the Clayton Act¹² to reach acquisitions of assets as well as stock and to cover vertical and conglomerate mergers as well as horizontal mergers. As amended, the Clayton Act prohibited any stock or asset acquisition involving corporations "where the effect of such acquisition may be substantially to lessen competition."¹³ Even though the amended Clayton Act continued to ground its prohibitions on an acquisition's adverse effect on competition and not industrial concentration, the legislative history of the Celler-Kefauver Amendments made clear that Congress was greatly concerned about the perceived trend of increasing concentration in the economy and that it wanted a more stringent antimerger policy.¹⁴ By the early 1960s, merger cases decided under the amended statute began to reach the Supreme Court for review, and taking this legislative history as its point of departure, the Court issued a series of very restrictive antitrust merger decisions, especially in the area of horizontal mergers.¹⁵

11. Ch. 1184, 64 Stat. 1125 (1950).

12. 15 U.S.C. § 18.

13. *Id.* (as amended). In 1980, Congress amended § 7 to reach noncorporate as well as corporate transactions. See Antitrust Procedural Improvements Act of 1980, Pub. L. No. 96-349 (1980) (codified as amended at 15 U.S.C. § 18).

14. See *Brown Shoe Co. v. United States*, 370 U.S. 294, 311-23 (1962) (reviewing legislative history). As the *Brown Shoe* Court observed, "[t]he dominant theme pervading congressional consideration of the 1950 amendments was a fear of what was considered to be a rising tide of economic concentration in the American economy." *Id.* at 315.

15. In chronological order, see, e.g., *Brown Shoe*, 370 U.S. 294; *United States v. Phila. Nat'l Bank*, 374 U.S. 321 (1963); *United States v. Aluminum Co. of Am.*, 377 U.S. 271 (1964); *United States v.*

Whether attributable to increased horizontal merger enforcement, as some have argued,¹⁶ or some other cause, the United States experienced a wave of conglomerate mergers from 1950 to 1975.¹⁷ The two U.S. enforcement agencies, the DOJ and the Federal Trade Commission (FTC), responded aggressively, developing a number of novel theories for challenging mergers. These theories reflected the view that the primary goal of the antitrust laws was to protect the competitive process and that this was best done by maintaining low concentration, a multiplicity of competitors, and a level playing field. The theories and enforcement policies they fostered were going to falter, however, if the courts adopted the alternative view that the goal of the antitrust law is to protect and enhance consumer welfare or efficiency rather than preserve competitors. Two of the enforcement agencies' novel theories of conglomerate harm were endorsed by the Supreme Court: reciprocity and entrenchment.¹⁸

Reciprocity. Reciprocity, also known as reciprocal dealing, occurs when the two firms to a transaction do not participate in the same market but rather are on opposite sides of commercial transactions with a common group of firms. For instance, firm A might sell widgets to firms in market 1, while the buyers in market 1 in turn sell gidgets to firm B. If firms A and B merge, then the conditions for reciprocity arise: the merged firm—which now sells widgets and purchases gidgets—may condition its purchases of gidgets on the requirement that the sellers of gidgets purchase their widgets from the merged firm. In effect, reciprocity occurs when the conglomerate firm says to its suppliers: “I will not buy from you unless you buy from me.” The antitrust concern is that reciprocity results in foreclosure of other sellers in market 1.

In *FTC v. Consolidated Foods Corp.*,¹⁹ the Supreme Court in 1965 upheld an FTC divestiture order issued in 1962 requiring Consolidated Foods to divest Gentry, Inc. In

Penn-Olin Chem. Co., 378 U.S. 158 (1964); *United States v. Cont'l Can Co.*, 378 U.S. 441 (1964); *FTC v. Consol. Foods Corp.*, 380 U.S. 592 (1965); *United States v. Vons Grocery Co.*, 384 U.S. 270 (1966); *United States v. Pabst Brewing Co.*, 384 U.S. 546 (1966); *FTC v. Procter & Gamble Co.*, 386 U.S. 568 (1967); *United States v. Phillipsburg Nat'l Bank & Trust Co.*, 399 U.S. 350 (1970); *Ford Motor Co. v. United States*, 405 U.S. 562 (1972); *United States v. Falstaff Brewing Co.*, 410 U.S. 526 (1973). The Court began to take a more lenient view toward mergers in the mid-1970s. See *United States v. Gen. Dynamics Corp.*, 415 U.S. 486 (1974); *United States v. Marine Bancorporation*, 418 U.S. 602 (1974); *United States v. Conn. Nat'l Bank*, 418 U.S. 656 (1974).

16. See, e.g., Lawrence G. Goldberg, *The Effect of Conglomerate Mergers on Competition*, 16 J.L. & ECON. 137 (1973); Kolasky, *supra* note 3. But see John G. Matsusaka, *Did Tough Antitrust Enforcement Cause the Diversification of American Corporations?*, 31 J. FIN. & QUANTITATIVE ANALYSIS 283 (1996).

17. See FREDERIC M. SCHERER & DAVID ROSS, *INDUSTRIAL MARKET STRUCTURE AND ECONOMIC PERFORMANCE 90-94* (3d ed. 1990). Scherer and Ross note that “[t]he year 1975 has proved to be a high-water mark in U.S. corporations’ diversification, for many of the diversification-increasing mergers were unsuccessful. A back-to-basics movement followed in the 1970s and early 1980s, entailing the divestiture of thousands of subsidiaries, most of which joined the parent through previous diversifying mergers.” *Id.* at 92 (footnote omitted).

18. The Supreme Court also recognized that, in some cases, the elimination of potential competition could be challenged under § 7. See *Procter & Gamble*, 386 U.S. at 580-81. Although this theory is often regarded as a conglomerate theory of anticompetitive harm, it is best viewed as a variant of horizontal merger theory and is not addressed in this chapter.

19. 380 U.S. 592 (1965).

1951, Consolidated Foods, a diversified food processor, retailer, and distributor, had acquired Gentry, one of two significant producers in the United States of dried onions and garlic.²⁰ The Supreme Court found that the creation of a market structure that enabled Consolidated Foods to engage in reciprocity and a finding of a probability that reciprocity in fact would occur was sufficient to violate Section 7:

[R]eciprocity made possible by such an acquisition is one of the congeries of anticompetitive practices at which the antitrust laws are aimed. The practice results in an irrelevant and alien factor intruding into the choice among competing products, creating at the least a priority on the business at equal prices. . . . A threatened withdrawal of orders if products of an affiliate cease being bought, as well as a conditioning of future purchases on the receipt of orders for products of that affiliate, is an anticompetitive practice.²¹

The structural emphasis and focus on the *possibility* of reciprocity was reflected in the DOJ's 1968 *Merger Guidelines*.²² The 1968 *Guidelines* stated that the DOJ's enforcement policy is to prevent conglomerate mergers that create a market structure that would lead to a substantial lessening of competition or create a tendency toward monopoly.²³ According to the *Guidelines*, reciprocity "is an economically unjustified business practice which confers a competitive advantage on the favored firm unrelated to the merits of its product" and that "the Department will ordinarily challenge any merger which creates a significant danger of reciprocal buying."²⁴ The idea is that the favored advantage created by reciprocity would shift share to the merged firm and away from its competitors and that the resulting change in market structure would lead to a substantial lessening of competition or, in the extreme, tend to create a monopoly. The 1968 *Guidelines* set forth structural thresholds sufficient to identify transactions that gave rise to "a significant danger" of reciprocal buying. Consider a merger between firms A and B discussed above. Under the 1968 *Guidelines*, a significant danger of reciprocity exists if (1) the buyers in market 1 who were suppliers to firm B have a total share of purchases in the market of 15 percent or more; and (2) firm B is both a substantial customer of those suppliers and a more substantial customer than other firms that compete with firm A.²⁵ Separately, the *Guidelines* also provided that the DOJ would ordinarily challenge mergers in two other situations: (1) where the merger was undertaken with the intent of facilitating reciprocity; and (2) where one of the merging

20. For more on the facts and economic analysis of *Consolidated Foods*, see S.J.K. Walters, *Reciprocity Reexamined: The Consolidated Foods Case*, 29 J.L. & ECON. 423 (1986).

21. *Consol. Foods*, 380 U.S. at 594 (citations, internal quotation marks, and footnote omitted).

22. U.S. DEP'T OF JUSTICE, MERGER GUIDELINES, 33 Fed. Reg. 23,442 (1968) [hereinafter 1968 MERGER GUIDELINES], reprinted in 4 Trade Reg. Rep. (CCH) ¶ 13,101. The difference between the probability of reciprocity and the opportunity was that the conglomerate was given the opportunity to demonstrate that it would not take advantage of the opportunity for reciprocity, for instance, because of a policy forbidding reciprocity or incentive-based compensation schemes for management based on subsidiary profitability. See, e.g., *United States v. ITT Corp.*, 324 F. Supp. 19, 24 (D. Conn. 1970); *United States v. Nw. Indus.*, 301 F. Supp. 1066, 1088 (N.D. Ill. 1969).

23. 1968 MERGER GUIDELINES, *supra* note 22, ¶ 17.

24. *Id.* ¶ 19(a).

25. *Id.* The 1968 *Guidelines* provide for an exception if there is "a special market factor" that makes the possibility of reciprocity remote. *Id.*

parties in the recent past premerger, or the combined firm postmerger, had engaged or attempted to engage in reciprocal buying in a product market where the merger created the possibility of “substantial reciprocal buying arrangements.”²⁶ Economies, except under exceptional circumstances, were not a defense.²⁷

The main intellectual difficulty with reciprocity is that it is not apparent why it would be harmful for consumers. This made it vulnerable to the shift in values underlying the goal of antitrust policy from protection of competitors to protection of consumer welfare.²⁸ With this change, courts became much more skeptical of reciprocity as a theory of anticompetitive harm that could establish a Section 7 violation. While it may be relatively easy to establish that a challenged merger would enable reciprocity to occur, courts became much more demanding in the quantum of proof required to establish that the merged firm would likely exploit this opportunity. This latter proposition was often difficult to establish if the merger was challenged prior to consummation or if postmerger the combined firm had not engaged in the practice.²⁹ In addition, courts began to demand affirmative proof that any resulting actual reciprocity would substantially lessen competition and would not just assume an anticompetitive effect simply because the merger created an opportunity and an incentive to engage in the practice.³⁰ In the early 1970s, the antitrust agencies themselves became increasingly skeptical of reciprocity as a theory of anticompetitive harm and largely ceased to bring merger cases based on the theory.³¹ Moreover, if reciprocity was an anticompetitive business practice, it could be challenged directly under the Sherman Act³² or Federal Trade Commission Act³³ if and when it actually occurred.³⁴ The advantage of an ex post approach is that it does not involve a forecast of whether there will be reciprocity or a prediction of its likely effects, as would be required if a proposed merger were challenged prior to its consummation. Instead, the effects of actual reciprocity, including whether it is efficiency enhancing, can be determined in the actual circumstances in which the practice occurs.

26. *Id.* ¶ 19(b).

27. *Id.* ¶ 19(c) (reasoning that “in general equivalent economies can be achieved by the firms involved through other mergers not inconsistent with the standards of this paragraph 19”).

28. See Donald I. Baker & William Blumenthal, *The 1982 Guidelines and Pre-Existing Law*, 71 CAL. L. REV. 311, 317-19 (1983); Joseph F. Brodley, *Limiting Conglomerate Mergers: The Need for Legislation*, 40 OHIO ST. L.J. 867 (1979).

29. See, e.g., *United States v. ITT Corp.*, 306 F. Supp. 766 (D. Conn. 1969) (ITT-Grinnell-Hartford).

30. See, e.g., *Crouse-Hinds Co. v. Internorth, Inc.*, 518 F. Supp. 416, 435-36 (N.D.N.Y. 1980); *Carrier Corp. v. United Techs. Corp.*, No. 78-CV-488, 1978 WL 1454, at *15 (N.D.N.Y.), *aff’d mem.*, 594 F.2d 851 (2d Cir. 1978); *United States v. Nw. Indus.*, 301 F. Supp. 1066, 1088 (N.D. Ill. 1969); *ITT-Grinnell-Hartford*, 306 F. Supp. 766; *United States v. ITT Corp.*, 324 F. Supp. 19 (D. Conn. 1970) (ITT-Grinnell); *United States v. ITT Corp.*, No. 69 C 924, 1971 WL 541 (N.D. Ill. 1971) (ITT-Canteen).

31. See Edward A. Cavanagh, *Reciprocal Dealing: A Rebirth?*, 75 ST. JOHN’S L. REV. 633, 634-35 (2001); Joseph P. Bauer, *Government Enforcement Policy of Section 7 of the Clayton Act: Carte Blanche for Conglomerate Mergers?*, 71 CAL. L. REV. 348, 358 (1983).

32. 15 U.S.C. § 1.

33. *Id.* § 45.

34. See Joseph P. Bauer, *Challenging Conglomerate Mergers under Section 7 of the Clayton Act: Today’s Law and Tomorrow’s Legislation*, 58 B.U. L. REV. 199, 231 n.148 (1978).

The conditions under which reciprocity might be anticompetitive are similar to those in which tying is anticompetitive.³⁵ On the other hand, under other conditions reciprocity can be efficiency enhancing. Under the proper circumstances, reciprocity can reduce operating or transaction costs, reduce the probability of detection when cheating on a cartel, or facilitate (procompetitive) price discrimination.³⁶ Walters demonstrates that the reciprocal dealing network created by Consolidated Foods was likely a response to opportunism problems associated with investments in sunk assets.³⁷ He notes that in food processing and distribution, investments in dedicated assets to support significant trade with a particular trading partner, costs associated with testing and authenticating a supplier, concerns about quality depreciation by input suppliers, and seasonality create opportunities for holdup and expropriation of investment. Creation of a reciprocal dealing network creates a mutual reliance relation where firms are exposed to the potential for retaliation if they engage in opportunism.

As a practical matter, reciprocity as a theory of anticompetitive harm in U.S. merger enforcement is dead. When the U.S. *Merger Guidelines* were revised in 1982 and 1984, the discussion of reciprocity as a basis to challenge a conglomerate merger was eliminated,³⁸ and the U.S. enforcement agencies have not challenged a merger on reciprocity grounds in years.

Entrenchment. Entrenchment occurs when a dominant firm in a concentrated market is acquired by a firm of significantly larger size and strength.³⁹ The idea behind entrenchment as a theory of anticompetitive harm is that the resources of the larger, acquiring firm can be used to “entrench” the acquired firm by maintaining or even increasing its dominance in the acquired firm’s markets. Specifically, the theory posits that postmerger access to the resources of the acquiring firm will make competition with the acquired firm more difficult for its competitors or enable the acquired firm to create more formidable barriers to entry or expansion (through increased advertising or the like). Entrenchment arises for two reasons: (1) the merged conglomerate firm is more efficient than its rivals, for instance because of economies of scale, scope, or distribution; or (2) the merged conglomerate firm has deep pockets that it can use to engage in or threaten predation or discipline pricing in the markets in which the acquired firm operates.

35. This proposition is developed below in Section 5. Note that the Archimedean leveraging theory suggested by Reynolds and Ordovery in *GE/Honeywell* can be interpreted as a modern game-theoretic formulation of reciprocity. See Robert J. Reynolds & Janusz Ordovery, *Archimedean Leveraging and the GE/Honeywell Transaction*, 70 ANTITRUST L.J. 171, 172-73 (2002); Eleanor M. Fox, *U.S. and European Merger Policy—Fault Lines and Bridges—Mergers That Create Incentives for Exclusionary Practices*, 10 GEO. MASON L. REV. 471, 482 (2002).

36. For a discussion of when reciprocity might be procompetitive, see, e.g., HERBERT HOVENKAMP, *FEDERAL ANTITRUST POLICY: THE LAWS OF COMPETITION AND ITS PRACTICE* 561-62 (3d ed. 2005); BORK, *supra* note 1, at 258, 373, 376.

37. See Walters, *supra* note 20, at 433-35.

38. See U.S. DEP’T OF JUSTICE, *MERGER GUIDELINES*, 47 Fed. Reg. 28,493 (1982) [hereinafter 1982 *MERGER GUIDELINES*], reprinted in 4 Trade Reg. Rep. (CCH) ¶ 13,102; U.S. DEP’T OF JUSTICE, *MERGER GUIDELINES*, 49 Fed. Reg. 26,823 (1984), reprinted in 4 Trade Reg. Rep. (CCH) ¶ 13,103. Section 4 of the 1984 *Merger Guidelines* addresses nonhorizontal mergers and is usually called the U.S. *Non-Horizontal Merger Guidelines*.

39. See Bauer, *supra* note 31, at 353.

In its decision in *FTC v. Procter & Gamble Co.*,⁴⁰ the Supreme Court agreed with the FTC that the acquisition of Clorox by Procter & Gamble would result in a substantial lessening of competition and upheld the FTC's divestiture order. The Court held that "the substitution of the powerful acquiring firm for the smaller, but already dominant, firm may substantially reduce the competitive structure of the industry by raising entry barriers and by dissuading the smaller firms from aggressively competing."⁴¹ Clorox, with sales of \$40 million, had a 50 percent national share of liquid bleach sales, and the six-firm concentration ratio in liquid bleach was almost 80 percent.⁴² Procter was a large, diversified consumer product firm, with annual sales of \$1.1 billion and while over half of its sales were from soaps, detergents, and cleansers, it did not produce bleach.⁴³ Procter also was the largest advertiser in the United States, and advertising was an important barrier to entry and source of competitive advantage in liquid bleach as well as soaps, detergents, and cleansers.⁴⁴ Among other things, the FTC found that the acquisition would give Clorox access to Procter's deep pockets, as well as economies in distribution, advertising, and promotion, and that the advantages were sufficient to establish a Section 7 challenge since it made Clorox's already dominant position in liquid bleach less vulnerable to challenge by incumbent and potential competitors.⁴⁵ On appeal, the Sixth Circuit reversed, finding that during the four years following the merger there had been no material change in Clorox's market share⁴⁶ and observing that the FTC's conclusions were based on "'treacherous conjecture,' possibility or suspicion."⁴⁷ The Supreme Court rejected the reliance of the court of appeals on post-acquisition evidence and essentially reinstated the FTC's findings and confirmed the FTC's legal analysis. Moreover, the Supreme Court came very close to defining an efficiency offense: "Possible economies cannot be used as a defense to illegality. Congress was aware that some mergers which lessen competition may also result in economies, but it struck the balance in favor of protecting competition."⁴⁸

The 1968 *Merger Guidelines* recognized entrenchment as a theory of anticompetitive harm in conglomerate mergers and stated that antitrust concerns can arise "where an acquisition of a leading firm in a relatively concentrated or rapidly concentrating market may serve to entrench or increase the market power of that firm or raise barriers to entry in that market."⁴⁹ The 1968 *Guidelines* provide three examples of entrenchment possibilities: (1) a merger that creates "a very large disparity in absolute size between the merged firm" and its largest competitor, (2) a merger that creates opportunities for

40. 386 U.S. 568 (1967).

41. *Id.* at 578.

42. *Id.* at 570-72.

43. *Id.* at 572.

44. *Id.* at 573.

45. *Procter & Gamble Co.*, 63 F.T.C. 1465 (1963), *rev'd*, 358 F.2d 74 (6th Cir. 1966) (ordering complaint dismissed), *rev'd*, 386 U.S. 568 (1967).

46. *Procter & Gamble Co. v. FTC*, 358 F.2d 74, 80 (6th Cir. 1966), *rev'd*, 386 U.S. 568 (1967).

47. *Id.* at 83.

48. 386 U.S. at 580; see Robert Pitofsky, *Efficiency Consideration and Merger Enforcement: Comparison of U.S. and EU Approaches*, 39 *FORDHAM INT'L L.J.* 1413, 1416 (2007).

49. 1968 *MERGER GUIDELINES*, *supra* note 22, ¶ 20.

tying and leverage, and (3) a merger that enhances the scope for product differentiation.⁵⁰

After *Procter*, there were a number of conglomerate mergers enjoined on the basis of the potential for entrenchment.⁵¹ However, both arms of the entrenchment doctrine were going to be difficult to sustain. In particular, increasing skepticism on the likelihood of successful predation and the assumption that firms would ignore its illegality suggested that deep pockets was not a sufficient basis on which to prohibit conglomerate merger.⁵² Moreover, efficiency advantages were not going to be problematic as the goal of antitrust shifted away from the protection of competitors to the protection of consumer welfare, since efficiencies advantages from the merger would be seen as procompetitive rather than anticompetitive.⁵³ Not surprisingly, the lower courts began to reject challenges to mergers based on entrenchment, either because they could not identify the competitive advantage created or because any advantage created was not an artificial competitive advantage but rather a procompetitive improvement in efficiency.⁵⁴

The FTC's postmerger challenge to the acquisition of United Vintners, Inc. by Heublein, Inc. has compelling parallels to the recent enforcement experience in Europe.⁵⁵ Heublein was primarily a manufacturer, importer, and marketer of alcoholic beverages. In 1968, the year prior to the merger, Heublein was the fifth largest domestic producer of alcoholic beverages and its two main product lines were distilled spirits (mainly Smirnoff vodka) and beer. In addition, Heublein was the sixteenth largest seller of wines in the United States. That same year, United was the second largest seller of wine in the United States, with its best-known brands being Italian Swiss Colony, Petri, and Inglenook. An administrative law judge (ALJ) found that the acquisition violated Section 7 because it entrenched United in wine.⁵⁶ The ALJ determined that the transaction provided United with a competitive advantage because the transaction provided it with low-cost financing, advertising and marketing economies of scale, and the potential to tie or otherwise leverage sales of its wine with Smirnoff vodka and other liquor brands.

On appeal, the full FTC rejected the ALJ's finding and ordered the complaint dismissed. On the issue of entrenchment, the FTC observed:

50. *Id.*

51. *See, e.g.*, *Kennecott Copper Corp. v. FTC*, 467 F.2d 67, 78-79 (10th Cir. 1972); *U.S. Steel Corp. v. FTC*, 426 F.2d 592, 603-04 (6th Cir. 1970); *Allis-Chalmers Mfg. Co. v. White Consol. Indus.*, 414 F.2d 506, 517-18 (3d Cir. 1969); *Gen. Foods v. FTC*, 386 F.2d 936, 945-46 (3d Cir. 1967).

52. *See* 5 PHILLIP E. AREEDA & DONALD F. TURNER, *ANTITRUST LAW* 216-17 (1978).

53. BORK, *supra* note 1, at 255 (noting that "the effects the Court and the Commission attributed to the merger were manifestations of efficiency, and hence reasons to welcome the merger rather than condemn it").

54. *See, e.g.*, *Emhart Corp. v. USM Corp.*, 527 F.2d 177, 181 (1st Cir. 1975); *Mo. Portland Cement Co. v. Cargill, Inc.*, 498 F.2d 851 (2d Cir. 1974); *Heublein, Inc.*, 96 F.T.C. 385, 593 (1980).

55. *Heublein, Inc.*, 96 F.T.C. 385 (1980). The facts are taken from the Commission's opinion.

56. The ALJ also found that the acquisition violated § 7 because it eliminated horizontal competition in wine and eliminated Heublein as an actual potential expander in wine. The Commission rejected the ALJ's horizontal theory in light of Heublein's small share of the relevant market. *Id.* at 576. The Commission also rejected the ALJ's potential expander theory because Heublein was but one of a large number of potential entrants and expanders into wine. *Id.* at 583.

But a violation is not made out simply by arguing that an acquisition might conceivably confer some competitive advantage. Adverse competitive effects cannot be assumed; the record must prove the competitive advantage to be both reasonably likely and significant and, as a result, that competition would probably be adversely affected. Indeed, because adverse competitive effects from “entrenchment” can be rather elusive, it is particularly important that a factual basis be carefully constructed. Highly relevant here would be evidence demonstrating the magnitude of the acquiring company’s competitive strengths, the impact of those strengths in the market of the acquired firm, and the inability of the other firms in that market to match those strengths or otherwise compete effectively. Since the record in this case does not show that any advantages conferred on United as a result of the merger would be likely to have a significant competitive effect, we hold that the ALJ incorrectly concluded that the acquisition “entrenched” United and thus violated Section 7.⁵⁷

Noting the potential for large efficiencies from the integration of distribution systems, the FTC rejected a rule that prohibits a merger because it creates the opportunity for tying.⁵⁸ Tying or leverage should be grounds for prohibiting a merger only if “the evidence of probable adverse anticompetitive effects is fairly clear.”⁵⁹ Shortly after the *Heublein* decision, the DOJ eliminated reference to entrenchment as a basis for raising competitive concerns from a conglomerate merger in its 1982 revisions to the 1968 *Merger Guidelines*.⁶⁰ The DOJ has made the argument that, without a showing that the conduct enabled by a conglomerate merger increases market power and harms consumers, a conglomerate merger based on efficiencies would not now be unlawful in the United States regardless of the effect on competitors.⁶¹

Enforcement in the United States. From the distant view of almost 40 years later, it is hard to understand the concern in the United States in the late 1960s occasioned by the conglomerate merger wave of the time. But concern there was. The Supreme Court was as aggressive in condemning the two conglomerate mergers that came before it as it was in condemning horizontal mergers, and the DOJ’s 1968 *Merger Guidelines* adopted much the same aggressive stance. Indeed, in 1969, a new assistant attorney general expressed the view in congressional testimony that the 1968 *Guidelines* were not strict enough and that businesses should not rely on them.⁶² The concern over conglomerate

57. *Id.* at 593 (footnotes omitted).

58. *Id.* at 596-99.

59. *Id.* at 597.

60. See 1982 MERGER GUIDELINES, *supra* note 38.

61. See Antitrust Division Submission for OECD Roundtable on Portfolio Effects in Conglomerate Mergers (2001) [hereinafter Antitrust Division Submission], available at <http://www.usdoj.gov/atr/public/international/9550.pdf>.

62. “I have tried to warn businessmen and their lawyers that they cannot rely on the Merger Guidelines issued by my predecessors in this area—that we may sue even though particular mergers appear to satisfy those Guidelines—and that, to be safe, firms desiring to merge should learn our enforcement intentions by applying for a Business Review Letter.” Statement by Richard W. McLaren, Ass’t Att’y Gen., U.S. Dep’t of Justice Antitrust Div., Before the House Ways and Means Committee, Mar. 12, 1969, at 8 (Justice Dep’t release), *quoted in* Steven M. Edwards, Robert D. Joffe, William J. Kolasky, John J. McGowan, Carlos E. Mendez-Penate, Janusz A. Ordovery, Phillip A. Proger, Louis M. Solomon & Utz P. Toepke, *Proposed Revisions of the Justice Department’s Merger Guidelines*, 81 COLUM. L. REV. 1543, 1545 n.14 (1981).

mergers is also found in recommendations for legislation. For example, the 1968 Neal report included a proposal to make illegal any merger between a large firm, defined as one with assets in excess of \$200 million or sales in excess of \$500 million, and a leading firm, defined as a company with more than a 10 percent market share in a \$100 million market with a four-firm concentration ratio in excess of 50 percent.⁶³ Similar legislative proposals were considered as late as 1979, including in particular a proposal in 1979 by Senators Kennedy and Metzenbaum that would, among other restrictions, ban outright mergers between two firms each with assets in excess of \$2 billion.⁶⁴ These legislative proposals reflected a concern with the concentration of economic power, not market power.⁶⁵ Indeed, the DOJ brought a series of challenges to pure conglomerate mergers based solely on a “bigness is badness theory.”⁶⁶ While some of these cases resulted in consent decrees leading to divestitures, they did not result in a judicial finding that “a pure conglomerate merger, without proof of anticompetitive effect, could be unlawful.”⁶⁷

From 1964 to 1977, the U.S. antitrust enforcement agencies challenged 33 conglomerate mergers.⁶⁸ Of these challenges, the agencies were successful in 11, all of which were decided prior to 1975. Even in the heyday of conglomerate merger enforcement, however, 10 of the challenges decided prior to 1975 were unsuccessful. All 12 cases decided in 1975 or later were unsuccessful.

As noted above, the 1982 revisions to the 1968 *Merger Guidelines* eliminated reciprocity and entrenchment as theories of anticompetitive harm in conglomerate mergers. Indeed, there is no reference to conglomerate mergers at all; the only concern in the *U.S. Non-Horizontal Merger Guidelines* traditionally associated with conglomerate merger enforcement is the elimination of a specific potential entrant.⁶⁹ Robert Pitofsky, former chairman of the FTC, observes that there is now a consensus in the United States that conglomerate mergers rarely raise issues and the few that do raise concerns involve the elimination of a potential entrant.⁷⁰ Entrenchment and reciprocity have not been the basis for a challenge by the enforcement agencies in over 20 years.⁷¹ In commenting on the *GE/Honeywell* case, then Deputy Assistant Attorney General William J. Kolasky observed that conglomerate theories faded away as the agencies recognized the central importance of consumer welfare and efficiency:

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63. Report of the White House Task Force on Antitrust Policy, 115 Cong. Rec. 13,890, 13,899 (1968).
64. S. 600, 97th Cong., 2d Sess. (1981), *reprinted in Hearings Before the Subcomm. on Antitrust, Monopoly, and Business of the Senate Comm. on the Judiciary*, 96th Cong., 1st Sess. 641 (1979), and Brodley, *supra* note 28, appendix.
65. For a discussion of the concerns about the negative social and political implications of concentration of economic power, see, e.g., ABA SECTION OF ANTITRUST LAW, *MERGERS AND ACQUISITIONS* 478-79 (3d ed. 2008); Brodley, *supra* note 28; Bauer, *supra* note 31, at 358; and Bauer, *supra* note 34.
66. See Bauer, *supra* note 31, at 354.
67. See Bauer, *supra* note 34, at 235; see *United States v. ITT*, 306 F. Supp. 766, 796 (D. Conn. 1969).
68. For the list of cases, see Bauer, *supra* note 34, at 200.
69. U.S. NON-HORIZONTAL MERGER GUIDELINES, *supra* note 38, § IV.A.
70. See Robert Pitofsky, *Past, Present, and Future of Antitrust Enforcement at the Federal Trade Commission*, 72 U. CHI. L. REV. 209, 218 (2005).
71. *Id.*

After fifteen years painful experience with these now long-abandoned theories, the U.S. antitrust agencies concluded that antitrust should rarely, if ever, interfere with any conglomerate merger. The U.S. agencies simply could not identify any conditions under which a conglomerate merger, unlike a horizontal or vertical merger, would likely give the merged firm the ability and incentive to raise price and restrict output.⁷²

3.2. *The European experience*

The European Commission's merger enforcement regime dates from 1990 with the entry into force of the EC Merger Regulation prohibiting mergers that create or strengthen a dominant position, the result of which is that effective competition would be significantly impeded.⁷³ The European Commission was concerned with conglomerate effects almost immediately. In 1991, Tetra Pak International SA notified the Commission of its pending acquisition of Alfa-Laval AB.⁷⁴ Tetra Pak manufactured systems for packaging liquid food products, while Alfa-Laval was one of the world's leading manufacturers of processing equipment. The Commission found that having a full line (food processing and packaging machines) would not provide the merged firm with "an advantage of real significance that would be likely to further increase the difficulty of entry or penetration of actual or potential competitors."⁷⁵ Subsequently, however, the Commission prohibited the ATR-de Havilland merger,⁷⁶ the first transaction to be enjoined under the Merger Regulation, as well as two other significant mergers, Tetra Laval-Sidel⁷⁷ and General Electric-Honeywell,⁷⁸ on the basis of conglomerate effects. Moreover, in a number of other cases significant remedies, including divestitures, were required to address concerns based on conglomerate effects.⁷⁹

72. Kolasky, *supra* note 3, at 533-34.

73. Regulation (EEC) 4064/89 of 21 December 1989 on the Control of Concentrations between Undertakings, 1990 O.J. (L 257) 13.

74. Case No. IV/M.068, Tetra Pak/Alfa-Laval, Commission Decision of 19 July 1991, *available at* <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31991D0535:EN:HTML>.

75. *Id.* § 4.

76. Case IV/M.53, Aerospatiale-Alenia/de Havilland, Commission Decision of 5 Dec. 1992, *available at* http://ec.europa.eu/comm/competition/mergers/cases/decisions/m53_en.pdf.

77. Case COMP/M.2416, Tetra Laval/Sidel, Commission Decision of 13 Jan. 2003, *available at* http://ec.europa.eu/comm/competition/mergers/cases/decisions/m2416_62_en.pdf, *annulled*, Case T-5/02, Tetra Laval v. Comm'n, 2002 E.C.R. II-4381, *confirmed*, Case C-12/03P, Comm'n v. Tetra Laval BV, 2005 E.C.R. I-987.

78. Case No. COMP/M.2220, Gen. Elec./Honeywell, Commission Decision of 3 July 2001, *available at* http://ec.europa.eu/comm/competition/mergers/cases/decisions/m2220_en.pdf, *upheld in part in* Case T-210/01, Gen. Elec. Co. v. Comm'n, 2005 E.C.R. II-5575.

79. *See, e.g.*, Case IV/M.833, Coca Cola/Carlsberg, Commission Decision of 11 Sept. 1997, *available at* <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31998D0327:EN:HTML>; Case IV/M.877, Boeing/McDonnell-Douglas, Commission Decision of 30 July 1997, *available at* http://ec.europa.eu/comm/competition/mergers/cases/decisions/m877_19970730_600_en.pdf; Case IV/M.938 Guinness/Grand Metropolitan, Commission Decision of 15 Oct. 1997, *available at* <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31998D0602:EN:HTML>; Case COMP/M.2621, SEB/Moulinex, Commission Decision of 8 Jan. 2002, *available at* http://ec.europa.eu/comm/competition/mergers/cases/decisions/m2621_62_fr.pdf.

The primary theories advanced by the Commission against conglomerate mergers involve portfolio effects or portfolio power. The idea is that the merger increases the number of products under the control of the combined firm, and in certain circumstances that this increase in the portfolio or range of products provides the combined firm with the opportunity to engage in exclusionary conduct and thereby increase its market power. Essentially, the concern is that the merger will allow the combined firm to engage in some form of “contingent sale,” that is, condition the sale of a product in which it has market power on the purchase of other products acquired in the merger.⁸⁰ Conduct that implements such a contingent sale includes bundling, tying, and loyalty discounts. This conduct can be exclusionary if it reduces the competitive constraint on the conglomerate exerted by its competitors who have smaller product portfolios: it is anticompetitive if it reduces consumer welfare or reduces total surplus (inefficient).⁸¹

The Commission’s analysis of conglomerate effects in both *Tetra Laval/Sidel* and *GE/Honeywell* were overturned by the Court of First Instance (CFI).⁸² In both cases the CFI was willing to consider that the specific contingent sales conduct advanced by the Commission was a possible avenue of competitive harm. The basis of the reversal was instead the failure of the Commission to meet the requisite standard of proof: the conglomerate effects alleged to be anticompetitive by the Commission were not supported by the evidence.

The standard of proof, put down by the EC courts in these two cases, encompasses the following considerations:

- “Since the effects of a conglomerate-type merger are generally considered to be neutral, or even beneficial, for competition on the markets concerned . . . , the proof of anti-competitive conglomerate effects of such a merger calls for a precise examination, supported by convincing evidence, of the circumstances which allegedly produce those effects”⁸³
- “The community judicature not only must establish, inter alia, whether the evidence relied on is factually accurate, reliable, and consistent, but also whether that evidence contains all the information which must be taken into account in order to assess a complex situation and whether it is capable of substantiating the conclusions drawn from it.”⁸⁴
- “The analysis of a ‘conglomerate-type’ concentration is a prospective analysis in which, first, the consideration of a lengthy period of time in the future and, secondly, the leveraging necessary to give rise to a significant impediment to effective competition mean that the chains of cause and effect are dimly discernible, uncertain and difficult to establish. That being so, the quality of the evidence produced by the Commission in order to establish that it is necessary to

80. See Damien J. Neven, *Analysis of Conglomerate Effects in EU Merger Control*, in HANDBOOK OF ANTITRUST ECONOMICS 183, 189-94 (Paolo Buccirossi ed., 2008).

81. In this regard, theories of conglomerate merger harm based on portfolio effects are similar to the possibility of tying as the basis for entrenchment in the FTC’s decision in *Heublein*.

82. *Tetra Laval*, 2002 E.C.R. II-4381, ¶¶ 188-338; *Gen. Elec.*, 2005 E.C.R. II-5575, ¶¶ 315-473.

83. *Tetra Laval*, 2002 E.C.R. II-4381, ¶ 155.

84. *Gen. Elec.*, 2005 E.C.R. II-5575, ¶ 63; see *Tetra Laval*, 2002 E.C.R. II-4381, ¶ 39.

adopt a decision declaring the concentration incompatible with the common market is particularly important, since that evidence must support the Commission's conclusion that, if such a decision were not adopted, the economic development envisaged by it would be plausible."⁸⁵

- "[T]he Commission had the onus to provide convincing evidence to support its conclusion that the merged entity would probably behave in the way foreseen."⁸⁶
- "In particular, the Commission must establish that there is a high probability that anti-competitive effects will occur and not merely that they might occur, it must quantify those effects and show that they will result from the merger rather than from pre-existing market conditions. That requirement is particularly important in cases such as the present, in which the merger is conglomerate, since it is accepted that such mergers rarely have anti-competitive effects."⁸⁷

In assessing the incentives of the conglomerate to engage in the exclusionary conduct, both the CFI and the European Court of Justice (in *Tetra Laval/Sidel*) have required the Commission to consider how the incentives to adopt the exclusionary conduct are affected by the risk that the conduct might give rise to antitrust liability under the antitrust provisions of the EC Treaty.⁸⁸ In particular, much of the conduct that a conglomerate merger is thought to facilitate would, if pursued and if actually anticompetitive, be reached under Article 82 of the EC Treaty, which prohibits abuse of a dominant position.⁸⁹

3.3. *De facto convergence*

While the EC courts have not rejected the possibility of portfolio effects, the courts have imposed substantial, if not onerous, requirements on the Commission to establish a

85. *Tetra Laval*, 2005 E.C.R. I-987, ¶ 44; see *Gen. Elec.*, 2005 E.C.R. II-5575, ¶ 66.

86. *Gen. Elec.*, 2005 E.C.R. II-5575, ¶ 69.

87. *Id.* ¶ 78.

88. Treaty Establishing the European Community, Nov. 10, 1997, 1997 O.J. (C 340) 3 [hereinafter EC Treaty].

89. *Id.* art. 82. There is some legal uncertainty over what exactly the Commission is required to do. In *Tetra Laval*, the European Court of Justice, in rejecting the CFI's requirement, held that it would run counter to the Regulation's purpose of prevention to require the Commission [as the CFI had held] . . . to examine, for each proposed merger, the extent to which the incentives to adopt anti-competitive conduct would be reduced, or even eliminated, as a result of the unlawfulness of the conduct in question, the likelihood of its detection, the action taken by the competent authorities, both at Community and national level, and the financial penalties which could ensue.

Tetra Laval, 2005 E.C.R. I-987, ¶ 75 (rejecting CFI requirement at *Tetra Laval*, 2002 E.C.R. II-4381, ¶ 159). While the Commission can provide something less than a comprehensive analysis, it remains unclear what sort of summary analysis would be sufficient. See Thorsten Kaseberg, *Are Merger Control and Article 82 EC in the Same Market? The Assessment of Mergers Which Facilitate Exclusionary Conduct under EC Merger Control*, 27 EUR. COMPETITION L. REV. 409 (2006). One suggestion is that the Commission need only take into account Article 82 if the alleged conduct is clearly or highly likely to be unlawful given the information available to the Commission. See Ninette Doodoo, Frances Dethmers & Simon Baxter, *The GE/Honeywell Judgment and the Assessment of Conglomerate Effects: What's New in EC Practice?*, 2 EUR. COMPETITION J. 141 (2006).

merger violation on the basis of this type of theory. One result of these requirements, perhaps unintended, may be a de facto convergence in practice between the EC and the U.S. antitrust enforcement agencies on the ultimate disposition of a conglomerate merger where the concern is portfolio effects.⁹⁰ In the United States, the approach of the enforcement agencies to portfolio effects follows from why they abandoned entrenchment as a theory of anticompetitive harm: there are likely efficiencies associated with a more extensive product portfolio, and the ability to distinguish when an extension of the product portfolio might lead to conduct that is anticompetitive is very difficult, fraught with error, and likely not necessary given any resulting anticompetitive conduct can be challenged when it actually arises.⁹¹ As a result, the more or less explicit enforcement policy in the United States is not to challenge conglomerate mergers based on any theory involving portfolio power. In Europe, by contrast, although the Commission may not have rejected portfolio effects in principle as a viable theory of anticompetitive harm, as perhaps the U.S. authorities have, the stringent evidentiary requirements imposed by the European courts on the Commission will make difficult any challenge to a conglomerate merger based on portfolio effects. Even so, the Commission may still test portfolio effects theories in its investigations of conglomerate mergers and perhaps even challenge a merger on this ground to test whether it can satisfy the courts. The uncertainties associated with what the Commission might do can impose costs and risks on firms absent from the U.S. approach.⁹²

4. Unilateral effects and conglomerate mergers

As discussed in Section 2, a conglomerate merger may involve the acquisition of complements, products in neighboring markets, or unrelated goods. The acquisition of these products provides the acquiring conglomerate with the opportunity to engage in (1) tying, (2) bundling, or (3) direct foreclosure. Tying occurs when the seller requires purchasers of product 1 (the tying good) to also purchase product 2 (the tied good). Requirements tying occurs when the seller conditions the sale of product 1 on customers purchasing all of their product 2 requirements (now and in the future) from the seller.

Pure bundling occurs when consumers cannot buy products individually but instead must purchase a group of products collectively. In the case of mixed bundling, consumers can buy the individual products separately, but they pay in total a lower price if the goods are bought as a bundle. Often in the economics literature it is assumed that there are two goods where consumers demand a single unit *each* of product 1 and 2, making a tie indistinguishable from a bundle. More generally, tying differs from bundling because a tie

90. See Richard Burnley, *Conglomerate Mergers: A Comparison of the US and EC Approaches*, in EC COMPETITION LAW: A CRITICAL ASSESSMENT 495 (Giuliano Amato & Claus-Dieter Ehlermann eds., 2007); Eleanor M. Fox, *The European Court's Judgment in GE/Honeywell—Not a Poster Child for Comity or Convergence*, ANTITRUST, Spring 2006, at 77; William Kolasky, *GE/Honeywell: Narrowing, But Not Closing the Gap*, ANTITRUST, Spring 2006, at 69; George S. Georgiev, *Bridging the Divide? The European Court of First Instance Judgment in GE/Honeywell*, 31 YALE J. INT'L L. 518 (2006).

91. This position is most eloquently stated by Kolasky. See Kolasky, *supra* note 3. For a more official statement by the DOJ, see Antitrust Division Submission, *supra* note 61.

92. See Burnley, *supra* note 90.

is more likely to involve divisibility. For instance, a tie requiring two units of product 2 be purchased for every unit of product 1 is not the same as offering to sell a package consisting of four units of product 2 and two units of product 1.

A conglomerate merger can create the opportunity for the merged firm to engage in conduct involving a variety of different kinds of contingent sales offers. From the perspective of antitrust policy, the important assessments, common across all forms of contingent sales offers, are the effects on the competitiveness and viability of competitors and the effect on consumers. In many instances, the contingent sale will appear to be to make consumers better off, leading consumers to shift their purchases to the merged firm and away from its rivals. When this happens, the effect on rivals is exclusionary. However, the net effect on consumers will depend on how the contingent sales offer affects both the rivals of the conglomerate and the conglomerate's equilibrium response to the induced change in behavior by its rivals.

The exclusionary effect on rivals of a contingent sales strategy by a conglomerate firm arises because the strategy shifts market share away from the rival to the conglomerate. This shift in market share can occur because the contingent sales strategy changes the pricing incentives of the conglomerate firm, or because of a demand effect, or both. The contingent sales strategy might shift share to the conglomerate because it commits it to lower pricing. Alternatively, the effect of the contingent sales strategy can be, at premerger prices, to increase the demand for the conglomerate's product and reduce the demand for the product of its rivals. This demand effect is a foreclosure effect: sales of the rival are foreclosed.

Tying and bundling are examples of contingent sales. A third possible source of a conglomerate effect involves direct foreclosure. If consumers value variety, then a variety differential, where one firm has a broader product range than another, raises the firm's demand and in doing so also reduces the demand and revenues of the firm's rivals. A conglomerate firm could end up with a variety advantage if postmerger it forecloses. Foreclosure here means not supplying a rival with access to the complements controlled by the conglomerate: if consumers value variety, then the variety advantage can provide the conglomerate with market power or lead to monopolization.

4.1. The traditional view: Pricing efficiency and price discrimination

There is a tradition in the economics literature to view mergers between suppliers of complements as efficiency enhancing. This view is based on two models. The first is Cournot's model of monopoly supply of complements. Cournot's analysis leads to a conclusion that a merger between complement suppliers is both efficiency enhancing and beneficial for consumers since postmerger the conglomerate will have incentives to lower the price of its complements. The second is the single monopoly profit critique of the Chicago School. The single monopoly profit critique explains why a monopolist of one complement would not have the ability or incentive to leverage its monopoly power into the market for another complement by tying. The conclusion of the single profit critique is that tying, if observed, is not an attempt to leverage monopoly power from one market to another but instead must be based either on efficiency considerations or implements price discrimination.

Cournot effect. Cournot's model of the pricing of complements identifies a horizontal pricing externality when both goods are supplied by separate monopolists.⁹³ If the same firm supplies both complements, prices will be lower since a pricing externality will be internalized. The integrated firm will recognize that lowering the price of one product will increase sales and profits of the other and vice-versa. The price of both complements will go down if there is a merger between the two monopoly suppliers.

The result that internalization of the horizontal pricing externality when the two complements are subject to coordinated pricing leads to a decrease in the price of the system is known as the Cournot effect. The Cournot effect enhances consumer welfare and increases aggregate profits. The advantages of integration so that the two complements are provided as a bundle as opposed to independently are very similar to a vertical merger that eliminates double marginalization. In both situations, in the absence of a merger, a firm with market power sets a price without taking into account that it affects the demand for another firm that also has a positive margin.

The Cournot effect does not arise if the two monopoly suppliers are able to engage in price discrimination or, alternatively, set prices with buyers through individual negotiations. In the case of perfect price discrimination, the two firms are perfectly informed regarding the willingness to pay schedule for a consumer. Consider products i and j , which are complementary, consumed in fixed proportions and premerger are sold by separate firms at prices p^i and p^j , respectively. Assuming no dispute between the two firms over the division of profits, the equilibrium prices for perfectly informed firms for unit l sold to consumer k will be $p^i + p^j = v_l^k$, where v_l^k is the maximum willingness to pay of consumer k for unit l . If the two firms merge, they would set $p^b = p^i + p^j = v_l^k$, where p^b is the price for the bundle of the two products. Note that a merger enabling the two firms to coordinate their price would have no effect on prices provided that the two firms are able to practice perfect price discrimination.⁹⁴ This result extends to the case in which the firms bargain with consumers over the division of surplus. The surplus created on unit l consumed by consumer k is v_l^k (assuming for convenience that marginal costs are zero). If the share captured by the firms in bargaining with consumer k is s , then we would expect $p^i + p^j = sv_l^k$. Assuming that the bargaining power of the firms does not change when they merge, then the coordinated price postmerger would be $p^s = p^i + p^j = sv_l^k$. This is the same price as when the two firms are independent, and again there is not a Cournot effect.

As this simple exposition shows, the Cournot effect is absent if the firms are well informed and if they are able to agree on the division of surplus.⁹⁵ On the other hand, if the two firms are not well informed or do not agree on the division of the profits, the

93. See AUGUSTIN COURNOT, *RÉCHERCHES SUR LES PRINCIPES MATHÉMATIQUES DE LA THÉORIE DES RICHESSES* (1838). For a modern treatment, see Nicholas Economides & Steven C. Salop, *Competition and Integration among Complements, and Network Market Structure*, 40 J. INDUS. ECON. 105 (1992).

94. See Barry Nalebuff & Shihua Lu, *A Bundle of Trouble* (Yale School of Management, Working Paper, 2001).

95. Any sum of the two component prices equal to the willingness to pay of a consumer is a Nash equilibrium in prices. In effect, agreement between the two firms over the division of surplus requires them to coordinate on the same Nash equilibrium.

combined price will be too high and the consumer will not purchase the unit. In this situation, a merger would exhibit a Cournot effect, resulting in a lower price for the bundle and an expansion in output.

(No) incentive to leverage. The single profit critique applied to complements holds that a monopoly supplier of one complement can extract all of the monopoly profit through the price of its product and that it need not monopolize competitively supplied complements by tying when consumers are homogeneous. Indeed, tying or bundling its monopoly-supplied component with a complement that is competitively supplied could decrease its profits if the competing suppliers offer a differentiated product or are lower-cost producers. Because these alternatives provide value to consumers, their presence means that the monopolist can charge a higher price for its monopoly good if it does not tie. Similarly, if the two goods are independent, tying a monopoly-supplied good to a second good in an attempt to monopolize it will typically reduce the profits of the monopolist: some consumers who would have purchased the monopoly good but have a low willingness to pay for the tied good will forgo buying either if there is a tie. Consequently, if a tie is observed, it cannot be for market power reasons but instead has an efficiency rationale or is necessary to implement price discrimination.

Price discrimination. When consumers have heterogeneous demands, a considerable complicating factor in the analysis of tying and bundling is that the rationale for their adoption by a firm with market power may not be to create or maintain its market power but instead to enhance its effectiveness through price discrimination. Tying and bundling can be effective means for a firm with market power to implement price discrimination and extract more surplus from consumers.

In the case of complements, tying can be used as a means to meter consumption when a monopolist's primary good uses a complementary good to produce services for consumers, when high-value users use more of the product complementary to the monopolist's product.⁹⁶ Tying allows the monopolist to become the sole supplier of the complementary product, and the monopolist will find it profitable to charge a markup over the competitive price in order to extract more surplus from the high-intensity users.

Even when the two goods are independent and demand for the monopoly product varies with its price, requirements tying can be used to extract more surplus from the monopoly product than can be extracted under monopoly pricing.⁹⁷ Under requirements contracting, consumers are willing to forgo surplus from consuming the competitively supplied good in order to continue to enjoy surplus from the monopolist's product. As a result, the monopolist can raise the price of the product in which it faces competition if it

96. See Aaron Director & Edward H. Levi, *Law and the Future: Trade Regulation*, 51 NW. U. L. REV. 281, 290-92 (1956); Ward S. Bowman, Jr., *Tying Arrangements and the Leverage Problem*, 67 YALE L.J. 19, 23-24 (1957); Meyer L. Burnstein, *A Theory of Full-Line Forcing*, 55 NW. U. L. REV. 62, 64-73 (1960). A modern treatment is found in JEAN TIROLE, *THE THEORY OF INDUSTRIAL ORGANIZATION* 142-48 (1988).

97. In the metering case, it is assumed that each consumer requires only one unit of the monopoly product. On requirements tying, see Meyer L. Burnstein, *The Economics of Tie-in Sales*, 42 REV. ECON. & STAT. 68 (1960); Michael L. Katz, *Vertical Contractual Relations*, in 1 HANDBOOK OF INDUSTRIAL ORGANIZATION 655 (R. Schmalensee & R. Willig eds., 1989); Frank Mathewson & Ralph A. Winter, *Tying as a Response to Demand Uncertainty*, 28 RAND J. ECON. 566 (1997).

implements a tie. Consumers will only substitute away from the requirements tie when their surplus under it is less than just purchasing the tied good at competitive prices and forgoing consumption of the monopoly tying good, that is, when the lost surplus from the increase in price of the competitive good becomes greater than the surplus from the monopoly product.

Bundling is a means to reduce demand heterogeneity across goods. This can be profitable for the monopolist if selling bundles then allows the monopolist to extract more surplus than it can when it prices the goods separately (but optimally).⁹⁸ In the absence of bundling, the profit-maximizing prices for two goods is often a function of those consumers with the lowest willingness to pay. If the monopolist can bundle, then demand will reflect average willingness to pay across the goods, allowing the monopolist to charge a bundle price that implies higher individual prices for the goods in the bundle. By doing so, the monopolist is able to extract surplus from consumption of the good from those with a higher willingness to pay without forgoing sales to those with a lower willingness to pay for that good.

4.2. *Efficiencies*

In the case of complements, an important pricing efficiency—the Cournot effect—was identified in the previous section. This section briefly considers other efficiencies associated with contingent sales and conglomerate mergers in general.

Efficiency rationales for tying/bundling. In the context of bundling of complements into systems, rather than allow consumers the choice of assembling compatible components, it might be more efficient for firms to assemble systems. Lower cost assembly by a firm can arise due to advantages in expertise, knowledge, and skill that the firm has relative to most consumers, as well as economies of scale. In many, if not most, instances firms have the requisite expertise to assemble the system, the knowledge of which components should be combined, and the ability to do so at lower cost than consumers.

Moreover, there may be economies of scale, scope, and learning in production and distribution that make it efficient for a firm to bundle a number of products together. Indeed, the fixed costs of introducing an unbundled option for consumers so that they can design their own product from the ground up may not be justified by the benefits. Evans, Padilla, and Salinger emphasize how fixed costs associated with a product offering results in bundling/tying that limits the ability of consumers to assemble their own systems.⁹⁹ The existence of such fixed costs means that even in competitive markets there will be restrictions on product offerings. The two examples they use to illustrate the argument are the inclusion of bread with most meals at a restaurant and the

98. See George J. Stigler, *United States v. Loew's Inc.: A Note on Block Booking*, 1 SUP. CT. REV. 152 (1968); R. Preston McAfee, John McMillan & Michael D. Whinston, *Multiproduct Monopoly, Commodity Bundling, and Correlation of Values*, 114 Q.J. ECON. 371 (1989).

99. See David S. Evans, A. Jorge Padilla & Michael A. Salinger, *A Pragmatic Approach to Identifying and Analysing Legitimate Tying Cases*, in EUROPEAN COMPETITION LAW ANNUAL 2003: WHAT IS AN ABUSE OF DOMINANT POSITION? (Claus Dieter Ehlermann & Isabela Atanasiu eds., 2006).

inability to custom design a newspaper so that subscribers only receive and pay for the sections they want.¹⁰⁰

Another important efficiency justification for tying is quality assurance.¹⁰¹ Joint provision of the components that make up a system avoids disputes and disagreements over which component is to blame when the system does not function—at all, or below its capabilities. Joint provision ensures that firms are able to develop and maintain reputations for quality. Moreover, joint provision may be a mechanism that allows a firm to signal that its system is high quality.¹⁰² It can offer one component (typically the one that is more durable) at a low price to signal high quality, since the only way it will be able to recoup its initial losses on the durable component is through its sales and margins on other components, sales which will only be realized if quality is high.

Tying and bundling may also internalize externalities that promote investment in research and development.¹⁰³ In the absence of tying and bundling, commercially sensitive information can be “leaked” to competitors through common suppliers of complementary products. Moreover, since producers of complementary products gain from increased quality of all complements, there is also a positive externality from quality improvement and research and development that is not internalized in the absence of bundling and tying. Bundling and tying internalize both externalities and hence promote innovation.

Efficiency benefits of conglomerate mergers. A large number of other efficiency benefits are possible as a result of a conglomerate merger. These include realization of economies of scope in production, distribution, marketing, research and development; and transfer of technical knowledge, managerial systems, and aptitude. Conglomerate mergers also facilitate the efficiency of the market for corporate control.¹⁰⁴

5. Anticompetitive tying

Tying can be used to enhance market power, and a conglomerate merger that provides the opportunity and incentive to engage in anticompetitive tying can be of concern in antitrust merger analysis. There are two classes of theories under which tying is exclusionary and can harm consumer welfare.¹⁰⁵ They differ in the identity of the market in which the anticompetitive effect occurs. In the first class, the anticompetitive effect is found only or primarily in the market for the tied good market

100. The fact that the Internet may make it possible to custom design an electronic version of a newspaper, because it lowers the cost of doing so, underlies their point.

101. For a modern treatment, see Benjamin Klein & Lester F. Saft, *The Law and Economics of Franchise Tying Contracts*, 28 J.L. & ECON. 345 (1985).

102. See Marius Schwartz & Gregory J. Werden, *A Quality-Signaling Rationale for Aftermarket Tying*, 64 ANTITRUST L.J. 387 (1996).

103. See SIMON BISHOP, ANDREA LOFARO, FRANCESCO ROSATI & JULIET YOUNG, THE EFFICIENCY-ENHANCING EFFECTS OF NON-HORIZONTAL MERGERS §§ 4.4.2-4.4.3 (European Commission, Enterprise and Industry Directorate-General, 2005), available at http://ec.europa.eu/comm/competition/mergers/studies_reports/studies_reports.html.

104. For discussion of efficiencies from conglomerate mergers, see *id.* and BORK, *supra* note 1, at 249-50.

105. Recall that behavior is exclusionary if it reduces the profits of a rival but need not lead to the exit of a rival.

(the secondary market), not the market for the tying good in which the conglomerate firm has a monopoly (the primary market). In the second class, the harm is in the tying good market. Tying models also differ in terms of how they are exclusionary. It is possible to distinguish three different exclusion mechanisms: (1) tying provides the conglomerate firm with an incentive to price more aggressively, and the aggressive pricing deprives rivals of profits; (2) tying forecloses demand for the products of rival firms; and (3) tying reduces the incentives for rivals to engage in research and development. The third possibility is not considered in detail here.¹⁰⁶ It is sufficient to observe that the incentives for research and development depend on expected profitability. If there is exclusion from either a reduction in prices or sales, the incentives for research and development will be negatively impacted. Over time, the reduction in research and development implies that the foreclosed firm might be gradually marginalized as it fails to keep pace with the conglomerate.

5.1. *Harm in the secondary market*

A necessary although not sufficient condition for tying to be anticompetitive is that it be exclusionary. The initial insight of modern tying analysis is the recognition that, in imperfectly competitive markets, tying has the potential to change the market structure and hence can be exclusionary. The Chicago School single monopoly profit critique does not apply if (1) there is imperfect competition in the tied product, and (2) tying affects the market structure in the tied good. The tied good can either be independent or a weak substitute for the tying good, or the two goods can be complements.

Tying independent goods or weak substitutes. In the case of a tie between independent products, tying commits the monopolist to price its independent product aggressively. In order to earn its profit on its monopoly good, the monopolist has to convince consumers to buy its tied product and it is willing to provide a cross-subsidy on every sale equal to the margin on its monopoly product.

A conglomerate firm will engage in tying as a vehicle to induce aggressive price competition and monopolize an independent tied good under the following circumstances: (1) it has monopoly power in the tying good, (2) there is a differentiated duopoly in the tied good, (3) there are economies of scale in the production of the tied good, (4) the monopolist's commitment to only offer the two goods under a tie is credible,¹⁰⁷ (5) tying will result in the exit of the independent producer or prevent its entry, and (6) tying is profitable.

For tying to be profitable, two things must be true: (1) its price-reducing effect in the event of competition must be sufficient to either induce the rival in the tied product to exit or not to enter, giving market power to the monopolist in the tied market; and (2) the

106. For a reasonably up-to-date survey of the literature, see CHURCH, *supra* note 10, § 4.2.4.

107. If the rival were to enter, the Chicago critique of leverage theory means that the profits of the monopolist would go up if they were to offer the two goods independently: tying reduces profits because some who might have purchased the monopoly good forgo it because they have a low willingness to pay for the tied good of the monopolist. A credible commitment means that the monopolist cannot undo the tie if there is entry.

extent of differentiation between the tied goods must be limited, ensuring that consumers do not make tying unprofitable even if it results in monopolization by substituting away from the monopolist's tied good (by forgoing the monopoly tying good). The profitability of tying will be greater if margins in the tied product are relatively high and the margins in the tying good relatively low.

The extent of harm to rival firms from tying depends on the extent to which there is a common pool of customers that purchase both products. Tying is more likely to be effective at reducing the profitability of the rival in the tied good market if there is considerable overlap between the users of the tying and the tied good. If there is a relatively large group of consumers that use the tied good but not the tying good, tying is not going to be a very effective means of reducing the viability of rival firms.

In his seminal 1990 article, Whinston focuses on the relationship between tying and the incentives for the conglomerate firm to price aggressively in the tying market: it is precisely the increase in price competition that is exclusionary.¹⁰⁸ The profit-maximizing condition for the conglomerate's supply of product B in the secondary market when it does not tie is

$$[p_1^{B^*} - c_1^B] \frac{\partial D_1^B(p_1^{B^*}, p_2^B)}{\partial p_1^B} + D_1^B(p_1^{B^*}, p_2^B) = 0 \quad (1)$$

where $D_1^B(p_1^B, p_2^B)$ is the demand function for product B supplied by the conglomerate, $p_1^{B^*}$ is the profit-maximizing price for the conglomerate firm (firm 1) in the nontying scenario, and p_2^B the price of the rival (firm 2) in the secondary market. The first term in Equation (1) is the loss in profits from marginal units that consumers do not purchase when the price increases. It is the product of the lost margin and the decrease in sales from an increase in price of the B product. The second term is the gain in profits from the increased revenues from inframarginal units that consumers continue to purchase at the higher price. At the profit-maximizing price, these two terms have to be of equal magnitude and opposite sign.

If the conglomerate firm ties product B to its monopoly product A, the profit-maximizing price for its bundle is defined by

$$[P - c_1^B - c_1^A] \frac{\partial \text{Bundle}(P, p_2^B)}{\partial P} + \text{Bundle}(P, p_2^B) = 0 \quad (2)$$

where $\text{Bundle}(P, p_2^B)$ is the demand function for the bundle offered by the conglomerate and P the profit-maximizing price for the bundle. Whinston's analysis of the pricing incentives involves identifying when the first term in Equation (2) will be greater (in absolute value) than the first term in Equation (1). Define p_1^A as the monopoly price of the tying good (A) in the absence of tying. Then the price for the bundle that would replicate the prices charged by the conglomerate without bundling, what we will call the equivalent price, is $\bar{P} = p_1^A + p_1^{B^*}$. Evaluating the left-hand side of Equation (2) at \bar{P} yields

108. Michael D. Whinston, *Tying, Foreclosure, and Exclusion*, 80 AM. ECON. REV. 837 (1990).

$$[p_1^A + p_1^B - c_1^B - c_1^A] \frac{\partial \text{Bundle}(p_1^A + p_1^B, p_2^B)}{\partial P} + \text{Bundle}(p_1^A + p_1^B, p_2^B) \quad (3)$$

Equation (3) gives the change in the conglomerate firm's profit from increasing the price of its bundle, evaluated at the equivalent price. Whinston observed that if the margin on the tying good is positive ($p_1^{A^*} - c_1^A > 0$), then the loss on marginal units will be greater under tying than when the conglomerate provides good B without tying. If nothing else changed between Equations (3) and (1), that is, if

$$\frac{\partial \text{Bundle}(p_1^A + p_1^B, p_2^B)}{\partial P} = \frac{\partial D_1^B(p_1^B, p_2^B)}{\partial p_1^B} \text{ and } D_1^B(p_1^B, p_2^B) = \text{Bundle}(p_1^A + p_1^B, p_2^B)$$

then the conglomerate firm will lower the price of its bundle below $\widehat{P} = p_1^A + p_1^B$ since the first term in Equation (3) will be larger (in absolute value) than the corresponding term in Equation (1). This means that under these conditions the profit-maximizing price of the bundle will be less than the equivalent price. As a result, the effective price charged to consumers for the conglomerate firm's B good has been reduced. If P^* is the profit-maximizing bundle price, then

$$P^* = p_1^A + p_1^B < \widehat{P} = p_1^A + p_1^B$$

or

$$p_1^B < p_1^{B^*}$$

However, if (1) there is a large number of consumers with a willingness to pay for the tying good less than its marginal cost, and (2) the absolute value of the price responsiveness of demand for the bundle is significantly smaller than the absolute value of the price responsiveness of demand for the tied good when sold without the tie, then the absolute value of the first term in Equation (3) will be smaller than in Equation (1), so that bundling would result in smaller marginal losses, giving the conglomerate an incentive to increase the effective price of its product B.

To summarize, for there to be a price effect and tying to lead to an increase in price competition, the first term in Equation (3) has to be larger (in absolute value) than in Equation (1). This will be the case if (1) there is not a large number of consumers with a willingness to pay for the tying good less than its marginal cost, and (2) the absolute value of the price responsiveness of demand for the bundle is not significantly smaller than the absolute value of the price responsiveness of demand for the tied good when sold without the tie. The first requirement ensures that the margin under tying is greater than the margin for the tied good alone. The larger the margin on the tying good, the more effective tying is at lowering the price of the complement. The second requirement ensures that the decrease in volume from increasing price does not go down when the conglomerate bundles. If the quantity sold decreased enough to overcome the increase in margin, then the conglomerate firm would have an incentive to *increase* its price of the bundle above the equivalent price (and hence of the effective price of its B product) even though its margin has increased.

Tying also can be exclusionary if it forecloses demand for the rival's good. A demand effect exists if, at the prebundle equivalent prices, there is a reduction in demand for the rival in the tied good market and an increase in demand for the tied good of the conglomerate firm. If there is a demand effect, then

$$D_2^B(p_1^{B^*}, p_2^B) > D_2^B(\hat{P} - p_1^{A^*}, p_2^B)$$

and

$$Bundle(\hat{P}, p_2^B) > D_1^B(p_1^{B^*}, p_2^B)$$

where $D_2^B(p_1^B, p_2^B)$ is the demand function for the tied good provided by the rival. Intuitively, a demand effect arises if the tie reduces consumers' willingness to pay for the duopoly good from the rival. Such a demand effect might be expected since, when consumers buy the bundle from the conglomerate to get a unit of the monopoly good, they also get a unit of the duopoly good.

If there is a demand effect, then the second term in Equation (3) will be greater than the second term in Equation (1). This provides the conglomerate with an incentive to raise the price of its bundle above $\hat{P} = p_1^{A^*} + p_1^{B^*}$ since the firm's gain on inframarginal units will be greater. If the increase in the second term is greater than (any) increase in absolute value of the first term in Equation (3), then tying means the effective price of the tied good will increase. In summary, if the demand effect is large enough, then bundling is profitable and potentially exclusionary even though the conglomerate firm's effective price for the tied good rises.

In general, the effect of tying on the pricing incentives for the tying firm in the tied good market is indeterminate. The pricing effect suggests the firm should price more aggressively, while the demand effect indicates less aggressive pricing. The demand effect, however, implies that its rival will price more aggressively since the rival's inframarginal sales will be less. It is likely therefore that tying is almost always exclusionary for the rival when there is a demand effect: it will lead to lower prices and demand for the rival, both of which reduce the profits of the rival.¹⁰⁹ When demand for the tied good is homogeneous, all consumers have the same willingness to pay, and demand for it is unitary, then there is not a demand effect and the price responsiveness of demand to the bundle is the same as the price responsiveness of the tied good to price. The only effect of tying is the incentive to lower price from a positive margin on the tying good.

The incentive for the conglomerate to tie depends on the effect on its profits. When the demand effect is small relative to the pricing effect, then tying will only be profitable if it results in the exit or entry deterrence of the rival in the tied good market. When the

109. The potential for the rival to gain from tying when there is a demand effect might occur if the foreclosure effect of tying from the demand effect is small, but the pricing effect is also small, so that the conglomerate charges a higher price and in equilibrium, so too does the rival, with the price increase of the rival more than enough to make up for its loss in sales. Whinston provides an example with heterogeneous valuations for the tying good in which the rival's profits increase under tying: he notes that it requires high levels of dispersion of valuations for the tying good and low levels of differentiation in the tied good. *See id.*

demand effect is large relative to the pricing effect, tying will be profitable even if it does not lead to the exit or deters the entry of the rival in the tied good market. If the demand effect is sufficiently large, then tying will lead to greater sales and a higher price for the conglomerate.

When tying leads to the exit or deterrence of the rival producer of a differentiated independent good, consumers are likely harmed by the monopolization of the tied good. Monopolization results in a reduction in product variety and, likely, higher prices.¹¹⁰ Moreover, to the extent that sales of the tying good are reduced by substitution away from the tied good, consumer welfare is reduced.

When consumers' valuations of the tying good are heterogeneous and the tied good independent, tying can still be profitable even if it does not result in the exit or deterrence of the rival in the tied good market. This will likely be the case when the implicit price of the tying good of the conglomerate rises. It also seems likely that in this case the welfare of consumers falls: prices are higher in the tied good market, leading some consumers to substitute the conglomerate's tied good for that of the rival and some consumers to forgo the tied good altogether.

Tying may also be exclusionary even if the monopolist cannot commit to tie *if* consumers' valuations are heterogeneous. In these circumstances, Whinston has shown that the monopolist may find it profitable to bundle the two goods and also offer the monopoly good separately regardless of whether it is exclusionary.¹¹¹ Instead, the monopoly good is priced separately such that those with a high willingness to pay—but who prefer the tied good offered by the rival—will still buy the monopoly good. However, for those with a low willingness to pay for the monopoly good, the effect of tying is exclusionary, reducing the rival's sales and profits for the same reasons discussed above that apply to the case when the monopolist can commit to the tie (i.e., only offers its monopoly good as part of the tie).

Complements. A monopolist has an incentive to tie its monopoly product to a complement when there is some demand for the complement based on a use that does not require the monopoly product. In this situation, the monopolist cannot extract all of the surplus created by competing complements through its price of the monopoly product. If the market for the use of the complement independent of the monopoly product is large and tying by the monopolist is sufficient to make the competing complement supplier unprofitable, then tying can be profitable because it results in monopolization of the independent use market. Tying forecloses the competing complement supplier from selling into the systems market (the market where the two goods are consumed together), and if economies of scale are such that the sales into the independent market are too small to sustain the competing complement supplier, it will either exit or not enter.

In these circumstances, tying can be profitable if the gain in the secondary market exceeds the loss in the primary market. The gain in the tied market arises from

110. It is possible that to maintain sales of the tying good, firm 1 could reduce the (implicit) price of the tied good, in which case consumers that favor it would gain under monopolization. This is likely inconsistent with foreclosure being profitable.

111. See Whinston, *supra* note 108.

monopolizing the sales for the alternative uses. The loss in the tying good market arises if some consumers substitute away from the system and tying good because of an aversion to the conglomerate's tied complement. Consumers are harmed by the monopolization of the tied good since prices rise and variety is reduced.

5.2. *Harm in the primary market*

There are two situations under which a monopolist ties a complement to its monopoly good in order to maintain or enhance its market power in the primary market. Whinston considers when tying complements enhance the monopolist's market power in the primary market.¹¹² Carlton and Waldman consider when tying to a complement prevents entry into the monopolist's primary market, thereby maintaining its market power.¹¹³

A monopolist may have an incentive to tie its monopoly good to a complement to reduce competition in its primary market when there is an inferior substitute for its (near) monopoly good.¹¹⁴ The presence of this substitute puts a limit on the surplus it can extract by raising the price of its "monopoly" product in the absence of tying. Hence, the monopolist may have an incentive to tie its monopoly product and complement: doing so provides it with an incentive to lower the price of its complement since the only way to earn its monopoly margin is to convince consumers to buy its pair of goods, or system, not the rival system. If there are fixed costs associated with the production of the complement, then the increase in price competition for it and loss of market share to the monopolist might induce the rival producer of the complement to exit the market. As a result, of course, the inferior system ceases to exist and the inferior substitute for the monopoly good is also excluded.

Tying to monopolize a complement and reduce competition in the primary market is applicable under the following conditions: (1) there is a dominant firm in the tying good market with market power restricted by the presence of inferior substitutes; (2) there is a differentiated duopoly in the complementary (tied) product; (3) there are economies of scale in the tied product; (4) the threat to only offer the two goods under a tie is credible; (5) tying will result in the exit of the independent tied-good producer or prevent its entry, therefore also inducing the exit of the inferior competitor in the tying good market; and (6) tying is profitable. The profitability of tying complements in these circumstances depends on whether the rival system is in fact excluded and whether the gain from removing the limit on the price of the monopoly good makes up for lost sales as some consumers who dislike the monopolist's complementary product leave the market for the monopoly product. It will be profitable if the constraint on pricing by the inferior alternative is significant (that is, they are close substitutes), and the differentiation in the complementary products limited, so that the exodus from the market due to tying is limited. The extent to which tying reduces the price of the tied complementary product depends on the margin for the tied product and the willingness

112. *Id.*

113. Dennis W. Carlton & Michael Waldman, *The Strategic Use of Tying to Preserve and Create Market Power in Evolving Industries*, 33 RAND J. ECON. 194 (2002).

114. See Whinston, *supra* note 108.

of the consumers of the competing complementary product to substitute away from it as the price of the tied good changes. The larger either of these becomes, the greater the incentive the monopolist has to lower its price when it ties. When tying results in the exclusion of a competing, albeit inferior system, the effect on consumers is negative. Some consumers are now “forced” to purchase the conglomerate firm’s tied good instead of the rival’s product and consumers at the higher “implicit” price for the tied good may forgo consumption altogether.

Carlton and Waldman consider how a dominant firm might use tying of complementary products to deter future entry into its monopoly or primary market.¹¹⁵ They consider systems composed of two goods that are consumed in fixed proportions. In one variant, there are fixed costs associated with the introduction of both products. In the second variant, the fixed costs of introducing the complementary product are zero, but it exhibits direct network effects.¹¹⁶ The key assumption is that a rival system producer can enter into the complementary product today (with a product superior to that of the incumbent), but its entry into the primary good is delayed into the future.

When faced with the threat of entry into its primary market, the monopolist has an incentive to sell its two products as a bundle or system. This tie precludes sales of the complementary product offered by its rival today, and, because that reduces its profits, the tie may preclude the entrant from entering. For tying to be effective, it must be the case that the entrant is not able to recover the fixed costs of entry associated with simultaneously entering both markets in the future. Tying is necessary to deter entry if in its absence the rival would have found it profitable to enter today with the complement and introduce the primary good in the future. Tying is profitable for the incumbent when it deters entry and the loss in profits today from not sharing in the surplus created by the entrant’s superior complement—whose presence would allow the incumbent to charge a higher price for the primary good—is less than the monopoly profits it preserves in the future by deterring the entrant and not being replaced. Finally, the tie must be a commitment not to provide the primary good independently.

Tying is more likely to be profitable for the incumbent when the size of the market in the future is large relative to its size today, the superiority of the complementary product of the entrant relatively small, the surplus associated with the system large, and the discount factor close to one. Tying will be effective and is required to exclude entry of a competing system when the size of the market today is relatively large and/or the discount factor close to one (i.e., the entrant is patient). When the market size is large today, tying eliminates substantial profits for the entrant from entering the complementary product in the first period. When the discount factor is close to one, the profits from introducing the primary good in the second period are valuable, hence providing the entrant with an incentive to enter with its complementary good in the first period. If the market size today is relatively large and/or the discount factor close to

115. The analysis of Carlton and Waldman is similar to Whinston’s discussion of tying complements when there is an inferior alternative in the tying good market, but instead of eliminating an inferior rival in the primary market (the market in which the firm is a monopolist), the focus is on preserving that power by deterring entry.

116. A direct network effect exists if the benefit from a product is increasing in the number of consumers who purchase compatible or the same product. The classic example is a telephone exchange.

one, then the effectiveness of tying will also be increasing in the quality advantage of the entrant. Tying is also more likely the smaller the fixed costs of entering the primary product market. Consumers are harmed by the tie, since tying results in the continued monopolization of the system market by the conglomerate.

Carlton and Waldman also consider an extension in which there are no longer fixed costs associated with the complementary product, but it is instead characterized by a direct network externality: the greater the number of consumers who buy the same complementary product, the greater each consumer's benefit. Then, by tying in the first period, the monopolist is able to create an installed base of users for its complementary product in the second period. This serves to deter entry of the competing system since without sales in the first period, the introduction of a competing system by the entrant may not be profitable.

5.3. Implications of the tying models

The tying models indicate situations under which the conglomerate will have an incentive to engage in exclusionary tying. They indicate the factors that determine the profitability of tying: the conglomerate cannot be presumed to always tie if it has the opportunity postmerger. The tying literature makes clear as well that the effectiveness of tying depends on the ability of the firm to commit to tying. Technological ties imply a much greater ability to commit and may be difficult if the two goods are not complements. The difficulty with a contractual tie is that it requires the conglomerate firm to monitor the consumption of the tied good by the firm's customers. Moreover, the difficulty of maintaining the tie will arise when having identified a customer that is using its tying good, but not its tied good, the customer says that rather than use the conglomerate's tied product, it will instead discontinue or reduce its use of the tied good. In such circumstances, it will be difficult for the conglomerate to maintain the tie since it clearly will have incentives to maintain its sales of the tied good. This suggests tying of independent goods (or weak substitutes) should be less of a concern.

A shortcoming of the tying literature is that the theories do not provide for counterstrategies by a disadvantaged rival. They are therefore applicable to a setting where there is a dominant firm protected by entry barriers. These entry barriers not only preclude a countermerger—since there is not a second firm with which to merge—they also implicitly preclude a disadvantaged rival from entering the dominant firm's market. Implicitly these barriers to entry preclude a disadvantaged rival from replicating the structure of the merging firm and therefore ensuring that an asymmetric structure persists. For instance, in the case of complements with an inferior rival in the primary market (tying product), a tie will not be effective or profitable if entry into the tied good market is easy or it is relatively competitive, i.e., not a duopoly, but lots of suppliers.

6. Bundling

Two types of theories have been advanced under which bundling can harm consumer welfare. In the first type, bundling relaxes price competition between firms by introducing or increasing product differentiation. In the second type, bundling is

exclusionary in that it reduces demand and revenues for rivals and increases the market power of the bundling firm by changing the willingness of consumers to substitute.¹¹⁷

6.1. *Bundling as a mechanism to relax price competition*

The general result is that if a monopolist is able to commit to pure bundling—offering its monopoly good with a good that has substitutes—the monopolist is able to relax price competition. In theories of this type, bundling introduces product differentiation and segments the market which contains the product facing competition. Three such cases, all relying on the same mechanism, have been considered in the literature.

*Monopoly and duopoly.*¹¹⁸ Consider a multiproduct firm that produces one product in which it is a monopolist and a second homogeneous good in which it competes with another firm on price. In the absence of bundling, the price in the duopoly market (assuming Bertrand competition) is marginal cost. When the monopolist bundles, only those consumers with a willingness to pay for the two goods that exceed the bundle price will purchase the bundle. If the values consumers have for the two goods are perfectly correlated (as assumed), then only those with a high willingness to pay or high valuation buy the bundle from the monopolist. Those with intermediate valuations—that is, those who are willing to pay more for the duopoly good than the rival's price, but whose willingness to pay for the monopoly good is not greater than the price difference between the bundle and the price of the duopolist—will purchase from the competitor. Since the bundling strategy commits the bundling firm not to participate in the market for these intermediate valuation consumers, the lack of competition permits the rival to raise its price above marginal cost. This, in turn, gives the monopolist room to raise the price of its bundle above the sum of its monopoly price and the marginal cost of the duopoly good (i.e., the implicit price of the bundle when the goods are sold separately).

*Three products.*¹¹⁹ In this situation, there are three products, two of which are produced by separate monopolists, but both of which can produce the third product. In the absence of bundling, each monopolist charges the monopoly price for its monopoly good while (Bertrand) price competition between the two monopolists drives price in the common market down to their (common) marginal cost. If one of the monopolists bundles its monopoly good with the common good, the effect is to partition the market for the common commodity by type. Each firm would like to be able to credibly commit to act less aggressively in the market for the common commodity. Bundling can create this credible commitment, since the bundling firm has effectively raised its cost of competing for the third good: the cost of providing the bundle is greater than the cost of the third commodity by the marginal cost of the monopoly product it provides. Moreover, the strategic response by the other firm is to raise its prices for the third

117. Recall that behavior that reduces the profits of a rival is considered exclusionary even if it does not lead to the exit of a rival.

118. See Jose Carbajo, David De Meza & Daniel J. Seidman, *A Strategic Motivation for Commodity Bundling*, 38 J. INDUS. ECON. 283 (1990).

119. See Daniel J. Seidman, *Bundling as a Facilitating Device: A Reinterpretation of Leverage Theory*, 58 ECONOMICA 491 (1991).

commodity to monopoly levels for consumers who prefer its monopoly good and not to compete for sales of the third good to consumers of the opposite type.¹²⁰ Bundling will be profitable for the bundling firm if the extra surplus extracted from the higher bundle price exceeds the lost profits from some of its monopoly consumers who forgo its product because their surplus on the common commodity is low. Bundling under these circumstances partitions the market, leading to an increase in market power for both the bundling and nonbundling firms, increased prices for the common product, and a reduction in consumer and total surplus.

*Duopoly and competition.*¹²¹ Two firms are duopolists in one market but one of many competitors in a second market. Bundling can differentiate and segment the market when one of the duopolists offers a bundle. The effect of the bundle is to allocate those consumers in the duopoly market who also value the competitive product to the firm that bundles, and the consumers who do not like the competitive good are allocated to the firm that does not bundle. The result is to increase the market power of both firms, resulting in increased prices for consumers.

Despite the specificity of the assumptions in each of these three models, the intuition from them for conglomerate mergers is common and relatively straightforward. Each indicates that bundling, made possible by a conglomerate merger, has the potential to soften price competition when there is fairly aggressive premerger price competition in one market that can be relaxed if the conglomerate firm can bundle its products in a manner that segments this market.¹²²

6.2. Bundling as an exclusionary practice

The treatment of the exclusionary effect of bundling considers two sets of circumstances distinguished by the relationship between the goods included in the bundle. In the most general models, the two goods can be either complements, independent, or substitutes, but not perfect complements (i.e., products consumed in fixed proportions).¹²³ In the second set of models, the focus is on the exclusionary potential for bundling in systems markets. In systems markets, the goods are perfect complements: this means that any individual good only provides value to consumers if it is consumed as part of a complete system.

In Martin¹²⁴ and in Carbajo, De Meza, and Seidman¹²⁵ there are two differentiated products. A monopolist produces one good while it faces a competitor in the market for the second good. The decision to bundle in Martin and Carbajo, De Meza, and Seidman

120. The firm that does not bundle will not try to sell the third commodity to the customers of the bundling monopolist if the surplus (willingness to pay less marginal cost) on the monopoly good is sufficiently high since the price the nonbundling firm has to offer to induce these customers to forgo the surplus from the monopoly good in the bundle makes pursuit of these customers unprofitable.

121. See Yongmin Chen, *Equilibrium Product Bundling*, 70 J. BUS. 85 (1997).

122. See Neven, *supra* note 80, at 206.

123. This analysis, attributable to Stephen Martin, *Strategic and Welfare Implications of Bundling*, 62 ECON. LETTERS 371 (1999), is similar to Whinston, *supra* note 108, except that competition is Cournot and demand is not restricted to unit demands for the two goods.

124. Martin, *supra* note 123

125. Carbajo et al., *supra* note 118.

links the two markets by creating or enhancing substitution between the two firms. If the two goods are substitutes, the effect of bundling is to reduce the extent of product differentiation and the bundles are closer substitutes than the two products themselves. Even if the two products were complements or independent, the bundle of the monopolist and the product of its competitor will be substitutes.

By creating or enhancing substitution, the decision to bundle has two effects. The demand effect arises since bundling reduces demand of the monopolists' competitor in the duopoly market and increases the monopolist's demand in the same market.¹²⁶ Intuitively, the effect of the bundle is to reduce the willingness to pay of consumers for the duopoly good separately since when they buy a bundle to get a unit of the monopoly good, they also get a unit of the duopoly good. Moreover, there is a price effect, similar to that found by Whinston in his model, with the monopolist in product A having once again an additional incentive to produce more product B since the effect of bundling is to effectively reduce the costs of producing a unit of B by the margin earned on A. This provides the bundling firm with a competitive advantage in product B, giving the monopolist an incentive to increase its output, which results in equilibrium in a reduction in production by its competitor.

Relative to the situation when the two products are supplied separately, the effect of bundling is to reduce the output of the monopoly product, raise total output and the output in market B of the bundling firm, and reduce the output of the firm that only produces in market B. The profits of the bundling firm increase, while the profits of its rival in market B are reduced. The monopolist forgoes output in market A in order to increase its output and profits in market B.¹²⁷ Provided products are not relatively close substitutes, the effect of bundling is to reduce consumer welfare and total surplus. While profitable, bundling is inefficient and harms consumers.¹²⁸ The effect of bundling is to increase the quantity distortion in the monopoly market and reduce it in the duopoly market. Consumer welfare is harmed even though the price of product B falls since the benefit to consumers of this is less than the welfare loss associated with the increase in the price of product A. The exclusionary effect—manifest in the reduction in the rival's profits—is more pronounced the greater the extent to which the two products are complements. When the two products are complements and the monopolist does not bundle, increases in the monopoly output would increase the profitability and output of the rival firm. With bundling, however, increases in bundle production by the monopolist reduce the profitability and output of the rival firm.

126. The demand effect associated with bundling is the same as that defined in the case of tying. A demand effect exists if at the prebundle prices the demand for the rival's product is less with bundling than without bundling.

127. Bundling might not be profitable if the marginal cost of the duopoly good is relatively large compared to the marginal cost of the monopoly good. In this case, the expansion in the output of the duopoly good is too large, given its high marginal cost and the reduction in the monopoly good very costly, given its relatively low marginal cost. See Carbajo et al., *supra* note 118.

128. Martin's formal analysis deals with the situation when the two products are independent. Preliminary simulations indicate that his results—bundling firm's profits increase and consumers' welfare is reduced—are robust in the case of substitutes provided the two products are relatively differentiated. If the two goods are close substitutes, consumers gain from bundling. These simulation results are found in CHURCH, *supra* note 10, § 4.3.2.

6.3. *Bundling and systems*

A system is composed of compatible components. To simplify the discussion, assume that a functioning system requires a single unit of each component. In the models considered, the components are differentiated and the systems that consumers can assemble depend on whether the components of different firms are compatible. In the extreme case, the components of different firms are incompatible and firms compete over systems. In this case, a system corresponds to pure bundling on the part of the firm. The issue is whether a firm has an incentive to acquire at least one of every component so that it can sell a system, either by only offering a pure bundle or by mixed bundling. Assume for convenience that postmerger there are two “pure” competing systems: one provided by the conglomerate firm who because of the merger is able to provide one of each component, and the other provided by a group of firms that, collectively but independently, provide consumers with a competing system.

Consider the simplest case in which a system consists of two components and premerger there is duopoly supply of each component and the components are differentiated.¹²⁹ Premerger, there are four possible systems, while postmerger the number of systems depends on whether the conglomerate firm engages in pure or mixed bundling. The merged firm engages in pure bundling when its components are incompatible with those of its rival. In this case, postmerger, there are only two systems since the merged firm’s pure bundling strategy denies the use of its components in systems that “mix and match” the components from different producers. On the other hand, when the merged firm engages in mixed bundling, its components can be used with those of its rivals and all four systems remain available postmerger.

When the merged firm engages in mixed bundling, it has an incentive to lower the price of its bundle (system) due to the Cournot effect. Moreover, the firm has an incentive to raise the price of its individual components since some of the consumers of the mix-and-match systems—which incorporate one of the merged firm’s components and a component from another firm—in the face of a higher price, will substitute to the merged firm’s bundled system. On the other hand, because of the increase in the price of the components provided by the merged firm and the decrease in price of the system provided as a bundle by the merged firm, the independent suppliers of components reduce their prices.

In equilibrium, the demand for the bundle and the demand for the outside system increase, while demand for the mix-and-match systems decreases, relative to the premerger equilibrium. The total demand for a component of the merged firm increases, while the demand for a component supplied independently falls, again relative to the premerger equilibrium. The profits of the merged firm increase, the profits of the independent suppliers fall. The increase in profits for the merged firm provides it with an incentive to merge and bundle.

The welfare effects depend on the extent to which systems are substitutes. If the systems are very close substitutes, it is likely that total surplus will fall. On the other hand, if the systems are not very close substitutes, then the effect of the merger and

129. The following is based on Jay Pil Choi, *Antitrust Analysis of Mergers with Bundling in Complementary Markets: Implications for Pricing, Innovation, and Compatibility Choice* (Michigan State University, NET Institute, Working Paper No. 03-02, Oct. 2003).

mixed bundling is to increase total surplus as the Cournot effect dominates. The ambiguity extends to the effects of bundling on the welfare of consumers. The price effects mean that some consumers will benefit—those who consume the pure systems including the bundled system of the merging firm—while others will lose. In particular, consumers of the mix-and-match systems in the absence of bundling will be made worse off from the increase in the price of the merged firm's individual components.

Pure bundling, whereby the merged firm is able to commit not to provide its two components independently, is much more exclusionary. In this case, only two systems are available. Unlike mixed bundling, pure bundling has both demand and price effects. When the merged firm is able to commit to only offer its two components as a bundle, the effect is to significantly reduce demand (at prebundling prices) for all four components since two of the systems are no longer available. Under pure bundling, the merged firm has an incentive to lower the price of its system for two reasons: (1) the demand effect means fewer inframarginal units, and (2) the Cournot effect. The effect of bundling is to make the demand for independent suppliers more inelastic, giving them an incentive to raise their prices.¹³⁰

Foreclosure through bundling enabled by a complementary products merger will be an equilibrium outcome if (1) bundling is profitable and (2) it is not met with retaliation.¹³¹ This is the case when the two systems are relatively homogeneous. Foreclosure—in this case through pure bundling—arises in equilibrium when it introduces asymmetries in demand postmerger that result in price increases for the merged firm. The price of the merged firm rises because of the change in the incentives of its rivals: when systems are undifferentiated, their demand becomes more inelastic under pure bundling by the conglomerate firm, which in turn induces rivals to raise their prices, which the conglomerate follows. Moreover, the internalization of the Cournot effect on the part of both firms when the systems are relatively undifferentiated leads to prices that make retaliation unprofitable: a countermerger does not restore the initial premerger equilibrium.

When the systems are relatively differentiated, mixed bundling is significantly more profitable than pure bundling for the merged firms. This is because the demand effect is very large when the systems are differentiated. Pure bundling, which precludes the mix-and-match systems, results in significant sales losses because the mix-and-match consumers do not substitute to the pure systems. When the systems become more homogeneous, the pure bundling strategy is more profitable than mixed bundling. The reason is that under mixed bundling the independent firms lower their prices, but under pure bundling they raise their prices, while at the same time the demand effect is mitigated since consumers will be more willing to substitute the pure systems for the mix-and-match systems no longer available.

When the systems are differentiated, the profits of the independent firms are significantly less under pure bundling compared to mixed bundling. Again, this is due

130. Any decrease in price by an unintegrated component supplier will result in a smaller increase in demand under pure bundling because of the absence of the mix-and-match systems.

131. Choi does not explicitly consider the possibilities of a countermerger. The discussion of countermergers follows CHURCH, *supra* note 10, § 4.3.3.

to the demand effect of the removal of the mix-and-match systems. When the systems are less differentiated the demand effect is reduced since consumers will substitute from the mix-and-match systems to the pure systems. Moreover, pure bundling results in higher prices when systems are less differentiated. Both factors mean that the profits of the independent firms are greater under pure bundling relative to mixed bundling when the systems are relatively undifferentiated.

Even when mixed bundling is more profitable than pure bundling, the merged firm might engage in pure bundling if it is much more effective at reducing the profits of the independent firms. Thus, pure bundling might be preferred to mixed bundling if it results in a change in market structure through the exit or deterrence of the independent suppliers.

The exclusionary effect of pure bundling in system cases due to the internalization of the Cournot effect has been confirmed when systems consist of more than two components¹³² or the extent of product differentiation across components differs.¹³³ In Denicolò,¹³⁴ there are two types of firms. The “generalist” firm (firm 1) produces both components that comprise the two-component system. It faces competition for each component from one of two specialist firms (firms 2 and 3). In Nalebuff,¹³⁵ systems can comprise more than two components. One firm is capable of providing all of the components that comprise a system, while the components of the other system are supplied individually by separate firms. The analysis in both cases focuses on the incentives for the multiproduct firm to bundle, that is, to make its components incompatible with competing components.

The issue in the Denicolò model is whether the conglomerate firm will bundle its two components as a system, making them incompatible with the components of its two rivals. Instead of component-by-component competition, the decision to bundle creates system-versus-system competition. In systems competition, the conglomerate firm has an advantage due to the Cournot effect: it can set the price for its system to maximize system profits, unlike the rival system where the specialist firms are interested in maximizing component profits, not system profits. The Cournot effect provides the conglomerate firm with an incentive to price its components more aggressively. At the same time, because the decision by the conglomerate firm to bundle expands the extent of product differentiation, the price of the competing system increases. Whether the conglomerate firm finds it profitable to bundle depends on the extent of differentiation between its components and its rivals. If the components are sufficiently differentiated, it will not engage in pure bundling since the Cournot effect dominates. On the other hand, if the components are relatively close substitutes, the conglomerate firm will bundle in order to increase the extent of differentiation.

132. Barry Nalebuff, *Competing Against Bundles*, in INCENTIVES, ORGANIZATION, AND PUBLIC ECONOMICS 323 (Peter Hammond & Gaerth Myles eds., 2000).

133. Vincenzo Denicolò, *Compatibility and Bundling with Generalist and Specialist Firms*, 48 J. INDUS. ECON. 177 (2000). The specification of demand in the Nalebuff and Denicolò models assumes that consumers have indivisible demands for each component. Hence, there is not a demand effect but only a price effect.

134. *Id.*

135. See Nalebuff, *supra* note 132.

Bundling reduces the profits of the independent component producer whose component is more differentiated since the increase in product differentiation leads its partner to increase the price of its component. If its fixed costs are sufficiently large and avoidable, this will either deter its entry or induce its exit. In either of these cases, the other component producer will also be induced to exit or not enter since its component is useless except as part of a system. Moreover, because of the Cournot effect the two nonintegrated firms will not find it profitable to engage in a countermerger and coordinate pricing. The profits of the two specialist firms are always greater when they are provided separately and compete against the system of the generalist firm than if they coordinate pricing and there is system competition. The reason is clear: when provided separately, a lower price benefits the other component provider of the system and hence when they are supplied separately the incentive to reduce prices is reduced.

Bundling by the conglomerate is inefficient and harms consumers: consumer welfare is maximized when there is compatibility, as consumers are able to buy a system that more closely matches their preferences. When the conglomerate firm bundles, it induces some consumers to purchase from it who prefer (under no bundling) the competing system.

In Nalebuff,¹³⁶ consumers assemble systems comprised of n components. Each component is differentiated and supplied by a duopoly. When the n components are supplied separately, price competition between the two suppliers of each component results in a symmetric equilibrium where each of the two differentiated brands for each component share the market equally. Suppose, however, that firm 1 acquires one of each component type through merger and offers them as a pure bundle, so that its components can only be acquired by purchasing all of its components together as a system. The Cournot effect means that the new conglomerate firm internalizes the pricing externality between its components, providing it with an incentive to implicitly price each more aggressively, leading to a lower system price.

The pricing behavior of the independent component suppliers of the competing system is also affected by the decision by the conglomerate firm to bundle. The decrease in the price of the bundled system in the first instance reduces the sales of the unbundled components, providing them with an incentive to lower their prices in response. This is mitigated, however, by the fact that bundling by the conglomerate firm also decreases the elasticity of demand of the unbundled components. Bundling, by eliminating the mix-and-match systems, reduces the increase in sales of an individual component supplier from a reduction in its price. Moreover, the effect of bundling on the elasticity of the individual component suppliers is increasing in the number of components bundled. That is, the more components in a system, the more the elasticity of demand for the individually supplied components decreases when the conglomerate firm bundles. This is because the number of mix-and-match systems that are eliminated by bundling by the conglomerate firm increases as the number of components in a system rises. As a result, the price reduction of the individual component suppliers in equilibrium will be less as the number of components increases. Indeed, it is possible

136. *Id.*

that if the effect on the demand elasticity of the individual components is large enough, that the price of the individual components will rise in the bundling equilibrium.

For all values of n , the effect of bundling is to reduce the profits and market share of the independent component suppliers. The exclusionary effect—the decrease in the market share and profits of the unbundled components from bundling—increases as the number of components increase. The advantage of the Cournot effect increases with the number of components, widening the difference in price between the bundled system and the rival system as n increases.

The profitability of bundling for the conglomerate firm depends on the number of components. When there are only two or three components, the Cournot effect and the price response of the individual component suppliers is sufficiently severe that bundling is unprofitable unless it results in a change in market structure. Such a change would occur and the conglomerate firm would become a monopolist if the (gross) profits of the individual component suppliers are reduced below their fixed costs. However, when the number of components is greater than three, bundling is profitable even without inducing a change in market structure.

Bundling in the Nalebuff model results in a reduction in total surplus and consumer welfare. The optimal industry structure is competition between components because then consumers will have the most choice between systems. System competition between a bundled system and a system with independently supplied components reduces choice of systems and, due to price asymmetries, induces some consumers to adopt a less preferred system.

6.4. Bundling with system competition: The Cournot effect

In a merger of complementary good suppliers, two arguments are often made that suggest such mergers should not raise antitrust concern. The first is that the Cournot effect means that the conglomerate will have an incentive to lower prices, and hence the transaction should be beneficial for consumers. The second is that if disadvantaged rivals can engage in a countermerger, they can match the behavior of the conglomerate, avoiding any exclusionary effect and thus mitigating any antitrust concern.

The analysis above shows that looking only at the change in the pricing incentives of the conglomerate to predict the welfare effects of the merger is inadequate. The equilibrium effect can be very different. Bundling can be profitable for the conglomerate even if it does not induce exit or deter the entry of rivals. Bundling can be profitable even without this effect on market structure because it leads to an increase in demand for the conglomerate and a decrease in the elasticity of demand for rivals, both of which mean it is profitable for the conglomerate to raise its price.

In all three bundling models discussed in this section, a countermerger is effective in restoring market share for the unbundled system and reversing the demand effect of the original transaction. However, a countermerger by the unbundled suppliers is not profitable because of the Cournot effect. A countermerger creates competition between two rival systems, with each internalizing the Cournot effect, and the resulting increase in price competition makes it less profitable than being foreclosed.

Both of these considerations are confirmed in the next section, where equilibrium foreclosure models are considered. In an equilibrium foreclosure model, the incentive for the acquisition by the conglomerate and the incentive for a countermerger are both considered explicitly.

7. Equilibrium foreclosure models: Direct foreclosure of complements

If consumers value variety, then a variety differential—where one firm has a broader product range than another—raises the demand for that firm and in doing so reduces the demand and revenues of its rivals. A conglomerate firm could end up with a variety advantage if postmerger it pursues a foreclosure strategy. Foreclosure here means not supplying a rival with access to the complements controlled by the conglomerate firm. In such a situation, if consumers value variety, then the variety advantage can provide the conglomerate firm with market power or lead to monopolization.

Two situations have been considered in which a firm has a competitive advantage when it has a larger range (or portfolio) of products than its rivals. In the first situation, analyzed by Church and Gandal,¹³⁷ consumption is of systems of complements. These systems consist of two components that are combined to provide consumption benefits; on their own the components provide zero or very little value. In the systems of interest, one component (hardware) can be combined with many different varieties of the second component (software) to produce benefits. A key attribute of hardware-software systems is that consumers' willingness to pay for a hardware technology increases as the variety of compatible software increases. In such a market, foreclosure could arise, if after a merger between a hardware firm and a software firm, the integrated firm ceased to supply compatible software for rival hardware technologies or systems, giving it a variety advantage. This advantage creates market power for the integrating and foreclosing firm in the market for hardware. If the variety advantage is of sufficient magnitude, it can result in monopolization of the hardware component.

In the second situation, analyzed by Ma,¹³⁸ consumers sign up with service providers before their preferences are known over a group of substitutes. After selecting a service provider, the uncertainty is resolved. The service provider with the widest variety of products will have a variety advantage in these circumstances since it is more likely that they will have a better match between available products and preferences once they are known. This raises the possibility that an integrated firm may decide not to make its products available to other service providers. In the Ma model, products are complements *ex ante* but substitutes *ex post* (that is, after uncertainty over preferences is resolved).

Both the Ma and the Church and Gandal models are equilibrium foreclosure models. That means that the merger and foreclosure decision are endogenous and that foreclosed rivals have the opportunity to countermerge, thereby potentially undoing the

137. Jeffrey Church & Neil Gandal, *Systems Competition, Vertical Mergers and Foreclosure*, 9J. ECON. & MGMT. STRATEGY 25 (2000).

138. Ching-to Albert Ma, *Option Contracts and Vertical Foreclosure*, 6J. ECON. & MGMT. STRATEGY 725 (1997).

disadvantage associated with being foreclosed. Even so, in both, foreclosure can arise in equilibrium. In Church and Gandal, foreclosure is inefficient and harms consumer welfare. In Ma, the effect of foreclosure on consumer welfare depends on how the upstream prices of nonintegrated firms change in response to a merger.

The insights of these two models on the value of a variety advantage likely apply to other settings where there is a fixed cost associated with providing (or obtaining) service and consumers value variety. In particular, they point out the importance of counterstrategies, especially whether the foreclosed firm can also merge and foreclose with a complement supplier and/or whether barriers to entry into the complementary products are sufficient that a rival cannot introduce its own set of complements.

7.1. Portfolio power: Indirect network effects

Church and Gandal show that unilateral foreclosure, where one hardware firm merges with a software firm and forecloses software supply to its rival, can arise when it creates market power in the hardware market and there is not a countermerger. Foreclosure involves a trade-off between lost software profits—from lost sales to the other system—in exchange for increased hardware sales and profits. A countermerger, however, in response, makes unilateral foreclosure unprofitable. Church and Gandal find that foreclosure arises when either hardware or software is relatively undifferentiated. When hardware and software are differentiated, foreclosure results in retaliation that is profitable or is unprofitable.

An integrated system that forecloses software access by its rival (who does not foreclose) will be more attractive to consumers than the rival's system, all other things being equal. Demand for the integrated system will expand and the demand for the rival's system will contract because the integrated system has a software variety advantage. This demand effect has a direct effect on market share, but it also has an indirect effect through its effect on hardware pricing. The demand effect increases the number of inframarginal consumers for the foreclosing firm and reduces it for the foreclosed firm. As a result, the foreclosing firm has an incentive to increase its price, and the foreclosed firm an incentive to reduce its prices.

Differences in the pattern of ownership imply different incentives to internalize pricing externalities. In particular, an integrated firm may have an incentive to price its hardware lower to promote hardware adoption and software sales. This incentive exists most notably when a hardware firm has integrated and foreclosed, so that the only way it can sell software is if it first sells a consumer its compatible hardware. However, the incentive also exists when an integrated firm that has not foreclosed faces an integrated firm that has foreclosed. In this situation, the integrated, nonforeclosing firm is a monopolist in software on its system but a duopolist on the foreclosing system. The differential in software prices and profits provides it with an incentive to lower its hardware price to extend the software market in which it is a monopolist.

Retaliation by the foreclosed firm does not restore the ex ante situation. It leads to lower hardware prices for the retaliating firm and in the case of foreclosure, both lower hardware profits and lost software profits. The most profitable counterstrategy is not to foreclose but instead simply to integrate and use the pricing effect to restore hardware

market share without forgoing software profits on the other system. Retaliation, in any form, makes foreclosure by the conglomerate unprofitable.

Church and Gandal find that there are two sets of circumstances when the equilibrium to the game is characterized by unilateral foreclosure. In an interior foreclosure equilibrium, foreclosure does not result in monopolization and both systems have positive market shares. An interior foreclosure equilibrium happens when hardware is very differentiated and the marginal value of software is small. In these circumstances, both the price of the foreclosing firm's hardware and its market share increase, leading to greater hardware market power and profits. The low marginal value of software implies low duopoly software prices, and hence the cost associated from foreclosure is minimized. Moreover, retaliation by only integrating is not profitable for the foreclosed system: since hardware is sufficiently differentiated, recovering hardware sales through lower prices is not very effective and the extent of the hardware differentiation limits the size of the demand effect, reducing the impact on the rival of foreclosure.

Foreclosure leading to monopolization occurs in very different circumstances. It occurs when hardware is not very differentiated and the rival cannot restore market share simply by integrating since the demand effect is too large do to the software variety advantage. Because foreclosure leads to monopolization in the absence of retaliation, the conglomerate firm does not forgo any software profits. The incentive to foreclose depends on what happens to hardware profits. For sufficiently low levels of product differentiation, not only does hardware market share double, so does the price of hardware, and foreclosure is clearly profitable. As the marginal value of software increases, the profits of retaliation decrease since in the bilateral foreclosure case both firms are willing to compete very aggressively to sell software, allowing for the extent of hardware differentiation to increase and still maintain foreclosure as an equilibrium. However, as the marginal value of software continues to increase, eventually the profitability of foreclosing declines since it leads to lower hardware prices as the demand effect falls. In order for foreclosure to remain profitable, the extent of hardware differentiation must fall, allowing for a greater hardware quantity response from the demand effect.

Relative to the unintegrated structure, which is the equilibrium in all other cases, the unilateral foreclosure outcome is inefficient. The sources of the inefficiency are twofold: (1) in the monopoly case, some consumers adopt a less preferred system; and (2) in the duopoly case, not only do some consumers adopt a less preferred system, but those that remain with the foreclosed system consume less software. Interestingly, it is possible that consumers (in aggregate) are made better off in the monopoly case if the extent of hardware differentiation is sufficient that the hardware price of the foreclosed system is reduced by enough to compensate for consumption of the less preferred system.

A limitation on the welfare analysis of Church and Gandal is that the efficiency advantages associated with the Cournot effect are absent. Regardless of the equilibrium, they assume that there is full coverage, that is, that all consumers purchase one system. One might expect that the Cournot effect should lead to an expansion of the market, but there is no opportunity in their model for the integrated firm to expand the market and

attract new consumers, rather than convince its rival's consumers to switch systems by lowering the price of hardware. Instead, in the foreclosure equilibrium, the price of hardware typically rises, rather than falls, as predicted by a simple application of the Cournot effect. It is likely that if there was the possibility to attract marginal consumers into the market, then there would be a trade-off between the incentive to lower hardware prices to expand the market and the incentive to extract surplus from inframarginal consumers through higher hardware prices.

Foreclosure equilibria do not arise when both software and hardware are relatively differentiated since it is either not profitable or would invite retaliation. It is only when one of them is relatively differentiated and the other not that foreclosure is a concern. When hardware is differentiated and software is not (so that the marginal value of additional software is low), then the outcome is an interior foreclosure equilibrium. When software is differentiated, but hardware is not, then the outcome is foreclosure and monopolization.

7.2. Portfolio power: Complements ex ante, substitutes ex post

Ma considers the competitive effect of vertical integration when downstream firms compete by bundling upstream products and entering into contracts with consumers under which consumers have the right to buy one of the products from the bundle.¹³⁹ In Ma's terminology, consumers select option contracts from the downstream firms. Consumers are willing to select option contracts because they are uncertain at the time they enter into the contracts which goods in the bundle they will prefer.

The justification for consumers entering into contracts prior to knowing their valuation of the goods in a bundle is due to the fixed costs of providing consumers with any products. These fixed costs of providing consumers access—or a connection—imply that there will not be a spot market in products that operates once valuations are revealed since that would require consumers to have a connection with all service providers. For instance, in cable television, consumers typically have access to only one cable distributor and cannot switch between multiple cable distributors that compete to provide television services at any instance. Instead, because of the fixed costs of connection, different providers of video programming compete by offering a range of programming and consumers make their selection on the basis of the range of potential programming and the cost of the connection.

Competition between service providers downstream is based on the expected value of their bundles. The value of a bundle depends on the prices and the variety of products offered. Assuming homogenous consumers, the downstream firm selected to provide service (by all consumers) is the firm that can offer the greatest expected surplus when it earns nonnegative profits. This provides an integrated firm with an incentive to foreclose its rival since that reduces the expected surplus of its rival's bundle and allows the integrated firm to charge a higher price and still monopolize the downstream market.

The foreclosed downstream firm could countermerge, putting it in a position to foreclose in retaliation and potentially restoring parity in the product offerings. However, Ma assumes that the expected value of one of the two products is greater. It

139. *See id.*

follows that in a bilateral foreclosure equilibrium, the integrated firm with the inferior product would not be able to price sufficiently low to ensure adoption without incurring losses. Consequently, the integrated firm with the inferior product will find it profitable to sell to its rival rather than be shut out at retail. Retaliation does not restore the ex ante situation, just as it does not in Church and Gandal.

Whether or not foreclosure occurs depends on its profitability. Ma shows that foreclosure is profitable if at the premerger prices it is more profitable for the superior upstream product provider to foreclose and integrate rather than supply both downstream firms. This is more likely to be true the more competitive the upstream market and the lower premerger markups upstream. If it is true that at premerger prices integration and foreclosure are profitable, then integration and foreclosure will likely be profitable since integration lowers the costs of the integrated firm by eliminating double marginalization and the price response by its upstream rival is unlikely to make integration unprofitable.

This section, together with the previous two sections, provides an overview of the economics of portfolio power. The economics of portfolio power indicates that a conglomerate merger that results in a firm posttransaction having a larger portfolio or product range may have the ability and incentive to engage in anticompetitive conduct. The next section considers the policy implications of this economic analysis. In particular, the key question for enforcement is how, and even whether, to identify transactions that might give rise to an anticompetitive effect because of portfolio power, especially since most such transactions will be procompetitive.

8. Optimal enforcement policy and the question of guidelines

The discussion of the evolution of conglomerate merger policy in the United States and Europe¹⁴⁰ provides an introduction to the difficulty of determining optimal enforcement policy for conglomerate mergers that increase portfolio power. This section, informed by the economics reviewed in the previous three sections, identifies some of the key considerations for enforcement policy.

8.1. Complications in the design of conglomerate merger enforcement policy

The antitrust economics of conglomerate mergers, and hence enforcement policy, is substantially more complicated than for horizontal mergers for four reasons.

First, conglomerate mergers often lead to lower prices if the merger brings the pricing of complements under common control, so that there is a Cournot effect. If there is market power in the sale of the two complements, then the Cournot effect will be a source of efficiency gains resulting from a conglomerate merger.

Second, any anticompetitive effect from a conglomerate merger must be indirect since the transaction itself does not eliminate a competitor. Instead, an anticompetitive effect can arise only if the competitive constraints imposed by competitors on the merged firm are relaxed by the transaction, thereby raising its market power. A well-

140. See *supra* Section 3.

founded antitrust challenge to a conglomerate merger must establish that the transaction increases or maintains market power and harms welfare. In a unilateral effects case, it is necessary to establish that the transaction makes the products of other producers less attractive as substitutes than they were premerger and that as a result there is a decrease in the integrated firm's elasticity of demand, an increase in its market power, and a negative effect on consumer welfare or efficiency. This might occur when the products of competitors postmerger have lower quality or higher prices, or when the foreclosure of competitors creates entry barriers or induces incumbent rivals to exit from the market.

Third, identifying when a conglomerate merger involving complements is anticompetitive can be difficult because the source of foreclosure is the same as the source of an efficiency gain: the Cournot effect. The net effect of a conglomerate merger—and hence whether it is anticompetitive—depends on whether foreclosure or efficiency dominates and so requires an integrated analysis of the transaction on downstream prices.

Fourth, the incentives for a conglomerate merger are *not* usually attributable to its effect on market power but instead arise because of nonprice efficiencies. Much of the controversy associated with conglomerate merger enforcement arises from the widely held view that anticompetitive harm from such a transaction is unlikely and that the motivation for a conglomerate merger is not to enhance or preserve market power but rather to realize efficiencies. The competitive analysis of conglomerate mergers will therefore typically entail yet another trade-off between anticompetitive effect (if any) and the realization of nonprice efficiencies.

8.2. Considerations in designing an optimal enforcement policy

While the economics of conglomerate mergers suggests that portfolio effects made possible by a merger can be anticompetitive, the key to welfare-enhancing enforcement is identifying and distinguishing the few transactions that merit investigation and prohibition from the typical case where the effect is benign or positive.

In considering an appropriate framework, the four difficulties identified above have two important implications for conglomerate merger policy. The first is that there is a significant potential for enforcement mistakes, which can arise from three distinct sources: (1) the anticompetitive theory of harm cannot necessarily be distinguished on the basis of the evidence from explanations that suggest the rationale for the transaction is to realize nonprice efficiencies; (2) the anticompetitive theory of harm must not only be consistent with the facts, it must also be established that within that theory the facts are consistent with an anticompetitive outcome; and (3) there are likely other nonprice efficiencies realized, requiring a trade-off between anticompetitive harm (if any) and the magnitude and effect of the nonprice efficiencies. The second implication is that, on both theoretical and empirical grounds, there should be a presumption that conglomerate mergers are likely efficiency enhancing and good for consumers.

These two implications should inform the possibility and cost of decision errors associated with antitrust enforcement policy towards conglomerate mergers. The two types of decision errors are (1) an erroneous prohibition when the merger is procompetitive, and (2) an erroneous clearance when the merger is anticompetitive. An

optimal enforcement policy involves challenging a conglomerate merger if the expected loss from not challenging is greater than the expected loss from challenging.¹⁴¹ A decision to challenge should then depend on the costs and the probability of each type of error. The assessment of the probability of an error should depend on both the presumption that a conglomerate merger is procompetitive and the facts of a particular case. The *economic* presumption that conglomerate mergers on average are procompetitive suggests a weak prior belief or view that a given transaction will be anticompetitive and a bias that the cost of erroneous prohibitions exceeds the cost of erroneous clearances. The cost of erroneous prohibitions not only includes foregoing benefits to consumers in the case at hand but potentially casting a “chill” over other potentially procompetitive conglomerate mergers. The costs of an erroneous clearance are limited by the extent to which anticompetitive conduct enabled by portfolio power created by a conglomerate merger is effectively deterred by ex post legal prohibitions against monopolization and tying.¹⁴²

In terms of enforcement policy, these considerations imply that a conglomerate merger should be prohibited only when the facts of the case are particularly persuasive and supportive of the alleged theory of harm and, to the extent possible, rule out competing case theories.¹⁴³ Moreover, the behavior alleged to give rise to anticompetitive harm must be profit maximizing for the conglomerate. The theory of anticompetitive harm must be both consistent with the evidence and coherent (reflecting profit-maximizing behavior).

The requirement of a specific theory of harm and a convincing demonstration of its consistency and coherence, rather than a presumption of anticompetitive harm based on market share or extent of the market foreclosed, is not easy, but it is consistent with a presumption that conglomerate mergers are efficient. Before prohibiting a conglomerate merger, enforcement agencies and antitrust tribunals should be confident that the theory of anticompetitive harm is the correct theory of the case and that the facts of the case are consistent with when that theory indicates a conglomerate merger is anticompetitive.¹⁴⁴

8.3. *A structured rule of reason for conglomerate mergers*

The preceding two subsections imply that the appropriate analytical framework for assessing the competitive implications of a conglomerate merger is a structured rule of

141. See James C. Cooper, Luke M. Froeb, Dan O'Brien & Michael G. Vita, *Vertical Antitrust Policy as a Problem of Inference*, 23 INT'L J. INDUS. ORG. 639, 659 (2005). A false clearance or false negative is a type II error and indicates underdeterrence. A false prohibition or false positive is a type I error and indicates overdeterrence.

142. The trade-off between ex ante and ex post enforcement is discussed *infra* in Section 8.4.

143. Translated into a Bayesian framework for optimal decision making under uncertainty, the priors that a conglomerate merger is likely anticompetitive should be low and only a very informative signal should result in posteriors sufficient to warrant enforcement.

144. This is consistent with Winter's emphasis on the relevance of the facts of the case and the role that theory can play in providing the facts with coherence. See Ralph A. Winter, *Vertical Restraints and Antitrust Policy: A Reaction to Cooper, Froeb, O'Brien, and Vita*, 1 COMPETITION POL'Y INT'L 75 (Autumn 2005).

reason.¹⁴⁵ The three stages of the proposed structured rule of reason are (1) a market power screen, (2) a theory of the case and factual screen, and (3) an assessment of offsetting nonprice efficiencies realized by the merger.

A structured rule of reason entails first identifying and assessing those necessary conditions that involve the least administrative cost. The other necessary conditions are only considered after those with lower administrative costs do not rule out the possibility of competitive harm from the transaction. Typically under the proposed structured rule of reason, the assessment begins with a market power screen. The screen seeks to determine the likelihood that, postmerger, the conglomerate will have antitrust market power, that is, market power that is both significant and durable (i.e., prices can be sustained above average cost in the long run).

The second stage of the structured rule of reason approach involves demonstrating a link from the transaction to anticompetitive harm. The modern theories of tying, bundling, and direct foreclosure provide a template for ensuring that the theory of the case is coherent and consistent. These theories demonstrate that the link from a conglomerate merger to an increase in market power and anticompetitive harm involves determining (1) the ability and incentive for contingent sales or direct foreclosure; (2) the effect of the contingent sales practice or direct foreclosure on rivals and, in turn, how it affects their ability to compete; (3) how the contingent sales practice or direct foreclosure changes the incentives of the conglomerate; and (4) the impact on the welfare of consumers, or efficiency, from the change in competition and the change in behavior of the conglomerate.

The third stage involves an assessment of offsetting nonprice efficiencies realized because of the conglomerate merger. Antitrust enforcement is only warranted if the efficiencies do not offset the anticompetitive foreclosure effects of the merger.

Stages one and two have been presented sequentially. In practice, at least in part, they are likely to constitute a simultaneous exercise. The theory hypothesized to be applicable will indicate the relevant markets in which to look for market power. While stage two is more difficult than stage one, the balancing exercise in stage three is likely to be the most costly and subject to error. Accordingly, the third stage should only be reached if both of the first two stages indicate the possibility of a concern. The second stage is only reached if the first stage indicates the potential for market power posttransaction. Of course, if in a particular situation the relative costs of the three stages differ from that posited here, then the order of the analysis should change to reflect actual relative costs.

8.4. Merger enforcement versus monopolization

A final policy consideration is whether, and when, merger enforcement is the optimal approach to deal with the anticompetitive effects of a conglomerate merger. The alternative to an ex ante approach is an ex post approach involving the use of legal

145. For proposed structured rules of reason for assessing conglomerate mergers, see CHURCH, *supra* note 10, at 8-10; BISHOP ET AL., *supra* note 103; Simon Bishop, Andrea Lofaro & Francesco Rosati, *Turning the Tables: Why Vertical and Conglomerate Mergers Are Different*, 27 EUR. COMPETITION L. REV. 403 (2006).

provisions against anticompetitive conduct enabled by portfolio power, including those intended to prevent monopolization or abuse of dominance. Rather than challenge a conglomerate transaction based on concerns about the potential for contingent sales, especially given the relatively high burden of proof and inherent uncertainty in predicting its effects, the alternative is to let the transaction proceed and monitor the market to see if the suspect conduct occurs and anticompetitive effects are in fact realized. The presence of legal provisions may constrain the incentives of the integrated firm to act anticompetitively yet allow for the realization of efficiencies specific to the transaction. The deterrence effect of these provisions depends on whether the conduct that gives rise to the anticompetitive effect is reachable under them and the probability of detection and successful enforcement, the resources and time required for an enforcement action, and the nature of the remedies available under those provisions.

There is a trade-off inherent in deciding which approach is optimal. While it is likely true that in many cases waiting will reduce uncertainties regarding the effects of the transaction (and hence an error in enforcement), the remedies available under an ex post approach may not be as effective. It is much easier to prevent the integration of assets than to implement an ex post structural remedy. Under the ex post approach, the remedies most likely invoked will be behavioral and involve the regulation of conduct, something that most antitrust tribunals and enforcement agencies are ill-equipped to implement. Behavioral remedies require monitoring and enforcement by the courts and agencies, which they typically do not have the resources to do effectively. Moreover, behavioral remedies are often easy to evade unless other aspects of the firm's conduct, especially pricing, are controlled. Charging very high prices can be an effective substitute to denying access, but determining whether the price is too high is much more difficult than determining if access has been denied. One implication of this is that the threshold for anticompetitive harm might well be higher under ex post provisions than under merger provisions. Finally, the conduct that gives rise to an anticompetitive effect from a conglomerate merger may not be reachable under other provisions, or at least not easily.

If there is confidence in the ability of other provisions to identify, prevent, and correct anticompetitive conduct based on portfolio power, then given the administrative costs of enforcement and potential for erroneous prohibition, it may well be optimal for all but the largest conglomerate mergers where portfolio effects might be an issue to be per se lawful. Only for significant transactions are the costs of administering the structured rule of reason warranted.

8.5. A question of guidelines

The intent of guidelines is to enhance enforcement transparency by detailing when, why, and how a transaction might raise antitrust concerns. Guidelines are of value to the extent that they “contribute towards predictability and consistency.”¹⁴⁶ Predictability and consistency reduce uncertainty and allow firms to assess, at least in broad terms, the

146. See Economic Advisory Group for Competition Policy, EAGCP Merger Sub-Group, Non-Horizontal Merger Guidelines: Ten Principles 6 (European Commission DG IV, 2006), available at http://ec.europa.eu/comm/competition/mergers/legislation/non_horizontal_guidelines.pdf.

risk of antitrust liability. Guidelines provide predictability and consistency by clarifying in advance the process and analysis that an enforcement agency will follow. Predictability and consistency are particularly important when there have been significant changes in the case law. For guidelines to provide predictability, the relevant enforcement agency must be willing to follow the analytical framework presented in its guidelines. Guidelines almost invariably put constraints on the freedom of enforcement agencies and part of their value is to provide guidance to the agencies themselves regarding priorities and the framework for analysis.

The acceptability of guidelines to courts (and the agencies) depends on ongoing confirmation that they are correct, that is, that the analysis suggested is relevant, practical, and is not subject to unacceptable error. This typically requires that before guidelines are issued that there is a consensus on enforcement practice. The ideal is for a consensus that has been forged by enforcement experience and validated by the courts and scholarly commentary. In the absence of such a consensus, it may be enough to have an intellectual consensus on the direction enforcement should take, especially if the existing conventions are ill advised. Without such a consensus the danger is that prematurely adopting guidelines will result in enforcement policy that turns out to be ill advised. A second danger is the potential effect that issuing formal guidelines that increase the potential scope for enforcement can have on the enforcement agencies. The effort and resources required to formulate guidelines can send a signal to the staff at the agencies that enforcement is important and that concerns identified in the guidelines should result in increased enforcement. Both effects could result in a bias toward conglomerate merger enforcement that is not warranted.¹⁴⁷

In an ideal world, the economics of conglomerate mergers and enforcement practice would provide the foundation for structural guidelines. Structural guidelines would encapsulate rules that define the circumstances when conduct made possible by a conglomerate merger is presumed to raise antitrust concerns and when it does not. That is, the guidelines would identify key variables that can be observed premerger, as well as what those variables imply about the effects of the merger on market power and consumer or total welfare.

The foundation provided by the economics of conglomerate mergers for guidelines, however, is much more circumscribed. Guidelines should follow a structured rule of reason, similar to that proposed above. Guidelines should indicate situations when a conglomerate merger would raise concerns and why. They would also indicate the method of analysis that the enforcement agency would follow, with special attention to the questions and evidence that should drive the analysis. But the guidelines should not indicate the structural conditions premerger under which the enforcement agencies would be concerned. Because such a mapping would lack empirical validity, it would likely lead to unacceptable enforcement errors. An example is the mapping of market

147. See Paul Yde, *Non-Horizontal Merger Guidelines: A Solution in Search of a Problem*, ANTITRUST, Fall 2007, at 74. Yde argues that conglomerate merger guidelines in the United States are not necessary or desirable, given the lack of cases and consensus. On the other hand, Yde does see a role for guidelines in Europe based on the Commission's defeats in *Tetra/Laval* and *GE/Honeywell*, as well as the need to harmonize enforcement across member states.

shares and firm importance in the 1968 *Merger Guidelines* to identify when reciprocity would raise concerns.

In the fall of 2007, the European Commission adopted nonhorizontal merger guidelines that include guidance on how the Commission will assess the competitive effects of conglomerate mergers.¹⁴⁸ The EU *Non-Horizontal Merger Guidelines* are consistent with many, though not all, of the recommendations advocated here. The EU *Guidelines* recognize that conglomerate mergers are much less likely to be problematic than other types of mergers, both because they do not eliminate a potential source of competition and because of the potential for both price and nonprice efficiencies.¹⁴⁹ The EU *Guidelines* focus on whether contingent sales opportunities made possible by a conglomerate merger will result in foreclosure—defined in the case of conglomerates to be the reduction in demand for the products of rivals.¹⁵⁰ The EU *Guidelines* recognize that a conglomerate merger might well be exclusionary but it is not harmful unless it adversely affects the welfare of consumers (anticompetitive foreclosure).¹⁵¹ The analytical framework adopted to assess the likelihood of anticompetitive foreclosure involves an evaluation of (1) the conglomerate's ability to foreclose, (2) its incentives to foreclose, and (3) the effect on competition and consumers.¹⁵² The EU *Guidelines* recognize that market power is a necessary, though not sufficient, condition for a conglomerate merger to be anticompetitive. This is recognized by safe harbors based on posttransaction market shares below 30 percent and HHI below 2000.¹⁵³ The EU *Guidelines* recognize the necessity of the trade-off between anticompetitive effects and efficiencies.¹⁵⁴ The insistence that efficiencies be substantiated by the parties, however, suggests that the Commission may not fully appreciate the requirement for an integrated analysis to determine whether there is anticompetitive foreclosure when there are pricing efficiencies. However, the EU *Guidelines* are, in most other respects, consistent with the structured rule of reason advocated here and with the requirements set down by the courts in the EU.

9. Conclusion

This chapter provides an overview of the economics of portfolio effects or power from conglomerate mergers and its implications for appropriate enforcement policy. The economics and enforcement policy of conglomerate mergers are substantially more complicated than for horizontal mergers for four reasons: (1) conglomerate mergers are often inherently efficient because the Cournot effect leads to lower prices, (2) any anticompetitive effect must be indirect since a conglomerate merger does not eliminate a horizontal competitor, (3) identifying when a conglomerate merger is anticompetitive (that is, harms consumers or is inefficient) is often difficult when the source of

148. EU NON-HORIZONTAL MERGER GUIDELINES, *supra* note 8, ¶ 46.

149. *Id.* ¶¶ 11-14.

150. *Id.* ¶ 93.

151. *Id.* ¶ 18.

152. *Id.* ¶ 94.

153. *Id.* ¶¶ 23-25.

154. *Id.* ¶ 92.

foreclosure is the same as the source of an efficiency gain (the Cournot effect), and (4) the motivation and effect of conglomerate mergers are typically to realize nonprice efficiencies.

The economic presumption is that conglomerate mergers are typically procompetitive. As a result, the key policy issue is to institute an enforcement approach that identifies the few conglomerate mergers that are anticompetitive without casting a chill over conglomerate mergers that are beneficial. There are two approaches. The first is simply to assume that conglomerate mergers are not anticompetitive, at least where the concern is an increase in portfolio power. This approach recommends itself if there is confidence in the ability of other provisions of the law to identify, prevent, and correct anticompetitive conduct based on portfolio power, given the administrative costs of conglomerate merger enforcement and the potential for erroneous prohibition.

The second approach is a structured rule of reason that includes as a first step a market power screen in the downstream market. The second stage of the structured rule of reason approach involves demonstrating a link from the transaction to anticompetitive harm. The modern theories of tying, bundling, and direct foreclosure provide a template for ensuring that the theory of the case is coherent and consistent. These theories demonstrate that the link from a conglomerate merger to an increase in market power and anticompetitive harm involves determining (1) the ability and incentive for contingent sales or direct foreclosure; (2) the effect of the contingent sales practice or direct foreclosure on rivals and, in turn, how it affects their ability to compete; (3) how the contingent sales practice or direct foreclosure changes the incentives of the conglomerate; and (4) the impact on the welfare of consumers, or efficiency, from the change in competition and the change in behavior of the conglomerate. The third stage involves an assessment of offsetting nonprice efficiencies realized because of the conglomerate merger. Antitrust enforcement is only warranted if the efficiencies do not offset the anticompetitive foreclosure effects of the merger.

The two approaches are not mutually exclusive. While a *per se* lawful approach might be appropriate for small transactions, for major transactions, the enforcement agency may find it difficult not to engage in an analysis of portfolio effects. If it is unable to resist, then it should follow the structured rule of reason approach. The proposed structured rule of reason can provide the foundation for conglomerate merger enforcement guidelines that (1) enhance transparency and (2) commit enforcement agencies to a framework for analysis that promotes efficient competition policy analysis.