The Multimarket Contact Hypothesis

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Abstract: After the Celler-Kefauver Act, case law evolved for the application to conglomerate mergers of Section 7 of the Clayton Act. Given the way that antitrust enforcement procedures have evolved since the Hart-Scott-Rodino Act, the portions of the Supreme Court decisions that constitute the case law about conglomerate mergers have been largely dormant. During the same period when enforcement practices turned away from using the case law toward conglomerate mergers, economists have developed theory and evidence supporting the hypothesis that multimarket contact among diversified sellers can create market power in the individual markets in which the sellers compete – the multimarket contact hypothesis. The hypothesis has implications for Section 7 Clayton Act enforcement actions toward both conglomerate and horizontal mergers. This chapter briefly recaps the case law and the enforcement history, then reviews the theory and evidence supporting the multimarket contact hypothesis, and finally develops the implications of the hypothesis for the antitrust law toward mergers.

I. Introduction

*I am grateful to Wayne Dale Collins and Stephen Martin for their comments and suggestions.
The multimarket contact hypothesis posits that the market power for a market’s sellers – i.e., their collective ability to raise price above the competitive level within a given market – is increased by the contact of the sellers in other markets. This chapter reviews the current learning about the multimarket contact hypothesis and explains the implications of that knowledge for the antitrust law toward mergers. The hypothesis traces its origin to ideas of Corwin Edwards that were articulated over fifty years ago. Subsequently, economic theorists have modeled the hypothesis formally, and an empirical literature testing the hypothesis has developed. In this chapter, the theory and empirical findings are reviewed and juxtaposed with the Department of Justice’s and the Federal Trade Commission’s Horizontal Merger Guidelines and with Section 7 Clayton Act enforcement policies more generally. Implications for antitrust policy toward mergers are developed.

After the Celler-Kefauver Act of 1950, a series of Supreme Court cases in the 1960s and 1970s refined the application of Section 7 of the Clayton Act to potentially anticompetitive conglomerate mergers. Given the evolution of enforcement procedures and practice since the passage of the Hart-Scott-Rodino Pre-Merger Notification Act in 1976, the enforcement efforts for Section 7 have essentially abandoned the case law about conglomerate mergers, with the Department of Justice (DOJ) and the Federal Trade

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2 Section 7 of the Clayton Act, originally passed in 1914, was amended importantly by the Celler-Kefauver Act in 1950.

3 The thresholds requiring premerger notification of the impending merger to the FTC and the Antitrust Division of DOJ are stated in terms of the acquisition’s resulting aggregate total amount of the voting securities and assets of the acquired party held by the acquirer, as well as in terms of categories of size for the acquired and acquiring firms. The Hart-Scott-Rodino Act is Section 7A of the Clayton Act.
Commission (FTC) focusing, as described in the *Horizontal Merger Guidelines*, on horizontal mergers. The enforcement agencies have relegated discussion of non-horizontal mergers to a portion of the DOJ’s 1984 *Merger Guidelines*, now made available on the DOJ Antitrust Division’s web site as the *Non-Horizontal Merger Guidelines*. These 1984 guidelines regarding non-horizontal mergers provide the agencies’ views about potential anticompetitive effects from conglomerate and from vertical mergers. The change in 1992 from the former series of “merger guidelines” to a new “horizontal merger guidelines” with non-horizontal issues covered with a portion of the earlier guidelines is a formal indication of what has been essentially a cessation of antitrust enforcement activity for conglomerate mergers.4

Although enforcement activity for conglomerate mergers is dormant, economic theory and evidence have mounted to make a strong case for multimarket contact as a source of market power for diversified sellers in the individual markets they serve. The theory and evidence about multimarket contact implies a basis for Section 7 action in some conglomerate merger cases. Interestingly, the multimarket contact hypothesis as a basis for anticompetitive consequences of conglomerate mergers is not one of the approaches used in the case law. The case law focuses on potential competition, on predation – or, more subtly, price leadership enforced by threat of predation – funded with a conglomerate’s financial resources, and on reciprocal buying. Further, the potential competition theory is the only theory of anticompetitive impact from

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4 One might argue that the business strategies aimed at returning corporations to “core competencies” reflects a realization by some parts of the private sector that broad diversification is not an effective strategy; and, therefore, the scope for multimarket contact is less than it once was. If so, the lessened scope for multimarket contact is one possible reason for the lack of enforcement activity. However, I believe the actual scope for multimarket contact is sufficient to justify enforcement concern and activity, and the empirical evidence supports that belief.
conglomerate mergers addressed in the *Non-Horizontal Merger Guidelines* – the portion of the DOJ’s 1984 *Merger Guidelines* that has not been superceded by the *Horizontal Merger Guidelines*. Thus, despite theory and evidence linking multimarket contact to market power, neither the Court cases nor the current enforcement guidelines use the multimarket contact hypothesis for the analysis of the competitive consequences of conglomerate mergers.

Not only does the knowledge about multimarket contact have implications for competitive consequences of conglomerate mergers, but additionally, the knowledge implies competitive consequences for horizontal mergers when the merging firms are diversified and the mergers affect the multimarket contact of the competitors in the market where the horizontal merger occurs or in other markets where the merging firms operate. As a result, there can be anticompetitive effects, that will be explained in this chapter, even for mergers that have been challenged as horizontal mergers and where negotiated settlements through the current enforcement procedures have “fixed first” – via divestitures of assets – the anticompetitive effects of overlapping operations for the merging firms in the market or markets affected by the horizontal aspects of the merger. The anticompetitive effect remaining after the divestitures is a horizontal effect, but it is one that occurs, as this chapter will show, through the channel of multimarket contact increased by the merger, and it is therefore not remedied by the conventional approaches fixing the anticompetitive potential with divestitures of overlapping assets in the market or markets where a horizontal merger occurs. However, as explained subsequently, once recognized, the effect could be addressed within the existing framework of the *Horizontal Merger Guidelines*. 

Section II extends the overview, begun in this introductory section, of the case law about conglomerate mergers and the current enforcement stance on the potential anticompetitive effects of such mergers. Section III reviews the theory that multimarket contact among diversified sellers can create market power in the individual markets in which the sellers compete. Section IV reviews the empirical evidence about that theory – the multimarket contact hypothesis. Section V explains the implications for enforcement action in both conglomerate and horizontal merger cases, and then Section VI concludes with recommendations for changes in enforcement action for both conglomerate and horizontal mergers.

II. Case Law

The U.S. courts have not been asked to consider multimarket contact as a source of market power created by a conglomerate merger. The enforcement agencies have not argued the matter. Using other theories developed by economists and argued by the enforcement agencies, the U.S. Supreme Court has, however, used Section 7 of the Clayton Act to block some conglomerate mergers.

Potentially anticompetitive consequences from reciprocal dealing were found in the *Consolidated Foods-Gentry* case, 380 U.S. 592 (1965). The Supreme Court found that a conglomerate’s purchases of another firm’s product could be used as leverage to convince that other firm to purchase one of the conglomerate’s products. If the reciprocal
dealing changed that product’s market structure by causing an increase in seller concentration and barriers to entry, market power could increase.  

A theory of predatory or disciplinary pricing was used in the *Procter & Gamble-Clorox* case, 386 U.S. 568 (1967). The Supreme Court found that the presence of a conglomerate among specialized firms might make those firms more willing to follow the conglomerate’s price initiatives because of concern that the conglomerate would discipline uncooperative rivals with low prices, using its deep pocket of financial resources from operations in other markets to cover its temporary losses.

In the Procter & Gamble-Clorox case and many other cases, the Supreme Court has found that a conglomerate merger can have an anticompetitive effect by reducing potential competition, and that possibility is the one theory of potential anticompetitive effect from conglomerate mergers that is referenced in the merger guidelines, albeit only by reference to a brief discussion in an earlier version of the guidelines.

The Supreme Court, however, has never used, as the basis for finding a conglomerate merger anticompetitive under Section 7 of the Clayton Act, Corwin Edwards’s idea (1955) that large conglomerates, having grown interdependent in several markets, will compete less vigorously. The next section reviews that idea and subsequent developments in the theory and evidence about the market power created by the multimarket contact of conglomerates. Before turning to the theory and evidence, I emphasize that while the Supreme Court has held that theories of potential competition, predatory or disciplinary pricing, and reciprocal buying can be the basis for blocking a

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5 Stocking and Mueller (1957) provide examples of reciprocal buying and develop the idea that it can have anticompetitive consequences.
conglomerate merger under Section 7 of the Clayton Act, the enforcement agencies have not initiated Section 7 enforcement actions against conglomerate mergers in recent years.

Despite the a priori possibilities for market power that conglomerate mergers create, beginning in the early 1980s, the U.S. federal antitrust enforcement agencies’ concern about those possibilities diminished markedly. The Reagan administration’s first Assistant Attorney General for Antitrust, William Baxter, stated in 1982 that “during the 1960s, in its general hostility to conglomerate mergers, the Supreme Court cooked up a variety of esoteric and totally baseless theories about the harm caused by conglomerate mergers” (Taylor, 1982). The Reagan administration’s antitrust authorities persisted with the view that – excepting the potential competition theory – conglomerate mergers do not create market power. Douglas Ginsburg, then Assistant Attorney General for Antitrust, stated in 1986 that “in the case of a purely conglomerate merger . . . [as contrasted with horizontal mergers in concentrated markets] no serious anticompetitive problems arise because the firms involved in the deal, by definition, do not actually compete with one another in any relevant market. One exception to this occurs in cases where one firm is properly characterized as a potential competitor of the other . . .” (U.S. Department of Justice, March 5, 1986, p. 8). Once again, on the release of the 1984 version of the Department of Justice’s Merger Guidelines, the chief antitrust spokesperson for the enforcement agency asserted that several theories about anticompetitive problems because of diversifying mergers are not important empirically. (U.S. Department of Justice, June 14, 1984).

Regarding conglomerate mergers, the views of the enforcement agencies in the 1980s persisted. The Department of Justice and the Federal Trade Commission stated (p.
3, April 2, 1992), in their joint announcement accompanying the release of the 1992 *Horizontal Merger Guidelines*, that “neither agency has changed its policy with respect to nonhorizontal mergers. Specific guidance on nonhorizontal mergers is provided in Section 4 of the Department’s 1984 *Merger Guidelines*, read in the context of today’s revisions to the treatment of horizontal mergers.” Although Section 4 on efficiencies was revised in 1997, the revision does not change the enforcement agencies’ stance toward conglomerate mergers. The 1992 *Horizontal Merger Guidelines* are, with the 1997 revision incorporated, the current – i.e., 2005 – guidelines.

### III. Theory

The theory of anticompetitive effects from conglomerate mergers is that such mergers can increase the multimarket contact of sellers and thereby increase their market power. Figure 1 is a stylized illustration of two markets. The first is supplied by three firms, A, B, and E. The second is supplied by four firms, C, D, F, and G. In Figure 1, there is no multimarket contact. Contrast that case with the one in Figure 2.

![Figure 1](image-url)
In contrast to the preceding case, for the case in Figure 2 Firm A and Firm C have merged, and Firm B and Firm D have merged. These are conglomerate mergers since in each merger the two merging firms are not competitors. The new firms AC and BD compete with each other in each market, and so they have multimarket contact. Will the multimarket contact have an anticompetitive effect?

Corwin Edwards (1949; 1955) hypothesized that the large diversified firms meeting in multiple markets would be less likely to compete vigorously in any particular market. Edwards reasoned that the conglomerate firms would lead in the markets where they were strong and follow in the market where they were weak. In markets where a firm had a small share, it would follow the large share firms rather than price aggressively to gain share and risk retaliatory attacks in the markets where it was the leader.\(^6\)

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\(^6\) Edwards (1949, p. 106; 1955, pp. 342-345) put as much emphasis on increased overt collusion as on increased cooperative-like behavior among firms engaged in noncooperative rivalry. Scherer and Ross (1990, pp. 312-13) provide some discussion of the earliest developments of Edwards’s ideas. In the last two decades the literature about multimarket contact has grown considerably.
Bernheim and Whinston (1990) modeled the anticompetitive effect of multimarket contact using the simple infinite repeated game with a grim trigger strategy for price-setting oligopolists. The model is simple, but it suffices to explain the theory of multimarket contact increasing market power; the theoretical effect remains in more complicated models.\textsuperscript{7} In the simple model, the incentive constraint for a grim trigger strategy to support the monopoly price as a Nash noncooperative equilibrium in an infinitely repeated Bertrand homogeneous product game where $i$ denotes the interest rate, $\pi_m$ denotes the monopoly profits and each of the market’s $n$ firms has the same size is:

$$\pi_m \leq \left(\frac{1+i}{i}\right) \left(\frac{1}{n}\right) \pi_m \text{.} \tag{8}$$

If the incentive constraint holds, then the monopoly price is a Nash noncooperative equilibrium.\textsuperscript{9}

Suppose we have the case where there is no multimarket contact as in Figure 1. The firms maximize expected profits. Suppose that market 2 is more risky than market 1, so a higher discount rate is used: $i' > i$. We then have the following incentive constraints for the trigger strategy equilibria in the two markets in which the firms

\textsuperscript{7} For example, the price-setting game could be replaced by a quantity-setting game, but then the simplicity of zero-profit single-period Nash equilibrium is lost. Or, the grim trigger strategy with its infinite reversion to the single-period equilibrium strategy could be replaced with a more complicated punishment mode with various sorts of finite reversion. The complications simply make the presentation of the essential ideas messy; Bernheim and Whinston use the simplest model necessary to present the theoretical basis for multimarket contact’s effect on market power.

\textsuperscript{8} In the grim trigger strategy, each firm adheres to the monopoly price until and unless a rival cuts price. Given such a price cut, each firm returns to the single-period Nash equilibrium for the game and stays at that strategy forever. That single-period equilibrium is Bertrand’s equilibrium with price being the competitive price and profits being zero. Thus, the left-hand side of the constraint is just a bit more than the value to the firm of undercutting the monopoly price given that its rivals are setting that price. It gets essentially the monopoly price and profits when it undercut, and then it gets zero profits thereafter as all of the rivals revert to the single-period equilibrium. The right-hand-side is the present value of the firm’s share of the monopoly profits forever.

\textsuperscript{9} Of course there are infinitely many such cooperative-like noncooperative equilibria -- any price from the competitive price to the monopoly price can be the equilibrium price to which the rivals adhere. The monopoly price would, of course, be the sensible one for the rivals to use for their trigger price strategy.
compete. We have the two markets, 1 and 2, in which the firms compete, with \( \pi_m \) and \( n_i \) denoting respectively the monopoly profits and the number of firms in the \( i \)th market.

When considered separately (as is appropriate in this case), suppose the incentive constraints for the markets are:

\[
\pi_{m1} \leq \left( \frac{1+i}{i} \right) \left( \frac{1}{n_1} \right) \pi_{m1}
\]

\[
\pi_{m2} > \left( \frac{1+i'}{i'} \right) \left( \frac{1}{n_2} \right) \pi_{m2}
\]

Thus, when considered separately, in market 1 the incentive constraint for a cooperative-like noncooperative Nash equilibrium is satisfied, while in market 2 it is not. The discount rate appropriate for market 2 is too high to support the cooperative-like price as the Nash noncooperative equilibrium given the 4 firms in the market. The monopoly price is supported in the first market, but not in the second.

Now, suppose there are the two conglomerate mergers – firms A and C merge, and as well firms B and D merge. We then have the case of multimarket contact illustrated in Figure 2, with Firm AC competing with Firm BD in market 1, and also with the two firms meeting in market 2 as competitors as well. The firms AC and BD have multimarket contact; does the multimarket contact have an anticompetitive effect?

The conglomerate firms meet in both markets. Suppose that after the mergers, the conglomerate firms in the second market shrink their market shares (interestingly, that has often happened to shares of conglomerate acquisitions post-merger) until those shares
are $s_2 < 1/n_2$. Further, suppose that even with that smaller share of market 2, the sum of
the monopoly profits in each market is less than or equal to the sum of the present values
in each market of the conglomerate firm’s share of the monopoly profits:

$$\pi_{m1} + \pi_{m2} \leq \left(\frac{1+i}{i}\right)\left(\frac{1}{n_1}\right)\pi_{m1} + \left(\frac{1+i'}{i'}\right)s_{2,non-c}\pi_{m2}.$$

Also, the non-conglomerate (non-c) firms F and G now find that, with their bigger market
shares, their incentive constraint is satisfied:

$$\pi_{m2} \leq \left(\frac{1+i'}{i'}\right)s_{2,non-c}\pi_{m2}.$$

Thus, if each conglomerate firm follows a trigger strategy that encompasses both
markets (i.e., each adheres to the monopoly price in each market unless and until
someone undercuts the monopoly price, in which case the firm reverts to the single-
period Bertrand-Nash equilibrium price in both markets), the pooled incentive constraint
for the conglomerates and the single-market incentive constraints for the specialized
firms show that the monopoly price in both markets is a Nash noncooperative
equilibrium.

I shall use some very simple numerical examples to clarify the discussion; a few
points are needed to address the realism of the examples. First, the numerical examples
are chosen to make the arithmetic very transparent. For more realistic examples given
the simple grim trigger strategy and Bertrand homogeneous goods repeated game, we
could choose lower interest rates. That, of course, then implies that the multiples –
$(1+i)/i$ – are much larger and as well the numbers of firms consistent with the trigger
strategy supporting the cooperative-like price as the Nash noncooperative equilibrium are

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10 See Mueller (1987, pp. 50-51) and Scott (1993, p. 26) for review of the literature about the shrinking
shares of lines of business that have been acquired in conglomerate mergers.
larger. Second, remember that the simple grim trigger strategy (rather than finite reversion for treating the punishment modes of the game) and the Bertrand homogeneous goods infinitely repeated game were deliberately chosen not to be realistic, but to make the mathematics transparent. With more realistic trigger strategies and with differentiated goods, the ranges of the parameters associated with the various incentive constraints will change, as will the complexity of the constraints. The principles stay the same, but the examples would become more complex. Third, therefore, it is best to think of these simple examples as illustrating the ideas, but not as realistic in themselves. The empirical work showing the MMC affects prices and profits is perhaps the best way to say that the ideas are realistic.

Now, for a simple numerical example, suppose that $\pi_{m1} = \pi_{m2} = 1$. Further, $n_1 = 3, n_2 = 4, i = .25, \text{and } i' = .5$. Then,

$$\pi_{m1} = 1 \leq \frac{5}{3} = \left(\frac{1 + i}{i}\right)\left(\frac{1}{n_1}\right) \pi_{m1}, \text{ and}$$

$$\pi_{m2} = 1 > \frac{3}{4} = \left(\frac{1 + i'}{i'}\right)\left(\frac{1}{n_2}\right) \pi_{m2},$$

yet with $s_2 = 1/8, \text{ and } s_{2,\text{non-c}} = (1/2)(6/8) = 3/8$, the pooled incentive constraint for each conglomerate is:

$$\pi_{m1} + \pi_{M2} = 2 \leq \frac{5}{3} + \frac{3}{8} = \left(\frac{1 + i}{i}\right)\left(\frac{1}{n_1}\right) \pi_{m1} + \left(\frac{1 + i'}{i'}\right)s_2\pi_{m2},$$

and the incentive constraint for Firm G and for Firm F is:

$$\pi_{m2} = 1 \leq 3(3/8) = 9/8 = \left(\frac{1 + i'}{i'}\right)s_{2,\text{non-c}}\pi_{m2}$$
The multimarket contact increased market power. Without the multimarket contact, the monopoly price is not supported in the second market. With the multimarket contact and a trigger strategy encompassing both markets, the slack in the incentive constraint in the first market allows the pooled incentive constraint to be satisfied, and the monopoly price is a Nash noncooperative equilibrium in both markets. The example was developed using the higher discount rate for market two as the driving force behind the failure of cooperative-like pricing in the absence of multimarket contact, and then the shrinking of the new conglomerate lines of business after the merger allowed the cooperative-like noncooperative equilibrium. However, note that the undercutting of the monopoly price in the second market could have been modeled as the result of the shares for firms C and D being too small – goods are homogeneous to allow the simplicity of the model, but the history of the market results in the firms having different market shares at identical prices – for their incentive constraints to hold. Then after the conglomerate mergers, and without the need to shrink the market 2 lines of business of the new conglomerates, with the pooled incentive constraints for firms AC and BD, the monopoly price can be an equilibrium for the second market.

For a different example that captures the Corwin Edwards story very simply, consider Figure 3. We have just two firms in each market. In the top panel, there is no multimarket contact. In the bottom panel, two conglomerate mergers have resulted in multimarket contact.
For a simple numerical example, suppose that $\pi_{m1} = \pi_{m2} = 1$. We know that $n_1 = n_2 = 2$, but now suppose that for each market one firm is dominant with share = .9, and further their positions are reversed in each market. Again, in each market, homogeneous goods are sold, allowing the simplest model, but with the market histories, with identical prices the firms have different market shares. Suppose that the discount rate is the same in both markets and is .25. Considering the incentive constraints, we have:

$$\pi_{mi} \leq \left( \frac{1+i}{i} \right) (.9)\pi_{mi} , \text{ and } \pi_{mi} > \left( \frac{1+i}{i} \right) (.1)\pi_{mi} .$$

Yet, for the pooled constraint:
In this example, for the firm with 90% of market 1 and 10% of market 2:

\[
\pi_{m_1} = 1 \leq 5(.9) = \left(\frac{1+i}{i}\right)(.9)\pi_{m_1} \quad \text{and} \quad \pi_{m_2} = 1 > 5(.1) = \left(\frac{1+i}{i}\right)(.1)\pi_{m_2},
\]

yet the pooled incentive constraint for the conglomerate is

\[
\pi_{m_1} + \pi_{m_2} = 2 \leq 5 = \left(\frac{1+i}{i}\right)(.9)\pi_{m_1} + \left(\frac{1+i}{i}\right)(.1)\pi_{m_2}.
\]

The constraints for the firm with 10% of market 1 and 90% of market 2 are the same but with the markets reversed.

So, if we have the case of four independent firms, with a different pair in each market, then one firm in each market will have the incentive to undercut the cooperative-like price. But, after the conglomerate mergers leave the same two firms in each market, with the multimarket contact each seller pools its incentive constraints and then the Nash noncooperative equilibrium is the cooperative-like high price. We have a Nash noncooperative equilibrium with each conglomerate having 90% of one market and 10% of the other. When weak (small share) it follows, not attempting to undercut the high price to gain share, because retaliation would follow in the market where it is strong (high share). In addition to the insightful analysis of Bernheim and Whinston, there are several contributions from others that develop the a priori arguments supporting Edwards’s original conjectures about multimarket contact.\(^{11}\)

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\(^{11}\) See for example, Adams, 1974; Feinberg, 1984; Scott, 1993, chapter 2; van Wegberg, van Witteloostuijn, and Abbing, 1994; Phillips and Mason, 1996; as well as Spagnolo, 1999.
Some authors have interpreted Bernheim and Whinston as showing that multimarket contact cannot affect firm behavior unless the markets in which the firms meet are asymmetric. For the Bernheim and Whinston result, firms maximize profits or expected profits. Spagnolo (1999) allows for more general behavior and finds quite general effects for multimarket contact facilitating cooperative behavior if firms’ objective functions are concave. If instead of maximizing profits or expected profits the firms’ decision-makers are risk averse, objective functions are concave in profits – that is, the measure of the firm’s success increases with profits but at a decreasing rate – following the von Neuman-Morgenstern approach. Spagnolo also adduces other types of actual decision making for which the objective functions are concave. Thus, to the Bernheim and Whinston asymmetry reasons for behavioral effects of multimarket contact, we have the more general result that the contact will affect behavior when the firm’s objective function is concave.

To the list of reasons for effects of multimarket contact, I believe we should add as well the greater contemporaneous game-playing experience of the firms that have multimarket contact. I believe that even given the strict confines of the Bernheim and Whinston model where firms maximize profits, the literature has erred when it has interpreted the Bernheim and Whinston irrelevance proof as a proof that multimarket contact can have no effect on behavior in symmetric markets. As discussed in Scott (1993, pp. 22-31), the Bernheim and Whinston irrelevance proof shows only that multimarket contact does not affect the set of Nash equilibria. For realistic multi-period games there are innumerable equilibria, and multimarket contact can affect the choice of a desirable Nash equilibrium from among the many equilibria that exist. Meeting in
multiple markets increases the players' contemporaneous experience with each other, and such experience could help players learn to choose an equilibrium that is better from their private perspectives. The point about multimarket contact and increased contemporaneous experience helping firms solve the equilibrium selection problem applies even in the strict Bernheim and Whinston framework. It applies as well in the more general framework considered by Spagnolo.

Thus, Bernheim and Whinston demonstrate the relevance of multimarket contact given asymmetry, but they do not prove its irrelevance given symmetry. Certainly real markets are asymmetric, but the reason for the effect of multimarket contact on behavior may be the greater familiarity of the players in a game with each other. That greater familiarity and contemporaneous experience playing the oligopoly game may increase their ability to chose desirable equilibria — a cause and effect that is present even for counterfactual symmetric markets and is distinct from the interesting Bernheim and Whinston links from multimarket contact to behavior that emerge in asymmetric markets.

To add to the set of reasons that multimarket contact can increase market power, we then have: multimarket contact may facilitate equilibrium selection (e.g., of the multiple equilibria, the firms do better if they choose the monopoly price equilibrium) because the firms meet each other in multiple markets and may learn to play a favorable equilibrium because they have more practice dealing with each other.\(^\text{12}\)

Multimarket contact may also mitigate “battle of the sexes” multiple equilibria negotiation difficulties.\(^\text{13}\) The fact that the firms operate in the same set of markets would make demands and costs more similar, avoiding disagreements about what the best high

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\(^{12}\) See the discussion in Scott (1993, pp. 24-25) where the idea that multimarket contact can facilitate equilibrium selection is tied directly to the ideas of Kreps (1990).

\(^{13}\) Scott (1993, pp. 29-30).
price is. Regarding demand, customers may prefer buying from sellers offering products in several product lines, because of reduced transactions costs for buying the multiple products. Regarding costs, there may be multimarket economies of scale – economies of scope.

Stigler’s (1964) insight – that price cutting in an oligopoly is less likely the more likely its detection – also supports the idea that multimarket contact will increase the ability of diversified oligopolists to reach a consensus on a high price.\textsuperscript{14} First, multimarket contact increases the number of common buyers with whom the sellers deal; hence, it raises the probability of detecting price cutting by a firm trying to increase its market share. A multimarket buyer tempted by a price cut in one market may switch to the price-cutting seller in all markets. With multiple switches in suppliers, the probability of detection increases. Undercutting the consensus price becomes less profitable because the price cuts, once detected, are matched, and consequently the price-cutting firm’s market share will not increase. Second, Bernheim and Whinston (1990, p. 9) observe that when firms can respond to deviations from collusive agreements more quickly in some markets than in others, punishment of price-cutting rivals can be more effective because multimarket contact allows firms to retaliate against a price cut in any particular market with a response in whatever market or markets allow the swiftest and most effective retaliatory price cuts.

Thomas and Willig (2005) make the interesting point that firms may choose not to link all of their markets – that is, they might prefer not pool all of their markets’ incentive constraints. The reason is that the Bernheim and Whinston theory we have reviewed, in its simplified grim-trigger strategy setting of the repeated game, implicitly has the ability

\textsuperscript{14} Scott (1993, p. 30).
to monitor the pricing in the various markets. A deviation from the cooperative-like high price is met with a reversion forever to the single-period Nash equilibrium price; consequently, no firm deviates and the extreme penalty is never imposed. Thomas and Willig point up that if a market is volatile and monitoring is imperfect, a mistaken belief that a deviation from the cooperative price had occurred in the volatile market would spread to the other linked markets causing a collapse in the cooperative-like prices across the markets for which the incentive constraints were pooled. They establish and develop their result using the grim-trigger strategy, and then consider the possibility of more sophisticated strategies that impose retaliation’s punishments optimally.

With the grim-trigger strategy, the penalty for pooling a volatile market with non-volatile ones is that the grim strategy’s excessive punishment of completely eliminating the cooperative profits in the non-volatile markets is imposed when volatility is misinterpreted as a deviation from cooperative pricing. As Thomas and Willig explain, with the grim strategy replaced with more complex optimal punishment patterns over time, the value of pooled incentive constraints that include the volatile markets that are difficult to monitor depends on whether the expected gain in profits from including the volatile markets among the pooled markets is greater than the cost of non-grim optimal inter-temporal punishment strategy given the probability that punishment will be triggered by a price drop from volatility that is misinterpreted as a purposive deviation from the cooperative price.

Taken at its face value, the line of thinking developed in Thomas and Willig (2005) tells us that not all multimarket contact will be used by the diversified firms to increase market power. Diversified sellers meeting in multiple markets will pool their
incentive constraints for some markets but not others. However, I expect that the importance of the point is overstated. The approach of changing from the grim strategy’s eternal punishment across all pooled markets to a sufficient punishment to deter purposive price cuts blunts the severity of the consequences from a misinterpreted random shock to price in a volatile market. Yet, one suspects actual firms would approach the problem of imperfect ability to distinguish purposive price cuts from random variations in price by coming up with ways to avoid misinterpreting random shocks as purposive behavior. In particular, by their very nature, random shocks are unlikely to accumulate through time in specified ways, and sellers may be able to avoid retaliatory price cuts when the deviation was random by imposing punishments only when the accumulation of evidence implies the price variation was nonrandom. Sellers may be able to come up with a way to reject the null hypothesis of random shocks and accept the alternative of purposive deviations from the consensus price that leaves them less vulnerable to the consequences of misinterpreted random shocks.

Whether or not actual multimarket competitors can distinguish random shocks as contrasted with purposive cuts below cooperative-like prices, and more generally whether multimarket contact can be used to increase market power, is ultimately an empirical question. We turn now to the evidence.

IV. Empirical Studies

The evidence supports the importance of multimarket contact. In Scott (1982), I found that, in the Federal Trade Commission’s sample of respondents to the Line of Business Program, profits for lines of business in concentrated industries were significantly higher when multimarket contact was high, ceteris paribus. The effect of
higher multimarket contact was large and statistically significant. Because the mid-1970s data are special in many ways, in Scott (1991), I studied the market power effects of multimarket contact in another sample. I began by reexamining Bain’s classic sample (Bain, 1956). The first thing I discovered was that multimarket contact was extraordinarily high for the firms in Bain’s sample. Bain’s pioneering test of the concentration-profits relation was conditioned on a significant amount of multimarket contact for the leaders of the industries that he examined. His work, which has been interpreted as support for mutual dependence recognized within markets was in fact based on a sample for which contacts across markets were great and arguably conditioned the conjectural variations and strategic behavior within markets. I then expanded Bain’s original sample to test the hypothesis that multimarket contact may be indispensable for successful oligopolistic coordination among diversified oligopolists. In the expanded sample, the predicted profit rate for diversified oligopolists with high multimarket contact is much larger than for diversified oligopolists without such contact. The difference in predicted profit rates is large and statistically significant.

The set of studies reported in Scott (1993) make clear, however, that the market power from multimarket contact is intertwined with gains in efficiencies of multimarket operations for the diversified firms. When an industry’s firms face similar opportunities to use multimarket operations to realize complementarities in production, marketing, distribution, and research and development, diversification will tend to increase multimarket contact with the potential for increasing cooperative-like behavior – whether or not bolstering such behavior was primary among the firms’ objectives.
The evidence in my earlier work is just a part of what has become an increasing body of evidence. The literature has grown quite rapidly, with several different focuses. Much of the work examines the decrease in rivalry associated with multimarket contact for firms. The work examines the theoretical conjectures discussed in Section III and adds other theoretical possibilities as well, combining the theory with detailed empirical work.

Some of the empirical work (Scott, 1982, 1988, 1989, 1991, 1993; Feinberg, 1985; Hughes and Oughton, 1993; and Vonortas, 2000) has examined firms meeting in many different manufacturing industries. Other papers have explored the intra-industry multimarket contact across geographic markets for firms operating in airlines (Evans and Kessides, 1994; Baum and Korn, 1996; Gimeno and Woo, 1996; Singal, 1996; Baum and Korn, 1999; Gimeno, 1999; Gimeno and Woo, 1999), cement manufacturing (Jans and Rosenbaum, 1997), banking (Heggestad and Rhoades, 1978; Mester, 1987; Pilloff, 1999; Greve, 2000), cellular telephones (Parker and Roller, 1997), and hospital services (Boeker, Goodstein, Stephan, and Murmann, 1997). Additionally, experimental findings (Feinberg and Sherman, 1988; Phillips and Mason, 1992) have augmented both the theory and the empirical literatures. Further, the applications to public policy have gone beyond the focus on enforcement of U.S. antitrust law to include, among other things, a concern with the competitive effects of European integration (van Wegberg, van Witteloostuijn, and Abbing, 1994).

In addition to the studies of multimarket contact and rivalry, there are studies of organizational learning and efficiency advantages of multiunit and multimarket contact (Ingram and Baum, 1997a, 1997b, 2001; Usher, 1999; Greve, 1999). There are studies
considering the implications of multimarket contact for both improving efficiency and reducing rivalry (Scott, 1982, 1993; Gimeno and Woo, 1999; Greve, 2000). Attention has been directed to the evolution of multimarket contact whether by chance or other mechanisms such as when contact emerges as a consequence of firms pursuing strategic objectives (Scott, 1989, 1993; Korn and Baum, 1999; Greve, 2000).

The volume of empirical studies has prompted retrospective examinations of alternative techniques for measuring multimarket contact. Scott (2001) discusses the design of hypothesis tests about multimarket contact and uses a sample of chemicals firms to illustrate researchers’ choices about the measurement of multimarket contact and to provide new evidence about the effects of multimarket contact in product and innovation markets. Gimeno and Jeong (2001) compare and evaluate the many different metrics for multimarket contact that have been used in the literature.

V. Implications for Merger Policy

The theory and evidence reviewed in Sections III and IV together suggest that the anti-competitive consequences of a horizontal merger would be less when the industry’s oligopolists are diversified yet have little multimarket contact. The diversified oligopolists with little multimarket contact would be likely to have different demands and costs and therefore prefer different high prices; the battle of the sexes equilibrium selection problems would make coordination difficult. The anti-competitive consequences of a horizontal merger would be greater if the merger increased concentration for an oligopoly where the sellers do meet significantly in other markets. Battle of the sexes type disagreements would be less likely; the oligopolists would have more experience selecting a desirable equilibrium; price cuts would be more readily
detected and retaliation would be easier; and Corwin Edwards’s hypothesis developed by Bernheim’s and Whinston’s game theory could increase market power. Regarding conglomerate mergers, for those same reasons, theory implies that concern about their price-raising effects should be greater if they increase the multimarket contact of concentrated sellers in particular markets.

The foregoing statements about the implications of the theory of multimarket contact for horizontal and conglomerate merger policy follow directly from the reviews of the theory and the evidence in Sections III and IV. Here in Section V, I shall focus on the potential problem of ignoring multimarket contact in the current Section 7 Clayton Act enforcement procedures under the Horizontal Merger Guidelines. If multimarket contact is ignored, the enforcement procedures using the Horizontal Merger Guidelines of the U.S. Department of Justice and Federal Trade Commission could allow mergers after negotiated settlements even though anticompetitive horizontal effects remain for the approved, restructured mergers. Consequently, the multimarket contact effects of horizontal mergers should be routinely examined when the U.S. Department of Justice (DOJ) and the Federal Trade Commission (FTC) apply the Horizontal Merger Guidelines to determine whether or not to challenge a merger under Section 7 of the Clayton Act.

A horizontal merger evaluated under the Horizontal Merger Guidelines is typically a byproduct of a merger between diversified firms or an acquisition by a diversified firm of a part of another diversified firm. The competitive consequences of a horizontal merger that is a byproduct of a typical merger between diversified firms will depend on the effects of the merger on the multimarket contact. For such typical cases, because current enforcement procedures do not emphasize multimarket contact, the
competition-reducing impact of changes in multimarket contact brought about by the
mergers may be overlooked. We now turn to developing and explaining the hypothesis
that enforcement procedures overlook horizontal implications of multimarket contact,
even though the *Horizontal Merger Guidelines*’ analytical steps for evaluating the
horizontal competitive consequences of a merger include a step that logically could
include examination of the horizontal competitive effects of merger-induced changes in
multimarket contact.

Section III discussed the hypothesis that multimarket contact can increase market
power – that is, it can facilitate the attainment of higher prices in noncooperative Nash
equilibria or in more general settings. The discussion of the effect of multimarket
contact on market power is placed here in the context of a potential enforcement problem
– namely, because they do not explicitly focus on multimarket contact, the enforcement
procedures using the *Horizontal Merger Guidelines* can result in approval of
anticompetitive mergers. Mergers allowed after negotiated settlement can reduce
competition despite having been “fixed first” because they have increased the
multimarket contact of sellers in concentrated markets. Stated differently, the
conglomerate aspects of a merger – for which the obvious horizontal aspects have been
fixed by divestitures through negotiated settlements – can have anticompetitive horizontal
effects. An open question is whether indeed the *Horizontal Merger Guidelines*

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15 The “lessening of competition” expected because of multimarket contact can cover many types of
behavior from the setting of prices for current production to investment in research and development for
future products or processes. Perhaps most often, the lessening of competition refers to the affect of
multimarket contact on the ability of oligopolists to reach a supra-competitive price – in terms of modern
game theory, the ability to reach a cooperative-like noncooperative Nash equilibrium in a supergame.
However, the lessening of competition even on the narrow score of price competition is of course much
more general than that one view of the issues. Older literature referred to recognition of mutual
dependence and joint profit maximizing behavior. The modern game theory with its formal treatment of
incentive constraints in the context of Nash noncooperative equilibrium for repeated games is consistent
with the earlier literature.
enforcement procedures have overlooked such effects in actual cases. Consequently, the antitrust merger enforcement procedures over the last decade may well have allowed anticompetitive increases in multimarket contact that will significantly harm the performance of U.S. markets.

Recapping the earlier discussion of the enforcement focus on horizontal mergers, we have the following observations. More than a decade has passed since the DOJ and FTC jointly issued their *Horizontal Merger Guidelines* – for the first time issuing merger guidelines jointly and for the first time adding “horizontal” to the title of their merger guidelines. The 1992 *Guidelines*, with an amendment in 1997 to the section about the evaluations of efficiencies of mergers, are the ones currently used by DOJ and FTC to evaluate the competitive consequences of mergers being challenged under Section 7 of the Clayton Act. The current guidelines refer readers to the earlier 1984 *Merger Guidelines* to find information about how the enforcement agencies will view the competitive consequences of non-horizontal mergers, and in practice enforcement efforts challenging such mergers – especially conglomerate mergers – have essentially disappeared. Yet, as reviewed in Sections III and IV, in the past two decades a rapidly growing literature has developed that provides a strong theoretical and empirical case supporting the view that multimarket contact can reduce the competition among sellers operating in concentrated markets. If such reductions in competition result because of multimarket contact, then even when the enforcement agencies follow their current approach of addressing the horizontal effects of a merger between diversified firms, the mergers may still decrease competition. The current approach for the DOJ or FTC is to

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16 For some historical perspectives about the shift in enforcement policies toward mergers, see Scott (1993, chapter 13).
negotiate a settlement ensuring that the merger go forward only after the merging firms have divested a portion of their overlapping competing assets in a way that preserves the number of competing firms. However, such settlements for diversified merging firms may result in a merger that does not change seller concentration in any market, yet increases the multimarket contact of sellers in concentrated markets. In such cases, the mergers, despite having been “fixed first,” may lessen competition substantially.

The current enforcement procedures are potentially missing those anticompetitive effects of mergers. The horizontal mergers are typically the byproduct of mergers of diversified firms. The horizontal aspects of the merger are typically a subset of the collective horizontal, vertical, and conglomerate aspects of the merger. After the DOJ or FTC and the merging firms negotiate the divestiture of assets to ensure that the number of independent competitors in any product or geographic market are preserved, when the merging firms are diversified vertical and conglomerate aspects of the merger will remain. Those aspects of the merger can affect the amount of multimarket contact among the sellers in the markets where the newly merged firm operates. Although the negotiated settlement ensures that the numbers of independent competitors in each market will be the same as before the merger, the amount of their multimarket contact may have changed because of the merger.

To place the multimarket contact hypothesis in the context of the merger enforcement procedures, consider the three markets shown in Figure 4. Firms A and B compete in market 1; firms C and B compete in market 2; firms A and C compete in market 3. The markets could be different product markets, or they could be different geographic markets. Now, firm A notifies the DOJ and FTC under the Hart-Scott-
Rodino Premerger Notification Act that it plans to acquire firm C. Under the merger guidelines, anticompetitive effects are found to be likely since the relevant market is found to be market 3 where the two equal-sized firms are the only competitors, and the merger changes the duopoly there to a monopoly. Under the *Guidelines*, the enforcement agencies use a five-step analytical process to evaluate the competitive consequences of a merger. For the hypothetical merger here, in the first step, the relevant market is determined to be market 3, and the Herfindahl-Hirschman index (HHI) would rise from 5,000 to 10,000. Suppose that consideration of the *Guidelines*’ other five steps (other competitive factors, barriers to entry, efficiency, and potential failure of one of the merging firms) does not change the initial concern about the anticompetitive consequences of the merger. Typically, the enforcement agency that has taken the case would then negotiate a settlement with the merging firms. In such circumstances, the merger would be allowed if it were “fixed first.”

![Figure 4](image)

*Figure 4. Pre-Merger Markets with Firms A, B, and C.*

The enforcement and settlement scenario of concern would be as follows. Firms A and C will be allowed to merge if the assets of firm C in market 3 are sold to another
firm that will preserve the pre-merger amount of competition in the market. The appropriate legal procedures are followed in the courts to allow the merger to proceed under those circumstances, and firm E acquires the divested assets formerly operated by Firm C in market 3. The post-merger situation is shown in Figure 5. Firms A and B compete in market 1; firms A and B compete in market 2; firms A and E compete in market 3. Under the current enforcement procedures that apply the *Horizontal Merger Guidelines* in the context of the Hart-Scott-Rodino Act, the DOJ or FTC acting as the federal antitrust enforcement agency to enforce Section 7 of the Clayton Act as amended by the Celler-Kefauver Act would have allowed a merger after fixing it first. The overlapping, competing assets would have been divested, leaving the same number and size distribution of independent sellers in each of the three markets. However, there has been a change in the markets that may well reduce competition substantially. Theory and empirical work about multimarket contact and economic performance support the concern that the merger, even after having been “fixed first” with the divestiture of the former firm C’s assets in market 3, will reduce competition because it has increased the multimarket contact of concentrated sellers in markets 1 and markets 2.

Figure 5. Post-Merger Markets with Firms A, B, and E.
The important theory of Bernheim and Whinston suggests that the multimarket contact resulting from the merger as depicted in Figure 4 and Figure 5 would not have an anticompetitive effect if market 1 and market 2 are symmetric, but could have an anticompetitive effect if the markets were asymmetric. In the context of the supergame they discuss, assuming that the firms are of equal size and that the discount factor is the same for both markets, the symmetry is sufficient to imply that the set of Nash noncooperative equilibria for the duopolists will be the same before and after the merger. However, even if the discount factors are the same for both markets, changing the market structures so that either we have the simple asymmetry in shares (as in the example of Section III with the firms having shares of .9 and .1 in each market but with one firm leading in one market and following in the other) or we have an additional firm in either market 1 or market 2, but not both, as shown in Figure 6 and Figure 7, is sufficient to make pertinent the Bernheim and Whinston market-power inducing effects (on the incentive constraints of the multimarket sellers) of multimarket contact given asymmetry. Furthermore, even with symmetry, the multimarket contact created by the merger can create market power as explained in Section III.

Figure 6. Pre-Merger Markets with Firms A, B, F, and C.
Figure 7. Post-Merger Markets with Firms A, B, F, and E.

The reduction in competition because of the increase in multimarket contact is a competitive effect that could be analyzed in step two – when various competitive conditions that make market power more or less likely are evaluated – of the five-part analytical process used under the Guidelines to evaluate the competitive consequences of a merger. However, the hypothesis advanced here is that in practice such anticompetitive effects because of multimarket contact are overlooked as the enforcement agency focuses on the negotiated divestitures to remove the more obvious reductions in horizontal competition. Of course, if the enforcement agencies decide to focus seriously, in step two of the merger guidelines analytical process, on the implications of multimarket contact for market power, then in step four of the analytical process there are significant efficiency issues to be addressed as well. As documented in Scott (1993), the purposive pursuit of complementarities in production, marketing, distribution, and research and development investments may be the cause of the multimarket contact,

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17 The analytical process explained in the Guidelines begins with the definition of the market and computation of measures of seller concentration. Then in the context of that market and seller concentration, other competitive factors affecting the ability of the post-merger firms to exercise market power are examined. Multimarket contact could be examined at this point although it is not one of the factors specifically mentioned in the Guidelines. The hypothesis here is that multimarket contact is simply overlooked. The analytical process proceeds to evaluation of barriers to entry, efficiencies, and the possibility that the acquired entity would fail and exit the market in the absence of the acquisition.
because firms facing similar opportunities to realize economies of multimarket operations with diversify into the same set of industries. Thus, the realization of efficiencies may be a concomitant of multimarket contact that creates market power.

VI. Recommendations for Policy

The points made in this chapter support changes in merger policy. The points covered include:

- The case law – in the early years after the Celler-Kefauver Act amended Section 7 of the Clayton Act – identified theories of anticompetitive impact from conglomerate mergers.
- Despite that case law, antitrust enforcement policy has turned away from evaluating the potential competitive impacts of conglomerate mergers.
- Economic theory and evidence have established multimarket contact as a source of market power from conglomerate mergers, yet the theories identified in the old case law about such mergers do not include multimarket contact.

The recommendations for policy that follow from the foregoing points include:

- Given the new theory and evidence that multimarket contact can increase market power, a good case can be made for reinstituting enforcement concern with conglomerate mergers. The new enforcement concern, however, would require modifying the current reference to the 1984 Merger Guidelines’ statement that the effect on potential competition is the source for concern about anticompetitive consequences from conglomerate mergers. Revised, the Guidelines would emphasize multimarket contact as an important source of anticompetitive effects from those mergers.
• The theory and evidence about multimarket contact also imply a case for modifying the current enforcement policy of focusing, without addressing the multimarket contact implications, on the overlapping operations in horizontal competition when diversified firms merge. Even when divestitures are used to restore the independent control by two firms of the overlapping assets that would otherwise have been merged, there can be unaddressed effects of the merger on multimarket contact. Those unattended effects can substantially reduce competition, even given that the merger is “fixed first” under the current enforcement procedures. The recommended change is that an addition be made to the statement and practice of the second step in the five-step analytical process of the Horizontal Merger Guidelines. Having defined the relevant markets and assessed seller concentration, the Guidelines turn to the evaluation of the other competitive conditions that can facilitate the attainment of cooperative-like prices by oligopolists.\textsuperscript{18} At that point in the analysis, the multimarket contact implications for the merger being evaluated should be identified, and the question of whether or not any resulting increase in multimarket contact will facilitate an oligopolistic consensus in any market should be asked and answered. Divestitures of assets to restore the pre-merger extent of multimarket contact may be warranted.

References


\textsuperscript{18} In game theory terms, cooperative-like prices are prices that exceed the single-period Nash noncooperative equilibrium; the single-period equilibria themselves will typically entail prices exceeding the competitive level when oligopolists set quantities or when products are differentiated and price is the strategic variable. In the older literature, cooperative-like prices are those exceeding the competitive level because of sellers’ recognition of their mutual dependence.


