

# A Comprehensive Review of Multimarket Competition Research

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*Our study summarizes the state of knowledge on the topic of multimarket competition. We classify the current research into four broad themes: (1) the antecedents of multimarket contact (MMC), (2) the outcomes of MMC, (3) the contingencies that moderate the mutual forbearance hypothesis, and (4) extensions beyond traditional multimarket competition research. We also highlight several areas and research questions that we believe will be particularly promising for future research.*

**Keywords:** *competitive dynamics; competitor analysis; industrial economics*

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Often, firms engage each other in more than one distinct market. Many airlines vie for passengers on multiple routes, banks and chain retailers compete with each other in multiple regional markets, and highly diversified firms such as Philip Morris and Samsung meet the same rivals in multiple product markets. Multimarket competition can be defined broadly as situations in which firms compete simultaneously against the same rivals in more than one market (Karnani & Wernerfelt, 1985). It is important not to confuse multimarket contact (MMC) and multimarket competition. MMC simply indicates that two firms meet each other in more than one market, while multimarket competition refers to both the existence of MMC and how it affects the interfirm engagement, or rivalry. Multimarket competition was traditionally considered to be a subarea in the broader research on competition, but in recent years its specific relevance to our understanding of firm strategic behavior and performance

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has been recognized, and that has led to an upsurge of interest in the theories of multimarket competition across disciplines (Baum & Korn, 1999; Bernheim & Whinston, 1990; Edwards, 1955; Gimeno, 1994, 1999; Graham, 1990; Greve, 2008; Knickerbocker, 1973).

In multimarket competition, competitive contact extending across multiple markets may lead to lower rivalry—a situation known as “mutual forbearance”—because the rivals realize that their interdependence increases the risk of broad retaliation. That is, rivalrous actions taken in one market may provoke responses not only in that market but also in other markets where both firms operate (Evans & Kessides, 1994; Feinberg, 1984; Haveman & Nonnemaker, 2000; Heggstad & Rhoades, 1978; Phillips & Mason, 1992). The mutual forbearance hypothesis was first articulated by Edwards (1955), who opined that firms that meet each other in many markets may hesitate to fight vigorously because the prospects of local gain are not worth the risk of general warfare. In their seminal work, Bernheim and Whinston (1990) offered one of the first formal treatments of MMC and tacit collusion (mutual forbearance). They demonstrated that with perfect monitoring, identical firms, identical markets, and constant returns to scale technology, MMC does not lead to mutual forbearance. Relaxing these assumptions to allow for heterogeneous markets, firms, and competitive advantages, however, does give rise to collusive gains because such asymmetries enable firms to transfer incentive constraints across markets and punish defections from collusive equilibrium. Following Bernheim and Whinston (1990), most researchers assume that mutual forbearance requires asymmetric markets, rivals, and competitive positions (Gimeno, 1994).

Despite the widespread impact of multimarket competition research, it is surprising that existing comprehensive reviews are rather limited, which has resulted in a large body of literature that lacks integration. It is against this backdrop that we undertake the current review. Our aims are to identify the major inroads that have been made not only in theory testing but also in theory building based on the original mutual forbearance hypothesis and to identify fruitful avenues for continued inquiry.

The proliferation of multimarket competition research made it necessary for us to develop specific criteria to limit the scope of our review. To begin, in cases where a relatively large number of studies share a common theme, we have included a sampling of those that are indicative of the overall thrust and general conclusions. In addition, the multimarket competition literature spans diverse academic disciplines, and not all of the journals have the same currency for management scholars. Thus, we limited our focus to articles published in major academic journals frequently cited by management scholars and selectively review studies published in other outlets.

## **Multimarket Competition Research**

The research on multimarket competition is characterized by several important and distinguishing themes. These central themes are (1) the antecedents of MMC, (2) the outcomes of MMC, (3) an array of the contingencies that moderate the effects of MMC on mutual forbearance, and finally (4) extensions beyond traditional multimarket competition research. Below, we organize our review of the literature around these four central themes and provide a table with representative studies for each theme.

## *The Antecedents of MMC*

### *Intended MMC*

Most research focused on multimarket competition simply assumes that there is a deliberate strategic intent behind the emergence of MMC—that is, managers are striving to achieve or ensure mutual forbearance (Jayachandran, Gimeno, & Varadarajan, 1999). Accordingly, a number of market-level and firm-level factors have been identified as antecedents of MMC. For instance, Knickerbocker (1973) found that oligopolists, aware of their mutual interdependence, reacted quickly to imitate competitors' moves to maintain competitive parity. Such "follow the leader" behavior (the creation and maintenance of MMC) was affected by market structure variables such as seller concentration, product diversity, R&D, and advertising intensity. Along the same lines, Haveman and Nonnemaker (2000) showed that the rate of entry into a focal market is influenced by the extent to which the market is dominated by a few large firms. With respect to firm-level factors, Greve (2000), focusing on market niche entry, showed that larger firms are more likely to intentionally seek MMC because the ability to recognize competitive dependence may be linked to organizational size. Baum and Korn (1999) found that multimarket competitors' rate of entry into (or exit from) each other's markets is affected by their relative size. Finally, Fuentelsaz and Gómez (2006) observed that multimarket competitors' entry rates are affected by their strategic similarity.

### *Unintended MMC*

Korn and Baum (1999) were among the first to question the intentionality behind MMC. In a study of California commuter airlines, they showed that MMC can arise more as a result of chance contacts (i.e., rivals pursuing uncoordinated strategies and trait-based imitation unrelated to MMC) than as a result of firms attempting to capitalize on mutual forbearance. They caution against the predominant assumption that MMC is deliberate by noting,

Firms' strategists do not necessarily take actions to create MMC intentionally but, rather, sometimes find themselves in relationships characterized by MMC as a result of influences other than their own rational calculations. Some may even be unaware that they are experiencing MMC because they may not notice the presence of contacts that they did not seek intentionally. Such firms' aggressiveness or forbearance toward multimarket competitors should be examined differently from those of firms that intentionally formed such contacts. (Korn & Baum, 1999: 188)

Extending the findings of Korn and Baum (1999), Greve (2006) examined 174 Tokyo-based banks and showed that the banks did sometimes encounter each other by coincidence. However, when they met often, mutual forbearance was a likely motivation for subsequent contact in new markets. Using the same data set, in another study Greve (2000) reported that although Japanese banks did seek to turn single-market contact into MMC, they often did not extend the contact beyond two markets. As a result, Greve concluded that the hypothesis that multimarket firms seek to establish *additional* MMC with each other was not supported. To

summarize his findings, Greve (2000) noted that, when analyzing firm-level multimarket strategy, forward looking strategies should be de-emphasized, as past experience and current opportunities are more salient and certain than future actions of competitors, and decision makers tend to favor salient and certain information.

Indirectly challenging mutual forbearance as the primary driver of MMC, Gimeno and Woo (1999) empirically showed that MMC between a firm and its focal-market rivals was more likely to occur in markets that presented strong resource-sharing opportunities (i.e., scope economies) with the focal market. This suggests that MMC is more likely to occur with related diversification strategies than with unrelated diversification strategies. The authors conclude, "Ironically, MMC would be quite unlikely among diversified firms of the conglomerate form, which is the context for which the mutual forbearance hypothesis was originally developed" (Edwards, 1955, p. 255).

Finally, in a theoretical article, Korn and Rock (2001) argued that it is critical to differentiate between the creation of MMC and its exploitation through mutual forbearance. They proposed that factors such as decentralized decision making, unrelated mergers and acquisitions, and high market growth rates all tend to increase the creation of naïve (unintentional) MMC.

Taken together, the body of work on the antecedents of MMC (as summarized in Table 1) raises questions about the level of intention to achieve mutual forbearance behind the emergence of MMC. One natural question to ask next would be how the intentionality (or the lack thereof) behind MMC might influence the outcome of MMC. To address this question, Gimeno (2002) empirically showed that MMC can arise from unintended encounters among competitors pursuing uncoordinated market expansion strategies, as well as from the strategic intent of firms seeking to achieve mutual forbearance with their rivals. The performance effects of unintended MMC were not different from those of purposeful MMC.

## *The Outcomes of MMC*

### *Performance*

As shown in Table 2, multimarket competition research has primarily focused on two core issues. The first is the relationship between MMC and firm performance. Most previous studies have provided robust support linking MMC to better organizational performance. For instance, J. T. Scott (1982, 1991) found higher profits where MMC and market concentration were both high. In a longitudinal study of bank holding companies, Heggstad and Rhoades (1978) found greater stability in the market shares of banks in markets with greater MMC. Studying 14 mergers among airlines, Kim and Singal (1993) found that MMC had a significant positive effect on performance. Examining 418 manufacturing firms, Hughes and Oughton (1993) showed that MMC was positively related to industry price-cost margins and industry rates of return. Similarly, Feinberg (1985) reported higher profits in industries where MMC was high.

Despite the strong evidence supporting the positive impact of MMC on performance, there have also been studies that provided nonsupportive findings. For example, in a cross-sectional study of the effect of conglomerates' interdependence across markets on intramarket

**Table 1**  
**Cross Section of Multimarket Competition Studies:**  
**Antecedents of Multimarket Contact**

Citation	Key Arguments/Findings	Empirical Setting
(Gimeno & Woo, 1999)	Efficiency is influenced by a firm's scope economies, but the intensity of rivalry is determined by MMC with rivals and their scope economies. The confluence of strong scope economies with MMC results in superior economic performance. However, strong scope economies may not result in superior performance if rivals can obtain similar economies in nonoverlapping markets.	28 U.S. airlines between 1984 and 1988
(Korn & Baum, 1999)	MMC may arise more as a result of chance contacts among competitors pursuing uncoordinated strategies and trait-based imitation unrelated to MMC than as a result of strategic attempts to develop MMC and capitalize on mutual forbearance.	Commuter air carriers operating in California from 1979 to 1984
(Greve, 2000)	This study found that an organization's decision makers evaluate market niches based on competitive environment, learning from others, the organization's own experience, and proactive strategy.	174 Tokyo-based banks 1894-1936
(Varadarajan et al., 2001)	This theoretical article proposes that deconglomeration intensity is positively related to MMC with competing firms and seller concentration.	
(Korn & Rock, 2001)	This theoretical article differentiates between the creation and subsequent exploitation of MMC. The article examines factors that influence the likelihood that a firm will seek to develop a purposive set of overlapping markets with specific competitors, as opposed to developing naïve contacts based on an internally derived logic. The article suggests that competitor identification, organizational structure, ease of competitive response, and industry structure all play important roles in determining the ability of managers to seek rivalry reduction, which has been found to follow the development of MMC.	
(Gimeno, 2002)	The performance effects of unintended MMC are the same as those of purposeful contacts.	28 U.S. airlines in 3,008 city-pair markets between 1984 and 1988
(Greve, 2006)	This article investigates the causes of MMC using three different measures of MMC: MMC density, the intentional MMC, the extent of MMC. The results showed that firms appeared to avoid extensions of MMC beyond the minimum of two contacts necessary to be MMC competitors. In addition, firms are less likely to enter markets in which many MMC competitors are present, but more likely to enter markets in which the MMC competitors present had a high extent of contact with them.	174 Tokyo-based banks between 1894 and 1936

*Note:* MMC = multimarket contact. Readers should be cautious in interpreting the relative numbers of papers in each table, as many (perhaps most) papers contribute to more than one category, and at the suggestion of a reviewer each paper was listed only once—typically when it was first discussed.

**Table 2**  
**Cross Section of Multimarket Competition Studies: Outcomes of Multimarket Contact**

Citation	Key Arguments/Findings	Empirical Setting
(Heggestad & Rhoades, 1978)	Greater market share stability in local markets with greater MMC	Top 3 U.S. bank holding companies in 187 major markets, 1966-1972
(J. T. Scott, 1982, 1991)	Higher profits in industries where MMC was high. Profits were approximately 3% higher when both seller concentration and MMC were high.	437 U.S. manufacturers, 1974
(Alexander, 1985)	Service charges, loan rates, and fees were higher in markets with high MMC. Quadratic interaction effects of MMC with concentration were more significant.	Bank holding companies in 6 U.S. states, 1975
(Feinberg, 1985)	Cost-price margins were higher in industries where MMC was high. The quadratic interaction effects of MMC with concentration were significant.	391 U.S. multiproduct firms, 1982
(Rhoades & Heggestad, 1985)	No effect of MMC on ROA, service charges, or loan rates and fees.	1,074 banks in 154 U.S. markets, 1970-1979
(Mester, 1987)	Market stability, service charges, and loan rates and fees were higher and ROA was lower in markets with high MMC.	171 savings and loan firms in California
(Sandler, 1988)	MMC is related positively to rivalry.	123 airline markets during 1974-1976 and 1978-1980
(Barnett, 1993)	Lower exit rates from state markets with higher MMC	48 state markets of the CPES sector of the telephone industry, 1981-1986
(Hughes & Oughton, 1993)	Price-cost margins and rate of return on capital were higher in industries with higher MMC.	
(Gimeno, 1994)	The dissertation empirically supports the mutual forbearance hypothesis. And it also suggests a number of contingencies that may moderate the relationship between MMC and the intensity of rivalry such as spheres of influence, the relatedness of the markets, strategic similarity, the presence of single-market competitor, seller concentration, growth of sales, and entry barriers.	U.S. major airlines 1984-1988; 22-38 firms
(Evans & Kessides, 1994)	Fares are higher in city-pair markets served by carriers with extensive inter-route contacts. Their findings are consistent with the claims that airlines live by the "golden rule," i.e., that airlines refrain from initiating aggressive pricing actions in a given route for fear of what their competitors might do in other jointly contested routes.	U.S. airlines between 1984 and 1988
(Smith & Wilson, 1995)	Multimarket competitors most frequently did not respond at all to other firms' entries.	10 major U.S. airlines between 1983 and 1984

*(continued)*

Table 2 (continued)

Citation	Key Arguments/Findings	Empirical Setting
(Baum & Korn, 1996)	This study showed that increases in market domain overlap raised firms' rates of entry and exit, but increases in MMC lowered them, especially in markets dominated by a single player.	California commuter air carriers between 1979 and 1984
(Singal, 1996)	Mergers in airline markets cause prices to rise on long-distance routes due to an increase in MMC. A change in MMC has an impact on fares independent of the impact due to changes in concentration. Increases in both MMC and concentration generate much greater price effects than an increase in either MMC or concentration. Changes in MMC are more important than changes in concentration, especially in multimarket industries such as airlines and banking.	Mergers occurred in U.S. airline industry between 1985 and 1988
(Gimeno & Woo, 1996b)	Strategic similarity moderately increases the intensity of rivalry, whereas MMC strongly decreases it.	3,000 city-pair markets of the U.S. airline industry between 1984 and 1988
(Boeker et al., 1997)	Firms were less likely to exit markets in which they meet large numbers of their multimarket rivals. In addition, exits would be more likely with contracted services or in an organization with a new CEO.	286 California hospitals for the period 1980 to 1986
(Jans & Rosenbaum, 1997)	This study empirically examines the effect of MMC on pricing. The results indicate that the divergence of price from marginal cost in a particular market is directly related to the extent of MMC among firms in that market.	25 U.S. regional cement markets for the years 1974 through 1989
(Parker & Röller, 1997)	Cross-ownership and MMC are important factors in explaining noncompetitive prices.	U.S. cellular industry between 1984 and 1988 (2 firms in 19 markets)
(Fernandez & Marin, 1998)	This article confirms Bernheim and Winston's arguments that the existence of MMC implies not only that firms may increase their power to collude in general terms but also that they may strategically transfer their power to collude from very collusive markets to other markets where collusion is more difficult to sustain.	2,221 hotels and boarding houses across 83 markets in Spain in 1996
(Baum & Korn, 1999)	There is an inverted U-shaped relationship between firms' rates of entry into and exit from each other's markets and the level of MMC in competitor dyads. This curvilinear effect varies from dyad to dyad as a function of relative levels of MMC with competitors in other dyads and the relative sizes of competitors in a focal dyad.	Commuter air carriers operating in California from 1979 to 1984
(Gimeno, 1999)	Firms use footholds in their rivals' important markets (particularly in their hubs) to reduce the competitive intensity of those rivals in their own important markets (their hubs) and sustain their dominant positions (or spheres of influence) in those markets.	48 U.S. airlines between 1984 and 1988

(continued)



**Table 2 (continued)**

Citation	Key Arguments/Findings	Empirical Setting
(Shankar, 1999)	A brand's introductory marketing spending is lower if the entering firm has MMC with the incumbents. In addition, an incumbent's marketing spending is lower if it has MMC with the new entrant.	23 entries and 59 incumbent responses from 6 U.S. prescription drug markets
(Young et al., 2000)	As MMC increases, a firm moves less frequently but more quickly following the moves of rivals. As a firm's resources are more dissimilar relative to rivals, it becomes more rivalrous along both frequency and timing dimensions of competitive behavior. And the influence of MMC on action frequency is most influential for firms whose resources are more dissimilar relative to rivals, but its influence on a firm's time to move is more influential for firms whose resources are more similar relative to rivals. The study found that the extent of MMC determines the level of competition experienced by a focal organization and therefore influences its growth and market entry. Market structure, specifically the extent to which markets are dominated by a few large firms, influences competition and therefore influences growth and market entry. And finally, market structure accentuates multimarket competitive dynamics, as mutual forbearance is more pronounced in markets dominated by a few large firms. No support was found for the mutual forbearance hypothesis. MMC is negatively related to lending rate.	U.S. software industry between 1987 and 1991, 20 firms
(Haveman & Nonnemaker, 2000)	Multiproject and multimarket contacts lead to anticompetitive behavior. However, significant foreign participation, high technological and market uncertainties, and the setup of "porous" research JVs may operate as a check to anticompetitive behavior. This article uses theories from the strategic, institutional, and decision-making literatures to explain why there is an inverted U-shaped relationship between MMC and likelihood of entry. By distinguishing between MMC and multimarket competition, the article suggests that the point at which MMC turns into mutual forbearance varies across different industries and different sets of competitors.	Savings and loan associations in California 1977-1991, 321 firms (224 single-market firms) in 58 counties
(De Bonis & Ferrando, 2000)	The study suggests that competitive learning travels better than cooperative learning through the multimarket firm. Strong competition (price decrease) in some markets where a multimarket firm participates can cause it to behave more competitively in its other markets. In contrast, learning that moves through MMCs is less influential than learning within the market.	55 largest Italian banks from 1990 to 1996
(Vonortas, 2000)		NCRA-RJV database, 63 pairs between 1985-1995 (across industries)
(Stephan & Boeker, 2001)		
(Phillips & Mason, 2001)		

(continued)



Table 2 (continued)

Citation	Key Arguments/Findings	Empirical Setting
(J. T. Scott, 2001)	MMC was found to have a large, stable, and statistically significant association with a firm's citations of the patents of another firm. Congruence of two firms' operations across the product and innovation markets is extraordinarily important for their ability to absorb each other's research and development ideas.	42 chemical-related companies between 1993 and 1997
(Cassidy & Loree, 2001)	The weaker rivalry and stronger overlap of activities between firms with high MMC increases the motivation and capability for knowledge transfer. This tendency is strengthened if these firms are viewed as a strategic group.	
(Audia et al., 2001)	Multinuit organizations benefit primarily from enhanced organizational learning, competitive forbearance, and the diversification of risk. However, these benefits appear to come at the expense of organizational adaptability.	U.S. footwear industry between 1940 and 1989
(D'Aveni, 2002)	This article provides insights to managers regarding how to map and manage competitive pressure caused by MMC.	
(Stephan et al., 2003)	This study provided support for an inverted U-shaped relationship between MMC and market entry. The study also found that longer-tenured CEOs are more guided by their firms' multimarket relationships, compared with newer CEOs.	395 hospitals in California from the period 1980-1986
(Chang & Harrington, 2003)	The presence of competing chains magnifies the importance of centralization in facilitating learning. In other words, intensified multimarket competition favors centralized organizational structure.	
(Li & Greenwood, 2004)	This study integrates multimarket competition research with diversification literature. The results showed that the measure of MMC weighted by firm similarity is positively related to firm performance. In contrast, the simple count of MMC is negatively associated with firm performance. These two results echo the argument that MMC can breed tacit collusion among firms, if and only if firms can decipher the message encoded in each other's behavior.	Canadian general insurance company in Canada between 1993 and 1998 (276 companies)
(Hannan & Prager, 2004)	Local market concentration influences the pricing behavior of single-market (SM) banks. However, this relationship is weakened as the market share of multimarket banks grows. On average, multimarket banks offer lower deposit rates than do SM banks. An increase in the share of branches operated by multimarket banks is associated with a reduction in the deposit interest rates offered by SM banks.	U.S. banking industry in year 1996 and 1999
(D'Aveni, 2004)	This article provides insights to managers regarding how to take advantage of spheres of influence to achieve growth.	

(continued)

**Table 2 (continued)**

Citation	Key Arguments/Findings	Empirical Setting
(Fuentelsaz & Gómez, 2006)	This study found that MMC has an inverted U-shaped influence on entry rates. And the effect of MMC on mutual forbearance (lower entry rates) is greater when multimarket rivals are more dissimilar.	Spanish savings banks industry between 1986 and 1999
(Hannan, 2006)	Banks in more concentrated markets tend to charge higher fees, and this effect is weaker when there is a strong presence of large multimarket banks. In addition, large banks charge higher fees than smaller banks. Single-market banks are found to charge higher fees in markets where multimarket banks have a greater presence.	Two surveys of banks in 1999 and 2001
(Waldfogel & Wulf, 2006)	The article found that MMC has little effect on advertising prices.	
(Yu & Cannella, 2007)	This study showed that the speed of an MNEs response to a rival's attack is influenced by resource-related factors, such as distance, government constraints, and subsidiary control, and by market-related factors such as initiating country importance, whether the response occurs in the country of attack, and multimarket contact.	248 geographic U.S. radio broadcast markets, 1995-1998
(Prince & Simon, 2009)	This study found that MMC has a negative effect on service quality. And this effect is stronger for MMCs on more concentrated markets.	13 global automakers from 1995 to 2001 in 27 countries
(Shipilov, 2009)	This study found that network openness relates positively to performance for firms with a history of MMC with their network partners.	10 major U.S. airlines between 1995 and 2001 482 investment banks in the United Kingdom from 1992 to 2001
(Hannan & Prager, 2009)	In the rural banking markets, the profitability of small SM banks is positively related to the presence of large multimarket banks.	U.S. banking industry between 1996 and 2003
(Kang et al., 2010)	MMC is positively related to price and negatively related to new product introduction (the mutual forbearance hypothesis is confirmed). However, when challenged, firms with high MMC are more likely to respond with new product introduction and not price cuts.	U.S. personal computer industry 1995-1999, 45 firms
(Makadok, 2010)	Rivalry restraint (due to mutual forbearance for instance) and competitive advantage (due to RBV and competitive dynamics) have a negative interaction effect on profit.	

*Note:* CPES = customer premises equipment and service; JV = joint venture; MMC = multimarket contact; MNE = multinational enterprise; NCRA-RJV = National Cooperative Research Act-Research Joint Ventures; RBV = resource-based view; ROA = return on assets.

profitability, Strickland (1985) found no evidence of mutual forbearance. Similarly, Rhoades and Heggstad (1985) found no effect of MMC on performance in local banking markets. Using panel data including 248 geographic U.S. radio broadcast markets, Waldfogel and Wulf (2006) found that MMC had little effect on advertising prices.

### *Intensity of Rivalry*

The second core issue that has been studied extensively by multimarket competition researchers is the relationship between MMC and intensity of rivalry. Early on, the intensity of rivalry was largely captured using constructs such as industry price-cost margins (Rhoades, 1973), advertising ratios (Strickland, 1985), market share instability (Heggstad & Rhoades, 1978; Whitehead, 1978), and changes in the overall rank positions of firms (Martinez, 1990). Recently scholars have explored a number of different ways of conceptualizing rivalry.

*Market entry and exit.* Using market entry as a theoretical proxy for the intensity of rivalry, Baum and Korn (1999) were among the first to suggest a nonlinear (inverted U-shaped) relationship between MMC and firms' market entry rates. They argued that in markets in which MMC is low, each firm has an incentive to establish a foothold in at least some of the same markets as other firms to signal its ability to engage in multimarket retaliation should it come under attack. However, as MMC increases and firms recognize their competitive interdependence, each firm has an incentive to avoid entering a new market that is currently occupied by firms that it already meets in multiple markets to discourage potential multimarket retaliation as well as to honor any tacit collusive agreements that have evolved. Analyzing the competitive interactions between pairs of commuter airlines, their study was also among the first to treat MMC as a property of the relationship between two firms, a significant departure from prior research that had mostly viewed MMC as an aggregate property of markets or individual firms. The curvilinear relationship between MMC and market entry (or exit), to a certain degree, can help us explain the mixed findings of prior research on mutual forbearance. This relationship has received support in a number of empirical contexts. For instance, studying 321 savings and loan associations operating in 58 counties in California, Haveman and Nonnemaker (2000) found an inverted U-shaped relationship between MMC and rate of entry. Using data from the Spanish banking industry, Fuentelsaz and Gómez (2006) reported the same conclusion.

*Individual firm competitive behavior.* Originating in IO economics, earlier work on multimarket competition has conceptualized rivalry largely as a property of market structure determined by market forces and not subject to the conscious control of individual firms. Recently a group of scholars has highlighted the importance of individual firm conduct when examining interfirm rivalry. For instance, two recent studies investigated the impact of MMC on actual firm-level competitive behavior. Young, Smith, Grimm, and Simon (2000) reported that MMC was negatively related to the frequency of competitive moves initiated by a focal firm and positively related to the speed of competitive moves when the firm was challenged by a multimarket rival. Studying the response speed of 13 global automakers across

27 countries, Yu and Cannella (2007) found that a multinational firm's response speed in a host country to an action taken by a rival was positively associated with the degree of MMC between the focal firm and the rival. Importantly, both studies concluded that while MMC may lower the level of rivalry overall, when attacked, multimarket rivals appear to respond aggressively. This observation indeed is consistent with some of the original theories of multimarket competition, which emphasized the capacity to respond vigorously as a key driver of mutual forbearance (e.g., Bernheim & Whinston, 1990).

*Firm growth/service quality.* Viewing firm growth as an aggressive act, Haveman and Nonnemaker (2000) found that there was an inverted U-shaped relationship between the level of MMC and the rate of multimarket firm growth. Greve (2008) reported that sales growth was most rapid in firms that did not meet many multimarket competitors in a given market. Considering quality as a critical dimension of a firm's competitive strategy, Prince and Simon (2009) empirically tested whether MMC affected service quality by looking at on-time performance in the U.S. airline industry. Providing strong support for the mutual forbearance hypothesis, they found that airlines make fewer investments in service quality when MMC is high because such investments may induce rivals to respond either with price cuts or with service improvements in other markets in which the airlines compete.

*Investment in tangible and intangible resources.* Innovation is a competitive game that many firms play continuously. Accordingly, some scholars have also examined the impact of MMC on firm investment in tangible and intangible resources. For instance, W. R. Scott (2001) studied the patent citations of 42 chemical-related companies and reported that MMC between two firms was positively related to their cross-citations. Shankar (1999), studying the impact of MMC on new product entry strategy in six U.S. prescription drug markets, reported that a brand's introductory marketing spending was lower if the new entrant had MMC with the incumbents. Focusing on research-related joint ventures between large diversified corporations, Vonortas (2000) found that the combination of extensive MMC and multiproject contacts strengthened the likelihood of collusion. Finally, Kang, Bayus, and Balasubramanian (2010) analyzed the pricing and new product introduction decisions of firms in the personal computer industry. They found that the strategic effects of MMC were asymmetric in price and product decisions. Firms with high MMC tended to respond with new product introductions if attacked but typically did not use price as a retaliatory weapon. This evidence indicates that new product introductions may be a key strategic lever in the enforcement of mutual forbearance because firms can shield themselves from the downward spiral of price competition by limiting competitive battles to product features.

### *The Contingencies That Moderate the Mutual Forbearance Hypothesis*

A number of scholars have called for further study of the conditions that may either strengthen or weaken the association between MMC and the intensity of rivalry. In this section we summarize the efforts to investigate the role of context in multimarket competition (see Table 3). These studies typically demonstrate that the effects of MMC are dependent on an array of organizational and environmental factors.

**Table 3**  
**Cross Section of Multimarket Competition Studies: Contingencies**  
**That Moderate the Mutual Forbearance Hypothesis**

Citation	Key Arguments/Findings	Empirical Setting
(Ma, 1998)	The purpose of this conceptual article is to build on extant literature on multimarket competition and extend this line of work to an international arena.	
(Verboven, 1998)	This article studies collusive behavior in a repeated oligopoly with localized competition. Private information about the rivals' past actions naturally arises from this market structure. The resulting communication problems imply that firms should adopt strategies with sufficiently lenient punishments.	
(Jayachandran et al., 1999)	This article examines how MMC increases familiarity and deterrence. In addition, the article provides an extension of the theory of multimarket competition by developing a conceptual model that identifies competitive and market factors that moderate the relationship between MMC and the intensity of competition.	
(Golden & Ma, 2003)	This theoretical article proposes that the degree to which formal and informal integrating mechanisms are present is positively associated with the competitors' ability to mutually forbear. In addition, the degree to which formal and informal incentive systems for internal cooperation are present is positively associated with efforts to mutually forbear.	
(Thomas & Willig, 2006)	The article shows that the conventional wisdom on the general advantages from MMCs across markets does not hold up in the presence of realistic asymmetric information about rivals' actions. In settings where participants' actions are monitored with unavoidable noise and error, repeated-game equilibrium typically entail the possibility of mistaken retaliatory punishment when rivals are erroneously perceived to have deviated from cooperation. In such settings, the authors show that MMCs can be disastrously injurious because they allow mistaken retaliatory punishment to spread from one market to another. The losses due to this contagion can readily outweigh any gains from MMC.	
(Greve, 2008)	The study used heterogeneity in sales growth to capture defection since firms that collaborate will see uniform sales growth, while firms that defect will tend to grow faster. The results showed that firms with lower levels of MMC defected more often, presumably because those defections were more difficult to detect.	Norwegian general insurance industry from 1912 to 1986
(Yu et al., 2009)	The effect of MMC on an MNE's competitive aggressiveness is moderated by subsidiary ownership, cultural distance, local government regulation, and the presence of local competitors.	13 global automakers from 1995 to 2001 in 27 countries
(Fan, 2010)	Focusing on de novo ventures—firms without previous history in an industry—this study develops the notion of “arch incumbent” and finds that, in general, a large market overlap with an average incumbent lowers the survival odds of a de novo entrant. However, a large market overlap with the arch incumbent combined with an aggressive inaugural market entry or a different market positioning reduces the probability of retaliation by the arch incumbent and subsequently other incumbents.	Intra-European scheduled passenger airline industry 1996-2004 (135 new ventures)

(continued)

**Table 3 (continued)**

Citation	Key Arguments/Findings	Empirical Setting
(Mas-Ruiz & Ruiz-Moreno, 2011)	There should be less rivalry and improved performance within strategic groups composing large firms than in those composing small firms because the members of the former operate across multiple markets and may be more motivated to coordinate their actions owing to the effects of market power as well as scale and scope economies.	Spanish bank loans market between 1992 and 1998

*Note:* MMC = multimarket contact; MNE = multinational enterprise.

Broadly speaking, two general contingencies under which the mutual forbearance hypothesis may take effect—full observability and effective internal coordination—have been considered. First, Greve (2008), Thomas and Willig (2006), and De Bonis and Ferrando (2000) argued that a distinctive feature of the mutual forbearance model is its full observability condition, where defections from equilibrium (violations of mutual forbearance) can always be detected and punished. Because it assumes full observability, the usual model of multimarket competition and its predictions may not apply in markets with imperfect observability (Verboven, 1998). The full observability assumption of the mutual forbearance hypothesis is in line with the Awareness-Motivation-Capability framework well established in the competitive dynamics literature. According to Chen (1996) and a number of other scholars (Ferrier, Smith, & Grimm, 1999; Yu & Cannella, 2007), competitors will launch attacks or respond to their rivals' attacks only when they are aware of their rivals and the drivers of competition within the industry. Empirically, to test full observability as an important boundary condition for the mutual forbearance hypothesis, Greve (2008) studied the Norwegian general insurance industry. He used heterogeneity in sales growth to capture defection since firms that collaborate tend to experience uniform sales growth and firms that defect tend to grow faster. He found that firms with lower levels of MMC defected more often, presumably because those defections were more difficult to detect.

With respect to the second general contingency, many scholars have emphasized the prominence of internal coordination and integration in implementing a mutual forbearance strategy (e.g., Golden & Ma, 2003; Jayachandran et al., 1999; Ma, 1998; Yu, Subramaniam, & Cannella, 2009). Jayachandran et al. (1999), for example, argued that in the absence of intrafirm coordination, multimarket competition will converge to market-by-market competition, which does not facilitate mutual forbearance. Along the same lines, in an important theoretical article, Golden and Ma (2003) proposed that the ability to forbear is positively related to the presence of formal and informal integrating mechanisms within the firm, coupled with the presence of incentive systems for internal cooperation.

Above, we discussed the general contingencies that may govern the relationship between MMC and the emergence of mutual forbearance. Next we review the specific contingencies identified by prior research. We organize our discussion around three categories—market-level contingencies, firm-level contingencies, and firm-market-level contingencies.

### *Market-Level Contingencies*

Market concentration has been one of the most widely studied contingencies in the multimarket competition literature. Jans and Rosenbaum (1997) and Fuentelsaz and Gómez (2006), for example, found that the effect of MMC on mutual forbearance was greater in more concentrated markets. Jayachandran and his colleagues (1999) proposed that the negative relationship between MMC and intensity of rivalry would be stronger in markets of moderate seller concentration. Finally, Baum and Korn (1996) and Haveman and Nonnemaker (2000) reported that MMC lowered entry and exit rates more in highly concentrated markets.

Expanding prior research to international settings, growing evidence shows that many global contextual factors may also strengthen or weaken the impact of MMC on interfirm rivalry. For instance, in a theoretical article, Ma (1998) proposed that cultural diversity across markets is likely to be negatively related to mutual forbearance because heterogeneity in national cultures hinders a firm's ability to coordinate cross-market attacks and retaliations. In addition he argued that trade policies that favor reciprocity may facilitate mutual forbearance because such policies assist multinational firms in establishing spheres of influence across countries. Empirically testing the mutual forbearance hypothesis in the global auto industry, Yu and her colleagues (2009) found that government regulations, including policies that hinder the transfer of financial assets, policies that restrict competition by providing support to local companies, and policies that constrain multinational corporations' negotiations with local partners or suppliers, significantly attenuated the rivalry-dampening influence of MMC. The authors also found that the greater the presence of domestic competitors in a given host country, the weaker the rivalry-dampening influence of MMC.

In addition to market concentration and the global contextual factors reviewed above, researchers have also considered a number of other market-level contingencies. For instance, Gimeno (1994) and Haveman and Nonnemaker (2000) found that the effect of MMC in reducing rivalry was lower in markets with single-market competitors because single-market competitors are not fearful of cross-market retaliation. Greve (2008) observed that multimarket competitors had higher heterogeneity of sales growth rates (i.e., higher motivation to cheat) in fast-growing markets. Vonortas (2000) argued that technological and market uncertainty can destabilize mutual forbearance between multimarket competitors. Kalnins (2004) showed that in markets with substantial uncertainty, firms were more likely to increase divisional MMC.

### *Firm-Level Contingencies*

MMC has been studied at both the firm level and the firm-dyad level. Accordingly, we discuss firm-level contingencies at both levels as well.

First, a number of firm-level contingencies have been identified by prior research. For instance, Ma (1998) argued that multimarket rivals are more likely to mutually forbear when they have (1) related diversification, (2) centralized decision making, and (3) organizational culture emphasizing intrafirm cooperation. In addition, Greve (2008) reported that firms



were more likely to defect from mutual forbearance when they were economically troubled. Furthermore, in one of the first attempts to examine the role of top managers in a multimarket context, Stephan, Murmann, Boeker, and Goodstein (2003) found that the inverted U-shaped relationship between a firm's entry decisions and its MMC with rivals was more likely to be observed when the firm's CEO had a longer tenure and thus a better understanding of the competitive context and the firm's interdependence with its rivals. Furthermore, focusing on de novo ventures (firms without previous history in an industry), Fan (2010) showed that when de novo ventures have a large market overlap with an arch incumbent (a very large firm that dominates the market), an aggressive inaugural market entry or a different market positioning reduces the probability of retaliation by the arch incumbent and subsequently by other incumbents. The findings of this study suggest that mutual forbearance may work differently for young and small firms than it does for larger and more mature firms. Finally, Mas-Ruiz and Ruiz-Moreno (2011) suggested that there should be less rivalry and better performance within strategic groups composing large firms than in those composing small firms because large firms are generally connected by MMCs that promote group behavior through efficiency and market power effects.

Second, treating MMC as a property of firm dyads, several studies have examined how asymmetric competitive positions and resource endowments at the dyad level moderate the relationship between MMC and intensity of rivalry. Baum and Korn (1999) found that a firm's rate of entry into (or exit from) a competitor's markets was higher when the level of MMC with the competitor was low relative to the firm's level of MMC with other competitors. They also reported that the deterrent effect of MMC on a firm's rate of entry into a competitor's markets increased as the competitor's relative size increased. Gimeno (1994) reported that the tendency of MMC to decrease rivalry was greater when the MMC involved strategically similar competitors. Opposite to what Gimeno (1994) reported, Fuentelsaz and Gómez (2006) showed that the damping effect of MMC on Spanish banks' entry rates was greater when the multimarket rivals were more dissimilar. In line with the findings of Fuentelsaz and Gómez, Young and his colleagues (2000) showed that the negative effect of MMC on the action frequency of a firm was stronger when the firm's resources were dissimilar to those of its rivals.

### *Firm-Market-Level Contingencies*

A number of scholars have identified firm-market-level contingencies that may affect the impact of MMC on interfirm rivalry. Among this set of studies, the contingencies related to the spheres of influence argument have received the most attention. The concept of spheres of influence emphasizes that the effects of MMC on a firm's position in a focal market is influenced by the territorial interests of the firm and its rivals in both the focal market and other markets in which they both compete (Gimeno, 1999). In other words, when a firm has a foothold in the important territory of its rival (i.e., the rival's sphere of influence), it has an opportunity to signal its subordination in the rival's territory in exchange for the rival's subordination in the firm's important markets (Simmel, 1950). Being one of the first putting forward the idea of sphere of influence, Bernheim and Whinston (1990) showed that when firms differed in their costs of production across markets or when scale economies were present, MMC allowed the development of spheres of influence, which enabled firms to

sustain higher levels of profits and prices. Furthermore, Gimeno (1994, 1999) found that MMC reduced rivalry more when the contacts originated in markets where the rival had a salient position (a sphere of influence). Along the same vein, Baum and Korn (1996) reported that MMC lowered entry and exit rates most in markets dominated by a single firm because multimarket rivals are more likely to show subordination in such markets in exchange for reciprocal subordination in their important markets. Finally, Fuentelsaz and Gómez (2006) also confirmed that the effect of MMC on mutual forbearance (lower entry rate) was greater when contacts were reciprocal (reciprocal contact was defined as the situation when two firms share two markets but their relative strategic position in those markets is asymmetric), again reflecting the impact of spheres of influence.

Aside from spheres of influence, a number of other firm-market-level contingencies are also worth mentioning. Focusing on multinational companies, Yu and her colleagues (2009) found that the greater the level of ownership a multinational firm had in a host-country subsidiary, the greater the rivalry-dampening influence of MMC. The authors also found that the cultural distance between a multinational firm's home country and a given host country attenuated the negative impact of MMC on interfirm rivalry. Their findings support the importance of internal coordination in achieving mutual forbearance because greater ownership and cultural similarity both tend to facilitate internal cooperation and communication. Linking multimarket competitive strategy with a firm's corporate strategy, Gimeno and Woo (1999) found that the likelihood of rivalry reduction was greater when multimarket competitors met in multiple markets characterized by strong resource-sharing opportunities. The logic here is that the presence of strong resource-sharing opportunities may lead to the creation of coordination mechanisms that will enhance the recognition of interdependence with multimarket rivals and thus facilitate forbearance.

### *Extensions Beyond Traditional Multimarket Competition Research*

Traditional research on multimarket competition focuses on rivalry between large, diversified corporations across multiple clearly defined product and/or geographic markets. Recently, a small group of scholars have directed their attention to some previously unexplored territory (see Table 4). Below, we discuss within-firm MMC, the effects of MMC on exploration and exploitation, and factor market rivalry.

#### *Within-Firm MMC*

Much like separate firms, divisions within a firm often meet each other in multiple markets and may compete with each other in those markets. Consequently, multimarket dynamics may emerge among the divisions of a single firm. These intraorganizational dynamics have largely remained unexplored, despite the prevalence of multiunit multimarket firms in the U.S. economy. To begin addressing this gap, Kalnins (2004) examined the franchisees of Burger King, McDonald's, and Wendy's. After making an important distinction between intraorganizational contact (the MMCs among the divisions within a given firm) and cross-organizational contact (the MMC between a given firm's divisions and their counterparts in

**Table 4**  
**Cross Section of Multimarket Competition Studies: Extensions Beyond**  
**Traditional Multimarket Competition Research**

Citation	Key Arguments/Findings	Empirical Setting
(Coughlan & Wernerfelt, 1989)	Taking into account the limited observability of transfer pricing agreements, the use of independent retailer has no effect on profitability in contrast to vertical integration.	
(Gimeno & Woo, 1996a)	This study puts forward the concept of economic multiplexity characterized by horizontal, vertical, and symbiotic interdependence and develops a game theoretical model to examine the consequences of economic multiplexity for interfirm cooperation.	
(Phillips & Mason, 1996)	Mildly restrictive price-cap regulation causes firms to become more collusive in the unregulated market. In a sense, collusion can be transferred from highly regulated markets to unregulated markets.	
(McGrath et al., 1998)	The article suggests that a firm's resource allocations can divert competitors' resource allocations, enhancing the firm's own sphere of influence without precipitating a destructive all-out war. The article defines the stratagems <i>thrust</i> , <i>feint</i> , and <i>gambit</i> and concludes that corporate strategy decisions can only be imperfectly understood if competitive interaction is not taken into account.	
(Mason & Phillips, 2000)	Subjects chose substantially larger outputs in upstream markets when placed in a vertically integrated structure. The increase in upstream output exceeds the theoretically anticipated change, by an amount that is statistically significant. The downstream markets tend to stabilize more quickly in the integrated design than in the linked design. It appears that vertical integration had a precompetitive effect.	
(van Wegberg & van Witteloostuijn, 2001)	The study develops a multichannel contact framework that builds on the multimarket competition theory. It also analyzes the implications of multichannel competition for competitive rivalry and strategic management.	
(MacMillan et al., 2003)	This article provides a number of strategic choices for managers whose firms engage in multimarket competitors such as onslaught, contest, guerrilla, feint, gambit, and harvesting.	

(continued)

**Table 4 (continued)**

Citation	Key Arguments/Findings	Empirical Setting
(Greve, 2003)	This theoretical article suggests that the multiunit multimarket firms are becoming an important theme for research on strategic organization because they are important, lean, strategic, growing, and challenging conventional theory.	
(Kalnins, 2004)	This study develops theory regarding a firm's choices about the MMC levels among its divisions (intraorganizational divisional contact) and between its divisions and their counterparts in other firms (cross-organizational divisional contact). The study found that firms with incentives to increase the competitiveness of their divisions tended to reduce the levels of MMC their divisions have with their sister divisions and with the divisions of their competitors.	The franchisees of Burger King, McDonald's, and Wendy's between 1980 and 1995
(Bond & Syropoulos, 2008)	Trade liberalization may facilitate collusion (lower output) and reduce welfare.	
(Anand et al., 2009)	In exploitation, firms seek to optimize MMC based on mutual forbearance benefits. In exploration, firms instead seek to reduce uncertainties through mimetic entry and exit.	Biopharmaceutical firms' entry and exit between 1989 and 1999 (34 firms)
(Markman et al., 2009)	This article develops a theory of factor-market rivalry. To illustrate the theory's conceptual utility, the article applies the concept of factor-market rivalry to mutual forbearance in multimarket competition.	

*Note:* MMC = multimarket contact.

other firms), he found that firms with incentives to induce competition and improve the efficiency of their divisions attempted to avoid both intraorganizational and cross-organizational MMC (the logic here is that MMC will lead to mutual forbearance among the firm's divisions and therefore lower efficiency at the divisional level). Furthermore, he found that in markets with substantial uncertainty, firms were more likely to engage in localized search and mimetic behavior leading to increases in both intraorganizational and cross-organizational MMC. By showing that the implications of mutual forbearance theory for within-firm MMC are not simple analogues of its implications for the oft-examined case of MMC between firms, Kalnins's study illustrates the value of extending multimarket competition research to new arenas.

### *Exploration and Exploitation*

Prior research on multimarket competition implicitly assumes that the same mutual forbearance logic applies similarly to both exploitation activities (those that capitalize on fairly certain revenue streams based on known parameters) and exploration activities (those

that entail searching for profitable opportunities in unknown and highly uncertain environments). Anand, Mesquita, and Vassolo (2009) challenged this assumption and argued that firms follow different reasoning in these two domains, and consequently the patterns of competitive dynamics differ for exploitation and exploration activities. By comparing the entry and exit behaviors of the same population of biopharmaceutical firms across both exploitation and exploration activities, Anand and his colleagues reached several conclusions. First, for exploitation, aligned with mutual forbearance logic, there was an inverted U-shaped relationship between firms' entries into and exits from rivals' markets and the level of MMC with rivals. In contrast, due to the enormous uncertainty involved, firms' explorative entry and exit decisions were driven more by mimetic behavior than by mutual forbearance. As a result, the authors observed a positive relationship between MMC and the likelihood of explorative entry (mimetic behavior), and a negative relationship between MMC and the likelihood of explorative exit. The logic here is that facing the high uncertainty of exploration, rivals interpret each other's presence as a signal of the commercial value of the potential market. The more MMC a firm has with a given rival, the less likely the firm will abandon the explorative activities in the rival's market. By contrasting multimarket competitive dynamics in exploitation and exploration activities, Anand et al. (2009) illustrated the value of more precisely defining the boundaries of the mutual forbearance hypothesis.

### *Factor Market Rivalry*

Research on multimarket competition has predominantly emphasized similar firms competing in overlapping product or geographic markets. In an important theoretical article, Markman, Gianiodis, and Buchholtz (2009) argued that rivalry can flare up at any level—from upstream and primary activities to downstream and support activities. Accordingly, they proposed a new theoretical construct—factor market rivalry—defined as competition over resource positions. Factor market rivalry adds theoretical precision to the study of multimarket competition in the following ways. First, it explains why firms compete over resources in factor markets, even in the absence of product-market commonality. Second, it explains how and why firms that follow different resource paths can become competitors in product markets. Third, it explains under what circumstances competition in factor markets precedes or even exacerbates rivalry in product markets. Applying the concept of factor market rivalry to the mutual forbearance hypothesis, Markman and his colleagues predicted that two firms will forbear the most when they have high product market overlap and high factor market overlap and will forbear the least when they have low product market overlap and low factor market overlap. Although competition in factor markets awaits empirical validation and further theoretical refinement, this article has broadened the boundaries of multimarket competition research and added importance nuances to it.

### *Synthesis of Current Research on Multimarket Competition*

When viewed collectively, the research on multimarket competition over the past two decades has contributed a number of important insights. First, early tests of the mutual

forbearance hypothesis predominantly used airline data. Current research has greatly enhanced the “generalizability” of this hypothesis by empirically testing it in a variety of industrial contexts, such as cement (Jans & Rosenbaum, 1997), hotels (Fernandez & Marin, 1998), cellular telephones (Parker & Röller, 1997), footwear (Audia, Sorenson, & Hage, 2001), personal computers (Kang et al., 2010), hospitals (Boeker, Goodstein, Stephan, & Murmann, 1997), automobiles (Yu & Cannella, 2007), chemicals (W. R. Scott, 2001), prescription drugs (Shankar, 1999), and software (Young et al., 2000). Furthermore, researchers have also provided case-based evidence to support the existence of mutual forbearance (D’Aveni, 2002, 2004; MacMillan, Van Putten, & McGrath, 2003).

Second, current research has strengthened the validity of the mutual forbearance hypothesis by testing it using more refined measures and more advanced statistical approaches. For instance, as we noted previously, most of the early work on MMC emphasized its effects at the market level. In contrast, the more recent research has placed more emphasis on the firm-market level (Barnett, 1993; Baum & Korn, 1996; Boeker, 1997; Gimeno, 1999; Gimeno & Woo, 1996a, 1999) and dyad level (Baum & Korn, 1999; Chen, 1996; Yu & Cannella, 2007). Moreover, scholars have also greatly improved the measurement of MMC. Some scholars have refined the simple count measure of MMC by weighting each contact by the proportion of resources committed to the market by the focal firm and the contact firm (Chen, 1996; Evans & Kessides, 1994). Some scholars have weighted MMC by the importance of the market position for the firms in the market (Gimeno, 1999; Singal, 1996). Other scholars have highlighted the importance of competitive asymmetry when measuring MMC (Chen, 1996).

Third, researchers have provided strong evidence to support the notion that MMC impacts intensity of rivalry and performance. Building on the simple linear model of mutual forbearance, these studies have also explored possible nonlinear relationships between MMC and interfirm rivalry. Fourth, another key insight offered by current research is improved understanding of the processes through which MMC affects firm competitive behavior. Scholars have unveiled a wealth of evidence indicating that a number of firm-level, market-level, and firm-market-level contingencies may all shape the relationship between MMC and intensity of rivalry. Finally, perhaps most intriguing about current multimarket competition research is that it has started to examine the impact of MMC in some underexplored areas that may seem outside the boundaries of traditional multimarket competition theory.

## **New Research Directions**

Clearly, multimarket competition research is flourishing. As scholars continue to uncover new underlying processes and variables, a number of new research questions emerge, presenting several avenues for future study. Below, we discuss three such new research avenues: multimarket competition and corporate strategy, MMC and other interorganizational relationships, and more refined understanding of the mutual forbearance hypothesis.

### *Multimarket Competition and Corporate Strategy*

The basic concern of a corporate strategy is how a firm can leverage its strengths in one market to enhance its position in other markets. A firm’s corporate strategy is driven not only

by the way in which its divisions position their products and services (Bower, 1970) but also by the specific actions of competitors the firm encounters over time in multiple markets. Recognizing the important linkage between corporate strategy and multimarket competition strategy, a small number of scholars have made intentional efforts to integrate these two research streams. For example, Varadarajan, Jayachandran, and White (2001) examined the effect of deconglomeration on MMC and predicted that deconglomeration intensity would be positively related to a firm's MMC with rivals. The logic behind the prediction is that it is unlikely that two firms in an industry would pursue identical product-market diversification over time. After deconglomeration, however, firms are more likely to see an increase in market overlap with their rivals. This overlap may further increase as resources freed up by divestitures are invested into market expansions. Focusing on mergers in airline markets, Singal (1996) reported that mergers caused prices to rise on long-distance routes due to an increase in MMC. Gimeno and Woo (1999) integrated the efficiency and competitive effects of product-market scope choice into a comprehensive model of economic performance. They found that the confluence of strong scope economies with MMC resulted in higher economic performance. In an experimental study, Mason and Phillips (2000) showed that in multimarket competition, vertical integration tends to increase rivalry (in terms of outputs) because it reduces upstream market price uncertainty. Finally, as we noted above, many scholars have emphasized the importance of corporate factors such as internal coordination systems (Jayachandran et al., 1999), control and incentive mechanisms (Golden & Ma, 2003), and ownership structures (Yu & Cannella, 2007) in the implementation of multimarket competition strategy. Despite the insights these studies have provided, a comprehensive exploration of the linkage between multimarket competition and corporate strategy is still lacking.

Combining multimarket competition and corporate strategy research seems especially important given the emergence of multiunit multimarket firms. Dunne, Roberts, and Samuelson (1988) estimated that multiunit entrants accounted for 45% of all new establishments in the U.S. manufacturing sector. Multiunit multimarket organizations are also coming to dominate many service industries—from food and travel accommodations to health and human services (Ingram & Baum, 1997). Traditionally, research studying multimarket competition has used mutual forbearance theory, and research studying multiunit systems has used learning and knowledge transfer theory. These broad perspectives are interdisciplinary, but there has been little direct interaction among them. It is now time for them to be integrated for further theory development. According to Greve and Baum, areas where integration might be most fruitful include

examining how variation in firm capabilities affects the coordination of branches and thus their forbearance or transfer of routines, bridging theories of market conduct and internal behavior to explore how knowledge about markets and competitor behavior is transferred among organizational units, making a theory of contingent multi-unit or single-unit competitive advantage that can account for the continued coexistence of these organizational forms in many markets, and examining the effects of firm contacts in alliances or technological fields on their competitive behaviors. (Greve & Baum, 2001: 1)

Following Greve and Baum (2001), to stimulate more exploration in these areas, below we offer two possible avenues for future research. These are headquarters-MMC and division-MMC, and MMC and diversification.



### *Headquarters-MMC and Division-MMC*

To our knowledge, Kalnins (2004) is the only study that develops theory regarding a firm's choices about the MMC levels among its divisions (intraorganizational divisional contact) and between its divisions and their counterparts in other firms (cross-organizational divisional contact). He found that firms with incentives to increase the competitiveness of their divisions tended to reduce the levels of MMC their divisions had with sister divisions and with the divisions of their competitors. Kalnins's study is the first to develop MMC theory for application *within* firms. However, it is constrained by its empirical setting—franchised fast food chains—because the multimarket competitors of the headquarters in his study are the same as the multimarket competitors of the divisions. More important, his study implicitly assumes that MMC reflects intentional choices made at the headquarters level. In contrast, to firms such as Samsung or Johnson & Johnson, it seems likely that the multimarket competitors at the headquarters level will not be identical to the multimarket competitors at the division level. For instance, at the division level, Neutrogena (a division of Johnson & Johnson) competes with L'Oréal across a number of markets such as body and bath products, cleansers, makeup, hair products, men's skin care, and moisturizers. At the corporate level, however, L'Oréal operates only in the cosmetics industry, while Johnson & Johnson has businesses in three industries: pharmaceuticals, cosmetics, and health care. Under such circumstances, the importance of a rival (or a product market) to the headquarters might not be the same as that to the division. When this is the case, how will a mutual forbearance strategy be implemented? A good answer to this question will not only refine our understanding of the boundaries of multimarket competition, but also shed new light on the headquarters–division relationship.

### *MMC and Diversification*

Recently, there has been growing recognition of the need to combine MMC and diversification research (Gimeno & Woo, 1999; Li & Greenwood, 2004). The theoretical underpinnings of these two research streams originated at different times, and empirically they have largely been examined independently. As a result, the additive and integrative effects of the two have been significantly underexplored. Here we would like to mention one study as an exception: Makadok (2010) offered a detailed theoretical analysis comparing two corporate strategies—one based on resource endowment and one based on mutual forbearance. He concluded that either strategy could be viable, but pursuing both simultaneously would lead to outcomes that are “less than the sum of the parts.”

We believe that diversification and multimarket competition are theoretically inseparable and omission of one or the other leads to an incomplete theoretical explanation and the possibility of biased analyses and conclusions. As noted by Porter (1984), to better understand the objective of a firm's diversification decisions, one has to focus on competitive motives. There can be strong pressures in many industries for offensive- or defensive-related diversification and vertical integration. The result of such motivations for diversification is that we should observe many situations in which firms are diversified in parallel and compete with each other in multiple markets. From a multimarket competition perspective, diversification

in multiple industries offers possibilities for various forms of side payments (e.g., exchanging market positions across markets, dividing up markets to preserve balance in the volume of shared components, allowing otherwise unavailable forms of market signaling and competitor disciplining to lower the risk of competitive outbreaks, etc.). Moreover, as important activities related to diversification, both merger (acquisition) and deconglomeration may destroy a collusive equilibrium and reshape the competitive landscape. Unfortunately, our knowledge regarding how diversification both is affected by and affects mutual forbearance remains very limited.

### *MMC and Other Interorganizational Relationships*

The current literature on multimarket competition has largely depicted rivalry in terms of firms operating in the same industry segments, using comparable assets, and providing similar or substitutable offerings to shared customers in related product markets. However, rivalry is not confined solely to similar firms competing over customers in overlapping geographic or product markets. Rivalry can flare up at any level. As a result, Markman and his colleagues (2009: 439) issued a call to “broaden the explanatory scope of competitive dynamics research.”

Markman and his colleagues (2009) are not alone in suggesting a movement away from somewhat simplified examinations of horizontal competitive relationships. Drawing on a structural embeddedness argument (Granovetter, 1985), Gimeno (2004) argued that competitive relations with third parties influence dyadic alliance formation. More broadly, Gimeno and Woo (1996a) further contended that action in an economic relation is often simultaneously embedded in a network of other economic and social relations—a situation they termed as “economic multiplexity.” As a result, the behavior of corporate actors is determined not only by the narrow gains or losses in one relation but also by the implications that their behavior may have in the broad portfolio of relations. Applying the concept of economic multiplexity to firm coordination decisions, Gimeno and Woo (1996a) proposed that economic multiplexity allows firms to coordinate in ways that allow asymmetric payoffs and leadership in specific relations while still maintaining overall symmetry. For instance, they suggested that relations with a short time horizon, long detection lags, low behavioral transparency, or low governance safeguards can be managed more cooperatively if embedded with other relations that have longer time horizons, shorter detection lags, higher behavioral transparency, and higher governance safeguards.

Following Pennings (1981), Gimeno and Woo (1996a) considered only three types of interdependent relations among organizations: interdependence with oligopolistic competitors (horizontal interdependence), with buyers and suppliers (vertical interdependence), and with cooperative partners and complementary firms (symbiotic interdependence). Extending Gimeno and Woo’s (1996a) work, van Wegberg and van Witteloostuijn (2001) suggested that a firm can indeed have a portfolio of contacts within and across different channels. Consequently, firms not only experience rivalry-based interaction in product markets but also interact in resource markets and nonmarket environments, as well as in strategic alliances, cross-share holdings, and interlocking directorates. These additional contact channels may offer powerful

instruments for rewarding or punishing each other in the context of a multichannel contact game.

The contact through different channels can be either direct or indirect (e.g., firms exchange information by sharing consultants, suppliers, shareholders, banks, and/or directors). Different contact channels can be either complements or substitutes. They can also serve different purposes and offer different network externalities. For instance, some channel contacts transmit information that can speed up the diffusion of innovation and fuel organizational learning. Some channel contacts can help enhance the legitimacy of new ways of conduct, while others can enhance firms' retaliatory power and facilitate the establishment and maintenance of collusive agreements (Coughlan & Wernerfelt, 1989).

Economic multiplexity and multichannel contact competition have received very limited attention from multimarket competition researchers. More research is needed to develop testable propositions that inform research and practice about the effects and the limits of embedded interorganizational relationships. More important, in our view, a further exploration of economic multiplexity or multichannel competition introduces a great opportunity for future theoretical cross-fertilization. For example, different contact channels may drive firms in different strategic directions. Some channels, such as those with the purpose of facilitating learning and imitation, may induce within-network conformity (or homogeneity), whereas others with the intent to fuel innovation and competition may lead to within-network variety (or heterogeneity). Being embedded in a portfolio of interorganizational relationships, how do firms manage these contact channels? Do firms challenge each other more frequently in one channel than others? Why? In which of the channels are incumbents more vulnerable? Does competition shift, flow, or spill over from one channel to another? Under what conditions are some channels substitutes, and under what conditions are they complements? What contingencies shape the mix of cooperation and competition when a firm is embedded in a multichannel contact network? How much weight should a firm attach to each contact? All these questions are ripe for careful exploration.

Moreover, as noted by Gimeno and Woo (1996a), to multimarket competitors, economic multiplexity is a mixed blessing. On the one hand it may increase the capacity for collusion due to the retaliation potential in the mix of relations. On the other hand, it can also lead to relational rigidities and inertia. Firms may fear breaking an inefficient relation because of the implications for other relations. When and how do firms begin to manage their multichannel contacts to maximize their performance? More theoretical and empirical research on how firms coordinate their moves over different playing fields would further understanding of this issue.

### *More Refined Understanding of the Mutual Forbearance Hypothesis*

As the central element of multimarket competition theory, the mutual forbearance hypothesis has been examined extensively over the past 60 years. However, it is our strong belief that there are still many topics related to this hypothesis that warrant greater attention. Below, we organize our discussion around four themes: underexplored contingencies, out-of-equilibrium behavior under multimarket competition, negative consequences of MMC, and policy implications of MMC.

### *Underexplored Contingencies*

There are certain implicit assumptions that are required for the mutual forbearance hypothesis to hold. Earlier, we identified two general contingencies—effective internal coordination and full observability. Although the importance of internal coordination has received a lot of attention in theory development, empirical tests of its role in multimarket competition have been scarce (see Sengul & Gimeno, 2012, for a notable exception), given the challenge of properly measuring internal coordination within a multiunit firm. As a result, we strongly encourage researchers to delve more deeply into this issue because doing so has the potential to greatly improve our knowledge of both corporate control and the implementation of competitive strategy.

Compared with internal coordination, full observability has received far less theoretical attention, a situation that offers a number of opportunities for future research. Below we discuss a few of these. First, the competitive dynamics literature has long established that competitive actions differ in visibility (Chen, Smith, & Grimm, 1992). A strategic action generally involves a more significant commitment of resources and a larger reconfiguration of organizational structure than a tactical action and therefore is more visible to competitors. In contrast, a tactical action requires relatively minor, routine changes resolvable by middle- or low-level managers and thus is harder to detect. For these reasons, we predict that the impact of MMC on tactical actions will be different from its impact on strategic actions.

Second, the extant studies of market entry in a multimarket context have used a broad definition of market entry and have not distinguished between the ways in which market entry is made. In fact, firms can enter a given market (especially an international market) in various ways, including export, licensing, alliances, joint ventures, acquisitions, and wholly owned subsidiaries. These entry modes differ significantly in visibility. Wholly owned subsidiaries and acquisitions are more visible than export and licensing. It seems reasonable to expect that MMC will influence different entry modes differently.

Finally, in terms of ownership and organizational structure, McGrath, Chen, and MacMillan (1998) pointed out that since behavioral opacity and private information are valuable in multimarket competition, there may be competitive value in being privately owned. Also, it may be easier to preserve private information by organizing as a hierarchical bureaucracy and more difficult to do so by organizing along market lines. Consequently we predict that mutual forbearance might be more difficult to achieve among private companies with bureaucratic hierarchical structures than among public companies organized around market lines.

In addition to effective internal coordination and full observability, there is growing evidence to suggest that mutual forbearance relies on all the firms involved having both enough experience to understand how competitors can be influenced and the ability to influence them. For this reason, the theory of mutual forbearance may be inappropriate for young and small organizations (Greve, 2000). Furthermore, since knowledge of multimarket strategy is lacking in the formative phase of industry evolution (Greve, 2006), we think there exists a great need to examine whether the influence of MMC on interfirm rivalry is the same for firms at different stages of industry evolution (Gimeno & Woo, 1996a).

*Out-of-Equilibrium Behavior Under Multimarket Competition*

Most research has confirmed the linkage between MMC and mutual forbearance. However, limited attention has been paid to out-of-equilibrium situations characterized by the disruption and restoration of mutual forbearance. How do multimarket competitors respond when the collusive equilibrium is destroyed, and how do their responses influence the likelihood and timing of the restoration of cooperation? How does a “violator” signal its subordination credibly if it wishes to restore mutual forbearance?

Using different theoretical lenses, a small group of scholars has tried to make inroads into these questions. For instance, challenging the conventional view that “exchange of threat” facilitates the formation of oligopolistic stability, Graham (1985) proposed that interpenetration of national markets by multinational enterprises of different nationalities reduces the likelihood that collusion can be successfully undertaken globally. Hennart (1985) then called for further empirical research before more solid conclusions can be drawn on the stability of oligopolistic collusion.

In another study, Kang and his colleagues (2010) found that when being challenged, firms with high MMC responded with new product introductions but did not use price as a retaliatory weapon. This conclusion is consistent with that of Bernheim and Whinston (1990), who proposed that firms can shift the enforcement of collusive outcomes from shorter-horizon variables (e.g., price) to longer-horizon variables (e.g., product development) because of greater anticipated punishment effects. Kang and his colleagues’ findings also indicate that new product introductions may be a key variable in restoring a disrupted mutual forbearance because firms can shield themselves from the downward spiral of price competition by limiting competitive battles to product features. Indeed, product line rivalry may bring firms into greater contact, leading to increased MMC and an even higher potential for mutual forbearance.

In addition to Kang et al. (2010), other scholars have analyzed the responses of multimarket competitors when attacked. Conventional multimarket competition theory predicts that multimarket rivals will respond vigorously to attacks from each other. In contrast, Smith and Wilson (1995) found that the *do nothing* strategy (which leads to an implicit market sharing equilibrium) was the most frequently observed strategy in response to an attack from a multimarket rival, representing nearly 57% of the responses. Furthermore, the *counterattack* strategy (leading to a mutual foothold equilibrium) was the fourth most frequently observed strategy, representing only about 9% of the total observations. In some contrast, both Young et al. (2000) and Yu and Cannella (2007) found that a focal firm’s response speed was positively related to the level of MMC it had with the attacker—a finding more aligned with the conventional multimarket competition theory.

The studies discussed above are the only ones we are aware of that have specifically considered the disruption and restoration of a mutual forbearance equilibrium. As a result, a good understanding of how multimarket competitors sustain their collusion and effectively deal with violations is still lacking. This is unfortunate because only when we understand these issues can we more adequately comment on the conditions under which mutual forbearance is likely to be observed.

### *Negative Consequences of MMC*

It is important to note that in nearly all theoretical treatments of MMC that we are aware of, MMC is not considered to be harmful to the firms that are party to it. However, a small group of scholars has pointed out that under certain circumstances, MMC might lead to significantly negative outcomes at both the market level and the firm level.

The mutual forbearance hypothesis relies on observability among rivals. However, in many ordinary competitive environments, a more realistic assumption might be that players are uncertain about what actions their rivals have taken. As a result, MMC, under certain situations, might lead to significantly negative outcomes across markets. For example, Green and Porter (1984) showed that noisy signals regarding competitive actions hindered collusion in single markets because adverse shocks (e.g., demand fluctuation) must be followed by punishment to deter deviation from collusive behavior. The means by which lack of observability affects collusion in single markets suggests that strategic linkage may promote a contagion that allows adverse shocks to spread from one market to another.

Consistent with Green and Porter (1984), in an interesting modeling article, Thomas and Willig (2006) showed that the conventional wisdom about the profitability advantages from MMC does not hold up in the presence of asymmetric information about rivals' actions. In settings where monitoring of participants' actions is accompanied by unavoidable noise and error, a repeated-game equilibrium entails the possibility of mistaken retaliatory punishments. That is, when rivals are erroneously perceived to have deviated from cooperation, MMC can be sharply injurious to all the rivals because it permits mistaken retaliatory punishment to spread from one market to another. The losses resulting from this contagion can readily outweigh any gains from mutual forbearance.

The harmful influence of MMC on the parties to such contacts has also been considered at the firm level. For example, Cassidy and Loree (2001) found that strong overlap of activities between multimarket competitors may make them overlook potential sources of innovation and learning because their binding through MMC may facilitate inertia and lead them to ignore small and young entrepreneurial organizations. Prince and Simon (2009) showed that airline delays increased with MMC. Furthermore, airlines canceled more flights, flew smaller planes, and offered fewer flights as their MMC with rivals increased. Finally, Shipilov (2009) argued that mutual forbearance enables a firm to maintain stable shares in different markets. This stability, however, is not without costs. For a multimarket retaliation threat to be effective, a firm needs to maintain footholds in markets occupied by its competitors. Such foothold positions are usually smaller than those required to achieve an efficient scale of operations.

Thomas and Willig (2006) called for more examination of the conditions under which MMC is disadvantageous, as well as conditions under which MMC is profitable for the players. It is our belief that there is significant need to examine both positive and negative influences of MMC on the firms that are party to such contacts. Doing so will result in a more fine-grained multimarket competition theory.

### *Policy Implications of MMC*

Traditionally, it has been economists who have emphasized the policy implications of MMC, with a focus on the welfare of consumers. Among them, Phillips and Mason (1996)



observed that there is likely to be uneven enforcement (or uneven existence) of antitrust laws across industries and markets within a country's own borders as well as across national borders. This causes problems from a public policy perspective because when there is MMC between rivals, coupled with effective enforcement of antitrust laws in one market, production may shift toward the more attractive markets—those with high levels of MMC. Studying trade liberalization, Bond and Syropoulos (2008) argued that the conventional wisdom on the relationship between trade liberalization and collusive conduct is that liberalization intensifies competitive pressures and improves welfare. However, they found that in multimarket competition, trade liberalization may actually facilitate collusion (mutual forbearance) and reduce consumer welfare. In two banking studies, Hannan (2006) and Hannan and Prager (2004) suggested that if the trend toward multimarket banking continues, the rationale of using local markets in antitrust analyses of the banking industry will lose much of its force. Finally, after observing that the combination of multiproject contact and MMC strengthens the possibility of collusive play, Vonortas (2000) recommended that to minimize the potentially detrimental effects of collusion on the main policy objectives of the National Cooperative Research Act (NCRA)—the promotion of R&D and the speed of technological innovation—government should encourage the participation of foreign firms in research joint ventures and create “porous” constellations of firms—that is, groups whose composition changes frequently. Both approaches are predicted to hamper efforts to restrict competition.

The broad policy implications of strategies usually do not generate too much interest from management scholars. As a result, a number of interesting research questions remain unanswered. For instance, how will (and should) government policies shape and be shaped by multimarket competition? What contingencies affect the effectiveness of antitrust laws? How will multimarket competitors formulate market strategies and nonmarket strategies to enhance their efficiency, market power, and legitimacy? Today, given the increasing importance of nonmarket strategies for firm success (Baron, 1995; Henisz & Delios, 2001), we think there is an enormous need for strategic management scholars to develop a good understanding of the policy implications of MMC.

Finally, there are significant but widely ignored ethical concerns that arise from the emergence of mutual forbearance. It is, after all, a form of collusion, hence the interest from scholars in public policy. For example, while we teach Porter's five forces regularly in strategic management classes, we do not typically teach students how to maximize profitability through mutual forbearance. In addition, it seems unlikely that many of those who currently teach strategic management would be comfortable advocating MMC and mutual forbearance as effective and appropriate means for strategic managers to enhance company profitability. We should always bear in mind that consumers are typically less well-off as a result of such strategies.

## Conclusion

Multimarket competition research is flourishing. Before concluding this article, we encourage future researchers to continuously push this research stream in new theoretical and empirical directions. We believe that there is great potential for cross-fertilization



between multimarket competition theory and other research streams. We applaud the pioneering efforts that a small group of scholars has already made in this regard. For instance, linking multimarket competition and the resource-based view, Makadok (2010) explored the interactive effect of rivalry constraints (e.g., mutual forbearance) and competitive advantage (e.g., the resource-based view) on firm profits. Shipilov (2009), linking network theory and multimarket competition theory, showed that the absence of collaboration-enforcing mechanisms in open networks formed between a focal firm and its partners is compensated by MMC-derived mutual forbearance. Finally, a couple of studies have also tried to link organizational learning theory with multimarket competition research (Anand et al., 2009; Baum & Korn, 1999; Chang & Harrington, 2003; Greve, 2000; Haveman & Nonnemaker, 2000; Korn & Baum, 1999; Phillips & Mason, 2001; Stephan & Boeker, 2001; Stephan et al., 2003). Highlighting the importance of instilling insights from other research streams into multimarket competition research, Kalnins (2004: 126) underscored that “the combination of economic and sociological perspectives is crucial for further development of theory regarding complex phenomena such as MMC.” It is our sincere hope that the field will witness new ways of integrating multimarket competition theory with other theoretical perspectives.

Empirically, we believe that models of multimarket competition should move beyond analyses at the levels of market, firm-market, and firm dyads and extend to other levels such as triad and network. We also think it is imperative for future researchers to complement quantitative approaches with qualitative methods. As noted by Korn and Baum (1999), a useful extension of multimarket competition research would be to supplement it with in-depth field research on strategists’ mental models of their multimarket relationships with competitors.

We hope our review of the multimarket competition literature will stimulate readers as much as it has stimulated us. Multimarket competition theory has come a long way since Edwards (1955) first proposed the mutual forbearance hypothesis. But as we noted above there are still a number of very exciting topics that await exploration. We look forward to studying these topics and hope that readers of our review will also be stimulated to take up some of the topics we have suggested as well as developing other topics that we did not anticipate in this review.

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