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Do Competitors Always Matter in Exit Decisions? A Behavioral Perspective

Ana Elisa Iglesias[a] and William C. Bogner[b]
[a] *University of Wisconsin-La Crosse*
aiglesias@uwlax.edu
[b] *Georgia State University*
wbogner@gsu.edu

ABSTRACT

This study examines the multimarket and behavioral antecedents of exit decisions. In particular, we address the following question: Under what conditions do firms opt to keep mutual footholds with their competitors? In a large sample of US insurance firms, we found that high performing firms closely follow their competitors as far as keeping and divesting their positions. However, under conditions of financial adversity, resource-poor firms sharply intensify divestment activities, whereas resource-rich firms facing a performance shortfall are less likely to abandon their market positions.

JEL Classification: M19

Keywords: multimarket competition; exit; divestment; behavioral theory

I. INTRODUCTION

Multimarket competition, "a situation where firms compete against each other simultaneously in several markets" (Karnani and Wernerfelt 1985, p. 87) has become a substantial part of the modern economy. The main assumption in multimarket theory is that firms avoid competitive attacks against those rivals they encounter across several markets because of their increased interdependence – the so-called mutual forbearance hypothesis (Edwards 1955). For example, if firm 'A' attacks ''B in market 'X' where 'B' is dominant, firm 'B' may react, not by retaliating 'A' in market X, but in market 'Y', where 'A' has more to lose. Thus, keeping an extended interdependence with competitors, that is to say an extended market overlap, can benefit firms that maintain such contacts. Not surprisingly, multimarket contact has been shown to result in a decreased rivalry among competitors, reflected in higher prices (e.g., Evans and Kessides, 1994), higher profits (e.g., Piloff 1999), and higher growth (Haveman and Nonnemaker, 2000). Thus, from an industry organization (IO) economics perspective (Bernheim and Whinston, 1990; Porter, 1980), multimarket firms may be reluctant to divest businesses and abandon strategic positions.

In spite of this reluctance, empirical studies show that market exit is the chosen path for firms experiencing poor performance (Berry, 2013; Duhaime and Grant 1984; Montgomery and Thomas, 1988; Ravenscraft and Scherer, 1987; Vidal and Mitchell, 2015). Nevertheless, some companies keep their market positions even on the brink of bankruptcy. An emblematic example was General Motors' reluctance to divest Opel, GM's brand in Germany, during the economic crisis in 2009. GM received feasible offers for the subsidiary and could have gotten rid of the subsidiary during its bankruptcy proceedings but opted to keep it and lost two billion dollars in 2012 (Luft, 2013). In the words of New York Times' reporters Vlasic and Ewing (2012), GM decided "to keep the business because of its integral role in the company's global product programs," a remark that clearly addresses GM's multimarket concerns and its intent to keep interdependence with global multimarket rivals operating in Germany.

An important question that arises is: *Under what conditions do firms opt to keep mutual footholds with their competitors?* Several authors emphasize the importance of integrating behavioral assumption into rational models (e.g., Bensimhon and Lévy, 2010). Drawing on the behavioral theory of the firm (Cyert and March, 1963) and building on seminal articles in IO economics (e.g., Edwards 1955) and divestment (e.g., Harrigan, 1980, 1985), we develop a theoretical model of exit decisions that explores how firms make exit decisions given their level of market overlap with competitors and their performance levels, and test our theoretical model in the US insurance industry in the 1998-2008 period. This industry offers an appropriate research context for empirical analysis as the empirical investigation of multimarket competition is most relevant within a single industry (Gimeno and Woo, 1999).

The present study is organized as follows. In Section I, we first present the mutual forbearance hypothesis to make the theoretical model complete, and then, the moderating hypotheses. In the subsequent sections, we describe the methods used, present the findings of the study, and discuss its implications for theory and practice.

II. THEORY DEVELOPMENT AND HYPOTHESES

A. The Mutual Forbearance Hypothesis for Market Exit

Firms are sensitive to their level of multimarket contact with competitors when making market exit decisions (e.g., Baum and Korn, 1996; Boeker et al., 1997). At low levels of multimarket contact with its competitors in a focal market, a focal firm does not have an extended interdependence with them. Thus, when contemplating market exit, firms opt to exit markets that do not provide a credible deterrent to rivals, because the presence in such markets does not enable firms to signals their ability to respond to future aggressions (Edwards, 1955). However, as multimarket contact reaches higher levels, the motivation to exit from markets is likely to decline. First, firms with a high level of multimarket contact with rivals have the ability to signal deterrence. For instance, Gimeno (1999) found that airlines use a relatively small presence in their rivals' hubs to reduce the competitive intensity of these rivals in their own hub. As a result, maintaining footholds in markets with high multimarket contact leads to stable market shares (Heggestad and Rhoades, 1978) and reduced levels of competition in individual markets (Scott, 1982). Accordingly, all studies examining the relationship between multimarket contact and market exit decisions (Barnett, 1993; Baum and Korn, 1996, 1999; Boeker et al., 1997) found that higher levels of multimarket contact are associated with lower exit rates.

Another aspect that contributes to lower exit rates is the fact that the prolonged presence in markets with high multimarket contact may considerably raise exit barriers (Porter, 1980). Indeed, businesses which are of high strategic importance are difficult to be divested due to the value created by non-capital investments (Harrigan, 1980). Moreover, even if these markets do not yield profitable margins, firms are unlikely to abandon them because of the cross-subsidization from profitable markets (Cho and Cohen, 1997). The rationale behind a firm's keeping footholds in markets with high multimarket contact is that the costs incurred in such activity are justifiable, because decreased levels of rivalry lead to performance levels that would be lower otherwise (Jans and Rosenbaum, 1996; Gimeno and Woo, 1999). Thus, the arguments above can be summarized as *the mutual forbearance hypothesis for market exit*:

Hypothesis 1 (H1): There is a negative relationship between multimarket contact and market exit rates in that firms with higher levels of multimarket contact with competitors in a focal market are less likely to exit that market than firms with lower levels of multimarket contact.

It is noteworthy to discuss an exception in the market exit literature. Barn and Korn (1999) is the only study that found an inverted-U-shaped rather than a negative relationship between multimarket contact and exit rates. In order to explain the rise in exit rates between low and moderate levels of multimarket contact, they define exit as an outcome of competitive interaction or, in other words, exit as a *forced strategy*. For the decline in exit rates between moderate and high levels of multimarket contact, they define exit as a *strategic move*, applying the mutual forbearance argument. Thus, the authors conceptualize exit differently according to the level of multimarket contact. Because we define market exit as a *decision* rather than an *outcome* and apply this definition across

the entire range of multimarket contact, our theoretical model builds on prior research and predicts a negative relationship between multimarket contact and exit rates.

B. The Role of Performance Feedback

The behavioral theory of the firm predicts that risk taking is less likely when firms are displaying above average performance levels (Cyert and March, 1963). However, previous studies have presented conflicting findings for strategic behavior under conditions of low performance (Ocasio, 1995), a trend that reminds us of GM's example. In the present study, we apply the shifting focus model of risk taking (March and Shapira, 1987 and 1992; Audia and Greve, 2006) as this model attempts to reconcile the conflicting predictions for unsatisfactory performance. As they put it, "understanding action in the face of incomplete information may depend more on ideas about *attention* than on ideas about decision." Building upon a large body of literature in psychology of risk taking and decision theory, March and Shapira contend that risk preference varies with context, which is highly subject to managerial interpretation. They argue that what determines whether a firm is risk averse or risk seeker under conditions of adversity is its level of slack resources. Specifically, the level of slack resources affects decision makers' *risk tolerance*: managers in firms with large slack perceive low performance as a repairable gap; therefore, in such conditions, low performance increases risk taking, which is aligned with the behavioral theory of the firm. Conversely, managers in firms with limited slack perceive low performance as a threat to firm survival, which induces risk aversion – a prediction aligned with the threat-rigidity hypothesis (Staw et al., 1981).

In the hypotheses below, we integrate the behavioral theory of the firm into the multimarket theory by developing predictions for the moderating effect of firm performance and organizational slack on the relationship between multimarket contact and market exit. Specifically, we predict the moderating effect of three combinations of firm performance and slack resources: (1) performance below aspiration level and high slack, (2) performance below aspiration and limited slack, and (3) performance above aspiration level, irrespective of slack resources.

1. Firm performance below aspiration level and high slack

According to the March-Shapira model (1992), the effects of low performance on risk taking differ depending on the level of organizational slack, in that high-resource firms are risk-seekers, and low-resource firms are risk averse (Audia and Greve, 2006). In the context of market exit decisions, the decision to remain in a market is riskier than the decision to exit from it (Shimizu, 2007). Hence, high-resource firms performing below aspiration level have incentives to remain rather than withdraw from markets. Not surprisingly, high-resource firms divest not as often as low-resource firms when faced with the same performance gap (Chang, 1996). Accordingly, research has found that high-resource firms are more likely to cut capacity incrementally (Lieberman, 1990), and also likely to hold physical assets idle but ready to resume, a situation that affords recuperative flexibility that discourages competitor entry or expansion (Harrigan, 1985). These findings have implications for the expected market exit behavior under the mutual forbearance hypothesis.

According to previous empirical studies testing the mutual forbearance hypothesis, firms with low levels of multimarket contact firms are more likely to exit from markets than firms with high levels of multimarket contact (Baum and Korn, 1996; Boeker et al., 1997). However, an increased propensity to take risk is translated into a greater need to show deterrence capability, meaning that high-resource, low-performing firms are less likely to exit from markets. Thus, the negative relationship between multimarket contact and market exit rates is moderated by below-aspiration firm performance and large slack. Thus,

Hypothesis 2 (H2): The impact of a firm's level of multimarket contact with market incumbents on the firm's rate of market exit is attenuated when firm performance is below the aspiration level and its level of slack is high.

2. Firm performance below aspiration level and low slack

Contrary to high-resource firms, low-resource firms performing below aspiration level are risk averse (March-Shapira, 1992). Excessive pool of financial and managerial resources may insulate high-resource firms from pressures to exit from current markets, but low-resource firms are unable to buffer these pressures (Shimizu and Hitt, 2005). Hence, as firm performance decreases, the likelihood of exit increases (Duhaime and Grant, 1984; Montgomery and Thomas, 1988; Ravenscraft and Scherer, 1991; Chang, 1996; Steiner, 1997).

Low-resource firms liquidate and divest more subunits to generate cash (D'Aveni, 1989), since they interpret decreases in performance as a threat to survival rather than a repairable gap (Audia and Greve, 2006). Fombrun and Ginsberg (1990) suggest another incentive for low-resource firms to exit from markets. They noted that, although entry into other markets may not be an available option for many poor performing firms, the exit option does not require such capital investment. Hence, poorly performing firms may try to correct the problems by divesting underperforming businesses without necessarily moving into new ones (Chang, 1996).

Taken together, these ideas suggest that low-performing firms with limited resources pursue market exit more vigorously than low-performing firms with abundant slack do. Furthermore, since the exit process involves stages and complexities that create great potential for experience and learning curve benefits (Lieberman, 1987 and 1989), low-resource firms gain experience with sell-offs and divestitures. Consequently, they will continue to use them (Bergh and Lim, 2008). Yet they maintain footholds in some markets. When faced with increasing uncertainty, corporate-level managers are pressured to direct their resources toward the individual business lines they understand best (Jones and Hill, 1988; Yasai-Ardekani, 1989). Hence, peripheral markets would receive less attention and preference than core markets (Bergh, 1998). By extension, as low-performing firms are risk averse, they prefer to remain in core markets such as markets with high levels of multimarket contact, since the potential for deterrence is higher in such markets (Baum and Korn, 1996). These arguments suggest that the negative relationship between multimarket contact and market exit rates is moderated by below-aspiration firm performance and low slack.

Hypothesis 3 (H3): The impact of a firm's level of multimarket contact with market incumbents on the firm's rate of market exit is amplified when the firm's performance is below the aspiration level and its level of slack resources is limited.

3. Firm performance above aspiration level

As predicted by the behavioral theory of the firm, risk taking is less likely when firms perform above aspiration level (Cyert and March, 1963). Moreover, high performing firms tend to display recurring competitive patterns because success reinforces past strategic decisions (e.g., March and Levitt, 1988) and induces firms to carry competitive repertoires characterized as having high levels of inertia (e.g., Miller and Chen, 1994). Being risk averse, high-performing firms are more likely to maintain footholds in 'safe' markets: markets with high levels of multimarket contact, due to high-performing firms' ability to signal deterrence to rivals. This rationale is similar to the mutual forbearance hypothesis which predicts that firms are less likely to remain in markets with low levels of multimarket contact, but more likely to remain in markets with high levels (Barnett, 1993; Baum and Korn, 1996; Boeker et al., 1997).

Risk avoidance also means that high-performing firms have fewer incentives to disrupt the tacit agreements that the multimarket structures represent. Hence, high performing firms are likely to display a competitive behavior that resembles the one predicted by the mutual forbearance hypothesis. Thus, performance above aspiration level regardless of the level of slack does not appear to affect the relationship between multimarket contact and market exit. Thus,

Hypothesis 4 (H4): The negative relationship between a firm's level of multimarket contact with market incumbents and a firm's rate of market exit remains unaltered when firm performance is above aspiration level.

III. METHODOLOGY

A. Sample

This study tests the hypotheses of the theoretical model using data from companies in the U.S. property-liability insurance industry in the 1998-2008 period. The data for the property-liability insurance industry comes from the National Association of Insurance Commissioners (NAIC) annual statements. The 1998-2008 period is of paramount importance for research in the insurance industry as it covers the period before the 2007-2008 financial crisis occurred. Some insurers experienced capital and liquidity pressures, but according to an official investigation conducted by the U.S. Government Accountability Office (GAO, 2013, p. 1), "the effects of the financial crisis on insurers and policyholders were generally limited." For our research we used a lag structure in which the independent and control variables in time t-1 predict exit in year t.

The potential sample of insurers consists of all property-liability insurers writing personal lines of insurance – homeowners and private passenger automobile insurance, which are the first and second largest lines in the property-liability insurance industry and together represent half of total book-of-business. These firms write insurance coverage in a few or multiple states. Since there are 51 geographic markets (50 states and

D.C.) and two product markets (homeowners and private passenger automobile), the maximum number of markets in this study is 102. We deleted firms with negative assets or premiums. We also removed firms with low market share as small companies are not likely to have a significant impact on price and supply in the state market.

The final sample consists of 105 firms, representing the largest firms by assets and totaling 85% of the industry assets. On average, the sample firms operate in 27 states, and a third of the firms have operations in all 50 states and DC. Interestingly, 15 percent of the firms provide services in only two to five states, suggesting that these firms have more of a regional than a national presence.

The sample data covers 40,224 firm-market-year observations on multimarket firms making 1,789 market exit moves in a period of ten years between 1999 and 2008. The panel data is unbalanced as not all firms have observations each year. Approximately 15 percent of the 105 firms have two to seven years of observations, and 75 percent have eight to ten years of observation.

Figure 1 presents the number of exit events relative to the total number of existing markets each year. The peaks of exit activity in 1998 and 2003 have some explanations. Following the Asia's financial crises of 1997-1998, firms exited from 10 percent of the current firm-market observations in 1999. In 2003, firms exited from 12 percent of the existing markets in response to the financial losses due to the terrorist attacks in 9/11 – insurance firms reportedly paid about $40 billion in related claims (Insurance Journal, 2009). The industry financially recovered in the subsequent years as the exit activity returned to average levels.

Figure 1

Market exit activity in the personal auto and homeowners insurance industry, 10-year period (Number of exit events over the number of firm-market observations)

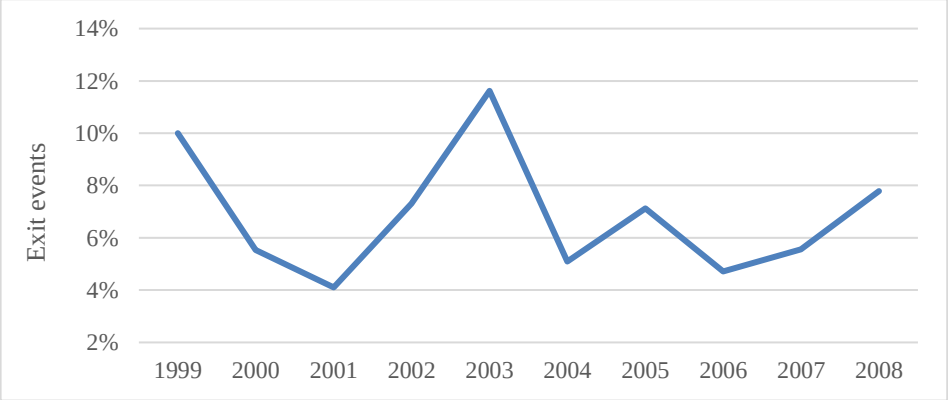
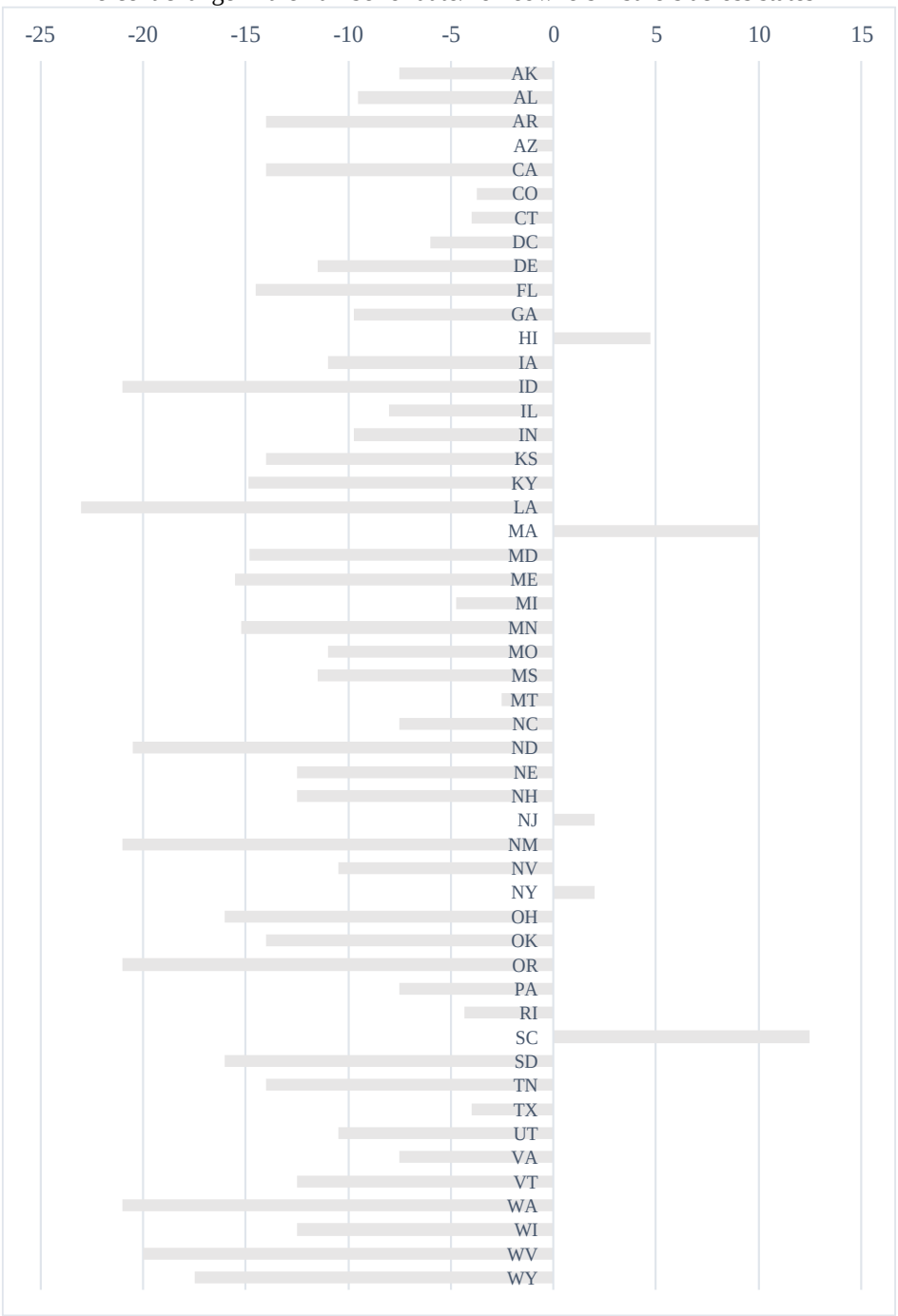


Figure 2 presents the percent change in the number of firms operating in each state between the first and the last year of the observation period. On average, the US states ended the 10-year period of observation with fewer firms serving those markets. Whereas Louisiana and New Mexico ended the observation period with 20 percent fewer companies operating in those states, South Carolina and Massachusetts ended the observation period with over ten percent more insurers.

Figure 2
Percent change in the number of auto/homeowners insurers across states



B. Measurement

1. Dependent variable

Market exit. The dependent variable is measured as a dichotomous variable. For each market a company is operating in each year, a value of one is represented in the event of exit from that market by that company in the following year. A value of zero indicates that the company continues to operate in that particular market in the following year. Thus, we adopt the assumption that each company of the sample can potentially exit from any of the markets in which it is currently operating.

2. Independent variables

Multimarket contact: Multimarket contact can be measured at several levels: dyadic, firm-in-market, firm-, and market levels (Gimeno and Jeong, 2001). We opt to use the firm-market level measure because it captures the extent to which a firm's scope of business, outside of a focal market, is similar to other firms competing in that market. We also weigh the measure according to the importance of the overlapping markets to the focal market. The weight is the percentage of the focal firm's premium written in the given market.

Performance relative to aspiration level. To examine whether the effect of performance differs according to whether the performance is above or below the aspiration level, we split the performance variables into two categories (Greve, 1998). *"Performance above the aspiration level"* equals performance minus aspiration level when performance > aspiration level and 0 otherwise, and *"Performance below the aspiration level"* equals performance minus aspiration level when performance < aspiration level and 0 otherwise. We measured firm performance using operating ratio and calculated a historical aspiration level as a mixture of past-period aspiration level and the previous performance of the focal firm.

Slack. We used unabsorbed slack resources (Iyer and Miller, 2008; Shimizu, 2007), calculated as current assets divided by current liabilities. To examine the interactions involving slack, multimarket contact and performance relative to aspiration level, we normalized slack between 0 and 1 using the lowest and the highest values in the data (Audia and Greve, 2006). Thus, the firm with highest slack had a score of 1, and the lowest, a score of 0. This simplifies the interpretation of the results. The effect for the firm with lowest slack in the data is the main effect of firm performance, and the effect for the firm with the highest slack is the main effect plus the interaction. The effects on the other firms are in-between.

3. Control variables

We control for several alternatives explanations: *firm size*, measured as the logarithm of total assets, *type of firm* – mutual or stock, and *market experience*, operationalized as the number of markets in which the firm operates at $t - 1$. We also include density and density squared in the model, measured as the number of firms operating in the target market at

t – 1. Furthermore, we control for market attractiveness, measured as the number of entries into the target market at t – 1, and market concentration, measured as the Herfindahl index. Because we use an event history model, market and year effects are controlled for in the model specification.

C. Data Analysis

We use semi-parametric event history models as they represent a more flexible way to handle time dependence (Yamaguchi, 1991). The proportional hazards model assumes that hazard rates are a log linear function of parameters for the effects of covariates. The hazard rate of exit by firm *i* in market *m* at time *t* is defined as

$$h_{im}(t) = h_0 \; x \; exp(\beta X_{im}(t)) \quad (1)$$

where the hazard rate is the product of an unspecified baseline rate, $h_0(t)$, and a vector of independent and control variables, *X*.

IV. RESULTS

Table 1 presents the means, standard deviations, ranges, and correlations. A look at the correlation matrix shows us no significantly high correlations between variables that could bias the estimates. The magnitude of correlations between the explanatory variables – MMC, slack, and performance above and below aspiration level – was low, indicating that multicollinearity was not a concern. Tables 2 and 3 present the event-history analysis estimates of market exit at time *t* as a function of the firm's behavioral and competitive antecedents at time t – 1.

Model 1 is the baseline model with the control variables. Model 2 adds the behavioral antecedents of exit – performance below and above aspiration level. Performance above and below aspiration level have significant effects on market exit rates. Model 3 adds the interactions of performance and slack. Because slack is normalized, the main effect equals the effect on low slack firms and the main effect plus the interaction equals the effect on high slack firms. The effect of performance above aspiration level on either low- or high-slack firms is not significant, and only the effect of performance below aspiration level on high slack firms is significant.

To test Hypothesis 1, Model 4 adds the linear term of multimarket contact to the control model (Model 1) and shows a negative effect of multimarket contact on market exit rates. Thus, H1 is supported. At the average value for multimarket contact (μ = .78), the multiplier of exit rate is .33, which indicates the typical level of multimarket contact lowers exit rates by 67 percent. Figure 3 presents this effect graphically. As multimarket contact increased from 0 to 1, the rate of market exit decreased, reaching a multiplier effect of .24, which indicates that the rate of exit at the highest level of multimarket contact is decreased by 76 percent. To test the Hypothesis 2, 3, and 4, the subsequent models add the performance and slack variables to Model 4 sequentially. Models 5 and 6 add the main effects of behavioral and competitive antecedents. Models 7 and 8 add the interactive effects of competitive and behavioral antecedents. Chi-square statistics show that Model 8 corresponds to the best model fit, as compared with the control model. We thus interpret our results based on Model 8.

Table 1
Descriptive statistics and correlations

	Variables	Mean	s.d.	min	Max	1	2	3	4	5	6	7	8	9	10
1.	Exit	0.07	0.25	0.00	1										
2.	MMC	0.78	0.08	0.28	1	-0.03									
3.	Market concentration	0.14	0.04	0.06	0.31	0.01	0.23								
4.	Market density	41.48	8.47	12	62	0.00	-0.39	-0.33							
5.	Market attractiveness	1.73	1.38	0	10	0.01	-0.01	-0.05	0.22						
6.	Market experience	23.47	18.43	1	102	-0.08	-0.16	0.09	-0.15	-0.01					
7.	Firm size	22.44	1.61	15.76	25.59	-0.04	-0.07	0.03	-0.12	-0.05	0.58				
8.	Mutual firm	0.20	0.40	0	1	-0.10	0.05	-0.01	0.00	-0.01	-0.01	0.14			
9.	Performance above aspiration level	0.04	0.09	0.00	1.31	0.05	-0.06	-0.01	-0.02	-0.03	-0.04	0.06	-0.07		
10.	Performance below aspiration level	-0.04	0.10	-1.21	0.00	-0.10	-0.05	0.01	-0.05	-0.01	0.06	0.02	0.07	0.21	
11.	Slack	1.55	0.27	0	3.19	-0.13	0.05	0.00	0.01	0.00	-0.22	-0.15	0.26	0.00	0.15

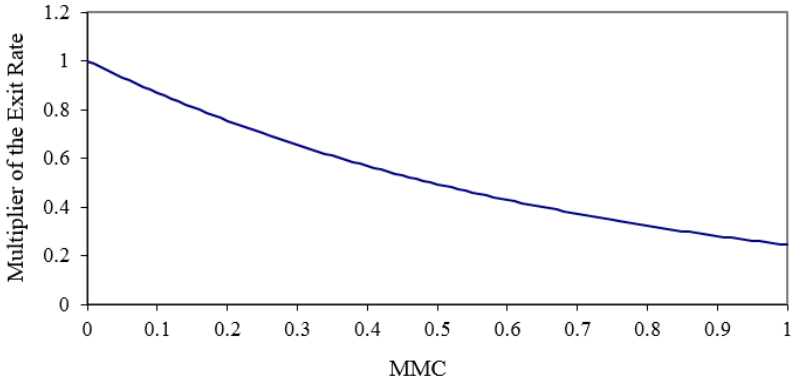
$|r| > .01$ implies significance at $p < .05$. These statistics are calculated on data covering 40,224 firm-market-year observations on multimarket firms making 1,789 market exit moves between 1998 and 2008.

Table 2
Behavioral and competitive antecedents of market exit (main effects)

Variables	Model 1		Model 2		Model 3		Model 4	
Market concentration	0.61 ***	(0.07)	0.61 ***	(0.07)	0.61 ***	(0.07)	0.62 ***	(0.07)
Market density	0.78 ***	(0.05)	0.78 ***	(0.05)	0.76 ***	(0.05)	0.78 ***	(0.05)
Market density squared	0.00	(0.00)	0.00	(0.00)	0.00	(0.00)	0.00	(0.00)
Market attractiveness	0.07 †	(0.04)	0.08 *	(0.04)	0.08 †	(0.04)	0.07 †	(0.04)
Firm size	0.06	(0.11)	0.05	(0.11)	-0.01	(0.11)	0.06	(0.11)
Mutual	-1.64 **	(0.67)	-1.57 **	(0.67)	-1.14 †	(0.64)	-1.62 **	(0.67)
Firm's market experience	-0.01 *	(0.01)	-0.01 **	(0.01)	-0.01 **	(0.01)	-0.01 **	(0.01)
Firm's entry experience	-0.01	(0.02)	-0.01	(0.02)	-0.01	(0.01)	-0.01	(0.02)
Performance above asp. Level			1.28 **	(0.76)	0.25	(1.35)		
Performance below asp. Level			-1.47 ***	(0.41)	0.95	(0.77)		
Slack					-6.76 **	(2.45)		
Performance above asp. level * Slack					4.95	(9.39)		
Performance below asp. level * Slack					-15.14 **	(6.83)		
MMC							-1.41 *	-(0.79)
Observations	40,224		40,224		40,224		40,224	
Likelihood ratio chi-square (df)	504.64		510.67		538.59		498.52	
Probability > chi-square	0		0		0		0	
Log-likelihood	-12,294.61		-12,191.46		-11,838.28		-12,280.69	
Log-likelihood ratio chi-square			206.29 ***		912.66 ***		27.85 ***	

Robust estimates of standard errors are in parentheses. † $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$
Log-likelihood ratio chi-square is relative to Model 1

Figure 3
Relationship between multimarket contact and market exit rates



The attenuating effect as predicted in Hypothesis 2 requires a positive sum of the coefficients on the two-way and on the three-way interactions, that is to say, $(\text{MMC}_{t-1} \text{ x } \text{PerfBelowAsp}_{t-1}) + (\text{MMC}_{t-1} \text{ x } \text{PerfBelowAsp}_{t-1}) \text{ x } \text{Slack}_{t-1} > 0$. The sum of the coefficients is positive and significant (-3.34 + 25.67 = 22.33, $p < 0$), indicating risk seeking. Therefore, H2 is supported.

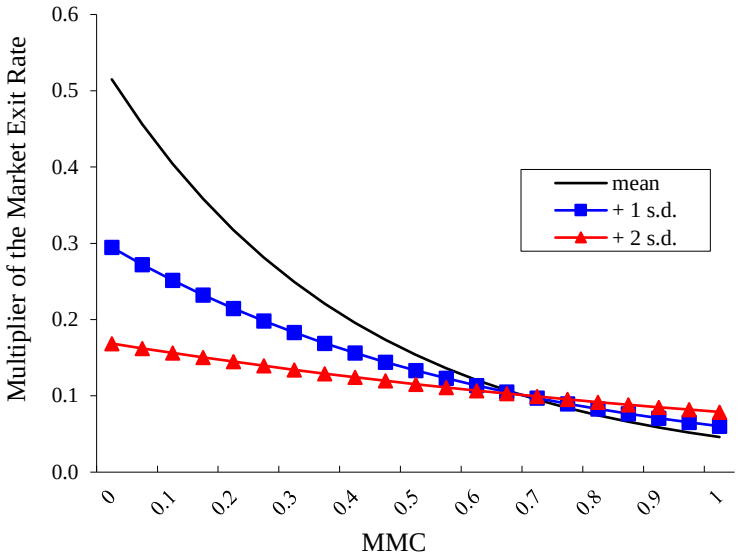
To clarify this complex interaction, we graphed the effect of MMC on market exit rates over the observed range of MMC and calculated multipliers at three increasing levels of slack (μ, $\mu+1\sigma$, $\mu+2\sigma$), holding performance below aspiration level constant at the mean level. As shown in Figure 4, increasing levels of slack retard the effect of multimarket contact on market exit rates.

Table 3
Behavioral and Competitive Antecedents of Market Exit (Interactive Effects)

Variables	Model 5		Model 6		Model 7		Model 8	
Market concentration	0.62 ***	(0.07)	0.62 ***	(0.07)	0.62 ***	(0.07)	0.62 ***	(0.07)
Market density	0.78 ***	(0.05)	0.77 ***	(0.05)	0.76 ***	(0.05)	0.77 ***	(0.05)
Market density squared	0.00	(0.00)	0.00	(0.00)	0.00	(0.00)	0.00	(0.00)
Market attractiveness	0.08 *	(0.04)	0.08 †	(0.04)	0.08 *	(0.04)	0.08 *	(0.04)
Firm size	0.05	(0.11)	-0.01	(0.11)	-0.01	(0.11)	-0.02	(0.11)
Mutual	-1.54 *	(0.67)	-1.11 †	(0.64)	-1.1 †	(0.64)	-1.12 †	(0.65)
Firm's market experience	-0.01 *	(0.01)	-0.01 **	(0.01)	-0.01 **	(0.01)	-0.01 **	(0.01)
Firm's entry experience	-0.01	(0.02)	-0.01	(0.01)	-0.01	(0.01)	-0.01	(0.01)
Performance above asp. Level	1.28 *	(0.76)	0.14	(1.35)	-0.44	(1.55)	-0.15	(1.58)
Performance below asp. Level	-1.47 ***	(0.41)	0.99	(0.78)	1.04	(0.79)	1.01	(0.77)
Slack			-6.85 **	(2.45)	-6.96 **	(2.47)	-6.87 **	(2.43)
Performance above asp. level * slack			5.64	(9.53)	7.75	(9.51)	6.64	(9.59)
Performance below asp. level * slack			-15.46 **	(6.94)	-15.68 **	(7.00)	-15.63 **	(6.97)
MMC	-1.50 *	(0.86)	-1.64 *	(0.90)	-1.41 †	(0.91)	-3.48 *	(1.90)
MMC * Performance above asp. Level					-5.16	(4.76)	2.55	(7.46)
MMC * Performance below asp. Level					0.43	(2.72)	-3.34 *	(1.15)
MMC * Slack					8.22 †	(5.31)	10.3 †	(6.72)
MMC * Performance above asp. level * slack							-50.15	(36.94)
MMC * Performance below asp. level * slack							25.67 *	(14.37)
Observations	40,224		40,224		40,224		40,224	
Likelihood ratio chi-square (df)	503.75		530.83		567.91		566.72	
Probability > chi-square	0		0		0		0	
Log-likelihood	-12,176.61		-11,821.19		-11,816.66		-11,810.13	
Log-likelihood ratio chi-square	235.99 ***		946.83 ***		955.91 ***		968.96 ***	

Robust estimates of standard errors are in parentheses. † $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$; Log-likelihood ratio chi-square is relative to Model 1.

Figure 4
Attenuating effect of below-aspiration performance on market exit rates of high-slack firms

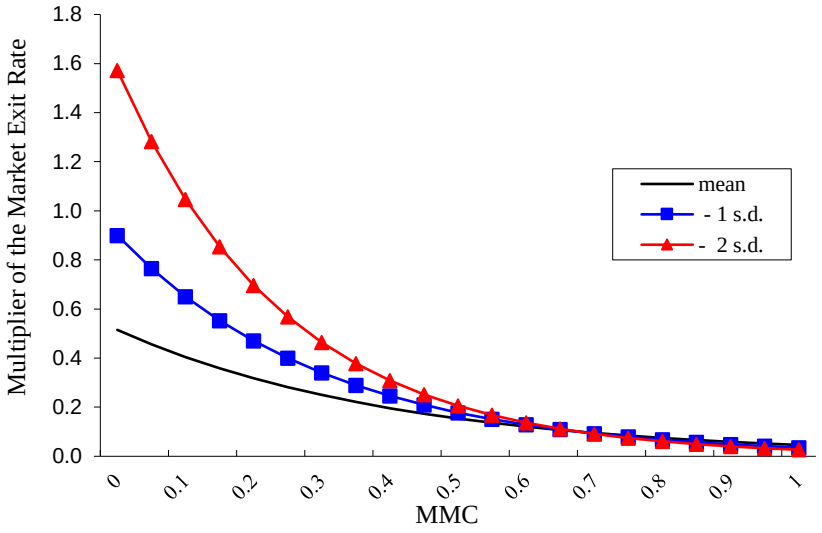


In Hypothesis 3, the predicted amplifying effect requires a negative coefficient on the two-way interaction MMC_{t-1} x $PerfBelowAsp_{t-1}$. The negative and significant coefficient indicates risk aversion. Therefore, H3 is supported. To clarify this complex interaction, we graphed the effect of MMC on market exit rates over the observed range of MMC and calculated multipliers at three decreasing levels of slack (μ, μ-1σ, μ-2σ), holding below-aspiration performance constant at the mean level. As shown in Figure 5, decreasing levels of slack accelerates the effect of multimarket contact on exit rates.

Finally, Hypothesis 4 predicts that firms performing above aspiration level do not have incentives to disrupt the multimarket structures, meaning that performance above aspiration level does not moderate the relationship between multimarket contact and market exit. Neither the coefficient on the two-way interaction $MMC_{t-1}xPerfBelowAsp_{t-1}$ nor that on the three-way interaction MMC_{t-1} x $PerfBelowAsp_{t-1}$ x $Slack_{t-1}$ are significant. Thus, H4 is supported.

Robustness check. We investigated the existence of an inverted-U curve for market exit in this sample. Our motivation is the fact that Baum and Korn (1999) reported contradictory findings between that study and their previous work. Baum and Korn (1996) found a negative coefficient on the linear term for multimarket contact, but, when they later added the quadratic term (Baum and Korn, 1999), the coefficient on the linear term became positive, and the coefficient on the quadratic term was negative, which indicates an inverted-U-shaped relationship between multimarket contact and exit rates.

Figure 5
Amplifying effect of below-aspiration performance on market exit rates of low-slack firms



To rule out this possibility, we estimated an additional model, not shown in Table 2 (results available from the authors), in which we include a quadratic term for multimarket contact. The coefficient on the linear term was -3.61, which indicates that the coefficient remained negative, the coefficient on the quadratic term was -16.34, and both were significant at $p < .01$. This pattern of results shows an accelerating decline in exit rates, which suggests that insurance firms are eager to keep the mutual footholds as the level of multimarket contact further increases. Thus, we did not find evidence of an inverted-U-curve for market exit decisions in the U.S. insurance industry.

The nature of the industry and the period of observation can possibly explain these different results. Baum and Korn (1999) found the inverted-U-shaped curve for market exit in the airline industry in a period of observation following intense deregulation, whereas we tested our hypotheses in a mature, established industry. This suggests that competitive dynamics seem to vary across different industries and time periods. Another plausible explanation is the fact that we examined geo-product markets. This departure from a traditional focus on geographic markets presents a more complete picture of the competitive environment that managers take into account when restructuring their firm's business scope.

V. DISCUSSION AND CONCLUSION

There is an historical emphasis on growth-related issues across social sciences studies (Anheier et al., 1999). Within strategy field, researchers have extensively investigated causes of above-average returns and consequences of improved performance for firms (Barney and Arikan, 2001). Yet understanding causes of contraction in the scope should be equally relevant, especially because in any large population of organizations over a

long period of time there will be a large number of declining firms or firms being restructured.

Our behavioral model of market exit explicitly integrates managerial decision-making and multimarket competition perspectives. Our goal is to explain how firm performance and slack influence the managers' perception of risk, which amplifies or attenuates the effect of multimarket contact on rates of market exit. Poor performance motivates decision makers in firms with high slack to be risk seekers, which make them perceive a shortfall as a repairable gap. Consequently, such firms are less likely to surrender their markets. From a rival's perspective, this "never surrender" strategy may signal excessively aggressive behavior, which may lead to an escalation of competition. The situation is different for low-performing firms without slack resources. Such firms need to focus on the markets that they know best, meaning that keeping footholds in rivals' markets is their least concern. High-performing firms, on the other hand, do not change their market exit behavior in response to performance relative to aspiration level, meaning that these firms tend to follow the 'live-and-let-live' policies and the tacit arrangements that emerge from multimarket competitive interactions.

By bringing a behavioral perspective into the theory of multimarket competition, the results provide a more accurate picture of the competitive interactions among firms. It shows the importance of taking into account both the internal and external perspectives when examining competitive interaction. Our model help managers make informed predictions about a rival's likelihood of exit from current market domains, by showing that firms contemplating market exit are likely to assess not only their position in the focal market, but also their positions in all markets in which they operate.

An interesting contribution of this study is that it empirically examines exit in an innovative way, not subordinating exit to changes in ownership, such as sell-offs and spin-offs. The data used provides depth of information without resorting to changes in SIC code membership. Consequently, the study captures exit decisions that occur well before formal divestiture or dissolution decisions. There remains much room for future studies. Studies incorporating samples from different industries will certainly be invaluable for comparison purposes. Furthermore, the examination of the effects of such exit patterns on firm performance is also an important extension.

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