Timing of Entry in International Market: An Empirical Study of U.S. Fortune 500 Firms in China

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This study attempts to explain the timing of entry of firms in international markets. Based on the existing literature, we propose a framework that consists of firm-specific factors, industry/market factors, and host country factors. Empirical results, based on the entry information of U.S. Fortune 500 firms in China between 1979 and 1996, show that larger firms with greater level of internalization and scope economies are likely to enter this foreign market earlier. In addition, non-equity modes, competitors' behavior in the product market, and lower levels of country risk are significantly associated with early entry.

INTRODUCTION

Firms face three interlocking questions with regard to international expansion: what market to enter (entry location), how to enter (mode of entry), and when to enter (timing of entry). Earlier studies have focused on the first two questions, with particular attention to the prevalence, sequence, trade-offs, and effectiveness of different modes of entry (Kim and Hwang, 1992; Woodcock, Beamish, and Makino, 1994; Madhok,

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TIMING OF ENTRY

1997). In contrast, research on the third question—the timing of entry—has received relatively little attention. Moreover, extant studies have focused on ex-post performance consequences of early or late entry. We argue that understanding the antecedents of entry timing complements the current emphasis on the consequences of entering in a particular entry order. Finally, we attempt to readdress some methodological biases of the previous studies that have been noted in various reviews of the literature. Collectively, these conceptual and methodological issues provide the motivation for this paper.

First, in examining the antecedents of firms’ timing of entry in a newly opened international market, our empirical work is based on a sample of U.S. Fortune 500 firms covering both entrants and non-entrants into China during the eighteen-year period of 1979 and 1996. The choice of China offers two advantages. First, prior to 1979, China pursued a socialist economic policy of self-reliance and was closed to foreign business. In 1979, China formally re-opened its market to foreign investment. Accordingly, the year 1979 serves as the benchmark for examining how long a MNC waited before entering China. In the past twenty years, China has become the largest recipient of foreign direct investment among developing countries (Pan, Li, and Tse, 1999). Moreover, China has been characterized as particularly distinctive in terms of its institutions and form of capitalism (Boisot and Child, 1996).

Second, we distinguish between the actual timing of entry (continuous measure) as opposed to the order of entry. In many previous studies, the order of entry represents an ordinal ranking that assesses market entry in terms of first entrants, second entrant (early follower), and late entrants, using a dummy variable measurement. Such self-reported categorical measures have been used extensively in past, particularly with PIMS data (Lieberman and Montgomery, 1998). Our study employs a continuous measure that operationalized by the time difference between a starting time and the time of entry. Luo (1998) has argued that ordinal rankings are sufficient and appropriate for analyzing oligopolistic market structures (i.e., few producers and competitors) in that one can readily identify first movers from followers. In more competitive structures (i.e., many competitors), however, classifications based on ordinal ranking tend to bundle up, that is, a number of firms can be designated as first entrants, even when self reports indicate different time of entry. Since our analysis spans many industries with various market structures and competitive environments, our use of continuous measure of entry time is, thus, appropriate (Luo, 1998; Lilien and Yoo, 1990). Finally, we employ event history method that incorporates time varying explanatory variables and provides more efficient estimates of entry timing through censoring techniques (Tuma and Hannan, 1984).

LITERATURE REVIEW

Earlier economic studies on the timing of entry sought to explain how monopolistic or ownership advantages of the firm determined the choice of entry modes (Hymer, 1976; Knickerbocker, 1973). Buckley and Casson (1981) sought to determine the optimal time to switch between entry modes, in order to minimize cost and to capitalize on market growth. In an attempt to synthesize different theories, empirical findings, and interpretations, Dunning (1988) pro-
posed an eclectic framework that combines the ownership and internalization advantages of firms and locational advantages of countries. This framework has been applied in explaining international market entry of firms (Agarwal and Ramaswami, 1992).

Recent business strategists and marketing researchers extended earlier classical works with multivariate frameworks that included strategic variables (firm and industry) and competitive/environmental variables (country and industry) (Hill, Hwang, and Kim, 1990). Several studies have investigated the order of entry at the level of product sectors (Lieberman and Montgomery, 1998; Kerin, Varadarajan and Peterson, 1992; Robinson, Fornell and Sullivan, 1992; DeCastro and Chrisman, 1995). These studies suggest that order of entry, competitive strategy and performance are interrelated. Despite the flurry of studies, the issue of whether first movers have an enduring advantage over followers in terms of long-term overall performance is still debatable (Isobe, Makino and Montgomery, 2000; Kerin et al., 1992; Lieberman and Montgomery, 1998). Nonetheless, there are supporting evidence that surviving first movers achieve higher market shares and profitability, largely as result of economic, preemptive, technological, and behavioral reasons (Kerin et al., 1992; Lilien and Yoon, 1990). Even so, follower advantages can stem from lower innovation costs, rapid reverse engineering, market knowledge from consumers already being familiar with their products, cost savings from imitation, and even scope economies that arise from experience curves (Kerin et al., 1992). Lambkin (1988) reported that pioneers, early followers, and late entrants have significantly different strategic profiles and performance, and that pioneers tended, on the average, to outperform later entrants.

Majority of this research has focused on the entry into particular product sectors in the U.S. domestic market (Lambkin, 1988; Lieberman and Montgomery, 1998; Mitchell, 1991). Findings suggest that the timing of entry affects competitive position, specifically the ability and competencies of a firm to realize its objectives in attaining or sustaining a competitive advantage (Green, Barclay and Ryans, 1995). In international business, it is important to know when foreign firms enter a newly opened country market (Rivoli and Salorio, 1996; Mascarenhas, 1997). With this premise, recent studies have examined the role of learning (Chang, 1995), uncertainty (Rivoli and Salorio, 1996), and investment as future options (Kogut and Kulatilaka, 1994).

Recent studies have examined the order of entry into international markets (Mascarenhas, 1992, 1997; Madhok, 1997; Shaver, Mitchell, and Yeung, 1997; Luo, 1998; Luo and Peng, 1998; Pan and Chi, 1999; Pan, Li, and Tse, 1999; Isobe, Makino and Montgomery, 2000). With few exceptions, such studies have utilized the PIMS data base for which entry timing is ex-post, exogenous classification of order of entry. These studies rely on firms' self-reports where firms categorize themselves as first-mover, early follower, or late follower. Because there are biases with abnormal large numbers of firms claiming the first-mover status (Lieberman and Montgomery, 1998), researchers have recommended the use of actual times of entry in order to provide more accurate measures (Lilien and Yoon, 1990; Luo, 1998). Taken collectively, by measuring time in months we are able to provide a fine partitioning of entry timing, as op-
posed to a more coarser partitioning of entrants into first movers and early/late followers.

A related problem, is that, in explaining the performance consequences of entry timing, previous studies that employed conventional regression analysis tended to include only surviving firms, that produce a “survivor” bias toward higher performance (Mitchell, 1991). One remedy, espoused by Mascarenhas (1997), who also examined the effect of pioneering (first movers) on the market share of firms in an international market, is to include both surviving and failed firms in the analysis. Our use of event history methods includes both entrants and non-entrants in estimating coefficients and testing hypotheses, thereby avoiding some of these limitations noted by Mitchell (1991). Finally, while the order of entry can be meaningfully interpreted in the context of a single product market sector, our study covers many different product market sectors, therefore a continuous measure is preferred.

**Theoretical Background and Conceptualization**

Based on our review, we identify three theoretical thrusts that guided our hypotheses. First, the strategic goals, capabilities, resources, and intent of a firm define its position in the international market, that it, the timing of entry is invariably related to the resources and competencies of the firm, also called the “resource-based theory of the firm” (Lieberman and Montgomery, 1998). Second, the ability of firms to assess market signals and opportunities (Porter, 1991), i.e., “information processing and market signals perspective,” is another key factor in explaining the entry timing decision. The decision to enter will depend on whether market growth is anticipated (Green et al., 1995), as well as the relative presence of competitors in the market (Knickerbocker, 1973). Third, the attractiveness of the host country and the level of risk are important determinants of the timing of entry, since a country with significant growth prospects and a low risk environment is more likely to attract foreign firms to enter early (Lieberman and Montgomery, 1998). Taken altogether, we propose that the timing of entry is influenced by firm’s capabilities and/or firm-specific factors (resource-based), by perceptions of the market/environmental opportunities (information processing), and by host country variables (locational factors). We also examine the relationship between entry timing and selected mode of entry.

**Firm-specific Factors**

**Level of Internationalization.** Level of internationalization refers to the degree of involvement of a firm in the international market (Li, 1995; Sullivan, 1994). Firms that have a significant overseas engagement can benefit from the learning and experience associated with their operations in foreign markets, as well as their extensive market networks (Chang, 1995; Shaver et al., 1997). Because they can leverage their accumulated knowledge and experience more readily, firms with a higher degree of international experience are more likely to enter a newly opened international market earlier. They can cross-support and cross-subsidize their entry in the new market with their existing operations in other foreign locations. While there is no guarantee that a firm can successfully leverage its experience from one market to another, we argue that the experienced firms are in a better position to overcome the risks and uncertainties in the initial phase of the market entry. Thus, we hypothesize:
Hypothesis 1: Firms with a higher level of international experience enter a new international market earlier than firms with a lower level of international experience.

Size of Firm. Historically, firm size has been related to market power in both domestic and international contexts (Chandler, 1962; Hymer, 1976; Knickerbocker, 1973). The conventional argument for firm size is premised on how larger-sized firms exercise their power. Thus, it is argued that larger firms compete in a broader spectrum of products and markets using scale and scope economies (Chandler, 1962). They are able to make preemptive moves that limit or prevent later entrants from gaining access to suppliers, markets, customers, and other scarce assets (Kobrin, 1991; Lieberman and Montgomery, 1998). Larger firms have more resources to invest in innovations, to pursue aggressive expansions, to be able to incur the costs and bear the risk, and to achieve a better performance (Cohen, 1996). Other advantages include access to privileged learning channels (Tan and Vertinsky, 1996), risk reduction through wider portfolios (Chang, 1995), and from a stronger bargaining power to gain concessions and incentives from host country government (Brewer, 1993; Pan, 1996). Additional empirical support comes from Lambkin (1988) who reported that pioneering entrants into new markets are able to enter on a large scale and invest heavily in building a strong market position, while late entrants are predominantly firms with smaller size. Collectively, within this perspective, we hypothesize that larger-sized firms are more likely to enter a foreign market earlier than smaller-sized firms.

Despite its intuitive appeal, there are a number of studies that do not empirically support some of these hypothesis-sized effects of firm size (see review by Kimberly, 1976), prompting researchers to conclude that firm size, in of itself, is not a precursor to market entry, but that the effects of size are what are consequential (Evans, 1976; Kimberly, 1976). In related formulations, researchers have expanded the effects of size in terms of overall ownership advantage (Dunning, 1988; Rivoli and Salorio, 1996). Ownership advantage is defined generally as “any income-generating assets which makes it possible or firms to engage in foreign production” (Rivoli and Salorio, 1996, p. 344). Within such formulations, the timing of market entry becomes conditional. Rivoli and Salorio (1996) point out, for example, that firms can’t afford to delay the entry if the ownership advantages possess are less unique and non-monopolistic (Casson, 1987). Because firm size is not a unique form of ownership advantage (Casson, 1987), there are conditions when a firm might actually delay market entry (Rivoli and Salorio, 1996).

The possible reconciliation of conventional arguments about firm size and contemporary treatments of ownership advantage might come with the size of the targeted entry market. Specifically, we argue that firms will capitalize on their size without too much delay particularly when facing particularly large markets, such as China. This is because larger firms will be able to leverage their resources when demand is high—a condition that a smaller-sized firms might not be able to capitalize as effectively. While uncertainty conditions posited by Rivoli and Salario (1996) prevail, larger-sized firms are in a better position to adopt standardized marketing strategies.
in particularly large markets, as in the cases of Coca Cola, Caterpillar, Nike, Sony, Marlboro, Phillips, Toyota, Volvo and Kodak. Thus, we hypothesize:

**Hypothesis 2:** For a potentially large host country market, larger firm size will encourage earlier entry.

**Scope Economies.** The impact of economies of scope on entry timing comes from two sources. First, a broader scope of products and services means a wide portfolio of offerings to choose from, and thus, means a better chance of providing the right product and service to the newly opened market. In this case, firms with a broader strategic scope are better prepared to handle the uncertainty about the types of product that are needed in the new market (Kerin et al., 1992). Second, a broader scope of products enables the firm to develop a synergy across different product sectors (Shaver et al., 1997). This synergy gives rise to both efficiency and quality in product development, product line extension, production, distribution, and market support (Lambkin, 1988; Green et al., 1995; Reddy, Holak, and Bhat, 1994). Taken together, firms with a broader product scope have a higher likelihood of entering the market early. Thus, we hypothesize:

**Hypothesis 3:** Firms with a broader scope of products and services enter a new international market earlier than firms with a narrower scope.

**Industry/Market Factors**

**Competitor behavior.** In markets of high uncertainty and risk, firms are influenced by what other firms in their industry do (Casson, 1987; Porter, 1991). Competitive behavior, as reflected in the entry decision of competitors (the presence of prior entries), is a significant signal for market entry decisions for two reasons. First, in the absence of their own calculations, firms use the behavior of other firms as a justification of their own behavior. When many firms are observed as investing in an overseas market, hitherto non-entrants infer from their competitors’ behavior that such entry is profitable, and that the earlier they enter the faster they too will be able to earn such profits. Second, firms often have a sense of paranoia and fear that either the opportunity will be completely gone, or those that have entered will put up entry barriers high enough to deter subsequent entries (Porter, 1991). Mitchell (1991) suggests that firms are likely to enter earlier when many firms exist and the threat of competition is high.

While, there may be some informational benefits to a delay, this benefit must be weighed against the costs of delay—the risk of entry by other firms and foregone cash flows. In fact, a countervailing position is that some firms might avoid entering markets for which they anticipate intense competition (Knickerbocker, 1973). Even so, while firms might choose to delay their entry and await new information, but they do not always have the opportunity to do so (Rivoli and Salorio, 1996). Specifically, strategic conditions might make it imperative for the firm to invest quickly and preempt existing or potential competitors (Lieberman and Montgomery, 1998). In such a scenario we would expect firms to take competitive behavior in the form of the number of prior entries into the host market (in its product sector) as a signal of profitable opportunities that might exist in the market. Thus, we hypothesize:
Hypothesis 4: The entry timing decision of a firm will be affected by its competitors’ behavior. In particular, entry by competitors will accelerate the entry of a firm into an international market.

Product Market Growth. It is intuitive that product markets with high growth potential will attract firms to enter the market early, because such markets offer ample room for them to grow and prosper (Green et al., 1995). Firms will move into markets that are characterized by a strong and rising consumer demand. Hennart and Park (1994) found that the entry of Japanese firms in the U.S. market was motivated principally by the growth prospect of the market. Therefore, a potential high growth rate in a product market serves as a strong signal of attractive market. The growth potential is a strong incentive for firms not only to enter the market but also to enter early (Lilien and Yoon, 1990). Thus, we hypothesize:

Hypothesis 5: The greater the market growth in a specific product sector in a new international market, the earlier a firm will enter that market.

Host Country Factor

Risk Condition. A potential obstacle for firms wishing to enter into a foreign market is the inadequate legal, political and regulatory framework—the ‘institutional environment’ (Brewer, 1993; Keefer and Knack, 1997). Deficiencies in the institutional environment of the host country may deter the entry of foreign firms into the market or at the least postpone their entries (Boisot and Child, 1996). Given the high degree of centralized control in China and closed nature of the Chinese market prior to 1979, it is likely that the firms would evaluate the level of political and business risk very carefully before making an entry decision (Pan and Chi, 1999). Thus, we hypothesize:

Hypothesis 6: The lower the level of risk in a new international market, the earlier a firm will enter that market.

Mode of Entry

The timing of entry and mode of entry are inextricably related (Mascarenhas, 1997; Madhok, 1997). However, even though the literature on entry modes is extensive (Buckley and Casson, 1998; Kim and Hwang, 1992; Woodcock, Beamish and Makino, 1994), how timing of entry is affected by the mode of entry has received relatively little attention.

Modes of entry can be viewed as equity-based (i.e., equity joint ventures and wholly owned subsidiaries) and non-equity-based (i.e., exporting; licensing; non-equity alliances) (Pan and Tse, 2000). By adopting an equity-based mode, firms inevitably set up a new entity in the host country, whether an EJV or a wholly owned subsidiary. This requires an on-going decision-making and management of the entity. Further, equity-based modes involve investment in assets that are often irreversible and non-redeployable. In contrast, non-equity modes are based on specific contracts on a fixed duration. Therefore, the level of risk tends to be higher with equity-based modes.

From the timing of entry perspective, it appears that an early entry is associated with a higher level of risk and uncertainty, especially at the early phase of market opening in the host country, holding other factors constant (Rivoli and Salorio, 1996). Therefore, we expect that early entries are associated more likely with non-equity modes of entry.
Given that non-equity modes are faster to plan and implement, and they require smaller resource commitment (Madhok, 1997). Thus, earlier entry might be hence prompted by less resource commitments (Isobe, Makino and Montgomery, 2000). In other words, managers may be more willing to invest earlier if they have less resource commitments at stake. Taken together, we hypothesize that non-equity modes are easier to adopt for early entry:

**Hypothesis 7:** Firms adopting non-equity entry modes are likely to enter a new international market earlier.

**Methodology**

**Sample**

In this study, we analyze the timing of entry of U.S. Fortune 500 firms into China during the period of 1979-96. China re-opened its door to foreign firms in 1979 after three decades of isolation. This provides a starting point from which the delay of entry by foreign firms can be examined. In order to provide consistency, we only included those Fortune 500 firms that appeared on the list in both 1979 and 1996. The sample we used is made up of 271 Fortune 500 firms. We used the China Business Review (a bimonthly trade journal published by the U.S.-China Business Council that reports foreign business activities in China) to gather the information on whether and when each of these 271 firms had entered China in this 18-year period. Of these 271 firms, only 126 firms entered China during the study period. In analyzing hypothesis 4, we included firms outside the original Fortune 500 sample to construct an adequate measure of our independent variable (competitive intensity).

**Dependent Variable**

**Timing of entry.** The dependent measure, is the duration (in months) that an U.S. Fortune 500 firm waited before entering China. For the entry timing, the duration is the difference between the actual time of entry (month and year of entry) and the starting point when it was possible to enter China, i.e., January of 1979. For those firms that had not entered at the end of our cutoff point (end of 1996), the dependent measure is the full duration between 1979 and 1996.

**Independent Variables**

**Level of internationalization.** Two variables were considered as measures of internationalization—the number of geographic segments in which the firm is present and the percentage of foreign sales of the total sales of a firm (Sullivan, 1994). Sales figures were deflated by the U.S. producer price index (Paasches Price Index, 1990=100). In addition, we lagged sales of firms by one year. Both measures were collected from COMPSTAT (Standard and Poor). We found that the inclusion of both measures resulted in high multicollinearity (0.74) between the two. To redress this problem, we used principal component analysis to create a single variable as a linear function and accounting for 99% of the variation of these two variables.

**Size of firm.** We measured the size of firms using the firm’s assets with data for the period of 1979-96 from COMPSTAT. While we hypothesize a monotonic relationship between firm size and entry timing, we used the log of firm assets to control for possible non-linearity in the relationship.

**Scope economies.** The number of business sectors that a firm participated in is used to measure the breadth of business scope. The business sectors are catego-
rized according to the 4-digit SIC codes. These data also came from COMPU-STAT.

Competitors' behavior. We operationalized this variable by the number of firms that entered China in the same product sector in the previous year before that particular firm entered. The rationale is that the greater the number of prior entries, the more competitive pressure the firm is under, which may prompt it to enter in the following year (Wernerfelt and Karnani, 1987). The number of prior entries includes all firms, U.S. Fortune 500 firms, Japanese and other non-U.S. firms.

Product market growth. The sampled firms were broadly classified according to the three digit international SIC (ISIC) codes of United Nations Industrial Development Organization (UNIDO). Using the UNIDO database, growth rates for gross output and the number of enterprises for each industry in China were obtained for the period 1979-93. The figures for 1994-96 were extrapolated using the average growth rates of the previous five years. A geometric average of growth rates of gross output and the number of enterprises was used as a proxy for product market growth.

Level of risk in host country. This variable is operationalized by the risk assessments from two independent international investor risk services, International Country Risk Guide (ICRG) and Business Environmental Risk Intelligence (BERI). Risk of expropriation measures the risk of confiscation and forced nationalization of foreign enterprises. Risk of repudiation of contracts measures the risk that the government will repudiate or otherwise unilaterally change the terms of contract with foreign businesses. Given the high correlation between the two and in order to cover the period of 1979-96, we collapsed these two measures into one index. For ease of interpretation, we re-scaled the composite index so that higher numbers imply higher risk.

Non-Equity Mode of Entry. Mode of entry of firms was coded using a dummy variable. All non-equity modes were coded as 1, and 0 otherwise.

Control Variable

With cyclical fluctuations in the Chinese economy that affected foreign investment in China, we introduced control dummies for four different periods: Phase I (1979-83)-Rehabilitation and Market Incentives; Phase II (1984-87)-Market Reforms; Phase III (1988-91)-Retrenchment, and Phase IV (1992-96)-Expansion of Foreign Investment (For more details, please see Bell, Khor, and Kochhar, 1993). A negative and significant coefficient, for any of the period dummies will signify that the waiting time until entry is significantly shortened during this period.

Given that Fortune 500 firms are large diversified firms, the entry into a host country market carries a strategic implication for the whole firm, as opposed to its competitive standing on a particular product sector. Therefore, apart from product market growth and competitive pressure that are measured at the level of each industry, we control for industry specific effects by inserting a separate intercept term for each industry in the equations yielding a fixed-effects model (Hsiao, 1986).

Method of Analysis

Given that over half of the firms in the sample had not entered China in this 18-year period, we encountered the issue of right censoring in the data. Event history analysis is well suited to longitudi-
nal data sets because it can handle the right censored cases, i.e., cases where no event has occurred at the cut off date. The information of censored cases is also incorporated into the estimates using their survival function values at the time of censoring, that is, the probability that an event will occur at some time beyond the observed duration.\(^3\)

We used an accelerated event-time method that assumes that the event times (the waiting time until entry into China in this study) are distributed according to a parametric baseline model that would hold if all independent variables were set to zero (Kalbfleisch and Prentice, 1980).\(^4\) Covariates are then estimated as exponentially multiplicative accelerations or decelerations of the baseline distribution. The natural logarithm of the survival time is expressed as a linear function of the covariates.

\[
\log T_i = x_i \beta + \sigma e_i
\]

where \(T_i\) is the (possibly unobserved) time until entry by firm \(i\), \(x_i\) is the vector of covariates associated with the \(i^{th}\) firm, and \(\beta\) is the vector of coefficients associated with each independent variable and \(e_i\) is the error term. Once the distribution of the error term is specified, estimation proceeds by maximizing the log-likelihood for the censored data.

The accelerated event-time model requires the specification of an underlying distribution for the survival time (i.e., the waiting time until entry into China). The generalized gamma distribution with a density function for \(T\) is particularly flexible and used in this study (Mitchell, 1989):

\[
\frac{|\kappa (\kappa^{-\frac{2}{\kappa}} - 1) \exp [\kappa^{\frac{2}{\kappa}} (\kappa e - \exp(\kappa e))]|}{(2\pi)^{\frac{1}{2}} \Gamma(\kappa^{-\frac{2}{\kappa}})} \quad \kappa \neq 0
\]

\[
\frac{(\kappa^{-\frac{2}{\kappa}} \exp(-\frac{\kappa^2}{2})}{(2\pi)^{\frac{1}{2}} \Gamma(\kappa^{-\frac{2}{\kappa}})} \quad \kappa = 0
\]

where \(\sigma\) is the scale parameter and \(\kappa\) is the shape parameter. To ensure that the model assumptions are met, we did pre-tests and used STATA 6.0 version in our analyses.

**Results and Discussion**

Table 1 shows that means, standard deviation and correlation between the independent variables. Of the 271 firms in the sample, a total of 126 firms had made their initial (first) entry into China by 1996.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Means (S.D.)</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Internationalization</td>
<td>11.929 (17.384)</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2) Economies of scope</td>
<td>2.433 (1.512)</td>
<td>0.048*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3) Size of firms</td>
<td>8.094 (1.474)</td>
<td>0.046*</td>
<td>0.107*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4) Product market growth</td>
<td>0.127 (0.190)</td>
<td>-0.050*</td>
<td>-0.008</td>
<td>0.012</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5) Competitors' behavior</td>
<td>25.449 (28.55)</td>
<td>-0.025</td>
<td>-0.02</td>
<td>0.125*</td>
<td>0.385*</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>6) Environment risk</td>
<td>2.830 (1.301)</td>
<td>0.109*</td>
<td>0.039*</td>
<td>-0.228*</td>
<td>0.034*</td>
<td>-0.034*</td>
<td>1</td>
</tr>
</tbody>
</table>

NOTE. *p < 0.05.
Table 2 shows the results of accelerated event-time model estimates for the timing of entry in testing H1 to H7. A positive (negative) coefficient implies that the covariate exercises a positive (negative) influence on waiting time. Thus, a unit increase in the covariate is interpreted as a firm delaying (fastening) entry into China. In effect, if we hypothesize an earlier entry, a negative coefficient would support our expectation.

Table 2 presents five models: model 1 attempts to explain the entry timing by using firm specific variables only; model 2 uses industry and country specific variables; model 3 combines model 1 and model 2; model 4 controls for period effects by including period dummies for the four phases of market reforms in China; model 5 adds industry specific dummies to control for unobserved industry heterogeneity. In Table 3, we test if non-equity mode of entry are correlated with early entry into China with and without industry fixed effects (re: models 6 and 7).
<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Model 6</th>
<th>Model 7 (Controlling for Industry Effects)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internationalization</td>
<td>-0.023</td>
<td>-0.02</td>
</tr>
<tr>
<td></td>
<td>(0.004)**</td>
<td>(0.004)**</td>
</tr>
<tr>
<td>Size of firms</td>
<td>-0.151</td>
<td>-0.155</td>
</tr>
<tr>
<td></td>
<td>(0.054)**</td>
<td>(0.055)**</td>
</tr>
<tr>
<td>Economies of scope</td>
<td>-0.055†</td>
<td>-0.074</td>
</tr>
<tr>
<td></td>
<td>(0.038)</td>
<td>(0.034)**</td>
</tr>
<tr>
<td>Product market growth</td>
<td>-0.387</td>
<td>-0.203</td>
</tr>
<tr>
<td></td>
<td>(0.302)</td>
<td>(0.362)</td>
</tr>
<tr>
<td>Competitors' behavior</td>
<td>-0.004</td>
<td>-0.005</td>
</tr>
<tr>
<td></td>
<td>(0.002)**</td>
<td>(0.003)*</td>
</tr>
<tr>
<td>Environment risk</td>
<td>0.274</td>
<td>0.252</td>
</tr>
<tr>
<td></td>
<td>(0.148)*</td>
<td>(0.122)**</td>
</tr>
<tr>
<td>Non-Equity Mode</td>
<td>-1.295</td>
<td>-1.283</td>
</tr>
<tr>
<td></td>
<td>(0.196)**</td>
<td>(0.176)**</td>
</tr>
<tr>
<td>Control variable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase II</td>
<td>-0.724</td>
<td>-0.707</td>
</tr>
<tr>
<td></td>
<td>(0.237)**</td>
<td>(0.214)**</td>
</tr>
<tr>
<td>Phase III</td>
<td>0.042</td>
<td>0.028</td>
</tr>
<tr>
<td></td>
<td>(0.470)</td>
<td>(0.410)</td>
</tr>
<tr>
<td>Phase IV</td>
<td>-0.132</td>
<td>-0.113</td>
</tr>
<tr>
<td></td>
<td>(0.233)</td>
<td>(0.200)</td>
</tr>
<tr>
<td>Intercept</td>
<td>7.104</td>
<td>7.714</td>
</tr>
<tr>
<td></td>
<td>(0.680)**</td>
<td>(0.654)**</td>
</tr>
<tr>
<td>Model Log Likelihood</td>
<td>-192.18</td>
<td>-177.06</td>
</tr>
<tr>
<td>No. of observations</td>
<td>271</td>
<td>271</td>
</tr>
<tr>
<td>No. of events</td>
<td>126</td>
<td>126</td>
</tr>
</tbody>
</table>

NOTE. Negative accelerated event-time coefficients indicate early entry. Standard errors in parentheses. ** **p < 0.01; **p < 0.05; *p < 0.1 (two-tailed tests) †p < 0.15.

eses, the results across the models (Model 3-7) are broadly consistent in terms of the sign, the magnitude and the significance of coefficients. To control for industry effects, i.e. to test whether industry differences affect entry timing, we performed a likelihood ratio test to compare the two models (Model 6 & 7). The likelihood ratio statistic = 0.13278, and has a $\chi^2 (25)$ distribution. The critical value at 5% level is 37.652. As such, the inclusion of industry fixed effects does not improve the analysis significantly. The same is true for models 4 and 5.

Our first three hypotheses relate early entry with a higher level of internationalization (H1), larger firm size in a particularly large host country (H2), and broader scope of products and services (H3). Results are supportive of our three hypotheses. Specifically, we found that firms with higher level of international-
ization enter an international market earlier (p<0.01), which indicates that knowledge-based capabilities are important for foreign market entry decisions. The results indicate that the size of firms has an expected impact on the early entry into China (p<0.01). As hypothesized, the advantages of size enable firms to muster resources, extend support among related product sectors, and exploit economies of scale, scope, and learning in particularly large markets (Kobrin, 1991; Lambkin, 1988). Furthermore, the broader product scope enables firms to offer the right product, which facilitates early entry into an international market (p<0.05) (Lieberman and Montgomery, 1998). These results are consistent with resource-based arguments that early entries are different from late entries in terms of their resources and capabilities (Robinson et al., 1992; Lieberman and Montgomery, 1998).

Support for the information processing and market signaling explanation (hypotheses H4-H5) is mixed. In examining Hypothesis 4 that relates entry timing with competitors’ behavior, we found that prior entry by competitors forces firms to enter a new foreign market earlier (p<0.1). As hypothesized, firms are less likely to delay their entry into China when they see a lot of their competitors have moved in (Rivoli and Solorio, 1996). However, hypothesis 5 that relates early entry with higher market growth is not supported. It is plausible that entry-timing decisions are based on expectations of product market growth, not actual growth. Thus, a firm is likely to enter early if it forecasts a high market growth potential, rendering actual rates to be less consequential. There are indications that such a case might have occurred in China during the First Phase where expectations of market growth opportunities were overly optimistic (Oksenberg et al., 1998). Taken altogether, there is mixed support for the information processing or market signaling perspective.

In relation to hypothesis 6 that relates early entry with level of risk, we found that firms evaluate political and business risk in making their entry timing decision (p<0.05). Favorable risk conditions accelerate the entry timing. Thus, locational features are important. In examining hypothesis 7 that relates early entry with non-equity modes, we found that choosing a non-equity mode of entry accelerates the entry of a firm into a foreign market (p<0.01). Compared to equity modes, non-equity modes are of short duration and easier to plan and implement. Hence, we found that firms that adopt non-equity modes tend to enter earlier into a foreign market. Due to longer horizon of planning and implementation, equity-based modes are less susceptible to pressure from competition and short-term risk fluctuations.

Taken collectively, there are several implications for practicing managers and strategies. First, firm capabilities—internationalization, size, and scope—matter. Such provide the antecedents of early market entry. Strong capabilities enable firms to make an early entry. As shown in other studies, the motivation for an early entry comes from in part the superior performance (Luo, 1998; Luo and Peng, 1998; Pan and Chi, 1999; Isobe, Makino and Montgomery, 2000). Second, the timing of entry is tempered by entry mode. Our study suggests that managers are more willing to enter markets earlier when the resource commitment is lower as in the case of non-equity entry modes.
Methodologically, we attempted to avoid the limitations of previous studies. We made substantial efforts to construct the archival data that included a continuous measure of how early (or how delayed) each firm’s entry into China. Our use of actual timing of entry is more precise than self-reported measures and nominal classifications, such as those used from the PIMS database. However, continuous measures may not be unambiguously interpreted when studying the order of entry issues. Finally, by using the event history method, we were able to incorporate time varying explanatory variables in the analysis as well as control for firms that had not entered China by the end of 1996. By using China as the host country, which re-opened its door in 1979, we were able to test the hypotheses in a real setting.

LIMITATIONS AND FUTURE RESEARCH

While our study incorporated the impact of broad government regulatory influences on MNEs’ entry timing strategies during the period of 1979-1996, we recognize that there might be regulations unique to each industry. To statistically control for the unobserved effect, we inserted a separate intercept term for each industry in the estimation. We note that the results remain robust even after controlling for industry effects. Future research should explicitly address the impact of industry-specific influences on MNE’s entry timing. Second, while China as a host country of investment provides diverse institutional and competitive conditions across provinces, we were not able to test for the impact of state and provincial differences on MNE’s entry timing strategy due to the lack of provincial level data for the 1979-1996 period. It is reasonable to assume that some state/provincial regulations preclude entry by foreign firms (Nike acknowledged that the company was forced to go to Tianjin and Shanghai in 1980, and not their initial choices), or specify the nature of entry mode (currently, in many provinces, entry can only occur through joint ventures, for example). In such cases, the order of entry can be biased, if not changed as a consequence of these regulations. Because of this limitation, a more penetrating account of the timing entry decision can be gleaned more effectively with a disaggregated analysis at the provincial and local level. Finally, while we only examine the first entry of firms in China, the fact is most of these Fortune 500 firms have multiple entries over time. Thus, in order to obtain a more comprehensive account of the timing of entry decision, specifically how previous investments and resources influence subsequent decisions, future research should examine the sequence of entries by each firm over time. Moreover, it might be instructive to study the pattern of sequential entry as well as what point in time firms decide to switch from one mode of entry to another. For example, when do firms decide to move from non-equity modes to equity modes of entry in an international market? What determines the timing decisions of sequential entries in a foreign market? Such studies will allow us to understand when and how multinational firms enter new markets, conduct operations, and learn from their experiences as an integral part of their global strategies.

NOTES

1. We acknowledge the suggestions and guidance of two reviewers in our developing an enlarged discussion of firm size.
2. We thank the reviewer for making this suggestion.

3. Within event history analysis, it is acknowledged that left censoring (a case of firm entry before 1979) can be a problem unless cases are negligibly small (Tuma and Hannan, 1979). In our study, this situation is not problematic in that, prior to 1979, China had severely restricted, if not allowed foreign entry. Thus, left censoring is not a problem due to historical context and circumstances.

4. Since our data set did not meet the proportional hazard assumptions, we chose accelerated failure time model to analyze the entry timing of firms into China.

5. We are grateful to the reviewer for pointing this out.

REFERENCES


