



The motives for international acquisitions: capability procurements, strategic considerations, and the role of ownership structures

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Abstract

Multinationals can start up greenfield entities or acquire existing firms to enter foreign nations. Regardless of the choice of greenfield investment vs acquisition, they can control full equity (i.e., wholly owned subsidiaries) or share ownership with local partners (i.e., joint ventures). Depending on the stake taken in the targets, therefore, international acquisitions can be classified into two major categories - full or partial - although this distinction is missing in most previous studies. In this paper, I propose that the motives for acquisitions (vs greenfield investments) are specific to whether entries are made through full or partial ownership, in that full acquisitions are driven mostly by capability procurements, whereas partial acquisitions are motivated by other strategic considerations. By splitting a sample of Japanese investments in the US into two sub-regimes, the study has found that the decision on joint ventures vs wholly owned subsidiaries dictates the determinants that shape the choice between greenfield and acquisitive entries. There is also evidence that Japanese investors self-select the decision on full or partial ownership to justify the strategy that they have chosen to enter the US. These findings offer new insights into the role of ownership structures in shaping the choice of entry strategies.

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INTRODUCTION

In their expansions abroad, multinational enterprises (MNEs) must make two entry mode choices. On one hand, MNEs must choose between starting up greenfield entities or taking over existing firms (Anand & Delios, 2002; Caves & Mehra, 1986; Hennart & Park, 1993). On the other hand, they must determine whether to establish wholly owned subsidiaries or form joint ventures with local partners (Beamish & Banks, 1987; Hennart, 1991). Previous studies often frame the choice between greenfield investments and acquisitions under the condition that entries are made through wholly owned subsidiaries, which implies that acquisitions of existing firms cannot be partial, and joint ventures are formed only through split ownership of greenfield entities. The fact is that the choice of greenfield vs acquisitive entries is available to all MNEs regardless of their decision of full or partial ownership. To set up car

assembly in the US, for instance, BMW alone built a greenfield plant in South Carolina, but VW bought out an existing one in Pennsylvania from Chrysler (both entries -are wholly owned subsidiaries). In comparison, Mitsubishi split the ownership of a new factory in Illinois with Chrysler, and Toyota acquired partial equity of an old factory in California from GM (joint ventures in both cases).

Depending on the stake taken by MNEs in local firms, therefore, international acquisitions can be classified into two major groups - full or partial. Without this full-vs-partial distinction, former studies have identified two sets of motives to explain the choice between greenfield and acquisitive entries. Through acquisitions, MNEs can procure competitive assets from indigenous firms, such as advanced technologies and reputable brands (Anand & Delios, 2002; Chen & Zeng, 2004). Or they can use acquisitions to achieve other strategic goals, such as speedy entry into rapidly growing industries, or consolidation of market power in concentrated sectors (Caves & Mehra, 1986; Hennart & Park, 1993). Presuming that all acquisitions are driven by the same set of economic and strategic considerations, previous studies make no attempt to separate joint ventures (partial ownership) from wholly owned subsidiaries (full ownership) in predicting the choice of greenfield investment vs acquisition.

This omission has critical theoretical ramifications. First and foremost, it remains unclear as to what distinguishes between full and partial acquisitions in their motivations. If the motives for international acquisitions are contingent upon the stake taken in the target firms, MNEs have two sets of guidelines to follow in choosing their entry strategy. In other words, the decision on full vs partial ownership also dictates the determinants of entry strategies in shaping the choice of greenfield investments vs acquisitions. Another essential question that needs to be addressed is thus how MNEs maneuver the ownership structures of foreign subsidiaries to optimize their choice of greenfield or acquisitive entries.

This literature gap raises other methodological issues, too. Most previous studies pool all observations in one model to predict the choice of greenfield vs acquisitive entries, precluding the possibility that full and partial acquisitions may be motivated by different sets of exogenous factors. Even though some of them (e.g., Barkema & Vermeulen, 1998; Hennart & Park, 1993) use a

zero-vs-one dummy variable to distinguish between full and partial ownership, this research design captures only the gap in the intercept, holding the coefficients of all independent variables constant. Unless the sample is split into two sub-regimes that consist of wholly owned subsidiaries and joint ventures, it is impossible to verify the true relationship between ownership structures and entry strategies (Shaver, 1998, 2003).

The former diagnosis suggests a need to *re-examine* the choice of greenfield investments vs acquisitions by distinguishing between full and partial ownership. This is what I do in this study. More precisely, the approach taken here departs from previous studies in its conceptual paradigm and empirical set-up. By making the full-vs-partial distinction explicit, the study is the first to propose that the motives for international acquisitions also depend on whether entries are made through wholly owned subsidiaries or joint ventures. Unlike previous research that lumps all observations into a single model, it splits the sample into two sub-regimes to verify whether full and partial acquisitions are indeed motivated by the same economic and strategic considerations. Through a two-stage method it further explores how MNEs self-select full or partial ownership to justify the strategy that they have chosen to enter foreign nations. Such a model specification allows them to choose ownership structures and entry strategies interactively, rather than making the two entry mode choices separately, as suggested in some previous studies.

The paper is organized as follows. The next section proposes a conceptual model that takes into account the role of ownership structures in analyzing the choice of greenfield vs acquisitive entries. Hypotheses generated from this model are tested on a sample of Japanese investments in the US. I discuss the implications and limitations of the findings before the paper concludes.

CONCEPTUAL FRAMEWORK

There is a huge body of literature on entry mode choices, which refer to the entry strategies (greenfield vs acquisitive) and ownership structures (full vs partial) chosen by MNEs to expand into foreign countries. Earlier research tends to focus on one choice without touching the other. For instance, some studies analyze only the decision of full vs partial ownership (e.g., Blodgett, 1991), while others focus exclusively on the choice of greenfield vs acquisitive entries (Cho & Padrnabhan, 1995;

Zejan, 1990). Recognizing possible relatedness between the two entry mode choices, recent studies have attempted to evaluate the impact of entry strategies on the decision of full vs partial ownership (Chen & Hennart, 2002; Hennart & Larimo, 1998), or capture the influence of ownership structures over the choice of greenfield vs acquisitive entries (Anand & Delios, 2002; Barkema & Vermeulen, 1998). Selected studies, although not many examine the choice of acquisitions vs joint ventures (see, e.g., Hennart & Reddy 1997), or even expand the inquiry to cover acquisitions, joint ventures, and wholly owned subsidiaries (Kogut & Singh, 1988; Woodcock, Beamish, & Makino, 1994).

Explicitly or implicitly, most former studies have treated entry strategies and ownership structures as two sequential decisions made in a separate manner. For instance, MNEs can first choose between greenfield and acquisitive entries and, after they have chosen to make greenfield investments, they then decide whether to control full equity or share ownership with foreign partners. Or, MNEs can make the decision of full vs partial ownership first and, assuming that they have decided to establish wholly owned subsidiaries, they later make the choice between greenfield investments and acquisitions. Entry mode choices, therefore, can be modeled through a trichotomy that consists of acquisitions, joint ventures, and wholly owned subsidiaries, if entry strategies are chosen before ownership structures. If ownership decisions are made prior to entry strategies, then the trichotomy contains joint ventures, acquisitions, and greenfield investments.

Under this trichotomy scheme, joint ventures are *always* greenfield and acquisitions are *never* partial. The literature has largely overlooked those entries where MNEs acquire partial equity of existing firms (i.e., partial acquisitions) and thereby enter a joint-venture relationship with their current owners (or acquisitive joint ventures). As illustrated in Figure 1, the choice of greenfield vs acquisitive entries is indeed available to all MNEs regardless of their decision of full or partial ownership. To set up wholly owned subsidiaries overseas (i.e., full ownership), for instance, MNEs can control full equity of greenfield entities (fully owned greenfield; Cell I), or acquire a full stake in local firms (full acquisition; Cell II). To establish joint ventures (i.e., partial ownership), they can share ownership of greenfield ventures with local partners (partially owned greenfield; Cell III), or take over partial

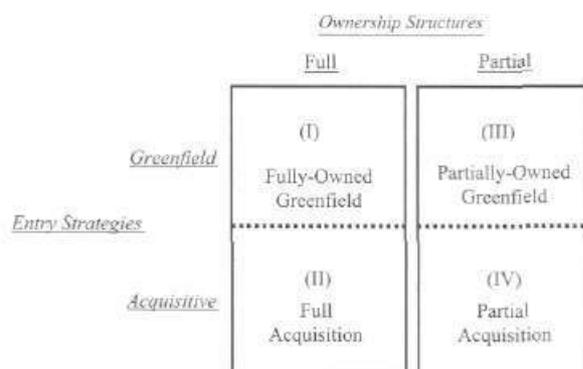


Figure 1 Entry mode choices.

equity of existing firms from their current owners (partial acquisition; Cell IV).

This 2 x 2 scheme suggests a need to distinguish between joint ventures and wholly owned subsidiaries in analyzing the choice of greenfield investments vs acquisitions. In this section, I argue that the motives for acquisitions are specific to whether entries are made through full or partial ownership, in that full acquisitions are driven by capability procurements, whereas partial acquisitions are motivated by other strategic considerations. Since the decision of full vs partial ownership also dictates the motives for acquisitions, I further propose that MNEs self-select their ownership decision to justify the strategy that they have chosen to enter foreign countries, be it a greenfield investment or an acquisition.

Capability Procurements

In transferring their proprietary advantages overseas for exploitation, MNEs often lack the complementary capabilities owned by indigenous firms. To replicate their production efficiency abroad, for instance, they may have to enlist reputable brands or distribution networks from local firms (Chen & Hennart, 2002). In diversifying into unrelated foreign industries, they also can acquire idiosyncratic knowledge from incumbent firms to assure the success of their subsidiaries (Caves & Mehra, 1986). Other local assets critical to MNEs' survival abroad include advanced technologies (Kogut & Chang, 1991), natural resources (Hennart, 1991), managerial expertise 'specific to host cultures (Kogut & Singh, 1988), and influence over government officials (Gomes-Casseres, 1990). Indeed, the need for MNEs to enlist proprietary capabilities innate to indigenous firms has long been recognized

as the *liability of foreignness* (Hymer, 1976; Zaheer, 1995).

To some extent the presence of complementary capabilities in indigenous firms dictates the mode chosen by MNEs to enter foreign nations (Buckley & Casson, 1998). The default option is for MNEs to make greenfield investments without sharing ownership with foreign partners if local assets can be easily duplicated internally or purchased through the external market (Cell I, Figure 1). By starting up wholly owned subsidiaries, MNEs can hire fresh labor forces and mold managerial systems without interventions from joint-venture partners, which allows them to keep tighter control over foreign operations (Anderson & Gatignon, 1986; Jemison & Sitkin, 1986).

Owing to their tacit and proprietary nature, complementary capabilities owned by indigenous firms can be difficult to duplicate internally and their external purchase too costly to negotiate and contract (Chen, 2005; Chi, 1994). Even though the target assets can be duplicated internally or purchased externally the extra costs that MNEs must incur to do so may damage their relative competitiveness *vs* indigenous firms. In such cases, one alternative to procuring complementary capabilities is to buy out the local businesses in which the target assets are embedded (Cell II, Figure 1). There is ample empirical evidence to show that MNEs use acquisitions to procure a wide variety of proprietary assets from indigenous firms (Anand & Delios, 2002; Caves & Mehra, 1986; Hennart & Park, 1993).

International acquisitions, nevertheless, are not the only entry mode for MNEs to procure complementary capabilities from indigenous firms. There are cases where local assets cannot easily be procured externally, and yet obtaining a right to their use is cheaper than replicating them internally. This suggests that the target assets can instead be shared through business ventures jointly started by their current owner and the potential acquirer (Cell III, Figure 1; Beamish & Banks, 1987; Hennart, 1991). Pooling complementary assets within a joint venture benefits both partners, in that MNEs save on the costs of acquiring the target assets externally or creating them internally; indigenous firms extend their existing assets to cover a wider product line without full investment in production facilities. Again, abundant empirical evidence reveals that MNEs also use joint ventures to gain access to strategic assets controlled by indigenous firms (e.g., Gomes-Casseres, 1989; Hennart, 1991; Kogut & Chang, 1991).

While MNEs can use acquisitions and joint ventures to procure complementary capabilities from indigenous firms, both options have limitations. The presence of intangible assets in a firm often makes its acquisition difficult to negotiate and contract (Balakrishnan & Koza, 1993; Chi, 1994). Pooling complementary assets within a joint venture also entails extra managerial costs to iron out all possible conflicts between the partners (Anderson & Gatignon, 1986). Accordingly, the concurrence of partial entries and acquisitions (i.e., partial acquisitions or acquisitive joint ventures; see Cell IV, Figure 1) requires MNEs to bear the burden of executing acquisitions and face the hassles of managing co-ownership. Understandably, acquisitions are often *full* and joint ventures are mostly *greenfield* when the two entry modes are driven by access to complementary assets controlled by indigenous firms.

Indeed, *full* acquisitions and *greenfield* joint ventures are two substitute modes for MNEs to procure complementary capabilities from local firms (Hennart & Reddy, 1997; Kogut & Singh, 1988). When acquisitions are motivated by capability procurements, MNEs have full access to all assets embedded in the acquired businesses, and thus no longer need to enlist them from their current owners through joint ventures. As long as the presence of intangible assets in a firm does not make its acquisition too difficult to negotiate and contract, MNEs should take a full stake in the target firm to eliminate the extra cost of managing co-ownership. Alternately, MNEs can borrow complementary assets from indigenous firms through joint ventures if potential conflicts between the partners can be effectively resolved. Because MNEs now can enlist complementary assets from their joint-venture partners, the original reason for acquiring indigenous firms (i.e., capability procurements) disappears. To avoid the burden of executing acquisitions, they should form joint ventures with local partners through split ownership of greenfield entities, even if this joint-venture relationship can also be established through partial acquisitions of existing firms.

It is obvious that the relevance of capability procurements to the choice of greenfield *vs* acquisitive entries depends on the decision of full or partial ownership. When entries are made through wholly owned subsidiaries, MNEs lack the option to borrow complementary assets from joint-venture partners, and thus acquisitions become the only means for them to procure the target assets from

indigenous firms. Hence capability procurements are more likely to be the major motive for full acquisitions. By contrast, when entries are made through joint ventures, MNEs do not need to acquire the indigenous firms that own complementary assets, since they can enlist the target assets from their foreign partners. Accordingly, capability procurements are unlikely to be the driving force behind partial acquisitions. Taken together:

Hypothesis 1: Capability procurements are more influential in motivating the choice of acquisitions over greenfield investments in full than in partial entries.

Other Strategic Considerations

Capability procurements, however, are not the only motive for international acquisitions, which can also be driven by other strategic considerations. For instance, it takes a longer time to start up greenfield entities than it does to acquire existing firms, which means that MNEs can use acquisitions to speed up entry into fast-growing markets where the opportunity cost of delaying entry is higher (Caves & Mehra, 1986; Hennart & Park, 1993). Besides, starting up greenfield plants adds new capacities and thus worsens rivalry with incumbents. MNEs then can take over existing businesses in slow-growing or even declining industries to avoid escalating rivalry with indigenous firms (Caves & Mehra, 1986). MNEs can also buy out foreign rivals to consolidate market power, particularly in concentrated sectors marked by oligopolistic rivalry among a small number of players (Knickerbocker, 1973; Oster, 1990).

When entries are made through wholly owned subsidiaries, as argued earlier, acquisitions become the only means for MNEs to procure complementary capabilities from indigenous firms, which weakens the significance of other strategic considerations in motivating full acquisitions. Under full ownership, however, MNEs can still use acquisitions to achieve other strategic goals. For instance, it takes time to build local assets from scratch, and negotiations with local partners in pooling complementary capabilities through joint ventures are time-consuming. To eliminate the opportunity cost of delaying entry, MNEs can take over the indigenous firms that control the target assets. Although such acquisitions seem to be driven by speedy entry into foreign nations, the underlying motive is access to complementary capabilities embedded in the acquired firms.

As long as capability procurements are the primary motive for full acquisitions, other strategic considerations play a less influential role in determining the choice of greenfield vs acquisitive entries under full ownership.

Conversely, MNEs setting up joint ventures abroad can enlist complementary assets from their local partners, regardless of whether this joint-venture relationship is created through split ownership of greenfield entities or partial acquisitions of existing firms. Nevertheless, capability procurements play little role in motivating partial acquisitions, where MNEs have full access to all assets embedded in the acquired businesses and thus have no need to borrow them from their previous owners through joint ventures. Instead, partial acquisitions are more likely to be driven by other strategic considerations. This is especially true when joint ventures are formed through partial acquisitions of existing businesses for reasons other than capability procurements, such as reducing capital commitment or alleviating investment risks (see Harrigan, 1988).

In moving their assembly operations to the US, for instance, Mitsubishi split the ownership of a greenfield plant with Chrysler, but Toyota acquired a partial stake in an old factory from GM. Even if the two joint ventures were formed in different ways, a substantial portion of their output is sold under the brand names and through the dealers controlled by the local partners. Toyota's choice of an acquisitive joint venture, nonetheless, was not driven by asset procurements, since it could have enlisted complementary assets from GM through a greenfield joint venture (exactly what Mitsubishi did from Chrysler). Instead, Toyota used this partial acquisition to speed up its entry into the US while it was lagging behind its home rivals (e.g., Honda and Nissan) in shifting assembly to North America. In addition, Toyota might have used this partial acquisition to avoid escalating rivalry with GM on the West Coast, as the acquired plant was operated well below full capacity (Badaracco, 1988). These strategic considerations are the reason why Toyota took a partial stake in an existing plant and then formed an acquisitive joint venture with GM (vs a "greenfield joint venture started by Mitsubishi with Chrysler).

No matter if entries are full or partial, therefore, MNEs can use acquisitions to accomplish other strategic goals unrelated to capability procurements, such as market power consolidation in concentrated sectors, capacity control in mature

industries, and speedy entry into rapidly growing markets. These strategic considerations, nevertheless, are more influential in shaping the choice of greenfield investments vs acquisitions in partial than in full entries.

Hypothesis 2: Strategic considerations other than capability procurements are more relevant to the choice of greenfield vs acquisitive entries under partial than under full ownership.

Self-Selectivity of Ownership Structures

Even though MNEs can take over indigenous firms to procure complementary capabilities or accomplish other strategic goals, international acquisitions are not trouble free. To begin with, indigenous firms that are available for sale could well be lemons, and those in good shape can be acquired only at a price higher than their true value (Akerlof, 1970). Because of this adverse selection problem, MNEs making acquisitive entries abroad must incur extra costs, sometimes prohibitive, to screen out lemons and guard against sellers' misrepresentations. Further, acquisition contracts are inherently defective and hence lack total binding power to guarantee complete transfer of all acquired assets to new owners (Balakrishnan & Koza, 1993). Again, MNEs must incur an extra cost to assure contract enforceability. More important, those taking over indigenous firms must inherit existing labor forces and managerial systems from the sellers, making acquisitions riskier and more likely to fail in the long term (Qemison & Sitkin, 1986).

Given that the motives for acquisitions are contingent on whether entries are made through wholly owned subsidiaries or joint ventures, MNEs indeed have two sets of guidelines to follow in choosing the optimal strategy to enter foreign countries. The decision to control full equity of foreign subsidiaries, for instance, magnifies the influence of capability procurements in shaping the choice of greenfield investments vs acquisitions. The decision to split ownership with local partners, on the contrary, augments the importance of other strategic considerations in driving the choice between greenfield and acquisitive entries. In weighing the pros and cons of acquisitions vs greenfield investments, therefore, MNEs can choose either full or partial ownership to further justify the strategy that they have already chosen to enter foreign markets.

Because of the aforementioned shortcomings with international acquisitions, on the one hand, MNEs can self-select full or partial ownership to avoid taking over indigenous firms. To start up new plants in foreign nations, for instance, MNEs can choose *full* ownership on purpose to avoid using acquisitions to speed up entries into fast-growing markets, assuming that negotiations with joint-venture partners are time-consuming. Or they can choose *partial* ownership deliberately, to reduce the need for taking over indigenous firms that control complementary assets, since MNEs with weak capabilities to survive overseas can instead leverage this joint-venture relationship to enlist the target assets from their local partners.

To justify their decision to acquire existing local firms, on the other hand, MNEs can also choose either full or partial ownership to maximize the benefits, and thus enhance the propensity, of acquisitions. MNEs making acquisitions abroad have full access to all assets embedded in the acquired businesses, and even those with weak capabilities to survive alone do not need to enlist complementary assets from local partners through joint ventures. Therefore they can choose to acquire *full* equity of the targets deliberately to avoid the hassles of managing co-ownership. In cases where partial ownership also serves other purposes (e.g., minimizing capital commitments or reducing investment risks), MNEs can choose to acquire only *a partial* stake in indigenous firms and then use speedy entry accommodated by acquisitions to compensate for lengthy negotiations with potential joint-venture partners.

Apparently, ownership structures and entry strategies are not two sequential choices made in a separate manner, as suggested in some previous studies. Instead, MNEs can self-select either full or partial ownership to optimize their choice of greenfield vs acquisitive entries.

Hypothesis 3: MNEs self-select full or partial ownership to justify the strategy they have chosen to enter foreign nations, be it a greenfield investment or an acquisition.

METHODS

The Sample

In addition to the economic and strategic motives discussed earlier, the choice of greenfield vs acquisitive entries also depends on other nation-level factors that are not covered in this study (e.g.,

cultural distance or political environments; Gomes-Casseres, 1990; Kogut & Singh, 1988). To control for these variables, I chose to test the hypotheses on a sample of Japanese subsidiaries in the US, knowing that this single-home/single-host-nation design may limit the generalizability of the findings.

The sample was created through two separate censuses: Toyo Keizai in 1987 and the Japan Economic Institute from 1981 to 1989 (Japan Economic Institute, 1989; Toyo Keizai, 1987). It consists of 101 joint ventures and 168 wholly owned subsidiaries. Of the 101 partial entries, 50 are acquisitions and 51 are greenfield investments. Of the 168 full entries, the corresponding figures are 64 and 104. By following a rule widely used in previous studies, I defined an entry as partial if the parent took between 5 and 95% of the stake in the subsidiary, but as full if 95% or higher (e.g., Gornes-Casseres, 1989, 1990; Hennart, 1991).

The Model

According to Hypotheses 1 and 2, the choice of greenfield vs acquisitive entries is determined by two sets of exogenous variables, that is, capability procurements and other strategic considerations. Because of the nature of the dependent variable, two binomial logistic models were used to estimate the probability of acquisition (vs greenfield investment) for partial or full entry, separately.

$$P_P(Y_i = 1) = \frac{1}{1 + \exp[-(\alpha_P + X_{Ci}\beta_{CP} + X_{Si}\beta_{SP})]} \quad (1)$$

$$P_F(Y_j = 1) = \frac{1}{1 + \exp[-(\alpha_F + X_{Cj}\beta_{CF} + X_{Sj}\beta_{SF})]} \quad (2)$$

where the dependent variable Y_j (or Y_i) will equal 1 if the i th partial entry (or the j th full entry) is an acquisition, and 0 if a greenfield investment. $P_P(Y_i=1)$ thus estimates the probability of acquisition for the i th partial entry; $P_F(Y=1)$ predicts the likelihood of acquisition for the j th full entry. On the right-hand side of both equations, X_c is a vector of capability variables; X_s is a vector of strategy variables; α_P and α_F are intercepts; and B_{CP} , B_{SP} , B_{CF} , and B_{SF} are all estimated parameters. As predicted in Hypotheses 1 and 2, X_s has a bigger impact on the propensity of acquisition in Eq. (1) (partial entries), but X_c influences the propensity of acquisition mostly in Eq. (2) (full entries).

Hypothesis 3 predicts that MNEs will self-select either full or partial ownership to justify their choice of greenfield vs acquisitive entries, which can be tested through a two-stage method (Shaver,

1998). First, a binomial probit model should be used to predict the decision of full vs partial ownership for *all* entries, using a subset of the independent variables that also affect the choice of greenfield investments vs acquisitions (Heckman, 1979; Maddala, 1983).

$$P(Y_n = 1) = \Phi(\alpha + X_n\beta) \quad (3)$$

where the dependent variable Y_n will equal 1 if the n th observation is a joint venture, and 0 if it is a wholly owned subsidiary. Accordingly, $P(Y_n=1)$ estimates the probability of joint venture (vs wholly owned subsidiary) for the n th entry. On the right-hand side, $\Phi(\cdot)$ denotes the standard normal distribution function, X is a subset of X_s and X_c , α is the intercept, and β is a vector of estimated parameters.

Second, this binomial probit model can generate two selectivity variables, X_P and X_F , which should be plugged into Eqs. (1) and (2) to examine whether Japanese investors self-select their ownership decision to justify the chosen entry strategy (see Eqs.(4) and (5) below).

$$P_P(Y_i = 1) = \frac{1}{1 + \exp[-(\alpha_P + X_{Ci}\beta_{CP} + X_{Si}\beta_{SP} + \lambda_{Pi}\beta_{\lambda P})]} \quad (4)$$

$$P_F(Y_j = 1) = \frac{1}{1 + \exp[-(\alpha_F + X_{Cj}\beta_{CF} + X_{Sj}\beta_{SF} + \lambda_{Fj}\beta_{\lambda F})]} \quad (5)$$

where a positive B_{2p} indicates that Japanese investors self-select partial ownership to justify their choice of acquisition, but a negative one suggests that this self-selection effect is to weaken the propensity of acquisition (i.e., to justify the choice of greenfield investment). Likewise, the sign of B_f tells whether Japanese investors self-select full ownership to either enhance or weaken the propensity of acquisition (vs greenfield investment).

Please note that this two-stage method serves to test Hypothesis 3, namely, Japanese investors self-select an ownership structure to justify the chosen entry strategy. One underlying assumption is that Japanese investors first made the choice of greenfield investments vs acquisitions and then selected an appropriate ownership decision (full or partial) to justify the entry strategy that they had chosen to enter the US. This model specification does not capture all possible sequences by which Japanese

investors choose ownership structures and entry strategies. Indeed, they could first make the full-vs-partial decision and choose an entry strategy later to justify their ownership decision. Or the two entry mode choices could be made concurrently rather than sequentially (i.e., the four cells of the 2 x 2 matrix in Figure 1 were all up for grabs at the same time).

Independent Variables

Capability variables. Previous findings have indicated that Japanese investors spending more on R&D are less inclined, but those entering R&D-intensive industries are more likely, to use acquisitions to procure advanced technologies from US firms (see Anand & Delios, 2002; Hennart & Park, 1993). I used the R&D expenditures-to-sales ratio for each Japanese investor to measure *parents' R&D intensity* (sources: Toyo Keizai and the Japanese Ministry of Finance). To measure *industry R&D intensity*, I collected the R&D expenditures-to-sales ratio at the four-digit Standard Industrial Classification (SIC) level from the Federal Trade Commission's *Annual Line of Business Report* (Federal Trade Commission, 1977). As predicted by Hypothesis 1, both technology variables are more influential in shaping the choice of greenfield investments vs acquisitions in the full-entry sub-regime.

It has been argued that Japanese investors spending more on advertising are less inclined, but those entering advertising-intensive industries are more likely, to procure marketing assets from US firms through acquisitions (Anand & Delios, 2002; Chen & Zeng, 2004). I used the advertising expenditures-to-sales ratio collected from the same sources as these two technology variables for each investor and each industry to measure *parents' advertising intensity* as well as *industry advertising intensity*. Again, the two marketing variables affect the choice of greenfield vs acquisitive entries mostly under full ownership.

According to previous findings (Hennart & Park, 1993; Zejan, 1990), MNEs setting up diversified subsidiaries abroad can procure industry-specific knowledge by acquiring incumbent firms. Besides, Japanese investors with less experience in the US can use acquisitions to obtain managerial know-how specific to local environments (Hennart & Park, 1993; Wilson, 1980). To measure *parents' industry knowledge*, I used a dummy variable that will equal 1 if the product made by a subsidiary

matched any product made by the parent, and 0 if otherwise. To capture *parents' host-market experience*, I also calculated the number of years that a Japanese investor had operated a US subsidiary prior to an entry. Procurements of country- and industry-specific knowledge are expected to play a role in shaping the choice between greenfield investments and acquisitions mostly in full entries.

Strategy variables. Previous studies have found a V-shaped relationship between industry growth and the probability of acquisition (Caves & Mehra, 1986; Hennart & Park, 1993). This implies that acquisitions can be made to speed up entry into rapidly growing markets or control capacity expansions in mature industries. Following a method used by Caves and Mehra (1986), I measured this V-shaped impact through *industry growth deviation*, which is the absolute value of the difference between the growth rate of each four-digit SIC industry and the sample mean (source: *US Industrial Outlook*; US Commerce Department, 1978-1987). Previous results have also shown that Japanese investors are less inclined to take over US firms in concentrated industries, where acquisitions are costlier to negotiate and contract, or anti-trust regulations may block acquisitions that confer excess market power on foreign entrants (Chen & Zeng, 2004). *Industry concentration* was measured through the Herfindahl-Hirschman Index for the 50 largest suppliers at the four-digit SIC level (see *1982 Census of Manufactures*-, US Commerce Department, 1987). As predicted in Hypothesis 2, the two strategy variables are more relevant to the choice of greenfield investments vs acquisitions in the partial-entry sub-regime.

Statistics of independent variables (except β_p and AF) and the correlation matrices are given in Table 1 (for the full sample and the two sub-regimes). The means of most capability variables vary systematically across full and partial subsamples. The mean of parents' R&D intensity, for instance, is 1.82 for all entries, but the corresponding figures are 1.78 and 1.84 for partial and full entries. A similar pattern of variations can be observed among other variables, which reveals that Japanese investors do not make their ownership decision randomly.

RESULTS

The probit model analyzes the decision of full vs partial ownership only to generate two selectivity variables that are used in the stage-two models to

Table 1 Statistics and correlation matrices

Variable name	Mean	s.d.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	
<i>(a) Full sample (N=269)</i>										
(1) Parents' R&D intensity	1.82	1.90								
(2) Industry R&D intensity	2.54	2.26	0.27							
(3) Parents' advertising intensity	0.01	0.03	-0.01	-0.09						
(4) Industry advertising intensity	1.59	2.24	0.04	0.08	0.26					
(5) Parents' host-market experience	6.01	6.69	0.18	0.16	-0.07	-0.14				
(6) Parents' industry knowledge	0.90	0.30	0.09	-0.21	0.07	-0.12	-0.02			
(7) Industry growth deviation	7.07	7.50	0.08	0.52	-0.01	-0.09	-0.05	0.16		
(8) Industry concentration	681.7	580.1	0.08	0.10	-0.08	-0.02	0.01	-0.03	-0.03	
<i>(b) Partial-entry subsample (N=101)</i>										
(1) Parents' R&D intensity	1.78	1.62								
(2) Industry R&D intensity	2.25	2.40	0.18							
(3) Parents' advertising intensity	0.01	0.03	-0.01	-0.03						
(4) Industry advertising intensity	1.20	2.12	0.08	0.22	0.19					
(5) Parents' host-market experience	6.40	6.94	0.04	0.22	-0.06	-0.12				
(6) Parents' industry knowledge	0.87	0.34	0.14	-0.31	0.05	-0.29	-0.06			
(7) Industry growth deviation	7.17	7.89	0.02	0.64	0.02	-0.11	-0.07	0.27		
(8) Industry concentration	678.7	648.8	0.07	0.04	-0.07	-0.06	0.07	-0.13	0.05	
<i>(c) Full-entry subsample (N=168)</i>										
(1) Parents' R&D intensity	1.84	2.05								
(2) Industry R&D intensity	2.71	2.17	0.32							
(3) Parents' advertising intensity	0.01	0.02	0.01	-0.16						
(4) Industry advertising intensity	1.83	2.29	0.01	-0.02	0.31					
(5) Parents' host-market experience	5.78	6.55	0.26	0.14	-0.08	-0.15				
(6) Parents' industry knowledge	0.92	0.28	0.07	-0.12	0.08	-0.03	0.03			
(7) Industry growth deviation	7.01	7.30	0.11	0.44	-0.04	-0.08	-0.03	0.08		
(8) Industry concentration	683.6	536.6	0.09	0.14	-0.09	0.01	0.04	-0.04	-0.08	

evaluate the self-selection effect on the choice of greenfield investment vs acquisitions. This model specification allows the use of only a subset of the independent variables that determine the choice of entry strategies to predict the decision of joint ventures vs wholly owned subsidiaries. Drawing on previous findings, six capability variables were used to predict the ownership structure for all entries. The results of the Stage 1 model are reported in column 1 of Table 2.

Regression results of the Stage 2 models are given in columns 2 and 3 of Table 2. In the full-entry sub-regime, all of the capability variables have a significant impact on the propensity of acquisition, but only one strategy variable carries a significant coefficient. In the partial-entry sub-regime, none of the capability variables bears a significant coefficient, although both strategy variables play a significant role in shaping the choice of greenfield vs acquisitive entries. These findings show that full acquisitions are motivated mainly by capability

procurements, but partial acquisitions are driven solely by other strategic considerations, which provides strong evidence to support both Hypothesis 1 and Hypothesis 2.

Capability Procurements

In the full-entry sub-regime, four capability variables carry a significant coefficient that is consistent with previous findings. To begin with, *parents' R&D intensity* carries a negative, but *industry R&D intensity* a positive, coefficient that is significant at the 0.01 level, indicating that Japanese investors with stronger R&D capabilities are less likely to take over existing US firms, but those entering R&D-intensive industries are more inclined to procure advanced technologies through acquisitions (see Anand & Delios, 2002; Hennart & Park, 1993). Moreover, *industry advertising intensity* bears a positive coefficient that is significant at the 0.01 level, which means that Japanese investors entering advertising-intensive industries are more motivated

Table 2 Parameter estimate for the split-sample model (Probit: 1=joint venture; Logit: 1=a)

Independent variable	Full-sample probit	Partial-entry logit	Full-entry logit
Parents' R&D intensity	0.02 (0.41)	-0.36 (-0.99)	-1.01 (-3.52)***
Industry R&D intensity	-0.07 (-1.93)**	1.07 (0.74)	2.48 (2.51)***
Parents' advertising intensity	-2.26 (-0.71)	42.61 (0.81)	73.53 (2.57)***
Industry advertising intensity	-0.08 (-1.91)**	1.02 (0.64)	2.67 (2.64)***
Parents' host-market experience	0.01 (0.64)	-0.19 (-1.24)	-0.27 (-2.45)***
Parents' industry knowledge	-0.49 (-1.84)**	5.38 (0.58)	17.12 (2.39)***
Industry growth deviation	—	0.13 (2.68)***	0.04 (1.33)*
Industry concentration	—	-0.001 (-2.48)***	6.2×10^{-5} (0.19)
Selectivity variable	—	-18.17 (-0.64)	-65.06 (-2.60)***
Intercept	0.37 (1.23)	10.71 (0.70)	-63.68 (-2.56)***
N=	269	101	168
N (1)=	101	50	64
N (0)=	168	51	104
Model chi-square	11.71	29.19	34.96
% of correct prediction (Base percentage)	62% (53%)	65% (50%)	71% (53%)

Parenteses: t-statistics; *p<0.1; **p<0.05; ***p<0.01 (one-tailed).

to procure marketing assets from US firms through acquisitions (Chen & Zeng, 2004). Lastly, *host-market experience* bears a negative coefficient significant at the 0.01 level, which is consistent with the conventional wisdom that Japanese investors with more US experience are less likely to acquire local firms endowed with culture-specific management know-how (Hennart & Park, 1993).

The coefficients of the other two capability variables are also significant statistically but bear a wrong sign. *Parents' advertising intensity* carries a positive coefficient that is significant at the 0.01 level, contradicting the argument that Japanese parents spending more on advertising are less likely to procure marketing assets from US firms through acquisitions. The data reveal that most Japanese investors (90%) sell in the US the same product they sold at home, which suggests that those operating an advertising-intensive home business also entered advertising-intensive US industries. Yet the marketing assets that Japanese parents had created at home may be culture-specific and thus cannot be readily transferred to the US for

exploitation. As a result, *parents' advertising intensity* ends up capturing the marketing barriers that Japanese parents must overcome in the US (Chen & Zeng, 2004). This explains why this variable has a positive, rather than a negative, impact on the propensity of acquisition.

The coefficient of *parents' industry knowledge* is also significant at the 0.01 level and yet carries a positive sign, contradicting previous findings that Japanese investors making unrelated entries are more likely to acquire US firms endowed with industry-specific knowledge (Hennart & Park, 1993). As pointed out earlier, the presence of intangible assets in a firm can make its acquisition difficult to negotiate and contract (Balakrishnan & Koza, 1993; Chi, 1994). Industry knowledge indeed helps Japanese investors inspect the targets and enforce the contracts in cases where acquisitions are motivated by access to more general capabilities that are not specific to a particular industry. This suggests that related entries should be acquisitive rather than greenfield, a plausible explanation when 90% of the Japanese entries are made in related US industries.

Other Strategic Considerations

Of the two strategy variables, *industry growth deviation* has a positive and significant impact on the probability of acquisition in both sub-regimes, but its coefficient is larger in size and more significant statistically in partial entries (Bsp=0.13, $t=2.68$) than in full entries (Bsf=0.04, $t=1.33$). These results reveal that Japanese investors use acquisitions to speed up entries into rapidly growing industries or control capacity expansions in slow-growing sectors, but more so under partial than under full ownership (Caves & Mehra, 1986; Hennart & Park, 1993).

Further, *industry concentration* carries a negative and significant coefficient only in the partial-entry sub-regime, indicating that market power consolidation is relevant to the choice of greenfield vs acquisitive entries only under partial ownership. This negative coefficient implies that the small number of potential targets in concentrated industries does make acquisitions more difficult to negotiate and contract. Besides, antitrust laws may have blocked Japanese investors from acquiring

US rivals in concentrated sectors to consolidate their market power (Oster, 1990).

Self-Selectivity of Ownership Structures

Hypothesis 3 predicts that Japanese investors can self-select full or partial ownership to justify the strategy that they have chosen to enter the US, given that the motives for acquisitions depend on whether entries are made through wholly owned subsidiaries or joint ventures. The selectivity variable carries a negative coefficient in both sub-regimes, but is significant only in the full-entry model (at the 0.01 level). These results indicate that Japanese investors setting up wholly owned US subsidiaries not only prefer greenfield investments but also choose full ownership on purpose to avoid making acquisitions. When entries are made through joint ventures, however, Japanese investors do not select partial ownership to influence the choice between greenfield investments vs acquisitions one way or the other.

Table 3 Robustness tests: partial entries (1=Acquisition)

Independent variable	Below 95%	Below 80%	Below 65%	Below 50%
Parents' R&D intensity	-0.36 (-0.99)	-1.25 (-1.40)*	-2.28 (-1.40)*	4.71 (0.81)
Industry R&D intensity	1.07 (0.74)	1.34 (1.45)*	1.57 (1.46)*	0.62 (0.71)
Parents' advertising intensity	42.61 (0.81)	837.3 (1.36)*	1370.9 (1.40)*	-2665.6 (-0.80)
Industry advertising intensity	1.02 (0.64)	1.21 (1.34)*	2.7 (1.41)*	-7.32 (-0.86)
Parents' host-market experience	-0.19 (-1.24)	-0.3 (-1.77)**	-0.52 (-1.61)**	0.48 (-0.77)
Parents' industry knowledge	5.38 (0.58)	7.55 (1.22)	4.34 (1.28)	-19.13 (-0.90)
Industry growth deviation	0.13 (2.68)***	0.17 (3.08)***	0.17 (2.96)***	0.37 (2.45)***
Industry concentration	-0.001 (-2.48)***	-0.001 (-2.20)**	-0.001 (-1.65)**	1.4×10^{-4} (0.22)
Selectivity variable	-18.17 (-0.64)	-30.44 (-1.35)*	-43.92 (-1.36)*	72.35 (18.43)***
Intercept	10.71 (0.70)	19.11 (1.38)*	35.73 (1.34)*	-77.03 (-0.82)
N=	101	90	84	50
N (1)=	50	43	39	29
N (0)=	51	47	45	21
Model chi-square	29.19	28.66	25.97	19.4
% of correct prediction (Base percentage)	65% (50%)	64% (50%)	69% (50%)	76% (51%)

Parentheses: t -statistics; * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$ (one-tailed).

Robustness Tests

The study split the sample into full and partial sub-regimes by using a 95% cut-off point, which simplifies the fact that ownership structures are continuous. To ensure that the findings hold up well enough under different cutoff points, I also used 80, 65 and 50% to reclassify all observations into the two sub-regimes. As shown in Tables 3 and 4 (partial and full entries), the robustness tests offer more insights into the role of ownership structures in reshaping the choice between greenfield investments and acquisitions. (I thank one anonymous referee for suggesting these tests.)

Regardless of the cutoff points that I used to split the sample, the two strategy variables have a consistent impact on the choice of greenfield vs acquisitive entries in the partial-entry sub-regime. *Industry growth deviation* carries a significant coefficient in all runs, indicating that Japanese investors used partial acquisitions to speed up entry into rapidly growing industries or control capacity expansions in declining sectors no matter how partial entries are defined. When partial entries are

limited to those cases where Japanese parents owned no more than 50% equity, *industry concentration* no longer has a negative impact on the propensity of acquisition. This finding implies that market power consolidation is less of a concern in partial acquisitions where Japanese investors took a minor stake in the target firms, or industry concentration does not make minor acquisitions more difficult to negotiate and contract. The interpretation is consistent with the market power argument, and does not necessarily violate Hypothesis 2.

Under the 50% cut-off point, all but one capability variable (*industry R&D intensity*) lack a significant impact on the propensity of partial acquisition, which is consistent with Hypothesis 1. Unexpectedly, some of them also carry a significant coefficient when partial entries are redefined as those cases where Japanese investors controlled up to 65 or 80% equity of their subsidiaries. There is no obvious explanation for why capability procurements become a driving force behind partial acquisitions when Japanese parents took between 65 and 80% stake in US firms.

Table 4 Robustness tests: full entries (1=Acquisition)

Independent variable	Above 95%	Above 80%	Above 65%	Above 50%
Parents' R&D intensity	-1.01 (-3.52)***	-0.48 (-3.56)***	-0.51 (-3.74)***	-0.49 (-3.82)***
Industry R&D intensity	2.48 (2.51)***	0.16 (1.29)*	0.12 (1.02)	-0.04 (-0.44)
Parents' advertising intensity	73.53 (2.57)***	59.03 (1.95)**	50.27 (1.94)**	20.42 (1.31)*
Industry advertising intensity	2.67 (2.64)***	0.38 (3.36)***	0.43 (3.59)***	0.36 (3.46)***
Parents' host-market experience	-0.27 (-2.45)***	-0.05 (-1.58)*	-0.06 (-1.91)**	-0.05 (-1.85)**
Parents' industry knowledge	17.12 (2.39)***	0.10 (0.12)	-1.21 (-1.80)**	-0.60 (-0.96)
Industry growth deviation	0.04 (1.33)*	0.03 (1.01)	0.03 (1)	0.03 (1.12)
Industry concentration	6.2×10^{-5} (0.19)	9.8×10^{-5} (0.32)	1.9×10^{-4} (0.63)	4.2×10^{-4} (-1.51)*
Selectivity variable	-65.06 (-2.60)***	-7.63 (-2.94)***	-7.34 (-3.24)***	-6.00 (-3.02)***
Intercept	-63.68 (-2.56)***	-5.24 (-2.20)**	-3.32 (-1.95)**	-1.36 (-1.22)
N=	168	179	185	219
N (1)=	64	71	75	85
N (0)=	104	108	110	134
Model chi-square	34.96	40	47.48	48.41
% of correct prediction (Base percentage)	71% (53%)	68% (52%)	72% (52%)	71% (53%)

Parentheses: *t*-statistics; * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$ (one-tailed).

Under the 80 and 65% cutoff points, the negative coefficient of the selectivity variable becomes significant at the 0.1 level, which indicates that Japanese investors self-selected partial ownership to avoid entering the US through acquisitions, as predicted in Hypothesis 3. Yet, when partial entries are limited to those cases in which Japanese parents owned less than 50% equity of the subsidiaries, this selectivity variable instead bears a positive coefficient that is significant at the 0.01 level. This finding supports Hypothesis 3, although the direction of this self-selection effect has been reversed (i.e., to justify the choice of acquisitions instead).

In the full-entry sub-regime, as shown in Table 4, three capability variables (*parents' R&D intensity*, *industry advertising intensity*, and *parents' host market experience*) have a consistent and significant impact on the propensity of acquisition regardless of the cutoff points that I used to split the sample. The results support Hypothesis 1: that is, full acquisitions are driven mainly by access to complementary assets embedded in the acquired firms. Nevertheless, two capability variables (*industry R&D intensity* and *parents' advertising intensity*) are less influential in explaining full acquisitions that are defined more loosely (e.g., Japanese investors owned more than 65% of the equity). The findings do not really contradict Hypothesis 1, but instead suggest that access to local assets could be compromised if the stake taken by Japanese parents in US firms is close to 65%. Even though *parents' industry knowledge* has a positive impact on the propensity of acquisition under the 95% cutoff point, its coefficient becomes negative but is still significant at the 0.05 level in full entries where Japanese investors owned more than 65% equity of their subsidiaries. In such cases, full acquisitions can also be motivated by procurements of idiosyncratic industry expertise from indigenous firms.

The impact significance of both strategy variables on the propensity of full acquisition varies across the cutoff points that I used to split the sample. While *industry growth deviation* bears a positive and significant coefficient in the full-entry model under the 95% cutoff point, this impact disappears after full entries were expanded to cover those cases where Japanese parents owned at least a 50% equity of their subsidiaries. In the original full-entry model, *industry concentration* bears an insignificant coefficient, but it has a negative and significant impact on the propensity of full acquisition when Japanese parents owned more than 50% stake in their subsidiaries. Although these results are

consistent with Hypothesis 2 (i.e., full acquisitions can also be motivated by other strategic considerations), there is no clear explanation for why such effects are contingent upon the cutoff points that I used to split the sample.

No matter how the full-vs-partial distinction was made, the self-selection variable always has a negative and significant effect on the propensity of acquisition in the full-entry sub-regime. These results are consistent with Hypothesis 3 that Japanese investors setting up wholly owned subsidiaries in the US not only prefer greenfield investments but also self-select full ownership deliberately to avoid entering through acquisitions.

To sum up, when the cut-off point drifts farther away from 95%, capability variables become less consistent in explaining full acquisitions, but more powerful in predicting partial acquisitions. Also, both strategy variables become less consistent in estimating the probability of acquisitions when partial entries are defined more restrictively, but their impact is more evident when the full-entry sub-regime was expanded to cover some observations that were previously classified as partial entries. The robustness tests have proved that my main arguments hold up quite well under most cut-off points that I used to split the sample.

DISCUSSION

By splitting a sample of Japanese investments in the US into full and partial entries, this study has found that the motives for international acquisitions (*vs* greenfield investments) are specific to the decision of wholly owned subsidiaries *vs* joint ventures. More significantly, it has shown that Japanese investors self-select their ownership decision to justify the strategy they have chosen to enter the US. These results, if compared with previous findings, cast serious doubt on the *validity* of previous studies that pool full and partial entries in a single model to analyze international acquisitions. This study not only makes substantial contributions to the entry mode literature, but also identifies several areas for future researchers to sort out potential interactions between ownership structures and entry strategies.

A

Comparisons with Previous Findings

So far, the most consistent finding in previous studies is that MNEs use acquisitions to procure advanced technologies from indigenous firms, but start up greenfield entities to exploit technological advantages abroad. By lumping all observations

into a single model, for example, Hennart and Park (1993) find that Japanese investors start up greenfield entities to exploit their technological capabilities in the US (measured by parent R&D intensity). More recently, Anand and Delios (2002) find that Japanese parents use acquisitions to overcome technological barriers into the US (captured by the R&D gap between host and home nations). Similar results are available in other studies that do not distinguish between full and partial entries in analyzing international acquisitions (e.g., Brouthers & Brouthers, 2000; Cho & Padmanabhan, 1995; Harzing, 2002; Kogut & Chang, 1991). In this study, however, the impacts of both technology variables on the choice of greenfield Investments vs acquisition simply disappear under partial ownership, where Japanese investors can instead enlist advanced technologies from local firms through joint ventures.

Although the exploitation and exploration of marketing assets (recognizable brands, for example) are critical to the choice of greenfield vs acquisitive entries, few studies cover related marketing variables and, further, their empirical findings are somehow mixed (Kogut & Singh, 1988). As proposed by Hennart and Park (1993), Japanese investors operating an advertising-intensive home business face reputation barriers in the US, which encourages them to acquire indigenous firms endowed with recognizable brands. Their empirical results, however, do not support the prediction. In another study, Chen and Zeng (2004) find that Japanese investors spending more on advertising in the US prior to an entry are more inclined to start up greenfield plants, but those entering advertising-intensive industries are more motivated to take over indigenous firms (also see Anand & Delios, 2002). These mixed results are all obtained from studies that pool full and partial entries in a single sample. In this study, nevertheless, both parent and industry advertising intensity lead to acquisitions *only* when entries are made through wholly owned subsidiaries, as Japanese investors making partial entries into the US can borrow marketing assets from their joint-venture partners.

Several studies that pool full and partial entries into a single sample have found that access to idiosyncratic knowledge owned by incumbent firms motivates acquisitions made in unrelated industries (e.g., Chen & Zeng, 2004; Cho & Padmanabhan, 1995; Hennart & Park, 1993). By dividing the sample into two sub-regimes, the study instead finds that Japanese parents are more likely

to make acquisitive entries in related US industries, and this effect holds *only* under full ownership, which challenges the traditional argument that *unrelated* acquisitions are driven by procurements of industry knowledge. In fact, when related acquisitions are motivated by access to general capabilities that are not specific to a particular industry, Japanese investors are better equipped to inspect the targets and enforce the contracts. This explains why industry relatedness has a positive, rather than negative, impact on the propensity of acquisition.

MNEs can also use acquisitions to procure country-specific knowledge from local firms. Yet at least three previous studies find that parents' host-nation experience lacks a significant impact on the choice of greenfield vs acquisitive entries (Hennart & Park, 1993; Kogut & Singh, 1988; Zejan, 1990). In two other studies, the overall international experience of MNEs has been found to have opposite impacts on the propensity of acquisition (Brouthers & Brouthers, 2000; Harzing, 2002). These results are all obtained from studies that do not distinguish between full and partial acquisitions. After making this full-vs-partial distinction explicit, the study has found that Japanese investors with less experience in the US are more likely to take over existing firms only when entries are made through wholly owned subsidiaries, which suggests that they can instead enlist country-specific knowledge from joint-venture partners in partial entries.

Without making the full-vs-partial distinction, several former studies confirm a V-shaped relationship between industry growth and the propensity of acquisition (Caves & Mehra, 1986; Chen & Zeng, 2004; Hennart & Park, 1993). This V-shaped relationship holds in this study, although the effect is stronger and more consistent in partial than in full entries. Industry growth, indeed, is the only variable that has a consistent impact on the propensity of acquisition, no matter how much stake Japanese investors have taken in existing US firms.

Broadly speaking, there exist two competing arguments concerning the impact of industry concentration on the propensity of acquisition. Hennart and Park (1993) argue that industry concentration signals the power of indigenous firms and hence encourages MNEs to consolidate market power through acquisitions (Anand & Delios, 2002). In concentrated industries, however, the small number of potential targets makes

acquisitions difficult to execute. In addition, anti-trust regulations may block acquisitions of indigenous firms that confer substantial power on foreign entrants (Oster, 1990). So far, previous studies provide no consistent evidence to support the two arguments one way or the other. In a recent study that pools all entries into a single model, Chen and Zeng (2004) do find that industry concentration has a negative impact on the propensity of acquisition, a finding that holds in this research *only* when entries are made through joint ventures.

Previous studies often overlook the role of ownership structures in shaping the choice of greenfield investments *vs* acquisitions. Nonetheless, it has been argued that full acquisitions and greenfield joint ventures are two substitute modes for MNEs to access strategic assets owned by indigenous firms (Chi, 1994; Hennart & Reddy, 1997; Kogut & Singh, 1988). This argument has, at least implicitly, established a negative and mutually exclusive relationship between partial ownership and acquisitive entry. By pooling all observations into a single sample, more recent studies have also entered a zero-*vs*-one dummy variable to capture the full-*vs*-partial distinction in predicting the choice of greenfield *vs* acquisitive entries, but the results are inconclusive (e.g., Barkema & Vermeulen, 1998; Hennart & Park, 1993). One limitation of this zero-*vs*-one dummy variable, as pointed out earlier, is that it captures only the gap in the intercept, holding the coefficients of all other independent variables constant across full and partial entries.

In contrast, this study uses two sub-regimes to predict the choice of greenfield investments *vs* acquisitions separately for full and partial entries. The two sub-regimes differ not only in the intercept but also in the coefficients of all variables, making it possible to evaluate the full impact of ownership decisions on the choice of entry strategies. As shown in Table 5(a), the probability of acquisition for any partial entry *i* is $P_p(Y_i=1)$, which can be calculated from Eq. (4). For any full entry *j*, the probability of acquisition is $P_f(Y_j=1)$, which can be obtained from Eq. (5). Nevertheless, a direct comparison between $P_p(Y_i=1)$ and $P_f(Y_j=1)$ does not capture the true relationship between ownership structures and entry strategies because the observation is not the same in the two cases ($i \neq j$; see Shaver, 2003).

Indeed, Eq. (4) also can estimate the probability of *partial* acquisition for the *j*th *full* entry if the

Table 5 Impacts of ownership decision on entry strategies

Actual ownership decision	Partial	Full
<i>(a) Conceptual analysis</i>		
Actual % of acquisition	$P_p(Y_i=1)$	$P_f(Y_j=1)$
Estimated % of acquisition under opposite ownership decision	$\hat{P}_f(Y_i=1)$	$\hat{P}_p(Y_j=1)$
Impact of ownership decisions on % of acquisition	$P_{pi} - \hat{P}_{fi}$	$P_{fj} - \hat{P}_{pj}$
<i>(b) Empirical results</i>		
Actual % of acquisition	50%	38%
Estimated % of acquisition under opposite ownership decision	0% ^a	100% ^b
Impact of ownership decisions on % of acquisition	+50%	-62%

^aThe exact value is 0.62×10^{-4} , which is calculated through the full-entry sub-regime.

^bThe exact value is 1.00, which is calculated through the partial-entry sub-regime.

parent had chosen partial ownership in the first place, which is $\hat{P}_p(Y_j=1)$. Likewise, Eq. (5) can estimate the probability of *full* acquisition for the *i*th *partial* entry if a full entry had been made instead, which is $\hat{P}_f(Y_i=1)$. The impact of *partial* ownership on the propensity of acquisition, therefore, should be captured by the difference between the actual probability of partial acquisition and the estimated likelihood of full acquisition, or the gap between $P_{pi}(Y_i=1)$ and $\hat{P}_{fi}(Y_i=1)$. Similarly, the impact of *full* ownership on the propensity of acquisition should be measured through the gap between the actual probability of full acquisition and the estimated likelihood of partial acquisition, or the difference between $P_{fj}(Y_j=1)$ and $\hat{P}_{pj}(Y_j=1)$.

As reported in Table 5(b), the actual probability of acquisition in the full-entry subsample is 38%. For any given full entry, the probability of acquisition would have been raised to nearly 100% if Japanese parents had instead made a partial entry originally. In comparison, the actual probability of acquisition in the partial-entry subsample is 50%. If Japanese investors had made a full entry in the first place, the probability of acquisition for any given partial entry would have been cut to 0%. While the decision of full ownership has reduced the probability of acquisition by 62%, the decision of partial ownership has increased it by 50% only. These findings indicate a non-linear relationship between ownership structures and entry strategies that the zero-*vs*-one dummy variable has failed to detect in previous studies.

Contributions to the Literature

Previous research often treats joint ventures as new entities jointly started by the partners, which means that the choice of greenfield investments vs acquisitions is available to MNEs only when entries are made through wholly owned subsidiaries. As such, entry mode choices can be represented by a trichotomy that covers joint ventures, acquisitions, and greenfield investments (or acquisitions, joint ventures, and wholly owned subsidiaries). The truth is that MNEs also can take a partial stake in indigenous firms (partial acquisitions) and enter a joint-venture relationship with their current owners (acquisitive joint ventures). In other words, the choice of greenfield vs acquisitive entries is available to all MNEs regardless of the decision of joint ventures or wholly owned subsidiaries. Entry mode choices, therefore, must be modeled through a 2 x 2 matrix where acquisitions can also be partial (vs full) and joint ventures are not always greenfield (vs acquisitive). This 2x2 scheme suggests that a distinction between full and partial entries is absolutely necessary for analyzing the choice of greenfield investments vs acquisitions.

Conceptually, the study has established the essentiality of the full-vs-partial distinction in theorizing international acquisitions. When setting up wholly owned subsidiaries abroad, MNEs use acquisitions to procure complementary capabilities from indigenous firms. In forming joint ventures with local partners, they instead make acquisitions to accomplish other strategic goals. This is what distinguishes between full and partial acquisitions in their motivations. Because the decision of full vs partial ownership also dictates the determinants for acquisitions, MNEs then can self-select an ownership decision to justify the strategy that they have chosen to enter foreign nations, be it a greenfield investment or an acquisition. Ownership decisions and entry strategies, therefore, cannot be treated as two sequential choices made in a separate manner.

Empirically, this study specifies two sub-regimes to predict the choice between greenfield investments and acquisitions, separately, for full and partial entries. The results show that *none* of the exogenous variables has a consistent impact on the propensity of acquisition between the two subsamples. The implication is loud and clear: it is unacceptable to lump all entries into a single model even though a zero-vs-one dummy variable has been created to capture the full-vs-partial distinction. More important, splitting the sample into two sub-regimes makes it possible to evaluate the

overall impact of ownership structures on the propensity of acquisition through a two-stage method. This model specification can be transposed to other business settings where one strategic decision interacts with the determinants of the other that also depends on the same set of exogenous variables.

Limitations and Future Research

The hypotheses developed in this study were tested on a sample of Japanese investments in the US, a quite unique empirical setting" for analyzing international acquisitions. For instance, the US government is relatively unrestrictive on foreign acquisitions of domestic firms, which is not always the case in other nations. A mature and well-established equity market in the US also makes it easier for Japanese investors to negotiate and contract acquisitions. Additionally, not all empirical settings feature such a long cultural distance as that between Japan and the US (vs British entries into Canada, for example). To assure the generalizability of the findings, future research can expand the sample to cover observations in other home and/or host nations.

Based on the stake taken by Japanese parents in US firms, this study classifies acquisitions into two major categories - full and partial. While the model specification calls for a dichotomy scheme, this full-vs-partial distinction simplifies the reality that ownership structures are indeed continuous. To address this limitation, the study has used various cutoff points (95, 80, 65, and 50%) to assign observations into full and partial entries. However, a binomial classification still looks arbitrary. Future scholars can use the actual equity share controlled by MNEs in their foreign subsidiaries to evaluate the impact of ownership structures on the choice of greenfield vs acquisitive entries.

The study has yielded one intriguing finding that deserves more in-depth analysis. Given that MNEs can use *greenfield* joint ventures or *full* acquisitions to enlist complementary assets from indigenous firms, the two entry modes should have a negative (or even mutually exclusive) relationship with each other. Yet the empirical finding reveals a positive association between partial entries and acquisitions, which raises new questions to be addressed in future studies.

Indeed, the coincidence of joint ventures and acquisitions (i.e., partial acquisitions or acquisitive joint ventures) represents a tricky entry mode that has been overlooked in previous studies. This

particular entry mode is tricky because it consists of two distinctive elements - *partial* ownership and *acquisitive* entry. One main argument in this study is that MNEs use acquisitions to accomplish other strategic goals if they can enlist complementary assets from joint-venture partners in partial entries. In cases of partial acquisitions, therefore, *the partial* component is motivated by access to local assets; the *acquisitive* element is driven by other strategic considerations. This argument, nevertheless, does not expose the whole story about the coexistence of partial ownership and acquisitive entry. Sometimes MNEs can use acquisitions to procure complementary capabilities from indigenous firms, but still choose to joint-venture with the local sellers by taking only a partial stake in the target firms. In similar incidents, capability procurements can still explain the *acquisitive* component of partial acquisitions, but the motive for the *partial* element becomes obscure.

The above question points out one more direction to analyze the relationship between entry strategies and ownership structures. As shown in this study, acquisitions can be divided into two major categories - full vs partial. Likewise, joint ventures can be classified into two groups - greenfield vs acquisitive. Under this greenfield-vs-acquisitive distinction, future scholars can pursue a similar line of inquiry by analyzing how greenfield and acquisitive joint ventures differ from each other in their motivations. If the motives for joint ventures also depend on the choice of greenfield vs acquisitive entries, it becomes necessary to ask how MNEs self-select an entry strategy to optimize their decision of full or partial ownership.

The need to study partial acquisitions (or acquisitive joint ventures) echoes one limitation in the two-step model used in this study. As pointed out earlier, Japanese investors can choose an entry strategy first and make the decision of full vs partial ownership later to justify the entry strategy. This, however, is not the only sequence whereby the two entry mode choices are made. In fact, Japanese investors also can decide on the ownership structure

and then select the optimal entry strategy to justify the ownership decision. They can even make the two entry mode choices concurrently (i.e., picking one from the four combinations of the 2x2 matrix). This study offers an excellent template for future researchers to sort out the true relationship between ownership structures and entry strategies.

CONCLUSION

While international acquisitions can be full or partial, previous studies presume that their motives are universal, regardless of the stake taken by MNEs in indigenous firms. No attempts have been made to explore whether the motives for acquisitions (vs greenfield investments) are contingent on the decision of wholly owned subsidiaries or joint ventures. This study has made the full-vs-partial distinction to investigate the choice between greenfield and acquisitive entries. Through a sample of Japanese subsidiaries in the US, it has found that full acquisitions are driven mainly by capability procurements, but partial acquisitions are motivated solely by other strategic considerations. There is also evidence indicating that Japanese parents self-select full ownership to avoid making acquisitions in the US, but do not use partial ownership to influence their entry strategy. These results are in sharp contrast to previous findings obtained from studies that lump all entries (full and partial) into one sample. The approach taken in this paper departs substantially from extant paradigms found in the literature. Future researchers can derive several promising areas from the conceptual model and empirical setup developed in this study to further our understanding of entry mode choices.

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