

CONFIDENCE IN LEARNING: INTER- AND INTRAORGANIZATIONAL LEARNING IN FOREIGN MARKET ENTRY DECISIONS

JIATAO LI,^{1*} CUILI QIAN,² and FIONA K. YAO³

¹ Department of Management, Hong Kong University of Science & Technology, Kowloon, Hong Kong

² Department of Management, City University of Hong Kong, Kowloon, Hong Kong

³ Department of Business Administration, College of Business, University of Illinois at Urbana-Champaign, Champaign, Illinois, U.S.A.

From an organizational learning perspective, we argue that the information signaled by the distribution attributes of foreign investors already operating in a location will influence the entry decisions of later arrivals by affecting their level of confidence in imitating. In the context of foreign investment decisions, the proportion of experienced firms in a location was shown to first increase a follower firm's confidence about imitating them, but then to decrease it, due to anticipated competition. The impact of learning from target organizations also varies with the experience of the learning organization. Data on the location choices of 7,478 manufacturing ventures in China by U.S. firms supported the hypotheses. The results provide a more integrated and nuanced understanding of learning in foreign direct investment. Copyright © 2014 John Wiley & Sons, Ltd.

INTRODUCTION

Organizational learning theorists have long contended that, when facing environmental uncertainty, organizations learn vicariously from their reference groups, imitating or avoiding specific actions based on their perceived impact on others (Baum and Ingram, 1998; Baum, Li, and Usher, 2000; Cyert and March, 1963; Henisz and Delios, 2001; Kim and Miner, 2007). This line of research has mainly focused on learning from a particular group of reference firms. Apart from copying practices that are frequently used by similar others (Baum *et al.*, 2000; Baum and Ingram, 1998), organizations tend to imitate the practices of firms with certain traits such as large size, high status, or good

performance that give them confidence in imitation (Haunschild and Miner, 1997; Rhee, Kim, and Han, 2006). However, these prior studies have several limitations. First, they have tended to neglect the variations within a reference group, which affect a follower firm's confidence in learning through imitation (Rhee *et al.*, 2006). For instance, a lack of unanimity within a reference group about adopting a certain practice should decrease the confidence of a copying firm about adopting the same practice. Then, prior research on interorganizational learning has focused on imitating other firms in adopting a particular practice (Baum and Ingram, 1998; Baum *et al.*, 2000; Kim and Miner, 2007; Schwab, 2007) without paying sufficient attention to the possible crowding and increased competition that might be anticipated as a result. When the number of other firms adopting a particular practice reaches a certain level, it might decrease the confidence of a learning firm in adopting that practice. Finally, prior learning studies have generally emphasized a firm's

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*Correspondence to: Jiatao Li, Department of Management, HKUST, Clear Water Bay, Hong Kong. E-mail: mnjtli@ust.hk

aggregate international experience such as the total number of its foreign investments (e.g., Henisz and Delios, 2001)¹ in analyzing its learning practices, but such studies have not further unpacked the effects of the different types of experience.

This study was designed to address those deficiencies by examining how the information signaled by the distribution of attributes within a reference group will affect a learning firm's level of confidence in learning. This takes into account that interorganizational influence is potentially more complicated than the simple linear correlation shown in previous studies. Based on the interorganizational learning framework (Ingram, 2002), we explore how the nature of the target organizations affects the confidence of a copying organization in learning, and how the nature of the learning organization's experience interacts with its learning from target firms. The empirical context was location choice by U.S. manufacturing firms investing in China, a decision of strategic importance to any multinational firm (Bastos and Greve, 2003; Henisz and Delios, 2001).

Specifically, the study was designed to address two research questions. First, to what extent does the proportion of the previous entries made by experienced investors affect the level of confidence of later entrants in imitating them? When an organization tries to learn from a practice used by a reference group, it is possible that the members of the reference group have used the practice in different ways and to different extents (Rhee *et al.*, 2006). The distribution of attributes among the reference group will signal to subsequent imitators and should affect their confidence in learning through imitation.² This has until now received only limited attention from management scholars. This study examined the proportion of experienced investors among the reference group as a potentially influential measure of the distribution of experience. It tested the proposition that the proportion of prior entries in a location by experienced target firms should have an inverted U-shaped relationship with subsequent entrants' confidence in imitation and thus their probability of imitating. The theoretical argument for the inverted U-shaped relationship goes beyond the conventional interorganizational learning and imitation

approaches. Rather, it emphasizes the role of signaling and the importance of considering the crowding effect of anticipated competition—a neglected topic in previous studies. In particular, we argue that a high proportion of experienced foreign investors in a location can initially signal a high probability of success for firms following their example and a munificent local environment. This increases a firm's confidence in imitating. It will feel more confident in learning from experienced firms than in imitating inexperienced ones. Rather than simply copying the most frequent location selections, an investing firm is more likely to follow closely the location choices of the experienced investors. Later on, however, when a location is crowded with experienced investors, this can signal serious competition from the incumbents, which may decrease the confidence of a copying firm in selecting that location. Organizations do not blindly copy the practices of any reference group, after all. This will be particularly salient if the location is crowded with a large proportion of experienced firms. Bringing in the competition argument in this way suggests that learning from the distribution of attributes among a reference group may actually discourage a learning organization from selecting a location that has been selected by a large number of apparently suitable firms.

This study's second research question was about the nature of the learning organization. Organizations vary in their capacity for learning from others (Cohen and Levinthal, 1990). This study thus further examined how learning from target firms varies with the learning firm's experience in the host country. Previous learning studies in international strategy have generally relied on aggregate measures of experience (e.g., Henisz and Delios, 2001),³ but this study decomposed the investing experience of the learning organization into experience in the particular location in the host country and experience elsewhere in the country. It then investigated which of these more fine-grained specifications would have a stronger relationship with a firm's foreign direct investment (FDI) location decisions. The results provide a more nuanced understanding of what sort of experience matters most and thus contribute to the debate about whether and how intraorganizational learning may interact with vicarious learning from others (Schwab, 2007).

¹ Thanks to an anonymous reviewer for this insight.

² A group led by Rhee has examined the influence of differences in niche width and size among the reference groups on confidence in imitation (Rhee *et al.*, 2006).

³ Thanks to an anonymous reviewer for this insight.

HYPOTHESES

Confidence in learning

A firm can learn from observing the choices of other firms to decrease uncertainty (Haunschild and Miner, 1997; Henisz and Delios, 2001; Levitt and March, 1988). After observing the patterns of others' behavior, a firm can set out to learn the technologies, organizational forms, and managerial practices that worked for them (Baum *et al.*, 2000; Levinthal and March, 1993; Schwab, 2007).

In FDI, a firm must decide whether to follow others into the same location or to invest elsewhere and explore a new potential market. Prior entrants' experience can be an important information source for firms evaluating whether a given location is worth pursuing (Abrahamson and Rosenkopf, 1993; Feinberg and Gupta, 2004). This is of particular relevance for entry into an emerging economy where the uncertainty is likely to be great. Observing and imitating other firms' location choices can help reduce it (Baum *et al.*, 2000; Henisz and Delios, 2001). Considerable evidence supports the idea that organizations imitate the practices previously adopted by relevant others and that a firm will choose a location that has previously seen frequent successful entries (Baum *et al.*, 2000; Haunschild and Miner, 1997; Palmer, Jennings, and Zhou, 1993).

Beyond simply imitating the actions or practices that have most frequently been used, firms may look further into differences among the firms in their reference group. Variations among those predecessors may add uncertainty to a decision to imitate. When the potential model firms differ, a copying firm must estimate how much confidence it has in imitating a particular practice or behavior (Rhee *et al.*, 2006). This should certainly be the case in the context of selecting a location for FDI. Some of the firms operating in a location could be first-time foreign investments while others could be one of sequential investments. Johanson and Vahlne (1977) have suggested that expanding operations in a host country involves the gradual acquisition and accumulation of experience over time by operating there, incrementally increasing the commitment to a foreign market. Sequential investments made by experienced firms may therefore have something extra to offer as models for imitation. So, a higher percentage of sequential entries into a location by foreign investors should tend to decrease uncertainty in

imitation and increase the probability of an imitating firm entering that location. The higher percentage of sequential entries may send a stronger signal about a location's attractiveness from experienced entrants who have already gained some knowledge about location choices from their prior investments. It can also signal a munificent environment, enhancing the confidence of a follower firm in imitating the location choice.

That confidence may, however, decrease later on when the proportion of experienced investors in a market becomes high. Experienced foreign investors operating in a location are potential competitors. Rivals play an important role in affecting learning and its outcomes (Levitt and March, 1988). Strategic similarity among rivals may generate more intense competition for resources, which must also be considered in learning through observation (McKendrick, 2001). Competition leads firms to differentiate their strategies from those of similar others (Gimeno *et al.*, 2005; Li, 2008), as Li has shown using data on foreign banks entering the U.S. market (Li, 2008). He showed that the presence of domestic banks in a particular location deterred the entry of foreign banks. Gimeno's group has also demonstrated that the structure of domestic competition affects the behavior of new entrants in a foreign market (Gimeno *et al.*, 2005).

If a potential investment location has become crowded with prior entries, the expectation of competition should discourage further entries into that location. Beyond the deterrent effect of competition from all prior entries, a high proportion of sequential entries by firms that had already established themselves in the host country should be a particularly strong deterrent. Such experienced investors may have better knowledge of the business and political environment, and following their lead will put a new entrant in direct competition with experienced rivals. The presence of a high proportion of experienced rivals in a market may thus signal intense competition and less favorable market opportunities, decreasing the confidence of an imitating firm in choosing that location for its FDI.

In summary, management scholars have previously examined the influence of the number of prior entries in a location on the choices of subsequent entrants (Baum and Ingram, 1998; Kim and Miner, 2007; Schwab, 2007), but the argument here is that, through signaling effects, the characteristics of the prior entrants (especially the proportion of experienced investors among them) may also affect a

firm's FDI location choice. Up to a point, a high percentage of experienced prior entrants will signal a munificent environment with promising market opportunities. This will decrease a follower firm's uncertainty and enhance its confidence in imitation, thereby encouraging its entry into that location. But beyond a certain level, the prospect of intense competition may decrease a follower's confidence in entering that location (Baum and Mezias, 1992). This suggests that an inverted U-shaped relationship should be observed.

Hypothesis 1 (H1): The percentage of sequential investments by other firms in a location has an inverted U-shaped relationship with the probability that a firm investing subsequently will choose that location.

The moderating role of experience

As Ingram (2002) has pointed out, learning is influenced not only by the nature of the model organizations (the distribution of their attributes in this context), but also by the characteristics of the firm doing the learning. Specifically, a learning firm's own FDI experience in the host country should be an important factor moderating the influence of model organizations in determining its FDI location choice (Chang, 1995; Henisz and Delios, 2001).

The first hypothesis predicts that, when there are few experienced referents in a location, imitation will tend to dominate in a follower firm's decision making. This positive relationship is likely to be stronger for firms with less experience. Competing in a foreign market requires a firm to learn about its culture, business practices, consumer preferences, policies and regulations, and possible policy changes (Henisz and Delios, 2001). A firm can learn from several information sources, especially from its own experience, but also vicariously from referent firms (Baum *et al.*, 2000; Cyert and March, 1963; Henisz and Delios, 2001; March and Simon, 1958; Schwab, 2007). An inexperienced firm has less information available from its own experience, and thus should pay more attention to signals from others as a main information source. When the reference group signals a munificent environment, this will particularly encourage inexperienced firms. In contrast, a firm with abundant experience in the geographic market can look internally for information, relying less on external referents.

H1 further predicts that, when a location hosts a high percentage of experienced firms, the anticipated competition will tend to dominate and new firms will be less likely to invest in that location. That negative relationship is also likely to be stronger for a firm with less experience. An experienced firm will be less sensitive to external cues and therefore less susceptible to such discouragement.

Hypothesis 2 (H2): Greater experience in the host country will weaken the relationship between the percentage of sequential investments by other firms in a location and the probability that a subsequent entrant will choose that location.

Relevant and transferable experience

The host country experience discussed in H2 can be experience in the specific location under consideration, or experience in other locations in the host country. In either case, the utility of the prior experience will depend on whether it is perceived as relevant and transferable (Levitt and March, 1988; Shrivastava, 1983; Yelle, 1979). By definition, only experience considered relevant is likely to be perceived as valuable. Experience gained in other contexts is more likely to be considered relevant to a new setting if the contexts can be viewed as sharing certain similarities and common principles (Singley and Anderson, 1989). For instance, Delios and Henisz (2003) found that only international experience gained in countries perceived as having a similar culture is effective in minimizing the deterring effect on FDI of an uncertain policy environment. Beyond that, only experience perceived as transferable is likely to be considered helpful in learning about a new location. Experience gained in other locations may not be easily transferred because of obstacles to knowledge transfer (Huber, 1982, 1991).

To investigate what experience is most relevant and transferable, it is helpful to decompose a firm's experience in the host country into experience in the specific location and experience elsewhere in the country. Experience is most likely to be considered relevant and transferable when it was gained in the specific location where an investment is being contemplated. More experience in a location implies more knowledge about it, which should make a firm less sensitive to others' actions. If a firm's prior experience was acquired

in other locations, it may not be entirely relevant and/or easily transferable. Entering a geographic market requires location-specific knowledge, and local connections are often helpful (Henisz and Delios, 2001). Prior experience in other locations may provide little of either. As a result, even a firm with abundant experience acquired elsewhere may feel obliged to rely on learning from local referents. Comparing the two experience profiles suggests that

Hypothesis 3 (H3): The moderating effect of a firm's experience as predicted by H2 will be stronger if that experience was acquired in the specific location rather than elsewhere.

RESEARCH METHODS

Sample

Data describing U.S. manufacturing investments in China from 1979 to 1995 were applied to test these hypotheses. Three data sources were exploited. The first was data on direct investment in China by U.S. firms from the research institute of China's Ministry of Foreign Trade and Economic Cooperation (MOFTEC) in Beijing. Their database contains a brief profile of each foreign firm that has operated in the country, providing data on investment location and industry, the identity of the foreign parent, total investment, number of employees, and the number of expatriate managers. The second data source, *American Business in China* (1995), was used to confirm the information in the raw data set, particularly the identities of the parent firms. The third data source, the *China Statistical Yearbook*, provided data on location and industry-level control variables.

During the study period, U.S. multinationals launched a total of 7,478 manufacturing subsidiaries in 29 manufacturing industries (two-digit SIC level), entering 29 of China's 30 provinces, regions, and autonomous municipalities.⁴ Among the 7,478 investments, 6,382 were first-time FDIs in China, and 1,096 were identified as sequential FDI entries. These data were formed into three

different samples to test the hypotheses: the overall sample, which consisted of all initial and sequential investments (7,478 investments); the first-time FDI sample, which included only initial entries (6,382 investments); and the sequential FDI sample, which included only sequential investments (1,096 investments).

Variables and measures

The dependent variable, *FDI location choice*, was a dummy variable coded as "1" if a foreign investment was located in a particular province and as "0" otherwise.

In order to capture learning from experienced reference firms, the independent variable, *percentage of sequential FDI entries in the same industry in the same province*, was computed by dividing the number of sequential investments by the total number of investments by all other U.S. firms in the same industry in the province or municipality. An investing firm's experience in China was represented by a count of the number of previous investments by the parent firm in China (*firm's prior investments in China*). This was further disaggregated into the firm's experience in the particular province, quantified using a count of its previous investments there (*firm's prior investments in the province*), and its experience in other Chinese provinces (*firm's prior investments in other provinces*).

Most prior research on FDI location decisions has taken an economic perspective, emphasizing location factors such as market potential and economic growth (Broadman and Sun, 1997; Cheng and Kwan, 2000). In this study, *GDP per capita*, *GDP growth*, *trade growth*, and *railway density* for each province in each year were included in the analysis. Political factors were controlled for as well by including a dummy variable, *policy incentive*, to indicate provinces that had one or more Special Economic Zones (SEZs) and/or open coastal cities (OCCs) (Zhou, Delios, and Yang, 2002). *Expatriate managers*, quantified as the number of expatriates in a firm's top management team, was included to control for any potential effects of top management's international experience (Carpenter, Sanders, and Gregersen, 2001; Reuber and Fischer, 1997). In addition, *total number of prior investments from the same home country in the same industry and province* was a count of all other U.S.-invested manufacturing ventures in a particular province, and *total number of prior investments from other home*

⁴ The study focused on foreign entries in manufacturing industries, excluding those in service sectors where the government tended to enforce more restrictions on foreign ownership (Fu, 2000). Focusing on manufacturing industries also allowed more extensive comparison with the results of other FDI studies (Chang and Park, 2005; Guillén, 2002).

countries in the same industry and province was a count of all manufacturing ventures by non-U.S. firms in a particular province. These latter two variables and their squared terms were both included in the models to control for any effects of population density on market entry probability (Hannan and Freeman, 1989). All of the independent and control variables were lagged one year for predicting entry in the following year.

Modeling

Nested logit models were formulated to investigate the location decisions. Nested logit models are particularly applicable when independence from irrelevant alternatives (IIA) cannot be assumed,⁵ and Hausman-McFadden tests indeed indicated that IIA could not be assumed for these data (Hausman and McFadden, 1984). The hierarchical structure of the nested logit models in this study was based on the spatial variation of China's preferential policies encouraging FDI. China has given first priority to the eastern coastal region and extended preference to the central and western regions in phases (Fu, 2000). Therefore, three regional clusters were included in the models: eastern, central, and western.

RESULTS

Table 1 presents descriptive statistics and correlation coefficients summarizing the 7,478 entry decisions by U.S. multinationals during the study period.

Table 2 reports the computed coefficients of nine nested logit regression models representing the FDI location choices, incrementally adding the variables of interest. Model 1 included only control variables. In Models 2 and 3, the linear and squared terms representing vicarious learning from other firms were added. The percentage of sequential FDI entries by other firms demonstrated a significant positive relationship ($p \leq 0.01$) with the dependent variable while its squared term had a negative coefficient ($p \leq 0.05$), supporting H1.

⁵ Conditional logit modeling is a powerful tool for investigating location decisions, as it directly measures how alternatives are compared among the choice set (Greve, 2000; Shaver and Flyer, 2000), but independence from irrelevant alternatives is essential if conditional logit models are to be applied (Cheng, 2007; Hansen, 1987).

Models 4–9 added the interaction terms between learning from others and firm-level FDI experience (both centered, see Ryan, 1997). In Models 4 and 5, the number of a firm's prior investments in China as a whole was included as a measure of FDI experience. The coefficient of the interaction term relating FDI experience in China and learning from others was negative and significant ($p \leq 0.01$), and the interaction between FDI experience and the squared term representing learning from others was positive and significant ($p \leq 0.05$), lending support to H2. In Models 6–9, FDI experience in China as a whole was further decomposed into experience in the same province and experience in other provinces. In Models 6 and 7, the number of prior investments in the province was used. In Models 8 and 9, the number of prior investments in other provinces was included. The interaction terms relating FDI experience in other provinces and vicarious learning from others were not significant, but the interaction terms relating FDI experience in the same province and vicarious learning from others were significant, supporting H3. This suggests that prior experience in the province provided valuable and relevant knowledge about the location; firms with such experience displayed less reliance on others for their information. However, prior experience in other provinces did not seem to offer knowledge about the location that the firms considered valuable. Firms with such experience were still sensitive to the actions of prior investors.

The first-time FDI sample and the sequential sample were also modeled to test the robustness of these conclusions. The nested logit regression results using the two subsamples remained consistent with the hypotheses.⁶ In addition, an alternative measure of the distribution of attributes among the learning targets was constructed. The ratio of sequential to first-time investments was computed by expressing the number of sequential investments as a proportion of the number of first-time investments by all other U.S. firms in the same industry in the province/municipality. This alternative ratio measure constituted a direct comparison of learning from experienced and inexperienced firms. The results using the two measures were again consistent.

⁶ Due to space limitations, only the tables for the overall sample are reported, but the detailed results using the two subsamples are available on request.

Table 1. Descriptive statistics and correlations among the variables

Variable	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12
1. FDI location choice	0.03	0.18												
2. GDP per capita	0.29	0.23	0.08											
3. GDP growth	0.23	0.11	0.04	0.46										
4. Trade growth	0.27	0.41	0.01	-0.08	-0.11									
5. Policy incentives	0.38	0.49	0.14	0.29	0.31	-0.01								
6. Railway density	0.01	0.01	0.08	0.48	-0.06	-0.09	0.16							
7. Expatriate managers	0.96	4.37	0.01	0.01	0.01	-0.01	-0.01	0.01						
8. Firm's prior investments in China	0.31	1.12	0.01	0.08	0.12	-0.01	0.02	0.01	-0.01					
9. Firm's prior investments in the province	0.01	0.16	0.13	0.04	0.05	0.01	0.05	0.02	-0.01	0.24				
10. Firm's prior investments in other provinces	0.30	0.09	-0.02	0.08	0.11	-0.01	-0.01	-0.01	-0.01	0.89	0.10			
11. Total number of prior investments from the same home country in the same industry in the same province	5.13	12.15	0.17	0.34	0.35	0.02	0.33	0.17	-0.01	0.03	0.09	0.02		
12. Total number of prior investments from other home countries in the same industry in the same province	76.37	248.92	0.08	0.18	0.26	0.02	0.30	-0.04	-0.01	0.02	0.04	0.01	0.57	
13. Percentage of sequential FDI entries in the same industry in the same province	0.02	0.08	0.05	0.12	0.12	0.01	0.11	0.07	-0.01	0.02	0.03	0.02	0.19	0.15

N = 216,862.

All correlation coefficients with a magnitude greater than 0.01 are significant at the 0.05 level.

Table 2. Coefficients of nested logit regression models of FDI location decisions

Variables	Models								
	1	2	3	4	5	6	7	8	9
GDP per capita	-0.12 (0.08)	-0.13 (0.08)	-0.11 (0.08)	-0.12 (0.08)	-0.12 (0.08)	-0.12 (0.08)	-0.12 (0.08)	-0.12 (0.08)	-0.12 (0.08)
GDP growth	-0.59 (0.58)	-0.59 (0.58)	-0.57 (0.58)	-0.59 (0.59)	-0.59 (0.59)	-0.59 (0.59)	-0.61 (0.59)	-0.58 (0.58)	-0.57 (0.59)
Trade growth	0.12** (0.03)	0.12** (0.03)	0.12** (0.03)	0.12** (0.03)	0.12** (0.03)	0.12** (0.03)	0.12** (0.03)	0.12** (0.03)	0.12** (0.03)
Policy incentives	0.46** (0.06)	0.47** (0.06)	0.47** (0.06)	0.48** (0.06)	0.48** (0.06)	0.47** (0.06)	0.47** (0.06)	0.48** (0.06)	0.48** (0.06)
Railway density	0.10** (0.01)	0.10** (0.01)	0.10** (0.01)	0.10** (0.01)	0.10** (0.01)	0.10** (0.01)	0.10** (0.01)	0.10** (0.01)	0.10** (0.01)
Expatriate managers	0.04 (0.03)	0.04 (0.03)	0.04 (0.03)	0.04 (0.03)	0.04 (0.03)	0.04 (0.03)	0.04 (0.03)	0.04 (0.03)	0.04 (0.03)
Firm's prior investments in China	0.03 (0.03)	0.02 (0.03)	0.02 (0.03)	0.02 (0.03)	0.02 (0.03)	0.02 (0.03)	0.02 (0.03)	0.02 (0.03)	0.02 (0.03)
Firm's prior investments in the province						1.14** (0.08)	1.23** (0.08)	0.96** (0.08)	0.96** (0.08)
Firm's prior investments in other provinces						-0.30** (0.07)	-0.30** (0.06)	-0.32** (0.07)	-0.32** (0.07)
Total number of prior investments from the same home country in the same industry in the province	0.06** (0.01)	0.07** (0.01)	0.06** (0.01)	0.06** (0.01)	0.06** (0.01)	0.06** (0.01)	0.06** (0.01)	0.06** (0.01)	0.06** (0.01)
Total number of prior investments from the same home country in the same industry in the province) ² /100	-0.03** (0.01)	-0.03** (0.01)	-0.03** (0.01)	-0.03** (0.01)	-0.03** (0.01)	-0.03** (0.01)	-0.03** (0.01)	-0.03** (0.01)	-0.03** (0.01)
Total number of prior investments from other home countries in the same industry in the province	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)
Total number of prior investments from other home countries in the same industry in the province) ² /100	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)	-0.01 (0.01)
Inclusive value coefficients									
Eastern	0.74** (0.03)	0.73** (0.02)	0.73** (0.02)	0.73** (0.03)	0.74** (0.03)	0.74** (0.03)	0.74** (0.03)	0.74** (0.03)	0.74** (0.03)
Central	0.33** (0.02)	0.33** (0.03)	0.33** (0.03)	0.34** (0.03)	0.34** (0.03)	0.34** (0.03)	0.34** (0.03)	0.33** (0.03)	0.33** (0.03)
Western	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)	0.01 (0.01)
Learning from experienced targets in the reference group									
Percentage of sequential FDI entries in the same industry in the same province	0.54** (0.17)	0.54** (0.17)	1.21** (0.31)	1.23** (0.31)	1.16** (0.31)	1.46** (0.31)	1.50** (0.31)	1.20** (0.31)	1.29** (0.33)

Table 2. continued

Variables	Models								
	1	2	3	4	5	6	7	8	9
(Percentage of sequential FDI entries in same industry in the same province) ²			-10.41* (0.57)	-1.61* (0.57)	-1.32* (0.59)	-1.69* (0.57)	-1.71** (0.59)	-1.47** (0.58)	-1.83* (0.75)
Firm's experience in China as a moderator (Firm's prior investments in China) × (percentage of sequential FDI entries in the same industry in the same province)				-0.68* (0.21)	-1.08** (0.34)				
(Firm's prior investments in China) × (percentage of sequential FDI entries in the same industry in the same province) ²					1.26* (0.63)				
Firm's experience in the province as a moderator (Firm's prior investments in the province) × (percentage of sequential FDI entries in the same industry in the same province)						-3.36** (0.61)	-8.05** (1.04)		
(Firm's prior investments in the province) × (percentage of sequential FDI entries in the same industry in the same province) ²							16.77** (3.24)		
Firm's experience in other provinces as a moderator (Firm's of prior investments in other provinces) × (percentage of sequential FDI entries in the same industry in the same province)								-0.34 (0.26)	0.03 (0.54)
(Firm's prior investments in other provinces) × (percentage of sequential FDI entries in the same industry in the same province) ²									-1.37 (1.77)
Log likelihood	-20,741	-20,736	-20,732	-20,727	-20,725	-20,713	-20,700	-20,731	-20,731
Likelihood ratio	8,880	8,889	8,896	8,908	8,911	8,934	8,961	8,898	8,899
McFadden's likelihood ratio index	0.176	0.177	0.177	0.177	0.177	0.177	0.178	0.177	0.177

N = 216,862.

Standard deviations are in parentheses.

Effects of industry and year dummies are not shown.

*p ≤ 0.05; **p ≤ 0.01 level of confidence.

Moreover, in addition to the proportion of sequential entries, the number of prior sequential entries could also affect the location choice decisions. In the robustness tests, we first ran regression analyses with and without the number of the total prior entries and found consistent results. Then, we included interaction terms relating the linear and squared terms for the proportion of sequential entries and the number of prior sequential entries. Our predicted effect as in H1 is still strongly supported. The number of prior sequential entries also has a positive main effect as expected. Although we did not hypothesize about it, the number of prior sequential entries negatively moderated the effect of the proportion, also as expected.

DISCUSSION

These findings tend to confirm that a firm's location decisions are indeed influenced by learning from a reference group. However, the firm does not necessarily copy the most frequently used practices, but learns from decisions made by the more experienced investors in the reference group. Learning from experienced firms seems particularly influential in building confidence in imitation. The curvilinear relationship demonstrated between learning from experienced firms and behavior suggests that a firm can learn from the variation in the practices of its predecessors.

These results go beyond the conventional imitation studies by bringing in competition considerations. They show that, when a firm observes a high proportion of sequential entries made by experienced firms, its confidence in imitating them and choosing that location decreases rather than increases. It is more inclined to choose another location, presumably to avoid competition. In addition, when considered in tandem with a firm's own experience, the curvilinear impact of learning from others' experiences becomes weaker for firms with experience in the host country. Compared with experience in other host country locations, experience in the specific location is apparently more salient and transferable, which has a stronger weakening effect on learning from others.

These results contribute to our understanding of interorganizational learning by highlighting the importance of how learning from experienced targets affects confidence in imitating. The results also highlight the competitive dimension, which

does not seem to have been considered together with imitation/learning in previous research. Another important finding of the study concerns the interplay between vicarious learning and a firm's own experience. The results show that firms with greater levels of specific types of experience are less sensitive to vicarious learning from others. The results thus reinforce the importance of testing experience effects in a way that aligns with the precise capabilities that a firm needs to develop.

This study responds to numerous calls for further work on firm-level differences in learning from others (Baum and Ingram, 1998; Grant, 1996; Ingram, 2002; Miner and Anderson, 1999). The results suggest some interesting implications for future research. Previous research in the organizational learning area has mainly focused on firm-level factors influencing search behavior, such as patent citations (Rosenkopf and Nerkar, 2001; Stuart and Podolny, 1996), alliance formation (Beckman, Haunschild, and Philips, 2004; Rothaermel and Deeds, 2004), and interlocking networks (Beckman *et al.*, 2004). FDI location choice is a new setting for the study of this phenomenon at the interorganizational level, and it would be enlightening if these results could be generalized to other empirical settings.

The reference groups in this study consisted of firms from the same country (Guillén, 2002; Li, Yang, and Yue, 2007; Yiu and Makino, 2002). Future research might profitably look at how firms learn from those from different home countries. Future studies might also apply dynamic modeling techniques such as event history analysis to examine the competing risks associated with location choices in foreign entries. The findings here imply that firms learn both from the practices of their predecessors and from their own experience, but further studies are needed to clarify the underlying processes and the performance implications. In terms of firm experience, future research may go beyond a firm's experience in the host country or location and use the experience of its top managers to see whether the different experience measures will yield similar results.

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