Journal of Business Research 66 (2013) 2451–2459

Contents lists available at ScienceDirect

Journal of Business Research

Experiential drivers of foreign direct investment by late-comer Asian firms: The Chinese evidence☆

Lin Cui [a,*], Yi Li [a], Zijie Li [b]

[a] The Australian National University, Australia
[b] University of International Business and Economics, China

ARTICLE INFO

Article history:
Received 1 September 2011
Received in revised form 1 December 2012
Accepted 1 February 2013
Available online 13 June 2013

Keywords:
Managerial cognition
International experience
Foreign direct investment
Top management team
Asian emerging economy
Event history analysis

ABSTRACT

Focusing on the cognitive process of managerial decision making, we argue that both organizational and personal international experiences contribute to managerial knowledge structure which in turn influences firms' foreign direct investment decisions. Given the decision task context of late-comer Asian firms, the two types of experiences can lead to decision outcomes that compete for limited decision making resources, and therefore their interaction effect is expected to be negative. Based on a sample of 164 Chinese electronic manufacturing firms over an eight-year period (2001–2008), we found substantial support for our hypotheses. While both organizational and personal international experiences increase the foreign direct investment propensity of a firm, these experiences also weaken each other's effects.
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1. Introduction

Recent years see a phenomenal growth of foreign direct investment (FDI) by firms from Asian emerging economies (EEs) (Buckley et al., 2007; Jormanainen & Koveshnikov, 2012). Unlike their developed country counterparts, being “later-comers” (Bartlett & Ghoshal, 2000) to the global market, these Asian firms face dual competitive pressures for short-term survival and long-term sustainable growth (Rui & Yip, 2008; Yamakawa, Peng, & Deeds, 2008). The weak market institutions in these emerging economies also impose constraints on firms' strategic behaviors and their access to critical resources (Cui & Jiang, 2012; Peng, Wang, & Jiang, 2008). When making FDI decisions, these dual competitive pressures and institutional constraints result in increased decision task urgency and reduced decision making resources, which have consequences on firms' utilization of experiential knowledge. While such consequences can potentially explain the special characteristics in EE firms' internationalization that deviate from conventional theoretical prediction, they have, however, not been systemically studied in the literature.

The existent literature highlights two perspectives of experiential drivers of FDI. An organizational perspective recognizes firm's prior foreign market experience as a key driver of firm's entry and increasing commitment in foreign markets (Johanson & Vahlne, 2009; Peng, 2001). An upper-echelon perspective focuses on the firm's managerial resources and experience that support its growth in international markets (Daily, Certo, & Dalton, 2000; Reuber & Fischer, 1997). The literature however lacks an integrative framework to examine the simultaneous and interactive effect of both types of experiential drivers. The existent literature are also mainly validated in a developed country context, which does not take into consideration the special decision-making context faced by Asian emerging economy firms. To fill these research gaps and to better understand the internationalization process of Asian firms who are facing decision task urgency and limitations of decision making resources, this study adopts a managerial cognition perspective to examine the roles that organizational and managerial international experience play in firms' FDI decision makings, both *independently* and *interactively*.

A managerial cognition perspective focuses on the role of experiential knowledge in the decision making process (Nadkarni, Herrmann, & Perez, 2011; Stubbart, 1989; Walsh, 1995). Based on this perspective, organizational practice and managerial personal experience can both contribute to the formation of a knowledge structure that guides the information processing and analysis by managers during FDI decision-making. Organizational international experience is embedded in the organizational structure, resources, and path of internationalization, which supports a path-dependent decision outcome. Managerial international experience, on the other hand, can be obtained from diverse international activities of top managers which are unrelated to the focal firm, and therefore supports an adaptive decision outcome. Both organizational and managerial

☆ The authors thank Songting Dong, The Australian National University; Fuming Jiang, Curtin University of Technology; Bruce Stening, Peking University; and Minghua Li, Copenhagen Business School, for commenting on and proof-reading the drafts of this paper.
* Corresponding author at: Research School of Management, Copland Building (24), The Australian National University, Canberra 0200, Australia.
E-mail address: lin.cui@anu.edu.au (L. Cui).

0148-2963/$ – see front matter © 2013 Elsevier Inc. All rights reserved.
http://dx.doi.org/10.1016/j.jbusres.2013.05.034

international experience can enhance a firm's ability to process foreign market information and, as a result, increase its propensity to conduct FDI. However, given the constrains related to decision task urgency and decision resource limitations faced by EE firms, the path-dependent and adaptive decision making mechanisms are likely to compete for limited managerial attention and decision-making resources, and thus weaken the effects of each other (Bogner & Barr, 2000; Lurigio & Carroll, 1985; Nadkarni et al., 2011).

This study uses the Chinese context as its empirical ground. Being the leading emerging economy in Asia and the world, the Chinese context provides a variety of firms with different levels of international experience. Managers in these firms are also of diverse backgrounds, ranging from former government bureaucrats to local entrepreneurs and overseas returnees, all with different levels of international exposure. Such large variations in organizational and managerial international experience provide an ideal empirical setting for this study. Using longitudinal data covering a period of rapid growth of Chinese outward FDI (2001–2008), this study examines the effects of firms' experiential drivers using an event history analytical method.

2. Theoretical framework

2.1. Types of experiential driver of FDI

Two streams of prior studies examine the experiential drivers of FDI. One stream focuses on organization-level experience from an organizational learning perspective, while the other adopts an upper echelon perspective to investigate the effect of managers' personal experience.

The organizational stream includes the process model of internationalization, organizational learning theory, and the transaction cost economy. The process model of internationalization states that firms' growth into foreign markets requires both foreign market-specific knowledge and general knowledge of international business operations, and that firms gain such knowledge through prior business experience (Johanson & Vahlne, 1977, 2009; Pehrsson, 2008; Peng & Fang, 2010). The organizational learning theory explains experiential effects on a wider range of organizational decisions and actions. Applying this theory to the FDI behavior of firms, researchers find that firm-specific international experience increases the likelihood of foreign market entry through FDI (Martin & Salomon, 2003; Thomas, Eden, Hitt, & Miller, 2007). Based on transaction cost economy, Anderson and Gatignon (1986) discuss the effect of international experience on the level of uncertainty in FDI transactions and the desired level of control in a firm's foreign operations. International experience enhances a firm's ability to accurately predict foreign risks and returns and thus reduces the level of internal uncertainty, which in turn increases the likelihood of high commitment foreign market entry.

The upper echelon stream focuses on managerial resources and explains the relations between top management team (TMT) demographic characteristics and various important organizational outcomes (Carpenter & Fredrickson, 2001; Wiersema & Bantel, 1992). The main theoretical arguments of these studies do not differ in principle from those of the organizational stream regarding the role of international experience in reducing the costs and uncertainty associated with FDI. These studies focus, however, on managers as contributors of heterogeneous personal international experience (Carpenter & Fredrickson, 2001; Reuber & Fischer, 1997; Sambharya, 1996; Tan & Meyer, 2010), which are beyond the common “organizational code” (March, 1991).

2.2. An integrative framework from a managerial cognition perspective

Managerial cognition is the central building block of the behavioral theory of strategy (for in-depth review, please see Brandenburger & Vinokurova, 2012; Gavetti, 2012; Powell, Lovallo, & Fox, 2011). From a managerial cognition perspective, experiential knowledge needs to be processed and analyzed in a sense-making mechanism before leading to a decision outcome (Meindl, Stubbart, & Porac, 1994; Walsh, 1995); and such a process is influenced by decision task characteristics and decision making resources (Posner, 1982; Simon, 1991). In the context of FDI decision making, organizational and managerial international experience can contribute to the diversity and intensity of decision makers' knowledge structures about foreign markets and operations. A high level of diversity and breadth of information in the knowledge structure reduces reliance on existing knowledge and leads to adaptive sense-making. This mechanism encourages top managers to experiment with new strategies (Bogner & Barr, 2000; Nadkarni et al., 2011), such as exploration-oriented FDI. In contrast, great intensity and depth of information in the knowledge structure promote path-dependent sense-making in which top managers attempt to fit new stimuli into their existing mindsets (Kiesler & Sproull, 1982; Lyles & Schwenk, 1992). Emphasizing the utilization of existing knowledge and routines, this mechanism encourages exploitation-oriented FDI. The adaptive and path-dependent sense-making mechanisms may conflict with each other when decision makers are under time pressure from the decision task and have limited resources to support different types of decision outcomes. In such a situation, trade-offs may needs to be made, and as a result, the effect of certain experiential knowledge may not be fully realized.

3. Hypothesis development

3.1. Independent experiential effect

International experience from an organizational origin comprises organizational memory about foreign markets and foreign operation. Organizational memory can be stored in the minds of individual members of an organization as well as in the organization's culture, structure, and process (Meindl et al., 1994; Walsh, 1995). Top managers can access this organizational memory to build their knowledge structures, which guide their information processing and decision making for future foreign market entries.

The most relevant experience for future foreign market entry through FDI is accumulated through a firm's prior FDI activities. As Johanson and Vahlne (1977) point out, experiential knowledge about foreign markets and foreign operation cannot be easily acquired; rather, it must be gained through actual operations in foreign markets. As a firm accumulates experience through operating in a foreign country and becomes more familiar with its market conditions, it develops processes and methods to evaluate and meet the needs of foreign customers, to estimate costs and returns, and to assess the economic worth of that foreign market (Emden, Yaprak, & Cavusgil, 2005; Erramilli, 1991). Furthermore, by entering and operating in a foreign market, a firm can gain knowledge about the formal and informal aspects of the institutional environment of the host country. With this knowledge, the firm can make strategic responses to the institutional pressures from the host country (Oliver, 1991), attain institutional legitimacy (Chan & Makino, 2007), and eventually reduce its liability of foreignness (Kostova & Zaheer, 1999; Zaheer, 1995). The accumulated knowledge about a foreign market and its institutional environment can reduce uncertainty associated with operating in that foreign market and consequently increase the likelihood of the firm entering similar foreign markets in the future.

Hypothesis 1. An EE firm's prior FDI experience is positively related to the propensity of the firm conducting FDI.

The cognitive mindsets of managers (and human beings in general) are influenced by their backgrounds and life experiences (Sambharya, 1996). When making business decisions in a complex information environment, managers draw on their personal experiences that are relevant to the decision task to form a cognitive map that facilitates attention allocation, information interpretation, and speedy problem solving (Walsh, 1995).

The form of personal experience most relevant to managers' FDI decision-making is the experience of working and studying overseas, which adds to managers' experiential knowledge of the foreign business environment and of managing a business across borders. Managers' personal experience can influence the FDI entry decision in three ways. First, the experience of working and studying overseas can influence managers' cognitive mindsets. With international experience, managers can overcome their original cognitive bias toward the home country market and develop an international outlook free from parochialism (Sambharya, 1996). These managers are more likely to recognize business opportunities overseas, driving them to legitimize and support the expansion of the geographical dimensions of their firms (Herrmann & Datta, 2002; Perez & Pla-Barber, 2005; Tan & Meyer, 2010). Second, international experience can also help managers to overcome the psychic distance of a foreign market and thus reduce the level of perceived uncertainty of foreign operations. Psychic distance refers to the perceived (as opposed to objective) cultural and business differences between the home market and a foreign market (Evans & Mavondo, 2002; Lukas, Whitwell, & Hill, 2007). Given its subjective nature, psychic distance varies with the level of understanding an individual has toward the cultural, economic, and institutional environments of a given foreign market. An enhanced understanding can reduce the psychic distance, enabling an individual to predict the costs and benefits of foreign operation more accurately and consequently acquire confidence operating in foreign business environments (Herrmann & Datta, 2002). Third, managers can develop personal networks through their overseas work and education experiences. Previously accumulated overseas personal business relationships (Daily et al., 2000), alumni networks (Tan & Meyer, 2010), and the experience of relationship building per se, can all contribute to managers' confidence in managing future foreign operations.

Hypothesis 2. International experience of the top managers in an EE firm is positively related to the propensity of the firm conducting FDI.

3.2. Interactive experiential effect

When both organizational and managerial international experiences are present, they influence the decision making process and outcome in an interactive manner. These experiences contribute to different dimensions of the managerial knowledge structure (Musteen, Francis, & Datta, 2010; Tsai & Ghoshal, 1998). Organizational-based experience creates more depth in the managerial knowledge structure by focusing the cognitive mindsets of managers to a few extensively used, elaborated and well-honed concepts closely associated with the organizational structure, strategy and internationalization path. Personal experience of managers, however, expands the breadth of the managerial knowledge structure by allowing top managers to notice and accommodate remote environmental concepts and trends as well as to develop a new repertoire containing a broad range of actions.

Managerial cognition research suggests that experiences that contribute to different dimensions of knowledge structure can have substitutive rather than complementary effects. In an ideal situation, decision makers should maintain both depth and breadth in their cognitive mindsets in order to make optimal decisions. However, due to limited decision making resources, managers often resort to a single dominant sense-making mechanism in their decision-making (Posner, 1982; Simon, 1991). Cognitive depth leads managers to adopt a path-dependent sense-making mechanism that emphasizes exploitation of existing knowledge and opportunities (March, 1991). However, it also filters out new information that is inconsistent with existing concepts, and over time, restricts the incorporation of new, diverse and remote forms of information (Bogner & Barr, 2000). In FDI decision making, this path-dependent sense-making mechanism supports an exploitation-oriented FDI strategy. Managers strongly influenced by organizational experience tend to base new FDI decisions on knowledge obtained from the firm's prior internationalization and to extend that existing path. Cognitive breath, on the other hand, promotes an adaptive sense-making mechanism that favors strategic varieties and exploration of new opportunities (Bogner & Barr, 2000; Nadkarni et al., 2011). It evokes horizontal complexity through continuous creation of new and diverse knowledge categories, thus limiting the level of sophistication and detail of existing concepts (Lurigio & Carroll, 1985). In FDI decision making, this adaptive sense-making mechanism supports an exploration-oriented FDI strategy. Personal experience provides managers with confidence and opportunities to explore new strategies that deviate from the existing internationalization path of the firm.

The substitutive effect of organizational and managerial international experience is particularly significant in the FDI decision-making context of EE firms for two main reasons. First, EE firms are under dual competitive pressures from both the domestic and global market which push them to use FDI as a competitive catch-up mechanism. To win the catch-up race, EE firms often need to take aggressive actions (e.g. proactive acquisitions) which require fast decision-making (Luo & Tung, 2007; Luo, Zhao, Wang, & Xi, 2011). The FDI decision task urgency increases the difficulty of integrating exploitation and exploration-oriented FDI strategies. Although both strategic orientations may co-exist (Luo & Rui, 2009), an FDI that fulfills both strategies will incur more complicated strategic planning, which can prolong the decision making process and reduce the propensity of achieving a decision outcome in a given timeframe. Second, EE firms suffer from institutional voids at home that limit their access to critical resources through open market (Anand, Brenes, Karnani, & Rodriquez, 2006; Buckley et al., 2007; Khanna & Palepu, 2000). These resources are critical in supporting EE firms' FDI decision outcomes. Sufficient resources can support a firm to pursue exploitation and exploration strategies simultaneously by conducting multiple FDI projects. Limited resource, however, creates an internal tension between potential FDI projects that are competing for resource supports. Due to the decision task urgency and lack of decision making resources, EE firms need to make trade-offs between exploitation strategy informed by organizational international experience, and exploration strategy informed by managerial international experience. Accordingly, the two experiential effects are substitutive rather than complementary.

Hypothesis 3. There is a negative interaction effect of organizational and managerial international experiences on the FDI propensity of the EE firms.

4. Methods

4.1. Sample and data

This study empirically tests its hypotheses in the Chinese context. The sample consists of publicly listed Chinese firms in the electronics manufacturing industry for the period from 2001 to 2008. This industry accounted for nearly 20% of total Chinese outward FDI cases between 2003 and 2008 (Amighini, Rabellotti, & Sanfilippo, 2011), thus representing an important part of Chinese outward FDI in non-financial and non-natural-resource sectors. Firms in the electronics industry are actively engaged in internationalization, which has been the focus of prior studies (e.g. Lin, Peng, Yang, & Sun, 2009). The eight-year period (2001–2008) covered in this study witnesses the fast growth of Chinese outward FDI after the country's entry into the WTO. A total of 164 firms were identified as active on the Shanghai and Shenzhen stock exchanges throughout the eight-year period. Data on these firms were collected and combined from Bureau van Dijk's Osiris database, Thomson's SDC Platinum database, and individual firms' annual reports. For the study period, the sample firms made a total of fifty-five FDI entries, where ten firms had made multiple FDI entries. Table 1 reports key demographics of the sample firms.

4.2. Analytical method

This study uses an event-history method to analyze the effects of organizational and managerial international experiences on the likelihood of firms' engagement in FDI. The event history is a longitudinal record of events occurring among a sample of firms (Allison, 1984). A major advantage of the event history method is that it corrects for the problem of right censoring in the analysis of longitudinal data. Management researchers have used this method to study a variety of positive and negative organizational events, such as market entry (Li, 1995; Thomas et al., 2007), market exit (Gaur & Lu, 2007; Perez-Batres & Eden, 2008), and competitive actions (Yu & Cannella, 2007). In our study, the events refer to the FDI entries made by the sample firms during the observation period. Because an individual firm may have made multiple FDI entries during the period, the events in our data are ordered (e.g., first entry, second entry, and so on). Accordingly, Anderson–Gill even-history analysis procedure (Andersen & Gill, 1982) provides the appropriate approach to set up the data and test the hypotheses. Following this approach, the analysis model is a proportional hazard model as follows:

$$\ln\left[\frac{h_i(t)}{h_0(t)}\right] = \sum\beta_k \times [X_{ik}(t)],$$

where $h_i(t)$ is the hazard rate of firm i at time t, $h_0(t)$ is the baseline hazard function, and $X_{ik}(t)$ is the value of the kth covariate for firm i at time t. The model estimation uses the STCOX procedure in STATA/SE 11.0, with robust standard errors clustered within objects to correct for heteroskedasticity. For the time-lag effect, the model uses averaged independent variables for the observation period preceding each FDI entry (or right censoring).

Table 1
Sample firm description.

Size (employee number)	
500–1000	41
1000–2000	27
2000–5000	59
5000–10,000	25
More than 10,000	12
Total	164
Size (total assets in mil. USD)	
Less than 50	36
50–100	30
200–500	73
500–1000	13
1000–5000	11
More than 5000	1
Total	164
Primary stock exchange	
Shanghai	69
Shenzhen	95
Total	164
State shareholding	
Controlling (more than 50%)	43
Non-controlling	69
None	52
Total	164
Number of firms by industry[a]	
SIC362 (C76)	60
SIC367 (C51)	37
SIC357 (G83)	12
SIC369 (C57)	10
SIC363 (C55)	12
SIC366 (G81)	33
Total	164
Number of firms by FDI entry	
No FDI entry	132
Single FDI entry	22
Multiple FDI entries	10
Total	164

[a] Codes in parentheses are the Chinese standard industrial classification codes (www.csrc.gov.cn/n575458/n575667/n642011/1993315.html).

4.3. Variables

The event-history hazard model does not include a specific dependent variable but rather, it models the log hazard ratio as a function of the independent variables. The hazard ratio, or the likelihood of a firm conducting FDI relative to the baseline likelihood, is based on the time-to-event information in the dataset. This information essentially contains two variables. One is the *time*, measured as the number of months between the start of the observation window (January 2001) and the event time (if the observation was not censored) or the end of the observation window (December 2008, if the observation was right censored). The other variable is the *status* of the event, measured as a dummy variable with a value of one if an FDI entry was made and a value of zero if there was no FDI entry and the observation is right censored. The time and status variables are set up in the data (using the STSET command in STATA) prior to running the analysis.

Two independent variables refer to organizational and managerial international experiences. For *organizational international experience*, prior studies suggest that firms accumulate international experience from their prior FDI entries which in turn influence future foreign market entry strategies of firms (Chan & Makino, 2007; Chang, 1995). Following these studies, this study measures *organizational international experience* as the log-transformed number of a firm's previous FDI entries at the time of conducting a new FDI. Firms' prior FDI entry activities are identified from the Osiris database and firms' annual reports.

For *managerial international experience*, prior researches measure top managers' international experience based on the number of years an individual has spent abroad on assignments and/or higher education, typically using US data provided from *Dun and Bradstreet's Reference Book of Corporate Managements* (e.g. Carpenter & Fredrickson, 2001; Daily et al., 2000; Herrmann & Datta, 2002; Sambharya, 1996). Due to a lack of detailed biographical information for top managers, studies of Asian firms use alternative measures such as dummy variables for managerial international experience (Tan & Meyer, 2010). This study follows Nielsen and Nielsen (2011) and measures *managerial international experience* as the percentage of TMT members with overseas working (excluding working for the current firm) or education experience. The biographical descriptions of TMT members are collected from firms' annual reports and the coding procedure follows content analysis method suggested by Jauch, Osborn, and Martin (1980). Two independent coders conducted coding for the percentages of TMT members with overseas working and education experience. An inter-coder reliability check show that the two coders agreed on 145 of the 164 sample firms (88.4%) for overseas working experience and 151 of the 164 (92.1%) for overseas education experience, suggesting high levels of inter-coder reliability (Weber, 1991). The disagreed cases are mainly due to lack of clarity in the annual report information. For these cases, the authors requested further clarification from the listed companies though telephone and email contact to form final judgment.

The analysis model controls for variables that may influence a firm's FDI propensity. Age may influence managers' risk preference (Bantel & Jackson, 1989) and consequently the managerial decision outcomes. This study measures *TMT age* as the average age of all TMT members. The level of *TMT education*, as an indicator of managers' learning capability, needs to be controlled for because managers with higher learning capability are able to deal with more complex situations and perceive less risk in foreign operations. The model controls for the average education level of TMT members in ordered categories from “secondary and below” to “doctorate.” The model also controls for *firm size*, measured by the log-transformed value of firm total assets. The model includes return on equity (*ROE*) to control for the possible effect of past performance on a firm's FDI propensity. *Export ratio* (ratio of export sales to total sales) is a proxy for the intensity of a firm's export activity, which is an alternative internationalization path to FDI. *State ownership*, the sum of the percentage of equity in a firm directly owned by the Chinese government, may also influence a Chinese firm's operations and internationalization decisions (Cui & Jiang, 2012; Zou & Adams, 2008). The *asset/debt ratio* of a firm reflects its financing capability and financial slack, which may influence its investment decisions. Lastly, research on the internationalization of EE firms suggests that firms' inward internationalization experience also influences their outward foreign market entry activities (Thomas et al., 2007). Accordingly, the analysis model controls for firms' *international alliance* experience measured by the log-transformed number of a firm's international alliances located in the home country.

5. Results

5.1. Descriptive statistics

Table 2 reports the descriptive statistics and Pearson correlations of the explanatory variables. The analysis obtains variance inflation factors (VIFs) by regressing time-to-event on the explanatory variables. None of the VIFs is above the stringent cut-off of 2.5 (Allison, 1999), suggesting that multicollinearity is not of major concern in the analysis.

5.2. Hypothesis testing

The analysis estimates proportional hazard models to test the hypotheses. The estimation results of three models are reported in Table 3. A positive coefficient indicates a positive relationship between the corresponding explanatory variable and the likelihood of a firm conducting FDI. While all models are significant as evidenced by log pseudo likelihood and model chi-square test results, the Akaike information criterion suggests that models with independent variables are superior to the baseline model with control variables only. A post-estimation test of the proportional-hazards assumption for each model (using the ESTAT PHTEST command in STATA) returns insignificant results, rendering no evidence to reject the original assumption.

Models 2 and 3 test the independent experiential effect (Hypotheses 1 and 2). *Organizational international experience* has positive coefficients and is significant in both models, thus supporting Hypothesis 1 which states that a firm's prior FDI experience is positively related to the likelihood of the firm conducting new FDI. Also as expected, *managerial international experience* is positive and significant in both models; this result supports Hypothesis 2. Managers' overseas working and education experiences are positively related to the likelihood of a firm conducting FDI. Post-hoc analysis reveals potential differential effects of overseas working and educational experiences of TMT members. Replacing the *managerial international experience* variable with the percentage of TMT members with overseas working experience, and the percentage of TMT members with overseas education experience respectively, the model estimate results show that a one-unit increase in TMT overseas working would cause a 5.782-fold increase of the hazard ratio, while a one-unit increase in TMT foreign education would cause a 3.325-fold increase of the hazard ratio. A Steiger's *t*-test of non-independent correlations (Steiger, 1980) suggest that this difference in effect size is statistically significant at 0.01 level ($t = 3.232$, $df = 215$). These results suggest that overseas working experience has a stronger effect than overseas education experience. From the managerial cognition perspective, a manager's knowledge structure for decision making is formed from past experience in circumstances similar and relevant to the current decision task (Walsh, 1995). The results support that when making FDI decisions, managers' overseas working experiences are more relevant than their foreign educational experiences.

Model 3 tests the interactive effect hypothesis (Hypothesis 3). The interaction product term, calculated from centralized independent variable, is negative and significant. As expected, the interactive effect of organizational and managerial international experience is negative, suggesting that in context of FDI decision making of EE firms, the two types of experiences are substitutive rather than complementary. Plotting the interaction effect further verifies this result. As shown in Fig. 1, the positive effect of *managerial international experience* on FDI likelihood is weaker (smaller positive slope) when *organizational international experience* is high than when it is low. Likewise, the positive effect of *organizational international experience* is weaker when *managerial international experience* is high than when it is low. These results offer support to Hypothesis 3.

5.3. Robustness check

To check the robustness of the results, the original models are estimated on datasets with alternative setups. First, instead of using *month* as the time interval to record time-to-event information, the model is re-tested on an adjusted dataset that uses *quarter* as the time interval (see Model 4 in Table 3). Second, instead of using period-averaged independent variables, one-year-lagged independent variables are used to test the robustness of the models (see

Table 2
Descriptive statistics, Pearson correlations, and VIFs.

Variables	Pearson correlations									
	1	2	3	4	5	6	7	8	9	10
1 TMT age	1.00									
2 TMT education	−0.16	1.00								
3 Firm size	0.17	0.14	1.00							
4 ROE	−0.09	0.10	−0.13	1.00						
5 Export ratio	0.06	0.07	0.13	0.06	1.00					
6 State ownership	0.32	−0.09	0.18	−0.13	−0.21	1.00				
7 Asset/debt ratio	−0.09	−0.09	0.13	−0.15	−0.12	0.01	1.00			
8 International alliance	0.02	0.18	0.29	0.01	−0.08	0.09	0.04	1.00		
9 Organizational int'l experience	0.04	0.23	0.63	−0.10	0.38	−0.12	0.12	0.20	1.00	
10 Managerial int'l experience	0.07	0.20	0.53	−0.04	0.30	0.02	0.07	0.15	0.50	1.00
Mean	45.80	1.82	20.94	5.68	18.94	25.46	50.40	0.12	0.48	0.33
Standard deviation	3.57	0.67	1.37	17.81	25.54	25.97	40.85	0.32	0.80	0.43
VIF	1.20	1.16	2.22	1.08	1.35	1.30	1.10	1.14	2.23	1.57

Note 1: |corr| ≥ 0.13 significant at 0.05 level, |corr| ≥ 0.18 significant at 0.01 level, |corr| ≥ 0.30 significant at 0.001 level (2-tailed).
Note 2: VIFs obtained by regressing survival time on the explanatory variables.

Table 3
Results of Andersen–Gill event history analysis of FDI entry.

	Hypothesis testing			Robustness check	
	Model 1	Model 2	Model 3	Model 4	Model 5
H1: Organizational int'l experience (OIE)		0.324**	0.934***	1.015***	0.997**
H2: Managerial int'l experience (MIE)		1.815****	1.780****	1.808****	1.903****
H3: OIE × MIE			−0.351**	−0.378***	−0.404**
Controls:					
TMT age	−0.093**	−0.094**	−0.090**	−0.085*	−0.076*
TMT education	−0.037	−0.237	−0.217	−0.288	−0.264
Firm size	0.816****	0.383***	0.363***	0.318***	0.404***
ROE	0.022	0.017	0.014	0.013	0.011***
Export ratio	0.018***	0.004	0.002	0.002	−0.006
State ownership	−0.006	−0.009	−0.008	−0.008	−0.012*
Asset/debt ratio	−0.005	−0.009	−0.010	−0.011	−0.015**
International alliance	−0.542	−0.531	−0.540	−0.689	−0.353
Akaike Information Criterion (AIC)	462.238	438.820	437.499	421.632	434.673
Log pseudo likelihood	−223.119	−209.410	−207.749	−199.816	−206.337
Model chi-square	109.51****	147.15****	123.89****	115.63****	157.39****
Degrees of freedom (*df*)	8	10	11	11	11

* $p < 0.10$.
** $p < 0.05$.
*** $p < 0.01$.
**** $p < 0.001$ (two-tailed).

Model 5 in Table 3). Both tests produce results that are largely consistent with the original tests, indicating that the original models are robust.

6. Discussion and conclusion

6.1. Main findings

This study reveals the experiential drivers of FDI by emerging economy firms from a managerial cognition perspective. Theoretically it focuses on the cognitive process of decision making and the special constraints faced by emerging economy firms due to decision task urgency and decision making resource limitations. Empirically, this study tests the independent and interactive effects of organizational and managerial experiences on Chinese firms' FDI likelihood. Taking advantage of a longitudinal, fine-grained dataset and event history analysis method, the analysis finds that although both organizational and managerial international experiences increase the propensity of the firm to conduct FDI, a high level of organizational experience will weaken the effect of personal experience, and vice versa.

Supporting the independent effect hypotheses (H1 and H2), this study offers an integrated analysis of experiential drivers of FDI from both the organizational (firm level) and upper echelon (TMT level) perspectives of managerial decision-making. The organizational perspective focuses on organizational learning and predicts a positive effect of firm experience, especially international experience, on a firm's international expansion strategy (Chang, 1995; Johanson & Vahlne, 1977; Martin & Salomon, 2003). In line with this stream of research, this study finds that as a firm accumulates international experience from its prior FDI activities, the likelihood of the firm conducting FDI increases (Hypothesis 1). The upper echelon perspective focuses on TMT characteristics and managerial resources as drivers of firm internationalization (Herrmann & Datta, 2002; Reuber & Fischer, 1997; Sambharya, 1996). Consistent with prior studies, this study finds that an increased likelihood of a firm conducting FDI is positively associated with its TMT's international experience (Hypothesis 2). An ad-hoc analysis reveals that TMT members' overseas working experience has a stronger effect on firm FDI decision than their foreign educational experience does. This result supports that past experience's relevance and similarity to the current decision task affects its effect on the cognitive process of decision making (Walsh, 1995). Relative to foreign education experience, a

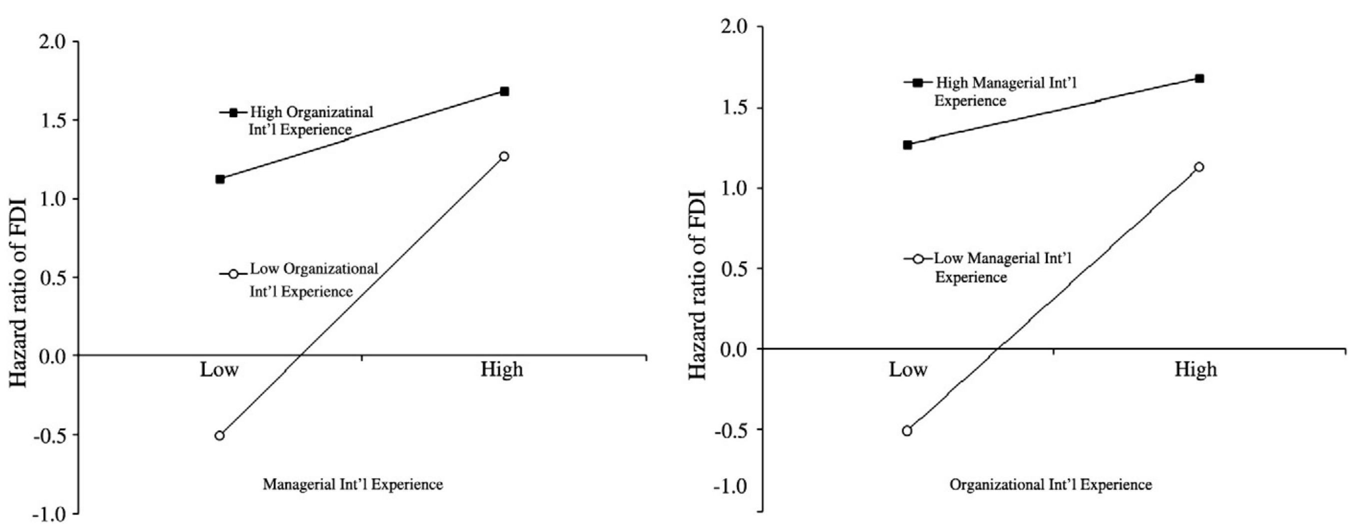

Fig. 1. Interactive experiential effect plot. Note: Based on the proportional hazard model, the Y axis value is the log of FDI hazard ratio, which can be considered an estimate of the likelihood of a firm conducting FDI in the given time period relative to the baseline likelihood.

manager's prior overseas working experience is generally more relevant to his or her current FDI decision-making because the information environment and decision task characteristics (e.g., complexity, urgency, consequence) are more similar to what the manager has previously experienced in a work context compared with an educational context. The weaker effect of foreign education experience may be also due to the memory effect. Typically, managers receive relevant training and education before being employed or assigned to overseas posts. Accordingly, their education experience may be more remote in memory, whereas overseas working experiences are more current and readily accessible by managers to form their knowledge structure for FDI decision making.

Another important finding of this study is the interactive effect of the two types of international experiences on firm FDI decision making. By supporting Hypothesis 3, the results support our hypotheses that the two types of experiences weaken rather than reinforce each other's effects on a firm's FDI propensity. This finding reflects the cognitive process and the decision making context of late-comer Asian firms and EE firms in general. From the managerial cognitive perspective, different types of experiential knowledge can contribute to knowledge structure depth and breadth that supports path-dependent and adaptive decision making respectively (Bogner & Barr, 2000; Nadkarni et al., 2011). Excessive depth or breadth of the managerial knowledge structure can complicate the decision making process, especially in the context of FDI decision making by EE firms, because these late-comer firms do not have sufficient decision making resources to simultaneously pursue exploratory and exploitative strategies in their FDIs by integrating path-dependent and adaptive decision outcomes. This study argues that the dual competitive pressures (Rui & Yip, 2008; Yamakawa et al., 2008) and home country institutional voids (Khanna & Palepu, 2000) are the main reasons contributing to the decision task urgency and decision-making resource limitations for EE firms. As a result, these firms need to make strategic trade-offs in their FDI decision making, which render the two types of experiential knowledge as substitutive rather than complementary.

6.2. Contributions and implications

This study makes several contributions to the literature. Building upon existing studies of experiential drivers of firms' foreign market entry behaviors (e.g. Daily et al., 2000; Erramilli, 1991), this study contributes to the international business literature by examining in greater depth the effects of two different types of international experiences. Not only does this study extend the current understanding of FDI experiential drivers into an emerging economy context, it is also the first to systematically examine the interactive effects of the two types of experiences in a given decision making context. This study also makes a theoretical contribution to the literature by investigating international business phenomena from a managerial cognition perspective. Organizational research has extensively investigated the linkages between managerial cognition and organizational outcomes such as profitability, innovativeness, and international performance (Meindl et al., 1994; Nadkarni et al., 2011). This study extends the managerial cognition perspective to study firms' FDI decisions because it offers a micro-cognitive foundation to theoretically integrate the organizational and upper echelon perspectives which have dominated the international business literature. Empirically, this study is the first to use longitudinal data and event history analysis to study outward FDI of firms from Asian emerging economies. Combining data from published archival sources, the dataset of this study covers an eight-year period after China's entry into the WTO in 2001. An event history analysis method is particularly appropriate to study the evolutionary process of firms under environmental volatility (e.g. Perez-Batres & Eden, 2008). Our empirical methods can be of reference value to future studies examining the internationalization process of Asian firms, especially those from a home country undergoing institutional transformation and market reform.

The findings of this study hold both theoretical and practical implications. Theoretically, this study sheds light on international business phenomena from a managerial cognition perspective. Internationalization decisions are made by top managers with heterogeneous experiential knowledge, often from both organizational and personal origins. The managerial cognition perspective provides a theoretical lens to investigate the micro-cognitive mechanism of experiential drivers of internationalization, enabling the examination of the independent and interactive effects of international experience with organizational and personal origins.

In relation to business practice, this study suggests that for Asian late-comer firms to expand overseas, recruiting managerial personnel with international experience, especially overseas working experience, can be an effective measure to accelerate the internationalization process. This is particularly the case when the firm aims to explore and capture new opportunities in foreign markets rather than follow a path-dependent process of internationalization. However, for firms that aim to build on existing knowledge and capability, and by making incremental advances in internationalization, the effect of hiring internationally experienced top managers should be reduced.

6.3. Limitations and future research directions

Limitations of this study leads to several future research directions. First, the empirical analysis of this study is carried out in a single industry (electronics manufacturing) from a single home country (China). Cautious must be exercised when generalizing its findings. Future research would be well served to explore whether similar results stand in other contexts and to perform comparative studies on firms from different industries and home countries. Second, the role of top managers in firm decision-making may be moderated by the governance mechanisms of the firm. Future research can obtain data on firms' ownership structures and governance mechanisms (e.g., board composition) to examine whether managers' experiential knowledge has different influences on the organizational outcomes of firms with different governance structures. Third, excessive knowledge based on prior practice may limit decision makers' abilities to understand their information environments and, thus, compromise their decision making (Walsh, 1995). Although such a concern may be less relevant in emerging economy contexts where firms are currently late-comers to internationalization, future research can investigate the dynamic influence of experiential factors on firm decision making. Under what circumstances may prior experience become a negative factor and constrain firms' internationalization, and what factors can prolong its positive effect? Future research can explore such questions from the managerial cognition perspective, taking into consideration both the comprehensiveness and the rigidity of managers' knowledge structures. Lastly, due to data limitations, this study relies on dichotomous coding method to measure managerial international experience. This coding method cannot convey the extent or intensity of individual TMT's international experience which might be important for firm internationalization. Future studies can explore more nuanced measures of managerial experience using more detailed information on listed company TMTs and enhanced content analysis approaches.

6.4. Conclusion

Do organizational and managerial international experiences reinforce or weaken each other's effect in firms' internationalization decisions? The answer is likely to be dependent on the decision making context that influences the cognitive processes of firm decision makers. Late-comer Asian firms face dual competitive pressures to accelerate their internationalization while suffering from lack of supporting resources. As a result, decision makers with bounded rationality are likely to choose a mental model and to base his/her decision on the type of prior experience most relevant to the chosen model, which effectively downplays the role of other types of experience. Using a managerial cognition perspective to examine the simultaneous and interactive effect of organizational and managerial international experiences, this study finds that while both types of experiences independently increase the propensity of a firm conducting FDI, they weaken rather than reinforce each other's effects in interaction. This study contributes to both the internationalization and managerial cognition literatures. Notwithstanding its limitations, this study sets a theoretical pathway along with several future research directions for researchers to deepen the investigation into potential synergies between international business and managerial cognition researches streams.

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