
Rapid FDI of emerging-market firms: foreign participation and leapfrogging in the establishment chain*

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Abstract

This research explores the enablers of emerging-market firms (EMFs) leapfrogging in the internationalization process. Although many studies on rapid internationalization focus on exporting activities, we expand the concept to a higher-commitment entry mode: foreign direct investment (FDI). In addition, we investigate the role of an understudied force, foreign multinational enterprises (MNEs) in emerging markets, in enabling rapid internationalization of EMFs. Our hypotheses are tested using 1,612 first-time outward FDI projects from China between 2000 and 2014. The largely supported results suggest that minority foreign ownership and co-location with foreign MNEs allow EMFs to leapfrog certain stages in the establishment chain. Our findings offer alternative explanations, besides the government steward logic, to EMFs' international expansion and contribute to the understanding, from a policy standpoint, that encouraging foreign-local partnerships is conducive to host-country industrial upgrading.

Keywords: Emerging-market multinational enterprises (EMNEs); Rapid FDI; Foreign ownership; Foreign spillovers

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1. Introduction

The antecedents of rapid internationalization remain interesting to international business scholars because a significant portion of rapid internationalization is executed by resource-deficit and experience-scarce firms such as international new ventures, born global firms and, more recently, emerging-market multinational enterprises (EMNEs). In the new millennium, we see more and more emerging-market firms (EMFs), without prior internationalization experiences, penetrate international markets quickly (Chang and Rhee, 2011) and use large-commitment entry modes (Kumar et al., 2020). Nevertheless, the enablers of these rapid movements of EMNEs remain unknown (Hernandez and Guillén, 2018; Ramamurti and Hillemann, 2018).

International entrepreneurship literature argues that rapid internationalization is largely attributed to organizational knowledge intensity (Autio, Sapienza and Almeida, 2000), including technology competencies (McDougall, Shane and Oviatt, 1994), marketing know-how and unique product design (Knight and Cavusgil, 2004). Yet, the antecedents identified in the international entrepreneurship literature cannot fully explain the rapid internationalization of EMNEs. First, the samples dominating the international entrepreneurship studies are developed-country firms instead of EMFs which lack ground-breaking innovation capabilities and managerial expertise (Luo and Tung, 2007, 2018). Second, international entrepreneurship research focuses on exporting activities (Cavusgil and Knight, 2015), and relatively little is known about how firms rapidly become MNEs (Monaghan and Tippmann, 2018).

In this research, we explore the enablers of EMFs' rapid foreign direct investment (FDI). In particular, how and where do EMFs gain knowledge to facilitate their subsequent rapid international expansion? The literature regarding EMNEs argues that EMFs are quick learners and leverage external resources to achieve important goals (Mathews, 2006). In an emerging-market context, foreign multinational enterprises (MNEs) are important sources of resources and knowledge to local firms (Wei and Liu, 2006; Liu et al., 2016). EMFs acquire knowledge from foreign MNEs through international joint venture experiences or involvement in downstream or upstream industry relationships with foreign MNEs. By conducting this research, we learn that EMFs' connections with foreign MNEs at home allow EMFs to leapfrog certain stages in the establishment chain.

The present study makes three contributions to the international business literature. First, we identify an under-explored factor, inward FDI, in explaining EMFs' rapid international expansion. The influence of inward FDI on outward FDI (OFDI) from emerging markets is understudied (Deng, 2012). EMNE literature oftentimes attributes the aggressive expansion of EMNEs to government affiliation (e.g., State ownership) (Wang et al., 2012) or the home country's "go-global" policy (Deng, 2009). By studying the influence of inward FDI, we seek an alternative

explanation to the phenomenon and argue that the internationalization capabilities of EMFs are not just about the home country's institutional support.

Second, this research connects the concept of rapid internationalization to the mainstream international business literature which has a focus on FDI activities. Exporting activities do not require as much resource commitment as FDI does, such that firms can withdraw without losing too much asset specificity. We argue that rapid internationalization of EMNEs is an FDI phenomenon that requires EMFs to have a deeper understanding of the host country to mitigate their liability of foreignness.

Third, we contribute to the understanding of the internationalization process of EMFs. The general conceptualization of rapid internationalization implies a limited temporal perspective with only the time between inception and start of internationalization considered (Chetty, Johanson and Martin, 2014). The current definition of rapid internationalization – (1) within six years after a firm's inception (e.g., McDougall, Shane and Oviatt, 1994; Coviello, 2015; Deng, Jean and Sinkovics, 2017), (2) undertaking FDI projects at an accelerated speed (Chang and Rhee, 2011) and (3) fast transition of the firm towards becoming an MNE (Monaghan and Tippmann, 2018) – discards the central aspects of the internationalization process of firms. In this paper, we focus on the market commitment dimension of the internationalization process to show subsidiary activities in the host country according to the seminal categorization of Johanson and Vahlne (1977). Market commitment is defined as the amount of resources an internationalizing firm devotes to its host country in a particular globalization project (Johanson and Wiedersheim-Paul, 1975). We therefore define rapid internationalization as when, in the early stage of its internationalization, the firm already has high-profile activities such as foreign production and manufacturing in the host country, meaning the firm has leapfrogged low commitment activities such as exporting or the “sales subsidiaries” stage in the establishment chain.

Besides contributing to the international business literature, we also intend to contribute to understanding several international investment policy initiatives, including UNCTAD's Investment Policy Framework for Sustainable Development. In particular, we point out two channels of foreign participation that governments should encourage in investment policies in order to enlarge the host country's development benefits from inward FDI.

The remainder of this paper is structured as follows. Building on the relational perspective of internationalization and the literature on international knowledge diffusion, we propose our hypotheses related to foreign participation in an emerging-market context and EMFs' rapid internationalization. We introduce our data and sample, measurements and regression models in the methodology section, tackling specific issues related to our research design. We then present our statistical results and conclude with our findings. After discussing the theoretical and practical implications, we point out some possible directions for future research.

2. Theory and hypotheses development

External knowledge acquisition has played an important role in the internationalization speed of experience-scarce firms (Oviatt and McDougall, 2005; Casillas and Acedo, 2013). Contemporary literature argues that knowledge acquisition from external sources or vicarious learning (Bingham and Davis, 2012; De Clercq et al., 2012) allows firms to reduce perceived risks and uncertainty in unfamiliar tasks, making firms more likely to pursue international opportunities (Bruneel, Yli-Renko and Clarysse, 2010; Freeman, Edwards and Schroder, 2006; Johanson and Vahlne, 2009; Love, Roper and Zhou, 2010).

Dunning (1998) recognized that the ownership advantage of MNEs could be acquired through both internal and external sources. In the era of alliance capitalism, external transfer, such as through ongoing global-local connection, plays a role in knowledge generation for local firms. External knowledge transfer can be a partial substitute for in-house technological development. This is because both technology and products are becoming more complex, and one firm cannot master all types of relevant technology (Cantwell and Piscitello, 1999). When external knowledge overlaps with the complementary paths of technological development, a firm can take advantage of the knowledge from an external provider and realize rapid development (Prashantham, Zhou and Dhanaraj, 2020; Wiklund and Shepherd, 2003). In addition, when a certain type of technology is standardized and reaches its mature phase, firms are more likely to adopt this readily available technology and free more resources for other innovative activities from an economic standpoint. Furthermore, interfirm agreements for technology transfer generally result in a more focused profile of technological specialization, thus gradually improving firm innovation and financial performance (Wan and Hoskisson, 2003).

These prior studies have highlighted the importance of sourcing knowledge from external sources but seldom specify the sources with which firms should be connecting (Prashantham and Dhanaraj, 2015; Prashantham, Kumar and Bhattacharyya, 2019).

2.1 The nature of EMNEs

EMNEs are documented as an appropriate example of firms acquiring knowledge from external sources. Usually, EMFs are categorized as weak firms in internationalization because of the lack of the proprietary resources and capabilities possessed by large MNEs from advanced economies (Contractor, 2013; Luo and Zhang, 2016). Based on the linkage-leverage-learning model identified by Mathews (2006) and the composition-based view (Luo and Child, 2015; Luo and Bu, 2018), EMFs often leverage knowledge from external sources for internal development. Similarly, Bierly III et al. (2009) argue that technologically

weaker firms or temporal laggards are more likely to take advantage of readily accessible knowledge developed by pioneers. Therefore, an outstanding feature of EMNEs is their asset-seeking behaviour during internationalization (Luo and Tung, 2007). Instead of exploiting existing asset-based and transaction-based advantages, EMFs tend to explore resources and capabilities in the host country (Cui, Meyer and Hu, 2014).

Nevertheless, EMFs' asset-augmenting activities are not limited to the post-internationalization era. Owing to intense competition at home, EMFs are motivated learners before they internationalize. One of the important sources of external knowledge at home is inward FDI (Jin, García and Salomon, 2019). In an emerging-market context, most inward FDI comes from developed countries (UNCTAD, 2015). With the entry of foreign MNEs, a significant amount of knowledge flow is from foreign MNEs to indigenous firms, as these foreign MNEs are at an advantage in terms of technology and managerial know-how and internationalization experiences. Occasionally, EMFs even sacrifice short-term profits and market share to form partnerships with foreign MNEs to ensure knowledge diffusion (Contractor, 2013).

International knowledge diffusion is generally defined as the acquisition of knowledge by indigenous firms because of foreign presence (Keller, 2004). It contains two possible channels: purposeful knowledge transfer and unintentional knowledge spillovers from the knowledge supply side (Acharya and Keller, 2009). Table 1 reviews the two possible channels. Foreign MNEs' influences are categorized into (1) foreign ownership in EMFs and (2) foreign MNEs co-locate with EMFs. Through foreign ownership, EMFs obtain purposeful knowledge transfer from foreign MNEs, whereas, when foreign MNEs co-locate with EMFs, unintentional knowledge spillovers take place.

Table 1. Foreign knowledge diffusion in an emerging-market context

	Foreign ownership in EMFs	Knowledge-intensive foreign MNEs co-locate with EMFs
Channels	<ul style="list-style-type: none"> • In-house knowledge transfer within the partnership entity (Teece, 1977; Steensma et al., 2005) • External knowledge exchange with foreign partner's parent group (Li and Cantwell, 2012) 	<ul style="list-style-type: none"> • Demonstration (Caves, 1974) • Competition (Xia et al., 2014) • Upstream/downstream industry Linkages (Hertenstein, Sutherland and Anderson, 2017) • Employee mobility (Blomström and Kokko, 1998)
Outcomes	Knowledge transfer to EMFs	Knowledge spillovers to EMFs

Source: Based on the literature on international economics and international business.

2.2 Foreign ownership and rapid FDI of EMFs

To overcome their liability of foreignness in the host country, foreign entrants tend to have more knowledge about international markets as well as cutting-edge technologies. Such knowledge is easier to transfer in the corporate hierarchy than in the arm's-length market owing to the embeddedness of knowledge in organizational routines (Teece, 1977). The traditional international business literature (e.g., Dunning, 1958; Hymer, 1976; Vernon, 1966; Buckley and Casson, 1976) refers to this mechanism as the competence-exploiting motives of MNEs or the international knowledge transfer function of FDI in the host country. MNEs are equipped with technological competencies and are capable of transferring such competencies to their subsidiaries around the globe. Hymer (1976) stated that foreign firms are usually stronger than local firms in technology and managerial skills, so they will be able to use these advantages to offset the liability of foreignness in the host country. Vernon (1966) agreed that MNEs are usually the technology leader in a product line. The argument that foreign firms are competitive is applicable in an emerging-market context where local players are known to lack proprietary knowledge about cutting-edge technologies and international markets (e.g., Mathews, 2006; Madhok and Keyhani, 2012; Peng, 2012; Wang et al., 2014; Yiu, Lau and Bruton, 2007).

Foreign partners share international experiences, as well as managerial and technical knowledge, with indigenous firms (Fernhaber, McDougall and Oviatt, 2007), a bundle of information that is readily available to EMFs before their actual internationalization. Due to the level of detail and frequency in updates, EMFs can borrow such information without engaging in multiple attempts abroad to gain international experience or spend extensive effort developing or adapting technologies to satisfy the foreign market. Learning from foreign partners allows EMFs to leapfrog the initial stage of internationalization and reach a relatively more advanced stage in the internationalization process.

We use a case to illustrate how a prior partnership with foreign MNEs at home increases the likelihood of an EMF's subsequent rapid internationalization. Shanghai Automotive Industry Corporation (SAIC), formed in 1955, is one of the "Big Four" automotive manufacturing companies in China and a Fortune Global 100 company. Compared with other big Chinese automakers (Changan Automobile, FAW Group and Dongfeng Motor Corporation), SAIC has only recently emerged as a prominent player in the Chinese vehicle industry – in the early 2000s. Its recent success, such as owning the largest production volume of any Chinese automaker in 2014, making more than 4.5 million vehicles, is largely attributed to partnering with foreign automakers and creating joint ventures with overseas component suppliers (Ma, Wu and Zhang, 2015). In the 1970s, SAIC was a small automobile assembly factory. However, a cooperative agreement

with Volkswagen and the formal establishment of Shanghai Volkswagen Automotive Co. Ltd. in 1985 made possible the production of competitive cars in the domestic market and increased its capacity tenfold, to 300,000 units a year, using foreign technology. In addition, SAIC's second major international joint venture in 1998, Shanghai General Motors Co. Ltd., allowed a doubling in SAIC's vehicle production between 2000 and 2004 because of a boost in foreign sales.

The Shanghai General Motors Co. Ltd. started to learn about foreign operations in 2002, four years after the inception of the international joint venture (in which General Motors has a 40 per cent equity share). The joint venture participated in General Motors' purchase of Korean automaker Daewoo in 2002. In 2004, Shanghai General Motors Co. Ltd. confirmed a cross-border merger and acquisition deal with SsangYong Motor, an ailing automaker from the Republic of Korea, paying US\$500 million for 48.9 per cent ownership and later on 51 per cent. This was the first multinational company formed within SAIC group (China Daily, 2004¹). This earliest attempt at OFDI is within six years of Shanghai General Motors Co. Ltd.'s inception, complying with the definition of rapid internationalization in Shrader, Oviatt and McDougall (2000). More importantly, Shanghai General Motors Co. Ltd. did not use export or sales subsidiaries before establishing its first international production site. Using established sales channels within Ssang Yong Motor, SAIC's sales revenue in the host country was generated immediately.

Therefore, we hypothesize:

H1 EMFs with foreign ownership, compared with purely domestically owned firms, are more likely to engage in rapid FDI.

2.3 Co-locate with knowledge-intensive foreign MNEs and rapid FDI of EMFs

Although knowledge transfer in international joint ventures is mostly a purposeful behaviour between agreed-upon organizational partners, knowledge spillovers from co-location usually benefit the knowledge recipient, regardless of whether the knowledge provider takes the initiative in such knowledge diffusion. As an actor in a local innovation system, which sometimes depends on geographical proximity to industry clusters, a firm tends to benefit from knowledge spillovers through four mechanisms: demonstration, competition, linkages and employee mobility

¹ China Daily (2004). "SAIC takes on Ssangyong Motors." Archived from the original on 11 October 2012. Retrieved 14 April 2011.

(Blomström and Kokko, 1998; Liu and Buck, 2007; Perri and Peruffo, 2016; Wei and Liu, 2006). Knowledge spillovers occur through formal and informal linkages with other firms in the region and beyond, as well as with local universities and public research agencies, consultants, industry associations, regulatory bodies and training facilities (Amann and Cantwell, 2012). Technology spillovers could lead to an increase in productivity of local firms (Buckley, Clegg and Wang, 2002; Wei and Liu, 2006; Buckley et al., 2010), triggering a cumulative process of knowledge accumulation, especially in high-tech industries (Patibandla and Petersen, 2002).

Knowledge-intensive inward FDI brings more spillovers because of the investing firm's technological leadership position in the industry and knowledge field. Its local embeddedness creates a co-evolution of the knowledge base of local and foreign firms. Cantwell and Smeets (2013) argued that, because of the desirable nature of knowledge development (Kogut and Zander, 1993), the technology leaders who are capable of identifying, assimilating and exploiting knowledge (Cohen and Levinthal, 1989) also tend to seek it. Berry (2006), in contrast, explains that technology-laggard firms are less likely to successfully incorporate acquired knowledge back into the MNE system. Therefore, technology laggard firms are less likely to engage in a competence-creating mandate, which is more costly than a competence-exploiting mandate (Cantwell and Mudambi, 2005) in the host country. Hence, knowledge-seeking FDI is mainly conducted by technology leaders, who have more potential to generate knowledge spillovers into the environment. Tong and Hu (2003) found that foreign firms originating from technologically advanced countries such as Germany and the United States are associated with more productivity spillovers in the host country than those from regions with comparatively low technological competence, such as Hong Kong (China), Macao (China) and Taiwan Province of China.

More importantly, the knowledge-intensive inward FDI requires foreign firms to be locally embedded when seeking knowledge in the host location (Cantwell and Smeets, 2013). To benefit from learning feedback, foreign MNE subsidiaries need to tap into the local knowledge base. This subsequently benefits local firms by giving them exposure to foreign knowledge (Cantwell, 1989). Geographical proximity stimulates face-to-face interactions and expedites knowledge transmission (Jaffe, Trajtenberg and Henderson, 1993), whereas learning and demonstration effects are more effective among agglomerated firms (Driffield and Love, 2007; Thompson, 2002). More local embeddedness generates more spillovers (Beugelsdijk, Smeets and Zwinkels, 2008), an outcome of strategic games between the involved parties, including foreign-invested firms, indigenous firms and host-country governments. Knowledge-intensive FDI and its embeddedness also require MNEs to adapt their technologies to the local environment. This adaptation creates a continuous learning process for both foreign MNEs and local firms.

Accompanied by the gradual localization process, more “learnable” knowledge is available to indigenous firms. Moreover, increasing embeddedness into the host-country environment may broaden the scope and strengthen the intensity of interactions with indigenous firms.

An example of EMFs co-locating with foreign MNEs at home is Fuyao Glass Industry Group Co. Ltd., an automobile component manufacturer founded in 1987. Headquartered in Fuqing City, Fujian Province, Fuyao has purposefully established branches in Changchun (Jilin Province, the traditional Chinese automobile capital) and subsequently in Chongqing, Shanghai and Guangzhou to supply to Volkswagen’s international joint ventures in China. These locations are either the traditional Chinese automobile capital or developed into automobile industry clusters after the Open and Reform policy, which attracted a considerable amount of inward FDI in the 1990s. Fuyao has benefited from locating in the automobile clusters not only because of its supply-buyer relationships with the Volkswagen Group and later on with General Motors (GM), but also owing to its collaborations with Volkswagen and GM’s international suppliers, such as Compagnie de Saint-Gobain and Pittsburgh Plate Glass, which have followed the global flagship MNEs to China. One of Fuyao’s key technologies, the float-glass manufacturing technique, was developed during the company’s partnership with Saint-Gobain. The float-glass technique offsets the drawbacks of traditional flat-glass manufacturing by offering perfectly parallel surfaces, a quality standard that most global flagship auto assemblers require. Fuyao also collaborated with Pittsburgh Plate Glass in Shanghai to further advance its float glass manufacturing, transforming Fuyao from a low-cost substitute in China to a high-quality supplier to the global automobile industry.

Close interaction with global flagship companies and their international suppliers in local clusters familiarized Fuyao with the international market preferences and production standards (Hertenstein, Sutherland and Anderson, 2017). Starting in 2007, Fuyao was invited to supply Volkswagen’s European plants, involving brands such as Audi and Bentley (Ling, 2008). To serve Volkswagen in a speedy manner, Fuyao acquired FūMoTec in Heidelberg, Germany, which was Fuyao’s first OFDI project. Working with global companies located in domestic automobile clusters allows Fuyao to effectively build a knowledge system that fits international standards of the modern automotive component supply chain. Fuyao has successfully evolved into a global player and experienced ongoing international growth without following the incremental internationalization path.

We then hypothesize:

H2 EMFs in a region with more knowledge-intensive inward FDI, compared with EMFs from regions with less knowledge-intensive inward FDI, are more likely to engage in rapid FDI.

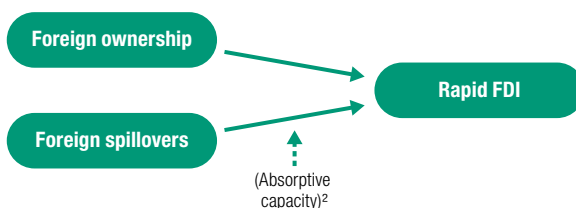
2.4 The moderating role of the absorptive capacity

Cohen and Levinthal (1989) defined absorptive capacity as the fraction of knowledge in the public domain that the firm can assimilate and exploit. It measures the ability to absorb available external knowledge while also determining a firm's ability to incrementally increase its technological knowledge stock through the adaptation and application of outside knowledge.

In the international business scenario, an influx of FDI does not guarantee technological spillovers. The firm-level model of Cohen and Levinthal (1989) show that absorptive capacity matters for organizational learning. Whether FDI facilitates local firms' acquisition of knowledge from foreign firms depends on the ability of local firms to understand the new knowledge introduced by foreign firms and incorporate such knowledge into their organizational routine. In other words, absorptive capacity affects local firms' ability to use MNE subsidiary knowledge and thus increase realized spillovers (Meyer and Sinani, 2009). Klevorick, Nelson and Winter (1995) and Borensztein, Gregorio and Lee (1998) suggested a basic threshold in absorptive capacity, before which FDI does not contribute too much to the innovative capability building of the local industry. Excessively low absorptive capacity thus prevents firms from benefiting from spillovers because of insufficient competencies to internalize foreign knowledge. At the other extreme, the literature on organizational learning and on innovation also suggests that when absorptive capacity is too high, local firms are also prevented from acquiring knowledge from spillovers because they have little to learn from subsidiaries (Girma, 2005; Huang, Liu and Xu, 2012). In general, the relationship between absorptive capacity and learning outcomes is not linear. Figure 1 illustrates our conceptual model.

H3 The medium-level absorptive capacity positively moderates the relationship in H2, such that the relationship between foreign spillovers and rapid FDI of EMFs is the most salient when the absorptive capacity of EMFs is neither too high nor too low.

Figure 1. Conceptual Model



3. Methodology

3.1 Data and sample

China, an emerging economy, has a dynamic pro-learning environment domestically and has a significant amount of inward FDI since the 1990s. Therefore, foreign knowledge transfer and knowledge spillovers are specifically relevant to our research setting. The research evidence is collected from two data sources: the OFDI directory from the Ministry of Commerce of China and the Annual Report of Industrial Enterprise Statistics (ARIES) from the Chinese Bureau of Statistics.

The OFDI directory documents project-level OFDI activities outside the financial sector (financial sectors include banks, insurance companies and brokerage agencies) from China since 1983. The version available to us ends in 2014. To acquire a clean and comparable sample, we extract the first OFDI project for each Chinese parent firm. This is because more than half the recorded Chinese parent firms do not conduct subsequent OFDI projects after their first attempt. Hence, we use the “first OFDI project” sample to study the degree of host-market commitment for each Chinese parent firm’s first OFDI project. The OFDI directory offers the following relevant information: OFDI year, host-country and subsidiary activities. However, the OFDI directory does not provide parent firm-level information such as inception year, ownership structure, company size or performance indicators.

ARIES is a firm-level data set compiled by the Bureau of Statistics of China on the basis of annual surveys of selected manufacturing firms located in China between 1998 and 2013, which supplements parent firm-level information. For the purpose of this research, we allow all the parent firm-level variables from ARIES to have a one-year lag when merging with the OFDI directory, making sure parent firm-level information such as ownership structure and performance indicators are the potential antecedents of OFDI activities. After merging the ARIES and the OFDI directory with a fuzzy match algorithm, which captures firm name match in different versions and typographical errors, we generate 3,437 matched parent firms between the two sources. We then eliminate tax haven cases such as Hong Kong (China), Macao (China), Taiwan Province of China, Bermuda, the British Virgin Islands, Luxembourg and others, which is a common practice for FDI studies (e.g., Sutherland and Anderson, 2015; Shi et al., 2017) because investment in a tax haven is largely foreign portfolio investment and does not involve an actual business operation. The sample size then shrinks to 2,382. In addition, we include only parent firms that are not majority foreign-owned because we are studying EMFs, in which emerging-market players should have majority ownership and control.

Suppose an OFDI project is conducted by a foreign subsidiary whose ultimate owner is the foreign parent. In that case, even if the subsidiary is located in an emerging market, this OFDI project cannot be attributed to the emerging market but to the foreign parent's home country (Cantwell, 1992). The final sample contains 1,612 OFDI projects by 1,612 Chinese parent firms from 2000 to 2014.

We also use data from the Chinese provincial statistic yearbook for inward FDI in relevant industries and years from 1999 and 2013. Each of the 30 provinces maintains a separate yearbook every year. Several province-level control variables also use information from the Chinese provincial statistic yearbook.

3.2 Variables

3.2.1 Dependent variables

Our dependent variable, rapid internationalization, is measured by market commitment (*Production subsidiary* = 1; *Sales subsidiary* = 0). The degree of host-market commitment emphasizes the state of internationalization. On the basis of documented subsidiary activities in the OFDI directory, we code each OFDI project using the establishment chain categorization of Johanson and Vahlne (1977), namely sales subsidiaries or production subsidiaries. *Sales subsidiaries* exist to supply goods or services to a particular host country or region (Cuervo-Cazurra, Narula and Un, 2015; Dunning, 1993). They can either maintain current market share or explore a new market share. Typical sales subsidiary activities involve facilitating export activities, selling, marketing, conducting market research, maintaining customer and public relations and providing after-sales services. *Production subsidiaries* exist to rationalize the structure of established resource-based or market-seeking investment so that the investment firm can gain from the common governance of geographically dispersed activities (e.g., achieving economies of scale and scope) (Cuervo-Cazurra, Narula and Un, 2015; Dunning, 1993). Production subsidiaries embrace activities such as finishing, assembling, processing, packaging, or establishing full manufacturing and production sites in the host country.

We identify 907 out of the 1,612 subsidiaries that have at least one type of foreign production activity and 644 that are sales subsidiaries, engaging in only sales activities. The other 61 subsidiaries are neither production nor sales subsidiaries, with 30 being natural resource seeking and 31 being strategic asset seeking, which is not the topic of this research and is thus eliminated in this empirical study.

3.2.2 Independent variables

Two variables measure foreign participation in a local market: foreign ownership and foreign spillovers. *Foreign ownership* is a continuous measure between 0 and 0.5. Foreign ownership is a measure of foreign partnership and the possibility of foreign knowledge transfer (Chetty, Johanson and Martín, 2014). The foreign ownership percentage is calculated by the realized foreign capital input to realized total capital input in a given year.

Foreign spillovers are measured as the percentage of inward FDI in knowledge-intensive industries such as pharmaceuticals, automobiles and machinery, and scientific and computer services within a given province of China. Local firms can enjoy the benefits of knowledge spillovers through supplier-buyer relationships, employee mobility and other learning opportunities such as regional trade fairs (Freeman, Edwards and Schroder, 2006).

3.2.3 Moderator

We use a firm's new product revenue ratio to total revenue to measure the firm's innovation capability and thus absorptive capacity. The new product revenue ratio indicates a firm's ability to yield positive outcomes by identifying, assimilating, transforming and applying exogenous knowledge (Xie and Li, 2018; Zhou, Gao and Zhao, 2017).

3.2.4 Control variables

We control for firm-level, industry-level, province-level and host-country-level features. In terms of firm level, we control for factors that are identified in the literature as organizational capability enablers of rapid internationalization, including *export intensity* (Ciravegna, Majano and Zhan, 2014), *profit ratio* (Mohr and Batsakis, 2018), *firm size* (Teixeira and Coimbra, 2014) and *state ownership* (Meyer et al., 2014).

Industry features may affect the speed of internationalization (Autio, Sapienza and Almeida, 2000; Chang and Rhee, 2011). For example, the high-tech industry operates in time-compressed economies; therefore, firms in the industry tend to expand faster than those in other industries to obtain first-mover advantages and keep up with technology trends. The industry-level controls include industry categories: *energy*, *food*, *textile*, *furniture*, *equipment* and *chemistry*. We have five dummy variables for these six industry categories. The categorization is based on the one-digit general category of the Chinese Industrial Classification for National Economic Activities (CICNEA).

We also include other contextual variables identified in Teixeira and Coimbra (2014) at the province level: *province ID*, which will be used as a group identifier in the

hierarchical linear modelling (HLM). *Province GDP* proxies the general business development level of a given province. Host-country features also have been recognized as enablers of rapid internationalization, including *host-country GDP per capita*, which in general measures production cost and market size of the host economy (Chen and Yeh, 2012) while *host-country political stability* measures the institutional risk in the host country for FDI (Shrader, Oviatt and McDougall, 2000).

3.3 Analytic strategy

Since one of our key independent variables, *foreign spillovers*, is at the province level while other variables are at the firm level, our sample is nested in nature. Therefore, we apply HLM to test our hypotheses. When analyzing province-level variance in firm-level outcomes, HLM gives precise estimates because it accounts for within-group and between-group variance simultaneously (Raudenbush and Bryk, 2002). We use mixed-effects logit regression since our dependent variable (*production subsidiary*) is binary. We follow the sequential steps in multilevel testing. First, we run null models with no predictors for our dependent variable, which tests for significant between-province variance in the dependent variables. Second, we introduce firm-level control variables. We add firm-level independent variables last. To reduce potential multicollinearity problems in HLM, we choose grand mean centering from the HLM centering options.

4. Results

Table 2 presents descriptive statistics and a correlation matrix describing the key variables and their interrelationships. From the correlation matrix, we did not find a high correlation with independent variables; yet, some control variables show high variance inflation factor scores. We adjust the model accordingly after eliminating those variables. Across different models, the highest variance inflation factor is 7.94, below the rule of thumb threshold of 10.

Table 3 reports results on the mixed-effects logit regression. We use *production subsidiary* as the dependent variable and find support for *foreign ownership* and *foreign spillovers* (H1 and H2 are supported). The control variables *province GDP* and *firm size* are eliminated from the models as they introduce a multicollinearity issue. The coefficient of foreign ownership is 1.4, with the significance level at 0.05, across different models. The coefficient of foreign spillovers is 6.6, also with the significance level at 0.05. The results are based on 1,293 observations across 30 provinces.

We did not find support for the moderating effect (H3 is not supported), suggesting that the level of absorptive capacity does not alter the relationship in H2. Neither the term nor the square term of absorptive capacity is significant in model 3 or model 4.

Table 2. Correlation matrix

	Mean	SD	Min	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1 Production Subsidiary	0.56	0.50	0	1	1																
2 Foreign ownership	0.02	0.09	0	0.50	0.0272	1															
3 Foreign spillovers	0.05	0.06	0.00	0.26	0.1021*	0.0035	1														
4 Absorptive capacity	0.11	0.24	0	1	-0.0193	0.0277	-0.0353	1													
5 Export intensity	0.23	0.34	0	1	-0.1473*	0.0873*	-0.2414*	0.0717*	1												
6 Profit ratio	0.05	0.13	-2.12	0.76	-0.0040	0.0019	0.0035	0.0292	-0.0683*	1											
7 log (firm size)	5.73	1.49	0	11.97	-0.0440	0.0570*	-0.0791*	0.1891*	0.0556	0.0856*	1										
8 State ownership	0.10	0.30	0	1	0.0803*	-0.0223	0.0316	0.1027*	-0.1154*	0.0467	0.2910*	1									
9 Energy	0.02	0.13	0	1	-0.0284	-0.0223	0.0310	-0.0268	-0.0714*	0.0335	0.1776*	0.2436*	1								
10 Food	0.05	0.21	0	1	0.0056	-0.0164	0.0460	-0.0537*	0.0586*	-0.0273	-0.0680*	-0.0718*	-0.0290	1							
11 Textile	0.33	0.47	0	1	-0.0848*	0.0893*	-0.0595*	-0.0922*	0.1746*	-0.0474	-0.0016	-0.1119*	-0.0934*	-0.1531*	1						
12 Furniture	0.04	0.20	0	1	0.0458	0.0097	-0.0224	-0.0661*	-0.0432	-0.0207	-0.0587*	-0.0164	-0.0277	-0.0454	-0.1464*	1					
13 Equipment	0.39	0.49	0	1	0.0548*	-0.0371	0.0207	0.1462*	-0.0103	0.0401	0.0364	0.0160	-0.1058*	-0.1733*	-0.5593*	-0.1657*	1				
14 log (Province gdp)	9.42	0.68	5.93	10.58	-0.0193	0.0577*	0.3744*	-0.0945*	-0.1379*	0.1050*	-0.0565*	-0.1959*	-0.0859*	-0.0061	0.0422	-0.0447	0.0582*	1			
15 log (Hest GDP percapita)	9.45	1.60	5.27	11.48	-0.1466*	0.0548*	0.1641*	0.0297	0.0260	0.0847*	-0.0048	-0.0328	-0.0391	0.0615*	-0.0053	-0.0106	-0.0054	0.2568*	1		
16 log (Hest political stability)	0.13	0.85	-2.81	1.50	-0.1238*	0.0325	0.1161*	0.0164	0.0231	0.0714*	-0.0233	-0.0143	-0.0289	0.0590*	-0.0049	-0.0625*	-0.0211	0.1631*	0.6899*	1	

Sources: Authors' calculation based on data from the Ministry of Commerce of the People's Republic of China and the Chinese Bureau of Statistics.
Notes: SD = standard deviation. These correlations do not account for the nested nature of the data and should be interpreted with caution. * p < 0.05.

Table 3. Mixed-effects logit regression

DV: Production Subsidiary	Baseline Model	Model 0 (only controls)	Model 1	Model 2	Model 3 (with moderator)	Model 4 (with moderator)
	Coefficient (s.d.)	Coefficient (s.d.)	Coefficient (s.d.)	Coefficient (s.d.)	Coefficient (s.d.)	Coefficient (s.d.)
Intercept	0.252 *** 0.050	1.849 *** 0.548	1.884 *** 0.551	1.934 *** 0.569	1.916 *** 0.571	1.916 *** 0.573
Level 1						
Foreign ownership			1.568 ** 0.704	1.418 ** 0.717	1.411 ** 0.716	1.441 ** 0.712
Absorptive capacity		-0.167 0.251	-0.183 0.252	-0.108 0.258	0.146 0.398	1.361 * 0.801
(Absorptive capacity) ²						-1.188 1.023
Export intensity		-0.704 *** 0.179	-0.732 *** 0.181	-0.358 * 0.210	-0.356 * 0.211	-0.321 0.211
Profit ratio		-0.169 0.473	-0.174 0.475	-0.215 0.487	-0.208 0.487	-0.266 0.491
State ownership		0.259 0.224	0.247 0.224	0.246 0.229	0.234 0.229	0.209 0.231
Energy		-0.602 0.471	-0.603 0.471	-0.599 0.481	-0.584 0.482	-0.523 0.485
Food		0.317 0.319	0.308 0.319	0.213 0.326	0.200 0.326	0.199 0.327
Textile		0.149 0.183	0.117 0.184	0.116 0.187	0.116 0.187	0.125 0.187
Furniture		0.557 0.365	0.533 0.365	0.503 0.371	0.499 0.371	0.529 0.372
Equipment		0.331 * 0.174	0.323 * 0.174	0.333 * 0.176	0.328 * 0.177	0.329 * 0.177
log (Host GDP percapita)		-0.133 ** 0.056	-0.137 ** 0.057	-0.173 *** 0.058	-0.174 *** 0.058	-0.176 *** 0.059
log (Host political stability)		-0.101 0.104	-0.101 0.104	-0.074 0.106	-0.072 0.106	-0.063 0.106
Level 2						
Foreign spillovers				6.629 ** 3.268	7.198 ** 3.351	7.169 ** 3.472
Absorptive capacity x Foreign spillovers					-6.12 7.251	
(Absorptive capacity) ² x Foreign spillovers						-15.592 10.897
LR χ^2 (Wald test of random effect)		43.7 ***	48.32 ***	44.29 ***	44.93 ***	48.89 ***

Source: Authors' calculation based on data from the Ministry of Commerce of the People's Republic of China and the Chinese Bureau of Statistics.

Notes: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$; $n = 30$ for province-level variables, $n = 1,293$ for firm-level variables. Province GDP and firm size variables were eliminated due to multicollinearity issue.

5. Robustness test

We conduct an endogeneity test for our key variable, foreign ownership, as a supplementary analysis and robustness check. We are aware that foreign ownership's causality in relation to rapid FDI can be influenced by firm characteristics such as firm size and profit ratio, such that larger firms and better-performing firms are more likely to engage in rapid FDI regardless of the foreign ownership. We identify five confounding variables, shown in table 4. Based on these confounding variables, we conduct propensity-score matching based on a binary *foreign* variable (*foreign* = 1; *non-foreign* = 0). The propensity score is calculated as the predicted probability of firms being foreign-owned entities, using a probit model with these five firm-level characteristics. With the propensity score calculated from the probit model, we match 251 foreign-owned firms with the remaining non-foreign firms. We impose two conditions: (1) the difference in propensity score is less than 0.05; and (2) firms operate in the same two-digit code industry and same province, and the firm-level statistics are documented in the same year. These two criteria give us a comparable control group with 205 pairs.

To assess the similarity between the treatment and control groups, we perform a balancing test based on individual t-tests. The results (table 4) show that the mean difference is no longer significant after the propensity score matching at the five per cent level. This suggests that the 205 pairs in the newly matched sample are similar in observable characteristics and indeed comparable. Therefore, any differences between the treatment group and the control group can be attributed to foreign ownership. We then compare the mean of rapid FDI between foreign and non-foreign ownership. As the results in table 5 show, the likelihood of rapid FDI in the foreign group is higher than in the non-foreign group.

Table 4. Balancing test for the whole sample

Variable		Mean		t-test	
		Foreign	Non-foreign	t-stat	p-value
Log (firm size)	U	11,868	11,541	1,94	0,053
	M	11,857	11,917	-0,32	0,75
Profit ratio	U	0,08082	0,0625	1,94	0,052
	M	0,07806	0,08657	-0,65	0,514
New product ratio	U	0,19027	0,21269	-0,45	0,653
	M	0,1912	0,22015	-0,48	0,63
Export intensity	U	0,36796	0,2905	1,82	0,069
	M	0,35529	0,35782	-0,05	0,957
Intangible asset ratio	U	0,071	0,14792	-0,34	0,731
	M	0,00713	0,01085	-1,2	0,231

Source: Based on data from the Chinese Bureau of Statistics.

Table 5. Production subsidiary tendencies for foreign vs. non-foreign firms

Foreign vs. Non-foreign	Mean	s.d.	N
0 (non-foreign)	0,551	0,248	205
1 (foreign)	0,614	0,238	205

Source: Based on data from the Ministry of Commerce of the People's Republic of China.

6. Summary of findings

The empirical results inform us that knowledge diffusion from foreign MNEs, either through equity ownership or through contracts and other interactions in the region, reduces the perceived risk of foreign expansion. Chinese firms connected to foreign MNEs at home are more likely to skip the initial testing stage in the internationalization process and to directly set up production and manufacturing sites. In the current, increasingly globalized world, external forces such as business partners (who you connect with) and operation location (where you are) have a significant role to play in shaping a firm's international business strategy.

Overall, we did not find support for our moderating effects. Similarly, Jin et al. (2019) also have the surprising findings that technological capabilities do not positively moderate the relationship between inward FDI and subsequent upgrading in local firms' capabilities. This unexpected result can be explained by the fact that local technological leaders suffer a stronger foreign competition effect than laggards (and thus have fewer resources left to support rapid international expansion) or that local technological leaders, after benefiting from foreign knowledge spillovers, are even stronger in domestic market competition and feel less compelled to explore international opportunities early.

7. Implications

7.1 Theoretical implications

Our research contributes to explaining EMNEs' departure from the internationalization process model. Conventional internationalization theories suggest that firms tend to learn from their own prior internationalization experience and commit resources to internationalization incrementally to minimize the hazard of failure (e.g., Andersen, 1993; Johanson and Vahlne, 1977, 2009). But our research shows that EMNEs initiate their internationalization-related learning process domestically.

The accumulation of internationalization experience can happen before the actual go-global activities. In other words, firms can accumulate international experience while operating at home by connecting with foreign MNEs.

We argue that foreign participation tends to provide indigenous firms with resources and skills directly related to international market access, such as referrals and contacts in the host country, and the ability to identify local customer needs, avoid potentially costly missteps in terms of host-country business regulations and develop location-specific technological competences. These resources and skills influenced by foreign MNEs at home familiarize local firms with the nature of international markets, reduce the perceived risks and enable the local firms to leapfrog the initial stage of internationalization. Using export and sales subsidiaries to test the international markets can be replaced by working with foreign MNEs at home.

We also contribute to the understanding of EMNEs' firm-specific advantages (FSAs). As Ramamurti and Singh (2009) and Verbeke and Kano (2015) point out, the FSAs possessed by EMNEs may not have been seen before in developed-country multinational enterprises (DMNEs), but they are valuable in an emerging-market context. In particular, we argue that whereas conventional DMNEs develop capabilities in-house (Guillén and García-Canal, 2009), EMNEs do so partially by leveraging partnerships and networks with foreign MNEs that are more advanced in internationalization and technological development.

7.2 Policy implications

We relate our findings to UNCTAD's Investment Policy Framework for Sustainable Development. Our study confirms the possibility of embedding investment policy for the host country's development strategy. Investment can be a key driver of economic growth, a prerequisite for building up production capacity and enabling industrial upgrading (UNCTAD, 2015). Inward FDI, in particular, creates cross-border industrial clusters, which further upgrades host-location infrastructure and absorptive capacity for emerging technologies and business practices (UNCTAD, 2013, 2018). The Action Plan for Private Investment in the Sustainable Development Goals also indicates that through sharing good practices, FDI can promote local firms' absorptive capacity in adopting sustainable development models (UNCTAD, 2014). The Ministry of Commerce of China issues the Catalogue for the Guidance of Foreign Investment Industries and updates it frequently to ensure inward FDI activities do not impede domestic economic development and societal stability. In the 2007 amendment, the Catalogue further associates industrial restructuring with investment, encouraging FDI in high-tech industries while restricting FDI in high-energy-consuming industries and prohibiting FDI that exacerbates environmental concerns.

Furthermore, our findings point out two possible channels through which the host country's development goals can be realized. These channels, equity ownership and co-location, require host-country institutions, such as intellectual property (IP) protection, to promote partnerships between foreign MNEs and local firms. In both the 2000 and 2011 versions, the Guidelines for Multinational Enterprises promoted by the Organization for Economic Cooperation and Development (OECD) encourage "MNEs [to] conduct knowledge transfer in the host country to facilitate the development of the host-country local and national innovation capabilities and to contribute to the long-term development prospects of the host country" (OECD, 2011: 55). Nevertheless, weak intellectual property protection in developing countries has prevented this endeavour. UNCTAD's work on intellectual property, particularly international partnership on intellectual property and the Sustainable Development Goals, has provided guidance to developing countries on issuing rules on investment and intellectual property protection that are favourable to foreign investors (Zhan and Spennemann, 2020).

Our research also contributes to the measurement of the impact of investment promotion policies. Whereas, in the international economics literature, findings on the effectiveness of FDI spillovers are inconclusive (e.g., Aitken and Harrison, 1999; De Backer and Sleuwaegen, 2003; Buckley, Clegg and Tan, 2004; Zhao, 2006), our findings show that the outcome of inward FDI is not just about local productivity. Foreign MNEs in an emerging-market context might not increase the international competitiveness of EMFs right away. But through association with foreign MNEs, EMFs discover or have easier access to further development opportunities such as internationalization. As the upward spiral model (Luo and Tung, 2018) suggests, the upgrading of EMF capabilities is a long-term process and involves multiple rounds of evolution.

Moreover, our findings highlight the need for policymakers in emerging countries to pursue coordinated inward and outward investment policy approaches conducive to accelerating the internationalization of local firms and their participation and integration in the international economy. Last, our research has implications for the recent upward trend of deglobalization, nationalism and protectionism. Restricting inward FDI potentially deprived indigenous firms of connecting to international markets and emerging technologies. Inward FDI is an integral part of globalization and potentially facilitates local firms' go-global activities.

8. Future research directions

Owing to data availability, we cannot test firm performance subsequent to OFDI. But it would be interesting to learn how foreign participation affects the internationalization performance of local firms. In addition, the stage of internationalization is subjective

(from managers' self-reported business activities in the host country) in our sample. Future studies can use objective performance indicators to measure international market growth.

Another interesting area to explore would be the location choice of EMNEs. Are local firms more likely to invest in foreign partners' home countries? How does foreign participation affect the distance travelled of EMNEs? Addressing these questions will allow us to better understand the geographical linkages created by bilateral and multilateral FDIs.

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