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# Learning and innovation of Chinese firms along the paths of “Bring In” to “Go Global”

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## ABSTRACT

Over the past several decades, the “Bring In” and “Go Global” policies implemented in China have encouraged an unprecedented level of investment in and out of the country, creating unique opportunities for Chinese firms to learn and innovate along the paths of inward and outward internationalization. The international business (IB) literature has yet to satisfactorily explain what has been learnt by the Chinese firms and whether and how their learning and innovation have taken place over time. This special issue examines the specific content, nature, mechanisms, processes, and internal and external conditions and contexts of learning and innovation of Chinese firms during the course of inward and outward internationalization. We provide an overview of the “Bring In” and “Go Global” policies, assess the current state of the field, and explicate how the research articles in the special issue contribute to the understanding of learning and innovation of Chinese firms along the paths of inward and outward internationalization.

## 1. Introduction

Since the initiation of the economic reform in 1978, China has implemented its “Bring In” policy, an opening up to inward foreign direct investment (IFDI) with policy measures favorable to foreign investors, *inter alia*, tax incentives, liberalized entry conditions in a number of industries, opening up coastal cities and the establishment of special economic zones (Zhou et al., 2002). In the mid-1990s, China proposed its “Go Global” policy, also referred to as the “Go Out” strategy, as part of its national strategy for further participation in international markets (MOFCOM, 2017). The “Go Global” strategy has encouraged many Chinese firms to acquire strategic foreign assets and gain greater access to foreign markets through outward foreign direct investment (OFDI) (Deng, 2009; Luo & Tung, 2018; Rui & Yip, 2008). Both policies are seen as crucial in supporting Chinese economic sectors to move up the innovation value chain.

The large-scale, policy-driven FDI in and out of China has had some significant impacts on both China and the host countries of the FDI,

making China one of the most suitable contexts for studying such impacts on learning and innovation of domestic and emerging market multinational enterprises (EMNEs) (Li et al., 2016). Whilst there is little doubt that the “Bring In” and “Go Global” policies have created unique opportunities for Chinese firms to learn and innovate, the internationalization literature has yet to adequately address the questions of what has been learnt and whether and how learning and innovation of Chinese firms have taken place along the paths of inward and outward internationalization. There has been an ongoing call for a better understanding of the distinctive learning processes of Chinese MNEs (Cooke & Wood, 2020). This special issue answers this call and aims to advance scholarship on the content, nature, mechanisms, processes, and internal and external conditions and contexts of learning and innovation of Chinese firms during the course of inward and outward internationalization.

Prior studies have documented that the learning process of Chinese MNEs is different from other EMNEs (Luo & Tung, 2018). For example, Lyles et al. (2014) found that half of Chinese MNEs pursue experimental

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learning, which is a riskier explorative approach, suggesting a clear departure from the traditional incremental learning pattern of internationalization. Indeed, other studies (Cui & Jiang, 2012; Gaur et al., 2013; Luo & Bu, 2018) also suggested that Chinese outward investors with strong strategic asset-seeking intent, government support and financial abundance take more risks when entering and competing in foreign markets. Moreover, although many of the Chinese firms internationalize to catch up, learn, and innovate, a small but growing number of Chinese MNEs, such as Huawei, have become highly competitive and a leading force in the technological space (Cooke et al., 2018; Hong & Snell, 2021). Their technological innovation has been the main source of these Chinese MNEs' firm-specific advantage that underpins their internationalization success (e.g., He et al., 2019). This gives rise to a question on how their emerging global leadership impinges on their opportunity to learn and develop in the dynamic global political economy context.

The scholarly contributions to this special issue address these questions. Specifically, under what conditions are CMNEs not able to enhance innovation through OFDI? Do the political ties of CMNEs help their innovation activities? How do international innovation collaborations affect the quality of CMNEs' innovation? What role do their overseas R&D centers play? How does the post-acquisition integration process affect a CMNE's realization of its strategic aim of asset-seeking from M&As? For such strategic asset-seeking M&As, how do technological resource characteristics affect CMNEs' post-acquisition innovation performance? Do technological gaps (at firm and regional levels) reinforce or mitigate the impact of technological resource characteristics? Before delving into the specific contributions of each article, we provide a broad overview of the literature on learning and innovation of Chinese firms along the paths of inward and outward internationalization. We conclude with suggestions for further research in this area.

## 2. Learning and innovation of Chinese firms along the paths of inward and outward internationalization

Extant research on learning and innovation of Chinese firms in the context of internationalization can be broadly categorized into two strands: inward internationalization and outward internationalization. These studies have identified certain learning mechanisms, learning and innovation outcomes and some factors that influence Chinese firms' learning and innovation outcomes in their internationalization process, which we discuss in this section (see Fig. 1 for the main themes and corresponding representative studies). We highlight the major theoretical and methodological issues unresolved in the literature and explain how the articles of this special issue help advance the field.

### 2.1. Learning and innovation along the path of inward internationalization

The empirical literature on knowledge spillover has provided evidence on IFDI spillover effects on innovation in China (Buckley et al., 2007; Hu et al., 2005; Liu & Zou, 2008). For instance, Hu et al. (2005) find a positive effect of IFDI on new product introduction in large- and medium-sized enterprises of Chinese manufacturing industries. While this literature focuses on product innovation as the Chinese firm's learning outcome, it pays limited attention to the specific mechanisms by which knowledge spillover occurs with a few exceptions. A small number of studies on learning by indigenous Chinese firms have reported that domestic firms often acquire knowledge of foreign MNEs through vertical linkages (Hong & Snell, 2015; Liu et al., 2009) or joint venturing with foreign firms (Sun et al., 2021; Tsang, 2001; Zhou & Li, 2008). Vertical knowledge spillover occurs when the foreign investor transfers its technological know-how to domestic suppliers which then enhance their innovation capability (Liu et al., 2009) by engaging in inter-organizational routines (Hong & Snell, 2015). Joint venture partnerships integrate Chinese firms into the operational networks of foreign

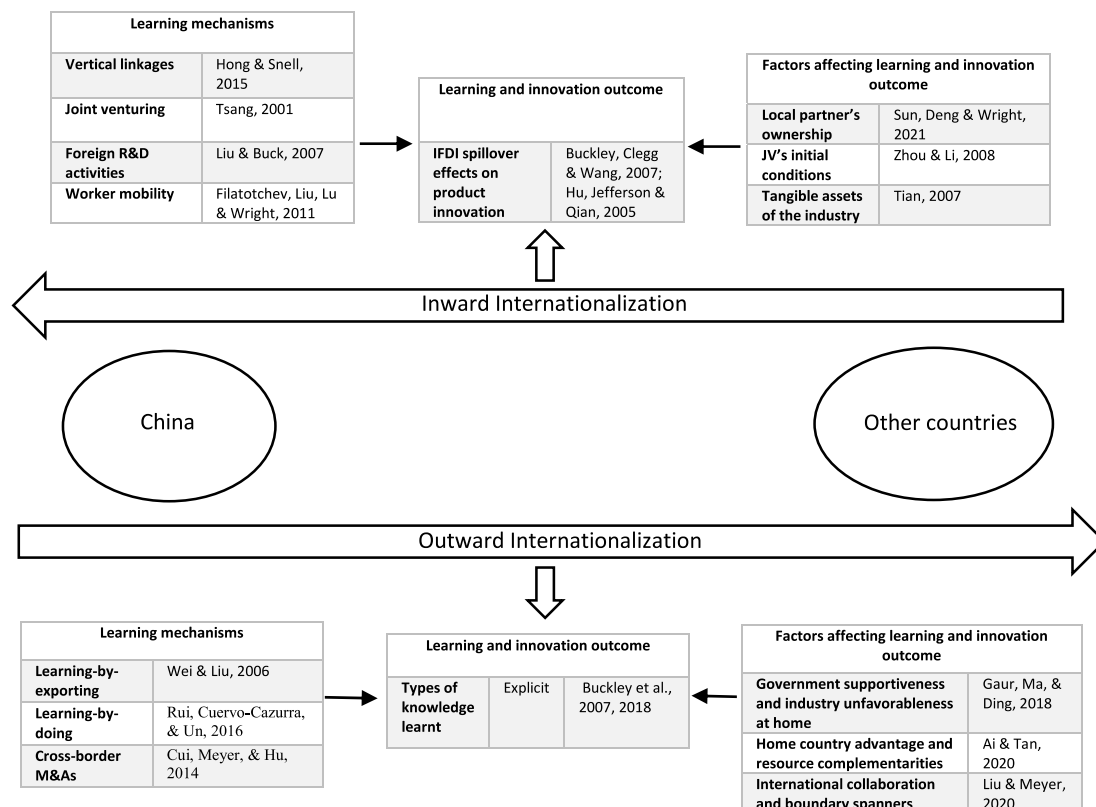


Fig. 1. A typology of Learning and innovation of Chinese firms along the paths of inward and outward internationalization.

partners thereby offering effective channels for transferring tacit knowledge (e.g., modern business practices) to Chinese partners (Child & Rodrigues, 2005; Tsang, 2001), although restrictions (e.g., in governance structure and industry accessibility) arguably weaken the abilities of local firms to assimilate and integrate external knowledge (Anand et al., 2021). The majority of IFDI to China has initially been made through joint ventures between foreign investors and indigenous Chinese firms (Beamish, 1993; Pan, 1996).

There are some mentions of other knowledge spillover channels such as foreign R&D activities by MNEs (Liu & Buck, 2007; Wei & Liu, 2006) and worker mobility (Filatotchev et al., 2011), but they offer little about the context-specific mechanisms employed by Chinese firms. Liu & Buck (2007), for example, argue that foreign R&D activities are sources of technology spillover only for Chinese firms with sufficient absorptive capacity. They indicate the need for Chinese firms to develop an absorptive capacity to enhance the magnitude and significance of foreign technology spillover via foreign R&D activities but the researchers did not explore any mechanisms for doing so.

There are also a few empirical studies that examine certain factors affecting learning and innovation outcomes of Chinese firms along the path of inward internationalization. For instance, Sun et al. (2021) examine the role of local partners' ownership in JVs' innovation outcomes and find that private-foreign JVs in China filed more patents than state-owned enterprises entering JVs with foreign firms between 2008 and 2013, which suggests a lower capacity of state partners to absorb foreign technologies and to innovate. Zhou & Li (2008) reveal that conditions defined at the beginning of the JVs may have a long-lasting effect on its product innovation process and outcomes. By analyzing a longitudinal dataset of IJVs in China, the authors find a positive relationship between some initial conditions (e.g., balanced ownership structure and state partnership) and the IJV's product innovation outcomes. Tian (2007) investigates the effect of certain industry characteristics (e.g., tangible and intangible assets of an industrial sector) on knowledge spillover in China and discovers that tangible assets, rather than intangible assets, of an industrial sector are associated with positive technology spillover from MNEs.

## 2.2. Learning and innovation along the path of outward internationalization

Earlier studies of learning and innovation in the context of outward internationalization focused on learning-by-exporting arguably due to limited OFDI activities of Chinese firms at the early stage of the nation's economic reform (Liu & Buck, 2007; Morck et al., 2008; Wei & Liu, 2006). This strand of research suggested that exporting enabled Chinese firms to interact with overseas customers and engage in intensive competition which exposed these firms to external learning opportunities and thus augmented their innovative capacity (Liu & Buck, 2007). Export activities of one industry also provided opportunities for Chinese firms of another to augment their technological and managerial capabilities mainly through established industrial linkages conducive for inter-industry knowledge exchange (Wei & Liu, 2006).

Recent research on the topic attempts to investigate other learning and innovation mechanisms of emerging CMNEs. For example, in an in-depth case study, Rui et al. (2016) identify a learning-by-doing approach employed by the CMNE to upgrade its capabilities. The authors explicate that learning-by-doing encompasses four distinct learning processes – integration, trial and error, repetition and extension of activities – through which the CMNE combines external and multiple sources of knowledge to undertake, initiate, improve and expand its international business activities. The recent surge of CMNEs' cross-border mergers and acquisitions (M&As) has also attracted some research attention on strategic asset-seeking activities of Chinese investors (Luo & Tung, 2007). Buckley et al. (2007) observe that Chinese firms often choose to enter foreign markets with rich technological endowments. CMNEs use outward M&As as an essential channel to update their proprietary

capabilities and to close their technological gap with their existing and global rivals (Cui et al., 2014; Deng, 2009).

Meanwhile, a few studies have identified certain factors affecting the CMNE's learning and innovation outcomes. For instance, (Gaur et al., 2018), by examining the effect of a combination of institution- and industry-based factors of the home environment of CMNEs on their OFDI activities, discover that government supportiveness and industry unfavorableness are positively associated with OFDI activities and that this positive relationship is enhanced by the CMNE's export experience. Ai & Tan (2020), in their multiple case study of post-acquisition reverse capability transfer in CMNEs' M&As in European countries, find that the CMNE's home-country advantage (e.g., the profitability of the acquirer) and its motivation-oriented resource complementarities (e.g., the acquiree's advanced technology and brand reputation) are conducive to its post-acquisition reverse knowledge transfer. There have also been observations that reverse knowledge transfer in cross-border acquisitions of CMNEs relies on the combined effort of team-based international collaborations and individual boundary spanners (Liu & Meyer, 2020).

Although CMNEs have ambitious strategic asset-seeking strategies, prior studies tend to focus on the transfer of explicit knowledge in their post-acquisition integration as the learning outcome (Ai & Tan, 2020). Explicit knowledge, such as patented core technologies and advanced manufacturing techniques (Buckley et al., 2007, 2018), appeals to Chinese acquirers due to their desire to quickly catch up with or leapfrog over international competitors of developed countries (Luo & Tung, 2007). Yet, it was recognized that tacit knowledge (e.g., organizational capabilities and managerial skills) is essential for competing in the international market (Ai & Tan, 2020; Luo & Tung, 2007).

## 2.3. Theoretical and methodological issues unresolved in the literature

Although the literature offers some important insights into the main channels of learning and certain underlying conditions, considerable theoretical gaps and methodological limitations undermine our understanding of the learning and innovation behavior of Chinese firms along the paths of inward and outward internationalization. First, extant research predominantly focuses on the acquisition of explicit knowledge (e.g., patented technology) from companies of advanced economies, paying little, if any, attention to the more tacit form of knowledge or local knowledge of and learning from companies of less developed countries. For example, we know little about how Chinese investors acquire local market knowledge in order to develop products and employ management skills suitable for less-developed markets. This imbalance may be attributed to the understanding that EMNEs learn and innovate more in developed economies with established innovation systems, highly demanding customers, and fierce competition at the top of the value chain Piperopoulos et al. (2018). However, Liu & Meyer (2020) suggest that reverse knowledge transfer practices of CMNEs operating in advanced economies may be different from those doing business in developing countries. Similarly, studies on innovation outcomes have also exclusively concentrated on quantifiable measures for product innovation, making little attempt to explore other types of innovation. As a result, we have limited understanding of what has been learnt by Chinese firms and the nature of their innovation.

Second, much of this research suffers from an upward bias (Buckley et al., 2002; Chang & Xu, 2008; Duanmu & Fai, 2007) due to the exclusion of inefficient Chinese firms, lower productivity sectors, and MNEs that had unsuccessful relationships with their Chinese partners. For instance, Buckley et al. (2002) argue that most foreign investors have been attracted to higher productivity sectors (e.g. electronics) in China, suggesting a potential bias towards what has been observed in prior studies. Knowledge spillover effects are, to a large extent, determined by host country industry characteristics which are not fully explained (Luo & Wang, 2012). Little research has been undertaken to account for factors that negatively affect Chinese firms' learning and innovation and other contingent factors such as regional differences,

subnational institutional variations, types of domestic firms, the institutional, cultural, or economic distance that may have a significant influence upon learning and innovation mechanisms (Luo & Wang, 2012; Wu & Ang, 2020; Zhu et al., 2019). As a result, we understand little about to what extent and how learning and innovation have occurred (or failed to occur) in less efficient firms, particularly those operating in lower productivity sectors in China.

Finally, there have been mentions of the potential impact of time on learning practices. Given the speed of China's economic development over the past four decades, researchers have recognized the possibility that any research results based on a short period of time in China may become less relevant for today's Chinese firms (Buckley et al., 2007; Kang & Jiang, 2012). Longitudinal studies that examine the evolutionary patterns of learning and innovation of Chinese firms along the path of outward internationalization are needed.

#### 2.4. Overview of the special issue

The "Bring In" and "Go Global" policies have provided a fertile ground for exponential growth in IFDI to and OFDI from China. Our current knowledge suggests that the rapid development of Chinese firms can, by and large, be attributed to their learning and innovation along the paths of inward and outward internationalization. Existing studies also indicate that learning of Chinese firms can be purposeful or unintentional. There has been a focus on the knowledge spillover effect, learning of explicit knowledge, and strategic assets acquisition. Some learning and innovation mechanisms (e.g., vertical linkages, learning-by-doing and cross-border M&As) have been proposed or reported in specific contexts. Yet, a more nuanced understanding of how learning and innovation take place in Chinese firms that benefit from "Bring In" and "Go Global" policies is still lacking. And many topical areas warrant further investigations. This special issue makes a step toward extending the knowledge in these areas through this Introduction paper and the four papers included in this special issue.

In a study of CMNEs' strategic asset-seeking M&As in Europe between 2008 and 2017, Liang et al. (2022) examine how firm-specific and location-bounded factors interact with technological resource characteristics to affect their post-acquisition innovation performance. By conceiving technological gaps at the firm and regional levels between acquirers and acquired firms as boundary conditions, their findings reveal the contingent effects of both similar and complementary technological resources on the innovation performance of CMNEs. Given strategic asset-seeking M&As being one of the key organizational learning mechanisms for CMNEs (Buckley et al., 2018; Deng, 2009), their study sheds light on the way firm-specific disadvantages (e.g., firm-level technological gaps) and home-country disadvantages (e.g., regional-level technological gaps) can mitigate or enhance post-acquisition innovation performance subject to resource relatedness conditions (similarity vs complementarity). This research meets the need for understanding of other contingency factors that we mentioned earlier. The literature discusses complementary resources and home-country advantages as positive factors facilitating reverse knowledge transfer for CMNEs (Ai & Tan, 2020). Liang and colleagues enrich our knowledge by looking into the effect of similar resources and home-country disadvantages on learning and innovation.

Using a panel dataset of Chinese A-share listed manufacturing firms' OFDI activities and innovation performance for the period 2007–2017, Wang, Piperopoulos, Chen, Au, and Herber study how the absorptive capacity of the parent firm mediates the relationship between OFDI and innovation performance, and found that OFDI has a positive effect on innovation performance through enhancing absorptive capacity. In addition, they investigated how home-grown political ties of CMNEs influence the effect of OFDI on innovation performance. Their result suggests that somewhat contrary to prior studies, these ties can turn into a liability in host countries – in particular developed economies – due to their misfit with the local institutional environment, hurting the

parent firms' innovation performance. The study enhances our understanding of not only the relationship between internationalization and innovation performance but also the "dark side" of political ties by showing when and why political ties may become a liability. It makes an important step to address the problem of upward bias by exploring under what conditions CMNEs are not able to enhance innovation through OFDI. It also informs our understanding of the more advantageous role of political ties in learning in less developed economies that have received much less research attention.

Encouraged by the Chinese government's "Going Global" strategy, Chinese firms have been increasingly engaging in risky strategic asset-seeking acquisitions in developed economies (Lyles et al., 2014). However, not all Chinese firms have managed the post-acquisition integration successfully to reap the benefits. Geely's acquisition of Volvo and its careful management of the post-acquisition integration is one of the few exceptions (Cooke et al., 2018). Zheng, Noorderhaven, and Du's study in this special issue provides an in-depth analysis of Geely's acquisition of Volvo in 2010 and develops a spiraling model that helps us understand these post-acquisition integration processes. The authors identify that external and internal legitimacy issues and pressures for value creation are the main factors influencing the integration process. In combination and over time, these forces lead to different configurations of symbolic management (geared to addressing legitimacy concerns) and substantive management (aimed at the realization of synergies). In the Geely-Volvo case, this has led to four stages through which the integration process proceeded — distancing, balancing, building, and diversifying. This study extends our knowledge of Chinese strategic asset-seeking acquisitions specifically and enriches the literature on the integration of symbiotic acquisitions more broadly. It is a rare attempt to explore non-technology capabilities development in the context of outward internationalization.

Also focusing on a single CMNE, Fu, Fu, Ghauri, and Hou's study brings to our attention the importance of cross-border relationship management, as Zheng et al. (2022) study of Geely does, by investigating the impact of international collaboration and its characteristics on the quality of innovation in a leading CMNE. Using a unique dataset of the CMNE's 1428 international and domestic collaboration projects over the 2010–2016 period, the authors find that while international innovation collaboration contributes to innovation quality, cultural distance has a negative effect on collaboration outcomes. However, cultural barriers can to some extent be overcome by being located close to the focal firm's overseas R&D center and greater budget expenditures. Moreover, the capabilities of partners and intellectual property arrangements are found to have a positive impact on outcomes. Fu et al. (2022) study is a pioneering attempt to measure innovation quality missing from the literature. This study also, to a certain extent, addresses the lack of scholarly attention to learning from less-developed regions in both IFDI and OFDI studies by including international projects from diverse geographic regions of the world. In addition, this research contributes to the resource-based view and dynamic capability literature by demonstrating whether and how CMNEs can acquire the critical resources and dynamic capabilities essential to innovate through research collaboration with international partners. The longitudinal design of this study and other studies in this special issue addresses the issue of potential impact of time on learning patterns.

The articles in this special issue are primarily concerned with learning and innovation of Chinese firms along the path of "Go Global". We did receive a high number of manuscripts on learning and innovation along the path of "Bring In" but, unfortunately, none of them survived the rigorous review process. However, the findings of the articles in this special issue on OFDI do have implications for IFDI. For instance, Wang et al. (2022) study in this special issue suggests that, although home-grown political ties of CMNEs become a liability in developed economies, they can be an asset for their host country business partners operating in China. These studies open up many more research questions that future studies can examine. We illustrate some of them in the next

section.

### 3. Future research agenda

The papers included in the special issue examined a range of issues on learning and innovation of Chinese firms along the paths of inward and outward internationalization. While these studies have enhanced our understanding, they also raise further issues to be addressed in future research, particularly pertaining to comparative learning patterns and conditions. For example, Liang, Giroud and Rygh’s study unravels the location-bounded constraints and the likely effects on CMNEs’ local learning and innovation processes (Li & Fleury, 2020). Their discussion on localized learning barriers raises a host of issues concerning how location-bounded factors influence learning and innovation outcomes in specific business settings and calls for a nuanced understanding about the comparative patterns of learning and innovation in CMNEs’ diverse host-country environments.

The need to explore location-bounded learning patterns is echoed in other studies of the special issue. Zheng, Noorderhaven, and Du’s study calls for future studies that may reveal different patterns compared to that of the Geely-Volvo case. Wang, Piperopoulos, Chen, Au, and Herber suggest future studies to examine how home-grown political ties may affect learning and innovation of MNEs of other emerging markets differently.

Indeed, there has been a sheer lack of comparative studies uncovering the mechanisms and conditions for optimizing the Chinese firm’s learning and innovation. For instance, there has been little research on how learning and innovation models of different types of Chinese firms (e.g., state-owned, non-state-owned, established, less established and start-ups) compare and contrast and thus we understand very little about which type of firms learn and innovate more through internationalization. Similarly, research that compares and contrasts learning and innovation models of Chinese firms from different industrial, geographic, subnational institutional, economic and sub-cultural backgrounds has been limited, inhibiting our understanding of the specific industrial, regional, economic, and cultural conditions for learning and innovation. For example, what may be the characteristics of the learning and innovation models of Chinese firms across different industrial sectors and subnational institutional backgrounds? How can the similarities and differences be explained? To what extent, and how, do learning and innovation occur in lower productivity sector firms as they internationalize?

At the international level, there has been a lack of cross-border comparative studies, limiting our understanding of whether cross-border differences (e.g., differences in demographic characteristics, technological development, and institutional systems) affect the intent, nature, mechanisms and processes of learning and innovation of Chinese firms operating in different host locations whether they are developed economies or emerging markets. The recent surge in studies on EM OFDI calls for future research examining variation among emerging markets such as India, China and Brazil (Kumar et al., 2020). We hope future research can explain how institutional, economic or cultural distance between China and other countries may affect learning and innovation of Chinese firms.

Meanwhile, we suggest additional avenues for future research on the theme of learning and innovation of Chinese firms that benefit from the “Bring In” and “Go Global” policies. These avenues together with the aforementioned theme indicated in the articles in the special issue present rich research opportunities (see Table 1). The increasing internationalization of firms highlights the need for a greater appreciation and understanding of the effects of internationalization on learning and innovation of Chinese firms.

Several areas require future research attention. First, prior research has placed lopsided emphasis on technology (often labelled as a strategic asset) acquisition from foreign enterprises by Chinese firms, paying little attention to learning of other types of knowledge and capabilities (e.g.,

**Table 1**

Suggestions of future research themes, key issues to be addressed and indicative research questions.

Themes	Issues for research	Indicative research questions
Comparative learning patterns and conditions	The lack of nuanced understanding about the similarities and differences between location-bounded learning models and localized learning conditions.	How do learning and innovation models of different types of Chinese firms (e.g., state-owned, non-state-owned, established, less established and start-ups) compare and contrast? What may be the characteristics of the learning and innovation models of Chinese firms across different industrial sectors and subnational institutional backgrounds? Do cross-border differences (e.g., differences in demographic characteristics, technological development, and institutional systems) affect the intent, nature, mechanisms and processes of learning and innovation of Chinese firms operating in different host locations?
Learning of non-explicit knowledge	Little understanding of the effect of learning of non-explicit and host-based knowledge and capabilities on innovation outcomes	Apart from technology, what other types of knowledge and capabilities (e.g., operational processes and managerial capabilities) is acquired by indigenous Chinese firms? What do Chinese firms learn from outward foreign investment in less developed countries? How does their learning in those environments affect their product offerings and management practices? How can the acquired host-based knowledge be integrated into the Chinese firm’s home-based knowledge to facilitate different types of innovation?
Connections between inward and outward internationalization	Unclear effect of inward internationalization on learning and innovation of Chinese firms along the path of outward internationalization (and vice versa)	Are the mechanisms and processes through which Chinese firms learn and innovate during the course of outward internationalization associated with their approaches for learning and innovation prior to their international expansion? How do IFDI and OFDI interact and evolve over time? What are the combined effects of learning and innovation of Chinese firms through inward and

(continued on next page)

Table 1 (continued)

Themes	Issues for research	Indicative research questions
		outward investment on their performance and international competitiveness?
Non-technological types of innovation	Lack of knowledge of organizational innovation	How do CMNEs implement new operational systems acquired through outward M&As to optimize its productivity at home? Do different types of innovation require similar skill sets on the part of Chinese firms? Do some types of innovation require more prior experience than others so that a stage model is manifested?

operational processes and managerial capabilities). Similarly, existing studies on the effects of IFDI and OFDI on Chinese firms' innovation performance almost exclusively focus on product innovation, measuring patent and citation outputs rather than any other types of innovation outcomes (e.g., process and strategic innovation outcomes). This bias toward quantifiable explicit knowledge leaves a large area of learning and innovation in Chinese firms unattended and thus obscures our understanding of what has been learnt by indigenous Chinese firms and what types of innovation their acquired knowledge contributes to.

Although the special issue attempts to address this imbalance of the literature (e.g., Liang, Giroud, and Rygh's discussion of localized learning), more research on learning of other types of knowledge and measuring other types of innovation will be needed to advance our understanding of learning and innovation of Chinese firms. In a study of emerging economy firms, Dhanaraj et al. (2004) find that tie strength, trust and shared values play an important part in the transfer of tacit knowledge. Thus, acquiring the more tacit dimension of knowledge along the paths of inward and outward internationalization requires understanding of socially embedded factors from a cross-cultural perspective. There has been much research on learning from host markets (Li et al., 2016; Liu & Meyer, 2020; Lyles & Salk, 2007; Tsang, 2002; Yang et al., 2008). An intriguing future research question would be: how can the acquired host-based knowledge be integrated into the Chinese firm's home-based knowledge to facilitate different types of innovation? Also, what do Chinese firms learn from outward foreign investment in less developed countries and how does their learning in those environments affect their product offerings and management practices?

Second, current research examines the effects of IFDI and OFDI on innovation performance of Chinese firms separately. Yet, there are numerous mentions in the literature about potential connections between inward and outward internationalization through business ties (Deng, 2012; Gao, 2021; Li et al., 2016; Lu et al., 2017; Luo & Bu, 2018; Luo & Wang, 2012). IFDI connects domestic Chinese firms with companies in advanced economies, thereby facilitating their experiential learning process prior to their international expansion. OFDI, on the other hand, offers opportunities for companies outside China to interact with and learn about Chinese firms, and thus, helps non-Chinese firms gain essential prior knowledge before entering the Chinese market. Therefore, CMNEs' OFDI activities potentially fuel more IFDI to China and benefit their learning from IFDI. However, little is known about how the learning channels of inward internationalization link to or complement those of outward internationalization and, more importantly, what their combined effects on innovation of Chinese firms are. Future research should provide a more nuanced understanding of how IFDI and

OFDI interact and evolve over time. Are Chinese investors' learning processes influenced by their prior learning through inward internationalization? If so, how do the learning channels of inward internationalization link to or complement those of outward internationalization? What are the combined effects of learning of Chinese firms through inward and outward investment on their innovation performance and international competitiveness? The effect of inward internationalization on learning and innovation of Chinese firms along the path of outward internationalization (and vice versa) is still unclear. It would be fruitful, for instance, to conduct case studies that compare between CMNEs that have, say, JVs with foreign firms in China with those that do not with respect to these CMNEs' OFDI learning processes and outcomes.

Finally, the majority of extant studies examined the technological aspect of CMNE innovations with a few exceptions (e.g., Lynch & Jin, 2016). Given that innovation in the organizational context involves innovation in products, production techniques, operational and managerial systems, customer services and a wide range of other organizational functions, future studies should extend the scope of investigation to examine these aspects of organizational innovation. For instance, how do CMNEs implement new operational systems acquired through outward M&As to optimize its productivity at home? Do the different types of innovation require similar skill sets on the part of Chinese firms? Do some of the types require more prior experience than others so that a stage model is manifested? While CMNEs are speeding ahead with their technological capabilities, this strategic asset alone is not sufficient to sustain their international competitiveness without the development of other areas of organizational capabilities and soft skills, which are arguably more challenging to cultivate.

#### 4. Conclusion

This introduction paper provides an overview of extant research on learning and innovation of Chinese firms, initially through IFDI and then OFDI. Research topics of this emerging body of the literature have been expanding, drawing on an extending range of theoretical perspectives from cognate fields of international business, strategic management, economic geography, development studies and more. Building on this body of literature, studies included in this special issue have extended our knowledge further. We also offer several research avenues for future research to extend this fruitful field further. In doing so, we outline a number of indicative research questions as examples to explore a range of issues related to comparative learning patterns and conditions, learning of non-explicit knowledge, non-technological innovation, as well as interactions between IFDI and OFDI.

To conclude, this special issue is just a small step forward in enhancing our understanding of the complex, as well as practically important, phenomenon of learning and innovation of CMNEs. We look forward to seeing more and better studies.

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