



Inward FDI spillovers and emerging multinationals' outward FDI in two directions

Renfei Gao¹ 

Accepted: 6 August 2021 / Published online: 19 August 2021
© The Author(s) 2021

Abstract

Inward foreign direct investment (IFDI) carries critical implications for emerging market multinational enterprises' (EMNEs') outward foreign direct investment (OFDI). While extant research provides evidence for the positive linkage between IFDI and EMNEs' OFDI, less is known about the directionality of such OFDI—*where to go*. This study aims to extend the IFDI-OFDI linkage by differentiating EMNEs' upward and downward OFDI (i.e., OFDI projects in more and less advanced host countries than their home markets). Using panel data on 1334 Chinese multinationals, I find that IFDI promotes EMNEs' upward OFDI, but this effect is weakened by state ownership and industry competition. Moreover, my findings show that although IFDI is not related to EMNEs' downward OFDI in general, their linkage becomes positive in the conditions of higher state ownership or weaker industry competition. This study advances our understanding of the directionality (i.e., *where to go*) of EMNEs' OFDI in the face of IFDI spillovers.

Keywords Inward FDI · Outward FDI · Emerging market multinational enterprises · Organizational learning

Outward foreign direct investment (OFDI) is a central topic in international business (IB). In the recent decade, the burgeoning OFDI made by emerging market multinational enterprises (EMNEs) is a remarkable phenomenon that attracts great attention from IB scholars (e.g., Alon et al., 2018; Buckley et al., 2007b, 2018; Cui et al., 2014). As the latecomers in the global market, EMNEs' internationalization could benefit from inward activities of foreign multinational enterprises in the local emerging markets (Buckley et al., 2002; Li et al., 2017; Luo & Tung, 2007). In particular, research demonstrates that inward foreign direct investment (IFDI) in EMNEs' home markets

✉ Renfei Gao
renfei.gao@manchester.ac.uk

¹ Alliance Manchester Business School, The University of Manchester, Booth Street West, Manchester M15 6PB, UK

exerts positive influence on EMNEs' OFDI (e.g., Gu & Lu, 2011; Xia et al., 2014). From the organizational learning perspective, local firms in emerging markets can learn from the foreign MNEs in the home markets—IFDI spillovers (Zhang et al., 2010; Zhang et al., 2014), which could foster their subsequent OFDI (Gu & Lu, 2011; Li et al., 2017).

While extant research has provided important insights into the IFDI-OFDI linkage, the directionality of such OFDI remains underexplored. This is a critical omission, given that location choice is one of the central issues about OFDI (Lu et al., 2014; Luo & Tung, 2007; Wang et al., 2012). Indeed, research shows that EMNEs have different motivations and need different capabilities to enter into host countries with different development levels (Dau, 2013; Deng et al., 2018; Tsang & Yip, 2007; Zaheer et al., 2012). Accordingly, EMNEs' choice of OFDI directionality helps exhibit their more fine-grained strategic considerations in the face of IFDI, thereby suggesting the importance of exploring where EMNEs tend to go in making their OFDI by learning from IFDI spillovers.

In this study, I distinguish two directions of EMNEs' OFDI: upward and downward. Consistent with prior research (e.g., Dau, 2013; Deng et al., 2018), I define upward versus downward OFDI as the OFDI projects in more versus less developed host markets than EMNEs' home markets, respectively. I posit that industry-level IFDI increases EMNEs' both upward and downward OFDI. First, IFDI provides EMNEs with opportunities to learn about foreign MNEs' advanced technology and management skills and to obtain the experience of competing against advanced foreign rivals (Gu & Lu, 2011). Such learning benefits EMNEs' entry and operations in more advanced host markets with tougher competition. Second, IFDI not only presents opportunities for EMNEs to learn about foreign MNEs' experience of local adaptation but also imposes competitive pressure to push EMNEs to seek market opportunities overseas (Xia et al., 2014). Such influences foster EMNEs' downward OFDI whereby they could use what they learn to build competitive advantages over local rivals in less advanced host markets and meanwhile avoid competitive pressure in their home markets. Overall, in illustrating *where to go* of EMNEs' internationalization, this study distinguishes different motivations and capabilities behind their OFDI in two directions, thereby shedding light on EMNEs' more nuanced strategic considerations in response to IFDI.

Further, I explore the boundary conditions for the influence of IFDI on EMNEs' upward and downward OFDI. OFDI is a resource-consuming strategy. IFDI provides learning opportunities to facilitate EMNEs' OFDI, but the implementation of such OFDI relies on their resource endowments. Research widely documents that emerging market firms obtain resources through both government- and market-based channels (Meyer et al., 2009). Accordingly, I identify state ownership and industry competition as two boundary conditions for IFDI-OFDI linkages in two directions. State ownership represents a key government-based channel for emerging market firms to obtain resource support, while industry competition determines firms' resource accumulation through the market-based channel (Meyer et al., 2009; Zhou et al., 2017). I theorize how the IFDI-OFDI linkages in two directions are differently contingent on state ownership and industry competition, respectively. While my theory above suggests IFDI's positive influence on both upward and downward OFDI, these divergent contingency effects help reveal EMNEs' different considerations behind their OFDI

in two directions in response to IFDI. Meanwhile, these contingency effects also demonstrate how ownership and industry structures alter the IFDI-OFDI linkages in two directions.

Empirically, I test the theoretical framework in the context of China, the world's largest emerging market with both prominent IFDI and OFDI (Buckley et al., 2007a, 2007b; Lu et al., 2014). Using panel data on 1334 Chinese MNEs in the manufacturing industries in 2010–2014, I find that IFDI promotes EMNEs' upward OFDI, yet this positive linkage becomes weaker in the conditions of higher state ownership or stronger industry competition. Moreover, although IFDI is not related to EMNEs' downward OFDI in general, this linkage becomes positive in the conditions of higher state ownership or weaker industry competition.

Literature review

IFDI-OFDI linkage: An organizational learning perspective

As an equity-based mode of internationalization, OFDI has long been a central issue in the IB literature (Clougherty et al., 2017; Dunning, 1981; Johanson & Vahlne, 1977). Remarkably, recent years have witnessed a burgeoning flow of OFDI from emerging markets (UNCTAD, 2017), which traditionally were the recipient countries of IFDI from advanced countries (Buckley et al., 2007b, 2018; Hoskisson et al., 2013). As the latecomers in international markets, EMNEs' outward activities benefit from inward activities of foreign MNEs in the local emerging markets (Buckley et al., 2002; Li et al., 2017; Luo & Tung, 2007). From the organizational learning perspective, EMNEs can learn from the foreign MNEs via various forms, such as original equipment manufacturing (OEM), joint venture, and franchising or licensing (Li et al., 2017; Luo & Tung, 2007).

In particular, as a significant form of inward activities, the IFDI of foreign MNEs has critical implications for EMNEs in the local markets (Chang & Xu, 2008; Li et al., 2020; Xiao & Park, 2018). Research widely documents that IFDI made by foreign MNEs generates positive yet unintended spillovers that benefit firms in the local markets (Eapen, 2012; Kafouros & Aliyev, 2016; Yi et al., 2015). IFDI spillovers refer to “positive externalities that benefit local firms operating in the same industry as the MNE” (Spencer, 2008: 341). This positive effect is especially salient in emerging markets, where local firms are typically inferior to foreign MNEs in many domains, such as advanced technology and management practice, therefore creating more potential for knowledge transfers (Eapen, 2012; Zhang et al., 2010, 2014). Research suggests that IFDI spillovers happen through multiple learning channels, including (1) demonstration effect, direct observations in the local markets (Blomström & Kokko, 1998); (2) business linkage, sharing the same local suppliers and/or distributors (Blalock & Simon, 2009; Javorcik, 2004); (3) employee turnover, labor and talent movement across foreign and local firms (Liu et al., 2010); and (4) competition effect, the competitive pressure imposed by foreign MNEs that pushes local firms to learn from IFDI to survive the competition (Zhang et al., 2010, 2014).

Integrating the literature on OFDI and IFDI, a burgeoning stream of research examines how EMNEs' OFDI is influenced by the IFDI in their home markets and

generally shows a positive IFDI-OFDI linkage (e.g., Li & Cantwell, 2018; Lu et al., 2017; Xia et al., 2014). Such a linkage not only advances the understanding of a key antecedent of OFDI but also contributes to the IFDI literature by exploring local firms' active investment in response to IFDI (Dau et al., 2015). From the organizational learning perspective, scholars interpret IFDI spillovers as local firms' learning from foreign MNEs in the local markets (Zhang et al., 2010, 2014). Research on the IFDI-OFDI linkage further suggests that such learning from IFDI benefits EMNEs' OFDI (Gu & Lu, 2011; Lu et al., 2017; Xia et al., 2014). Indeed, EMNEs can learn from IFDI through the above-mentioned channels, each of which is relevant to facilitating their subsequent OFDI.

First, local firms may directly observe foreign MNEs' products in the local markets (Blomström & Kokko, 1998; Spencer, 2008). Thus, they can learn about more advanced technologies involved in such products and thereby enhance their products in relevant domains. Further, this observing process involves the diffusion of critical information, such as product or technology standards and consumer preferences in foreign markets, which may facilitate local firms to pursue OFDI (Gu & Lu, 2011; Lu et al., 2017). Second, EMNEs' OFDI may benefit from their business linkage with foreign MNEs in their home markets. Specifically, knowledge spillovers from foreign MNEs to local firms may happen when they share the same suppliers or distributors in the local markets (Javorcik, 2004; Zhang et al., 2010). Through these business linkages, EMNEs can learn about how to establish purchase and distribution networks in the host markets and how to adapt to technology standards in the global markets. Such important know-how could be helpful for them to initiate OFDI. Third, the presence of IFDI in EMNEs' home markets creates more opportunities for talent movement from foreign MNEs to EMNEs (Liu et al., 2010). This employee turnover effect is beneficial for EMNEs' OFDI, as these EMNEs are likely to acquire more talent with cross-country management experiences, who can help EMNEs better manage OFDI. Fourth, IFDI spillovers represent learning from foreign competitors. That is, IFDI intensifies the competitive pressure in the local markets (Chang & Xu, 2008; Spencer, 2008; Dau et al., 2015), which may force local firms' learning from IFDI to update their technology and management skills for survival (Zhang et al., 2010, 2014). Such learning, as triggered by competitive pressure, may promote EMNEs' OFDI that leverages what they have learned and meanwhile helps mitigate the competitive pressure in their home markets (Xia et al., 2014).

While the extant research provides great insights into EMNEs' OFDI by learning from IFDI spillovers, I go a step further to explore the heterogeneity within OFDI directionality, with the aim of advancing a better understanding of *where to go* in the context of OFDI-IFDI linkage. Specifically, this study extends the IFDI-OFDI linkage based on the distinction between upward versus downward OFDI—the OFDI towards more versus less advanced host markets than EMNEs' home markets.

Directionality of EMNEs' internationalization

An important stream of research emphasizes the critical implications of directionality in international expansion (Tsang & Yip, 2007; Zaheer et al., 2012). For example, Deng et al. (2018) find that international new ventures from emerging markets obtain greater performance benefits by rapidly expanding into more open host markets than into less

open host markets. Moreover, Dau (2013) shows that developing-country MNEs' profitability benefits more from the pro-market reforms in their domestic markets by making OFDI in advanced countries than in developing countries. Overall, scholars recognize that the market environments in more advanced countries provide EMNEs with greater opportunities to acquire valuable knowledge (Dohse et al., 2012), but meanwhile require stronger capabilities to survive the tougher competition (Ramamurti & Singh, 2009). Such a trade-off between the opportunity and the threat helps reveal EMNEs' different motivations and capabilities of making upward versus downward OFDI. Extending these insights to the IFDI-OFDI linkage, I theorize how IFDI spillovers influence EMNEs' OFDI in the two directions.

Hypotheses development

IFDI and EMNEs' upward OFDI

I posit that EMNEs make more upward OFDI in the face of higher IFDI intensity in the focal industry for the following reasons. First, the learning from IFDI enhances EMNEs' competitiveness in the global markets, thereby making upward OFDI more achievable for EMNEs. As noted above, upward OFDI provides greater opportunities for seeking valuable resources and strategic assets, which represents strong pulling forces for EMNEs (Dau, 2013; Dohse et al., 2012; Luo & Tung, 2007). However, upward OFDI also means tougher competition with more advanced local rivals (Deng et al., 2018; Ramamurti & Singh, 2009), thereby highlighting the importance of EMNEs' stronger competitiveness to enter and survive in such host markets. A higher level of IFDI in the focal industry provides EMNEs with more opportunities for learning from the more advanced foreign MNEs through the above-mentioned channels (Eapen, 2012; Zhang et al., 2010, 2014). As such, EMNEs are more likely to enhance their overall competitiveness in the global markets by developing stronger capabilities in production, technology, and management (Gu & Lu, 2011). Such stronger competitiveness makes upward OFDI more feasible for EMNEs because they have a greater chance to catch up with their potential rivals in more advanced host markets or at least become less inferior in the critical capabilities. In contrast, with fewer learning opportunities derived from IFDI, EMNEs, due to their typically weaker capabilities than rivals in more advanced countries, may find upward OFDI more challenging and less achievable.

Furthermore, the knowledge learned from IFDI could be especially valuable for EMNEs to launch upward OFDI. Research suggests that certain knowledge learned from foreign firms might be country-specific with limited transferable value across different countries (Anand & Delios, 2002; Li et al., 2017). Because EMNEs learn the knowledge from foreign MNEs that mainly come from more advanced countries, such knowledge should be particularly valuable for operating in these countries. For instance, EMNEs enhance their technological capabilities by observing and learning about the higher technology standards from foreign MNEs (Gu & Lu, 2011; Lu et al., 2017). These capabilities could be helpful for making OFDI in the foreign MNEs' home markets or countries with similar developmental or technological levels. Moreover, EMNEs could obtain talent with cross-country management experiences

from foreign MNEs through employee turnovers (Liu et al., 2010). Such talent and their experiences could be especially valuable when operating in the foreign MNEs' home countries or other similar markets. In this sense, upward OFDI represents better opportunities for EMNEs to leverage the knowledge they have learned from IFDI spillovers. That is, the learning from IFDI may also motivate EMNEs to increase upward OFDI.

Additionally, a higher level of IFDI also provides EMNEs with more opportunities to obtain the experience of competing against more advanced foreign MNEs in the EMNEs' home markets (Gu & Lu, 2011; Xia et al., 2014). Accordingly, EMNEs could develop a clearer sense of the potential competitive environments they would face in more advanced host markets (i.e., their potential local rivals' competitiveness), which facilitates their preparation for launching upward OFDI. For example, Huawei, a leading Chinese telecom equipment manufacturer, obtained rich experience of competing against foreign rivals from European countries, such as Nokia and Ericsson, in the Chinese market during its early years of development. In addition to certain advanced technology and management skills that Huawei may have learned from these foreign rivals, the competition experience in the Chinese market also helps Huawei to develop a clearer understanding of the competitiveness of their potential rivals in European countries. These benefits foster Huawei's upward OFDI in European countries. In contrast, without a clear sense of how competitive their potential local rivals would be, EMNEs may anticipate a higher risk of failure in making upward OFDI, which reduces their propensity to do so.

Overall, I predict that industry-level IFDI intensity boosts EMNEs' upward OFDI.

Hypothesis 1a (H1a): *IFDI intensity is positively related to EMNEs' upward OFDI.*

IFDI and EMNEs' downward OFDI

I posit that EMNEs make more downward OFDI in the face of higher IFDI intensity in the focal industry for the following reasons. First, IFDI provides more opportunities for EMNEs to learn about foreign MNEs' experience of local adaptation, which helps the EMNEs to better leverage their competitive advantages over local rivals in less developed host markets. Whereas upward OFDI typically attracts EMNEs by the chance to obtain strategic assets (Luo & Tung, 2007), downward OFDI usually provides EMNEs with access to cheaper production factors, such as labor, land, and raw materials, to reduce costs (Dau, 2013; Dohse et al., 2012). Meanwhile, distinct from more advanced host markets that require stronger competitiveness to survive the tougher competition, EMNEs are more likely to own competitive advantages in terms of technology and management practice over the typically inferior local rivals in less advanced host markets. In this regard, with greater learning opportunities from IFDI spillovers, EMNEs could obtain more knowledge about how to leverage their competitive advantages over the local rivals by effectively managing local adaptation. For example, by observing the products or operations of foreign MNEs in their home markets, EMNEs may gradually obtain the knowledge about how to refine their products or processes to adapt to the local demands and preferences (Lee et al.,

2016; Wei & Nguyen, 2019). Moreover, by sharing the same suppliers and distributors with foreign MNEs in their home markets, EMNEs have more opportunities to learn how to establish business linkages with local business partners in host markets (Javorcik, 2004). Therefore, with greater knowledge about local adaptation learned from IFDI, EMNEs are more likely to make downward OFDI. This is because they could expect more promising perspectives by entering and operating in less advanced host countries to seize local markets and achieve their purposes. Without the learning from IFDI, in contrast, even though EMNEs have advantages over local rivals in less advanced host markets, they would face more challenges in utilizing such advantages in local adaptation. Indeed, it would be more costly and risky to accumulate internationalization knowledge by themselves in the host markets.

Moreover, higher IFDI in the focal industry also intensifies the competitive pressure in EMNEs' home markets, which may push them to seek additional market opportunities in overseas markets (Xia et al., 2014). In this circumstance, EMNEs are unlikely to make OFDI in more advanced host countries – the home countries of most foreign MNEs they are trying to avoid. Instead, to mitigate the competitive pressure in their home markets, OFDI in less advanced host countries represents a more viable option for EMNEs. As noted above, given their possible advantages in terms of technology and management skills over the local rivals, plus their knowledge about local adaptation learned from IFDI in their home markets, EMNEs usually face weaker competitive pressure in less advanced host markets (Ramamurti & Singh, 2009). For example, Tecno, a Chinese mobile phone manufacturer, suffers severely from the competitive pressure brought by foreign competitors, such as Apple and Samsung, in the Chinese market. To avoid such competitive pressure, Tecno turns to focus on less developed overseas markets, such as the African markets, in which Tecno can leverage its advanced capacity to succeed. Overall, making downward OFDI also helps EMNEs to alleviate the IFDI-imposed competitive threats in their home markets.

In sum, I predict IFDI intensity in the focal industry fosters EMNEs' downward OFDI.

***Hypothesis 1b (H1b):** IFDI intensity is positively related to EMNEs' downward OFDI.*

Boundary conditions for IFDI-OFDI linkage in upward and downward directions

While IFDI spillovers represent learning opportunities that facilitate EMNEs' OFDI, the learning alone may not be sufficient. OFDI is a strategy that requires strong resource support (Buckley et al., 2007b, 2018; Li et al., 2017). Hence, EMNEs' OFDI, as fostered by IFDI spillovers, could be contingent on their resource endowments. In many emerging markets, while pro-market transitions have made substantial progress, the government still plays a powerful role in resource allocation (Peng et al., 2016). Accordingly, scholars widely recognize that emerging market firms obtain resources mainly through two channels—government-based resource support and market-based resource accumulation (Meyer et al., 2009; Zhou et al., 2017). Therefore, I identify state ownership and industry competition as two boundary conditions for the IFDI-OFDI linkages in both directions. State ownership represents an important and

prevalent linkage between the government and firms, which helps the firms to access more state-controlled resources (Zhou et al., 2017). Moreover, industry competition shapes firms' market shares and profit margins, thereby determining to what extent the firms are able to accumulate resources based on their market operations (Barnett, 1997; Zhou et al., 2017).

State ownership Governments play a critical role in many emerging markets, with great power in resource allocation (Peng et al., 2016). Research has widely documented the mixed influences of the government on firm decision making and performance through state ownership (Inoue et al., 2013; Musacchio et al., 2015). In particular, while state ownership presents a government-based channel for firms to access more state-controlled resources (Shapiro et al., 2018), it meanwhile leads to the distortion in resource allocation within firms and thus reduces the firms' overall capabilities of transforming resources into competitiveness development (Cui & Jiang, 2012; Zhou et al., 2017). For example, Zhou et al. (2017) show that state ownership increases firms' investment in innovation activities but meanwhile reduces their effectiveness of transforming the investment into innovation outputs. Drawing on the mixed influences of state ownership as well as the different requirements of upward and downward OFDI, I theorize the different moderating effects of state ownership on IFDI's impacts on upward versus downward OFDI.

On the one hand, I posit that state ownership reinforces the positive linkage between IFDI and downward OFDI. As noted above, IFDI promotes EMNEs' downward OFDI by providing knowledge about local adaptation, which helps EMNEs to better leverage their competitive advantages in less advanced host markets. In this sense, as facilitated by IFDI spillovers, downward OFDI mainly requires resource support to help expand their advantaged capacity abroad. Accordingly, state ownership may amplify the positive linkage between IFDI and downward OFDI by channelling government-controlled resources to support the international capacity expansion. Indeed, governments in emerging markets usually encourage local firms' internationalization (Luo et al., 2010). Thus, their resource support through the channel of state ownership could be highly relevant to promoting EMNEs' OFDI (Li et al., 2014), especially the downward OFDI in which the resources are used for capacity expansion (Cuervo-Cazurra et al., 2014). Therefore, I predict that state ownership reinforces the positive linkage between IFDI and downward OFDI.

On the other hand, I posit that state ownership weakens the positive linkage between IFDI and upward OFDI. Upward OFDI requires resource support mainly for competitiveness enhancement, based on the knowledge learned from IFDI spillovers, to compete against the local rivals in more advanced host markets. Although state ownership provides access to government-controlled resources that generally support OFDI, it meanwhile presents a burden on EMNEs' capabilities of using the resources to enhance competitiveness. Indeed, research shows that firms with state ownership are subject to strong government pressure to fulfill certain political obligations (Li et al., 2017). Such obligations may distort the resource allocation in their decision making, thereby reducing their sensitivity to market opportunities and their capabilities to transform resource inputs into competitiveness enhancement (Cui & Jiang, 2012; Zhou et al., 2017). Consequently, while IFDI spillovers benefit EMNEs' upward OFDI by providing greater learning opportunities to enhance their competitiveness, EMNEs

with more state ownership may be less capable of seizing such learning opportunities and/or devoting resources to achieve competitiveness enhancement based on the learning. Hence, I predict that state ownership weakens the positive effect of IFDI on upward OFDI.

Hypothesis 2a (H2a): *The positive relationship between IFDI intensity and EMNEs' upward OFDI is negatively moderated by state ownership.*

Hypothesis 2b (H2b): *The positive relationship between IFDI intensity and EMNEs' downward OFDI is positively moderated by state ownership.*

Industry competition Emerging market firms can also accumulate resources based on market operations, which is largely shaped by the competitive intensity in the focal industry (Meyer et al., 2009; Zhou et al., 2017). Industry competitive intensity refers to the magnitude of the effect a firm has on its competitors' survival in the same industry (Barnett, 1997). Higher industry competition erodes firms' market shares and profit margins, thereby hindering their market-based resource accumulation (Barnett, 1997; Basu et al., 2011). This may mitigate the positive effect of IFDI on OFDI, especially upward OFDI that is usually more resource-consuming. Meanwhile, stronger industry competition among local firms could amplify the competitive pressure imposed by IFDI and thus push EMNEs to seek alternative opportunities overseas (Xia et al., 2014), especially by downward OFDI that faces weaker competitive pressure. Accordingly, I theorize the different moderating roles of industry competition in IFDI's impacts on upward versus downward OFDI.

On the one hand, I posit that industry competition attenuates the positive linkage between IFDI and EMNEs' upward OFDI. Upward OFDI relies on strong resource support to develop sufficient capabilities to survive the tougher competition in more advanced host markets. Specifically, EMNEs' upward OFDI involves devoting resources not only to upgrade their technology and management practice based on the learning from IFDI spillovers but also to expand such upgraded technology and management practice to more advanced host markets. When the industry competition in their home markets is stronger, EMNEs are less capable of accumulating resources through the market channel due to the lower market shares and profit margins (Barnett, 1997; Basu et al., 2011). Consequently, in response to IFDI spillovers, they are less likely to have sufficient resources to upgrade their technology or management practice based on their learning or to expand such updated technology and management practice in more advanced host markets—two conditions for upward OFDI. Hence, I predict that industry competition weakens the positive linkage between IFDI and upward OFDI by hindering market-based resource accumulation.

On the other hand, I posit that industry competition strengthens the positive effect of IFDI on EMNEs' downward OFDI. As the investment in less advanced host markets, downward OFDI is relatively less resource-consuming because it mainly involves expanding EMNEs' capacity abroad but is less demanding in updating their capabilities. As such, although industry competition hinders resource accumulation and generally weakens the IFDI-OFDI linkage, EMNEs' downward OFDI suffers less from this obstacle. Instead, when the industry competition among local firms is stronger, the competitive threats imposed by IFDI could be further highlighted and thus OFDI

becomes a more attractive option for firms to seek alternative opportunities overseas (Dau et al., 2015; Xia et al., 2014). As noted above, distinct from upward OFDI that leads to even stronger competition, downward OFDI presents a more feasible way for EMNEs to avoid the competitive pressure in their home markets. Therefore, EMNEs in more competitive industries are more likely to make downward OFDI in response to IFDI, to mitigate the IFDI-imposed competitive pressure in their home markets. Overall, I predict that industry competition amplifies the positive linkage between IFDI and downward OFDI by pushing EMNEs to seek opportunities in less competitive overseas markets.

Hypothesis 3a (H3a): *The positive relationship between IFDI intensity and EMNEs' upward OFDI is negatively moderated by industry competition.*

Hypothesis 3b (H3b): *The positive relationship between IFDI intensity and EMNEs' downward OFDI is positively moderated by industry competition.*

I summarize the theoretical framework in Fig. 1.

Methods

Data and sample

I test the theoretical framework in the context of China, the world's largest emerging market. First, China is an important IFDI recipient country, in which foreign MNEs have significant implications for Chinese firms' performance and strategies (Buckley et al., 2007a; Zhang et al., 2010, 2014). Second, as encouraged by the national strategy of "going global (*zouchuqu*)", OFDI from Chinese firms, towards more and less advanced host markets alike, has been increasing rapidly in recent years (Buckley et al., 2007b; Lu et al., 2014; Quer et al., 2012). Third, given that China has gradually become a middle-income country, it is important to examine the distinction between Chinese MNEs' upward and downward OFDI. In sum, China provides an ideal

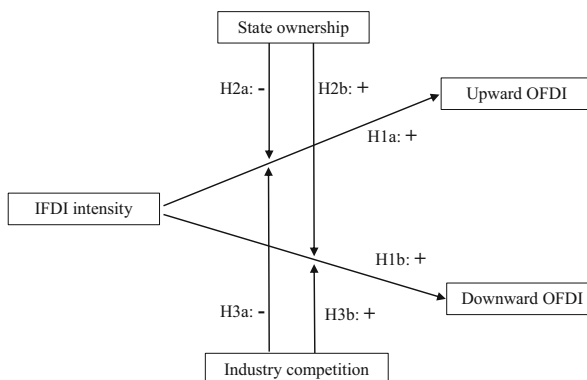


Fig. 1 Theoretical framework

research setting for examining the linkage between IFDI and OFDI in two directions (Li et al., 2017; Xia et al., 2014).

I use the sample of Chinese publicly listed firms, for which information is more available and reliable (Sun et al., 2015; Xia et al., 2014). To make the industry backgrounds comparable, I focus on manufacturing firms (industry code: C13–C43), which excludes service firms that launch OFDI for fundamentally different reasons from manufacturers (e.g., Xia et al., 2014; Zhang et al., 2010, 2014). I collect data from three sources. First, the OFDI data are from BvDEP's OSIRIS database, which provides listed firms' subsidiary and ownership information disclosed in the annual reports (e.g., Hu & Cui, 2014). Second, IFDI data at the industry level is obtained from the Chinese Statistical Yearbooks published by the Chinese National Bureau of Statistics (e.g., Xia et al., 2014). Finally, I obtain the financial data of Chinese listed firms from the *China Stock Market and Accounting Research* database, which is provided by GTA company and has been widely employed in the literature (e.g., Xia et al., 2014; Sun et al., 2015).

I identify 1334 firms in 2010–2014, with complete information for at least two consecutive years. In general, Chinese firms' OFDI lags behind the IFDI in the Chinese markets. While IFDI in the Chinese markets took off since 2001—when China officially joined the WTO, substantive OFDI from Chinese firms started several years later but then was seriously affected by the global financial crisis in 2008–2009 (UNCTAD, 2017). To avoid the influence of the financial crisis, I collect data from 2010. My final sample includes 5754 firm-year observations, with 4.31 years per firm on average. In the sample of Chinese listed firms, there are no foreign MNEs' subsidiaries. Further, to address the potential influence through the ownership channel, I control the foreign equity ownership in the main analysis. Alternatively, I run a robustness check in a sample of firm-year observations with no foreign equity shares ($N = 5380$) (Xia et al., 2014). I lag independent and control variables by one year (i.e., 2009–2013) to mitigate reverse causality. For robustness, these variables are also lagged by two or three years (Zhang et al., 2014), and the results remain consistent.

Variables and measures

Dependent variables I have two dependent variables in this study: (1) upward OFDI, OFDI projects in more advanced host markets than EMNEs' home markets, and (2) downward OFDI, OFDI projects in less advanced host markets than EMNEs' home markets. OFDI refers to the equity-based investment outside of a focal firm's home country, typically reflected as the establishment of subsidiaries in foreign countries (Buckley et al., 2007b; Morck et al., 2008). Following prior studies, I measure OFDI by the count of OFDI projects (or foreign subsidiaries) established by a focal firm in a given year, in line with prior research (Dau, 2013; Xia et al., 2014).¹ Notably, this count variable is “a flow rather than stock measure of OFDI projects” (Xia et al., 2014: 1351), which better captures EMNEs' outward actions in the face of IFDI in their home

¹ Chinese firms' OFDI projects in “Tax haven” countries/regions are excluded from this measure to avoid alternative explanations. In my sample, Tax haven countries/regions include Aruba, Bermuda, British Virgin Islands, Cayman Islands, Jersey, and the Marshall Islands. Additionally, OFDI projects in Singapore, Hong Kong, Taiwan, and Macau are also excluded to avoid alternative explanations.

country. Consistent with the definition of OFDI (UNCTAD, 2017), I count OFDI projects in which a focal firm holds at least 10% of equity ownership. For robustness checks, I adopt alternative rules to count OFDI projects by using 5% and 25% as the ownership threshold, respectively.

Subsequently, I calculate OFDI projects in more versus less advanced host markets than EMNEs' home markets, by comparing the development level (GDP per capita) of the host countries with the home provinces of all the sampled firms in a given year. In a robustness check, I alternatively compare GDP per capita of the OFDI host countries with China, the home country of all the sampled EMNEs. Indeed, GDP per capita is a commonly used indicator to compare the development levels across countries (Tsang & Yip, 2007). In doing so, I divide firm-level OFDI projects into two categories based on the development level of OFDI host countries: more versus less advanced than EMNEs' home markets.

Given the central role of the upward-downward OFDI dichotomy in my theoretical framework, I further use two alternative criteria to distinguish upward versus downward OFDI projects. First, I compare the OFDI host country with China in terms of the Global Competitiveness Index (GCI) developed by the World Economic Forum, which represents a more comprehensive indicator of the development level across different countries. In doing so, I divide firm-level OFDI projects into two categories of host countries—those with higher versus lower GCI than China, to measure upward and downward OFDI, respectively. Second, I divide the OFDI projects into OECD and non-OECD countries as the host markets to measure upward and downward OFDI, respectively (Dau, 2013). Additionally, to capture more nuanced information about the distance between host and home markets in terms of the development levels, I further calculate the difference in GDP per capita (1000 US dollars) between OFDI host countries and EMNEs' home province (and alternatively, China, the home country). For upward OFDI, I include all OFDI projects in host countries with higher GDP per capita and average the absolute difference in GDP per capita between these host countries and EMNEs' home province (or alternative, China) as the measure. Likewise, I consider all OFDI projects in host countries with lower GDP per capita and average the absolute difference in GDP per capita between these host countries and EMNEs' home province (or alternative, China) to measure downward OFDI.

Independent variable The independent variable of this study is IFDI intensity. Extant IFDI research typically indicates IFDI intensity by the ratio of foreign firms' activities or presence within focal industries (e.g., Chang & Xu, 2008; Zhang et al., 2010, 2014). Thus, I follow the literature and construct a composite index to measure IFDI intensity at the industry level, again based on the Chinese industry classification code (Xia et al., 2014). That is, I calculate the shares of foreign firms' numbers, total assets, sales, and revenues in each industry, and use the average of these four ratios as the IFDI index (Xia et al., 2014). Alternatively, I use each of these four ratios to measure IFDI intensity to check robustness.

Moderators I hypothesize the moderating effects of state ownership and industry competition while controlling for their main effects. First, in line with prior research, state ownership is measured by the ratio of equity shares owned by state entities within firms' ownership structure (Cui & Jiang, 2012; Xia et al., 2014; Zhou et al., 2017).

Alternatively, I measure state ownership by a binary variable of whether the largest shareholder (or real controller) is a state entity. The results remain essentially the same. Second, I measure industry competition by the reversely coded Herfindahl index (i.e., $1 - \text{HHI}$). As a commonly-used indicator of competitive intensity at the industry level, Herfindahl index (HHI) is calculated as the sum of squared market shares of all firms in each industry (Cui et al., 2014; Zhou et al., 2017). A higher value of HHI indicates stronger industry concentration or lower competitive intensity. To facilitate result interpretations, I reversely code HHI to measure industry competition—i.e., the higher the value, the stronger the industry competition.

Control variables I include several control variables to address their potential influence on EMNEs' OFDI. First, larger firms usually have more resources to initiate overseas investment and make responses to IFDI (Zhang et al., 2010). Thus, I control firm size, measured by the logarithm of total assets. Second, I include firm age to control its general influence on OFDI (Guillén, 2002; Sun et al., 2015). Third, firm performance or profitability also affects their abilities and propensity to go internationalization (Hu & Cui, 2014). Hence, I control the return on assets (ROA) as a proxy of profitability. Fourth, I control foreign ownership (the ratio of equity shares owned by foreign entities) to address the potential inward-outward linkage through the ownership channel. Fifth, I include firms' R&D intensity (the ratio of R&D expenditure to total sales) to control for their technological capabilities which may promote their internationalization (Xia et al., 2014). Moreover, I add fixed-assets ratio, the ratio of fixed assets to total assets, to control for firms' flexibility to shift their investment among different markets (O'Brien & David, 2014). Also, to control for the effect of growth opportunities, I include the market-to-book ratio (the ratio of equity's market value to total assets) as the indicator (O'Brien & David, 2014). Furthermore, organizational slacks could boost firm internationalization. Thus, I control both unabsorbed slacks (measured by the current ratio, current assets/current liabilities) and potential slacks (measured by financial leverage, the debt-to-equity ratio), following prior studies (e.g., Lin et al., 2009; Lin, 2014). At the province level, I include provincial GDP growth to control for regional growth opportunities. Also, I add the IFDI intensity at the province level to control IFDI's collocation effect on local firms (Zhang et al., 2014). Finally, I include year dummies to mitigate unobservable time effects.

Data analyses

EMNEs' OFDI is measured by count variables of OFDI projects. Accordingly, I use the negative binomial (NB) models, which can address the over-dispersion issue of OFDI projects in my sample (Greene, 2012). Further, the distributions of both upward and downward OFDI suggest the excessive presence of zero counts. Hence, I use the zero-inflated negative binomial (ZINB) model in the main analysis, which is deemed more appropriate (Greene, 2012; Xia et al., 2014). Moreover, the heteroskedasticity issue commonly exists in panel datasets containing multiple observations of each firm. Thus, I follow the literature and report robust standard errors, which typically generate more conservative results than normal standard errors (e.g., Xia et al., 2014). I also use the normal NB models in a robustness check. Additionally, I further use the two-stage least

squares instrument variable (2SLS-IV) approach to check the endogeneity issues (Bascle, 2008; Semadeni et al., 2014).

Results

Table 1 presents the descriptive statistics and bivariate correlations of all variables. Table 2 presents the results of the main analysis. The dependent variable in Models 1–5 is EMNEs' upward OFDI, while Models 6–10 are for downward OFDI. Models 1 and 6 are baseline models with only control variables. In Models 2 and 7, I add the IFDI intensity to test H1a and H1b, respectively. In Models 3(4) and 8(9), I further add the interactive term of IFDI intensity and state ownership (industry competition). All involved variables are mean-centered before creating interactive terms. Models 5 and 10 are two full models, in which the variance inflation factors (VIFs) of all variables are less than 2.55, suggesting that multi-collinearity is not a serious issue.

H1a states that industry-level IFDI intensity is positively related to EMNEs' upward OFDI. The coefficient of IFDI intensity in Model 2 is positive and significant ($b = 1.932, p < .001$), consistent with those in Models 3–5. Thus, the results support H1a, suggesting that EMNEs promote upward OFDI in the face of a higher IFDI intensity. To further illustrate the effect size, I calculate the marginal effect of IFDI intensity on EMNEs' upward OFDI (*prchange* in STATA), following the prior research (Li & Tang, 2010; Long & Freese, 2006). Results suggest that one standard deviation increase of IFDI intensity increases EMNEs' OFDI projects in more advanced host markets by about .011 on average. The economic significance of this effect is considerable, given that the average OFDI projects established in more advanced markets by each firm in each year are .089. Furthermore, the effect size of IFDI intensity is moderately high among all the variables (4th out of 14).

H1b suggests that industry-level IFDI intensity is positively related to EMNEs' downward OFDI. Nevertheless, the coefficient of IFDI intensity is positive but non-significant in Model 7 ($b = .321, p > .10$), consistent with those in Models 8–10. Thus, H1b cannot be supported. This finding shows that IFDI spillovers may not significantly affect EMNEs' OFDI in less advanced host markets, thereby suggesting the importance of examining the boundary conditions of the linkage between IFDI and downward OFDI.

H2a states that the relationship between IFDI intensity and EMNEs' upward OFDI is negatively moderated by state ownership. However, the coefficient of the interaction between IFDI intensity and state ownership is positive and non-significant in Model 3 ($b = 1.150, p > .10$), consistent with that in Model 5. Thus, H2a is not supported, suggesting that the positive linkage between IFDI and upward OFDI may not be significantly contingent on state ownership. To demonstrate more nuanced information of this effect, I plot Fig. 2 (based on Model 3) to show how the marginal effect of IFDI on upward OFDI (y-axis) changes with the mean-centered value of state ownership (x-axis). The small dots represent all firm-year observations in the sample, with two outer lines for the 95% confidence ranges (same for all figures hereafter). Figure 2 shows that although the marginal effect of IFDI on upward OFDI does not significantly change with state ownership, this marginal effect is significantly positive only when state ownership is sufficiently low (lower than Point A in Fig. 2). In contrast, when state

Table 1 Descriptive statistics and correlations

Variables	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 Upward OFDI	.09	1.33	1														
2 Downward OFDI	.02	.37	.65*	1													
3 IFDI intensity	.28	.13	.04*	.02	1												
4 State ownership	.05	.14	-.01	-.04*	.01	1											
5 Industry competition	.91	.07	-.01	-.04*	-.06*	-.01	1										
6 Firm size	21.63	1.16	.10*	.09*	-.13*	.18*	-.04*	1									
7 Firm age	13.35	5.1	.00	.00	-.10*	-.01	-.02	.17*	1								
8 Profitability	.04	.06	.00	.01	.05*	-.04*	.04*	.05*	-.11*	1							
9 Foreign ownership	.02	.08	-.01	.00	.06*	-.03*	-.08*	-.04*	-.14*	.07*	1						
10 R&D intensity	0	.01	.00	.00	.06*	-.01	.07*	-.02	-.02	.03*	-.03*	1					
11 Fixed-assets ratio	.26	.15	-.01	-.02	-.13*	.04*	.02	.13*	.12*	-.28*	-.05*	-.11*	1				
12 Growth opportunity	1.95	1.39	-.02	-.02	.09*	-.09*	.06*	-.40*	.10*	.14*	-.08*	.06*	-.04*	1			
13 Current ratio	2.93	4.1	-.02	-.02	.12*	-.06*	.04*	-.25*	-.24*	.22*	.11*	.11*	-.34*	.00	1		
14 Financial leverage	1.1	1.58	.03*	.01	-.09*	.06*	-.05*	.24*	.22*	-.23*	-.07*	-.05*	.13*	-.06*	-.28*	1	
15 GDP growth	.11	.02	-.03*	-.01	.00	.13*	.02	-.06*	-.02	-.02	-.02	-.03	.05*	.14*	.00	.03*	1
16 Province IFDI	3.78	2.08	.00	.00	.09*	-.06*	.00	-.05*	-.06*	.04*	.08*	.04*	-.14*	-.01	.09*	-.04*	-.15*

N = 5754. Asterisk * denotes statistical significance at 5% level

Table 2 ZINB regressions on EMNEs' upward and downward OFDI

	Upward OFDI					Downward OFDI				
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
IFDI intensity	1.932*** (.549)	1.953*** (.576)	1.877*** (.561)	1.750** (.583)	.321 (1.048)	1.051 (1.003)	.104 (1.104)	.873 (1.059)		
IFDI intensity × State ownership	1.150 (6.720)	1.150 (6.720)	1.150 (6.720)	.600 (6.529)	23.317** (7.331)	23.317** (7.331)	23.317** (7.331)	22.990** (7.945)		
IFDI intensity × Industry competition				-23.953* (9.609)				-32.513* (13.858)		
State ownership	-1.750 (1.025)	-1.604 (.994)	-1.581 (1.054)	-1.608 (.984)	-1.700 (1.037)	-7.715*** (1.747)	-7.031*** (1.554)	-8.481*** (1.773)	-7.553*** (1.532)	-8.939*** (1.811)
Industry competition	-2.618* (1.173)	-2.336* (1.145)	-2.331* (1.139)	-2.142* (1.074)	-2.338* (1.063)	-6.328*** (1.855)	-6.124*** (1.712)	-5.850*** (1.693)	-5.610** (1.788)	-5.309** (1.741)
Firm size	1.024*** (.084)	1.008*** (.077)	1.009*** (.077)	1.014*** (.079)	1.024*** (.078)	1.310*** (.155)	1.417*** (.157)	1.436*** (.157)	1.424*** (.161)	1.440*** (.161)
Firm age	-0.053** (.019)	-0.052** (.018)	-0.052** (.018)	-0.055** (.018)	-0.059** (.019)	.002 (.050)	-0.040 (.043)	-0.042 (.043)	-0.047 (.044)	-0.049 (.044)
Profitability	-0.809 (1.690)	-0.381 (1.631)	-0.402 (1.630)	-0.592 (1.655)	-0.914 (1.659)	1.757 (2.203)	-400 (2.669)	-735 (2.610)	-470 (2.616)	-783 (2.551)
Foreign ownership	.128 (.968)	-0.164 (.984)	-0.157 (.981)	-0.044 (.983)	.774 (.912)	.117 (2.638)	4.170* (2.012)	4.349* (2.036)	4.108* (1.886)	4.282* (1.913)
R&D intensity	1.982 (6.198)	-0.620 (6.525)	-0.696 (6.588)	-0.438 (6.497)	-0.975 (6.581)	11.882 (14.284)	-436 (14.667)	-7.000 (14.115)	-3.058 (14.347)	-9.142 (14.140)
Fixed-assets ratio	-1.354* (.558)	-1.217* (.562)	-1.208* (.563)	-1.099* (.557)	-1.180* (.556)	-3.281* (1.510)	-3.603** (1.355)	-3.575** (1.352)	-3.258* (1.336)	-3.241* (1.332)

Table 2 (continued)

	Upward OFDI					Downward OFDI				
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
Growth opportunity	.155* (.062)	.148* (.063)	.148* (.063)	.158* (.063)	.145* (.064)	.167 (.128)	.148 (.131)	.169 (.124)	.160 (.128)	.177 (.123)
Current ratio	-.002 (.030)	-.004 (.029)	-.004 (.029)	-.003 (.029)	.003 (.028)	-.201 (.122)	-.062 (.049)	-.058 (.049)	-.077 (.053)	-.072 (.052)
Financial leverage	.081 (.055)	.090 (.055)	.091 (.054)	.095 (.056)	.092 (.057)	.107 (.128)	-.021 (.169)	-.018 (.167)	-.015 (.165)	-.012 (.162)
Province GDP growth	-12.454* (5.523)	-11.541* (5.351)	-11.557* (5.365)	-12.180* (5.158)	-12.371* (5.052)	-5.338 (10.237)	-1.084 (10.131)	-428 (10.054)	-507 (10.476)	.130 (10.394)
Province IFDI	.020 (.044)	.002 (.042)	.002 (.042)	.003 (.041)	.014 (.040)	-.097 (.083)	-.008 (.081)	-.011 (.081)	-.010 (.079)	-.012 (.079)
Constant	-20.821*** (2.029)	-21.429*** (1.945)	-21.464*** (1.944)	-21.729*** (1.930)	-21.654*** (1.915)	-25.963*** (3.583)	-28.688*** (3.261)	-29.616*** (3.257)	-29.336*** (3.297)	-30.240*** (3.277)
N	5754	5754	5754	5754	5754	5754	5754	5754	5754	5754
Firm number	1334	1334	1334	1334	1334	1334	1334	1334	1334	1334
Log likelihood	-1095.819	-1091.282	-1091.260	-1089.537	-1121.829	-260.067	-300.718	-299.961	-299.613	-298.960
Chi ²	219.88***	273.87***	280.92***	267.21***	280.50***	221.78***	197.61***	189.78***	238.44***	245.95***

Robust standard errors are in parentheses; All tests are two-tailed; Year dummies are included; * $p < .05$, ** $p < .01$, *** $p < .001$

ownership is higher than Point A, the positive linkage between IFDI and upward OFDI becomes non-significant. Thus, although the hypothesized negative moderating effect of state ownership (H2a) is not significant in general, the findings demonstrate that state ownership could present a boundary condition for the positive linkage between IFDI and upward OFDI. That is, this positive linkage only happens in the condition of lower state ownership but is not significant in the condition of higher state ownership.

H2b suggests that the relationship between IFDI intensity and EMNEs' downward OFDI is positively moderated by state ownership. This hypothesis is supported because the coefficient of the interaction between IFDI intensity and state ownership is positive and significant in Model 8 ($b = 23.317, p < .01$), consistent with that in Model 10. This finding suggests that state ownership reinforces EMNEs' downward OFDI in the face of IFDI. To further demonstrate the effect size, I plot Fig. 3 (based on Model 8) to show how the marginal effect of IFDI on downward OFDI (y-axis) changes with the mean-centered value of state ownership (x-axis). Although the main effect of IFDI on downward OFDI is not significant in general (as shown in H1b), Fig. 3 shows that the marginal effect of IFDI on downward OFDI is significantly positive when state ownership is sufficiently high (higher than Point B in Fig. 3). Furthermore, the higher the state ownership is, the more positive the linkage is between IFDI and downward OFDI, consistent with H2b. Therefore, these findings suggest that state ownership also presents a boundary condition for the linkage between IFDI and downward OFDI. That is, this linkage is positive only in the condition of higher state ownership but is not significant in the condition of lower state ownership.

Taken together, the findings of H2a and H2b are generally consistent with my predictions that state ownership has different moderating effects on the IFDI-OFDI linkage in upward and downward directions.

H3a states that the relationship between IFDI intensity and EMNEs' upward OFDI is negatively moderated by industry competition. The coefficient of the interaction

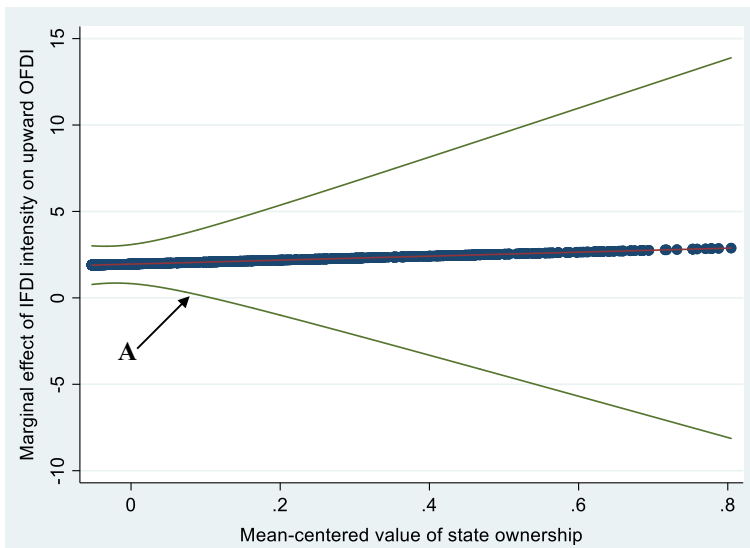


Fig. 2 Moderating effect of state ownership on IFDI-upward OFDI linkage (H2a)

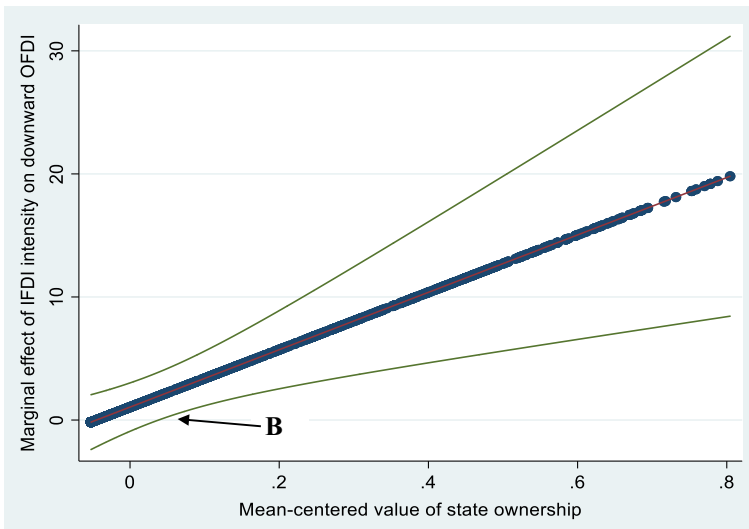


Fig. 3 Moderating effect of state ownership on IFDI-downward OFDI linkage (H2b)

between IFDI intensity and industry competition is negative and significant in Model 4 ($b = -19.804$, $p < .05$), consistent with that in Model 5. Thus, H3a is supported, suggesting that the positive linkage between IFDI and upward OFDI is mitigated by industry competition. To further illustrate the effect size, I plot Fig. 4 (based on Model 4) to demonstrate how the marginal effect of IFDI on upward OFDI (y-axis) changes with the mean-centered value of industry competition (x-axis). Figure 4 shows that the stronger the industry competition is, the weaker the linkage is between IFDI and upward OFDI, in line with H3a. In particular, when industry competition is sufficiently high (higher than Point C in Fig. 4), the positive linkage is fully offset—i.e., the marginal effect of IFDI on upward OFDI becomes non-significant. In this sense, industry competition presents another boundary condition for the positive linkage between IFDI and upward OFDI. This linkage is positive only when industry competition is lower but becomes non-significant when industry competition is very high.

H3b suggests that the relationship between IFDI intensity and EMNEs' downward OFDI is positively moderated by industry competition. Nevertheless, the coefficient of the interaction between IFDI intensity and industry competition is negative and significant in Model 9 ($b = -34.513$, $p < .05$), consistent with that in Model 10. Hence, these results are opposite to my prediction in H3b, suggesting that industry competition reduces EMNEs' downward OFDI in the face of IFDI. To further illustrate this effect size, I plot Fig. 5 (based on Model 9) to show how the marginal effect of IFDI on downward OFDI (y-axis) changes with the mean-centered value of industry competition (x-axis). Again, although the main effect of IFDI on downward OFDI is not significant in general (as shown in H1b), Fig. 5 shows that the marginal effect of IFDI on downward OFDI is significantly positive when industry competition is sufficiently low (lower than Point D in Fig. 5). In addition, the higher the industry competition is, the weaker the linkage is between IFDI and downward OFDI. These findings show that industry competition also presents a boundary condition for the linkage between IFDI

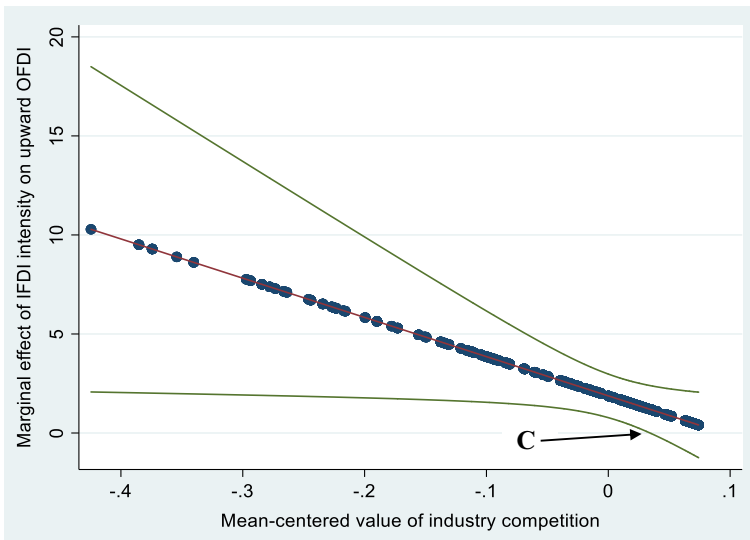


Fig. 4 Moderating effect of industry competition on IFDI-upward OFDI linkage (H3a)

and downward OFDI. This linkage becomes positive only when industry competition is lower but is non-significant when industry competition is higher.

Taken together, the findings of H3a and H3b suggest that industry competition has a negative moderating effect on the IFDI-OFDI linkages in both upward and downward directions. The former finding is consistent with my prediction in H3a but the latter finding is opposite to my prediction in H3b. That is, industry competition hinders market-based resource accumulation and thus EMNEs have fewer resources to support upward and downward OFDI as fostered by IFDI spillovers. The results suggest that

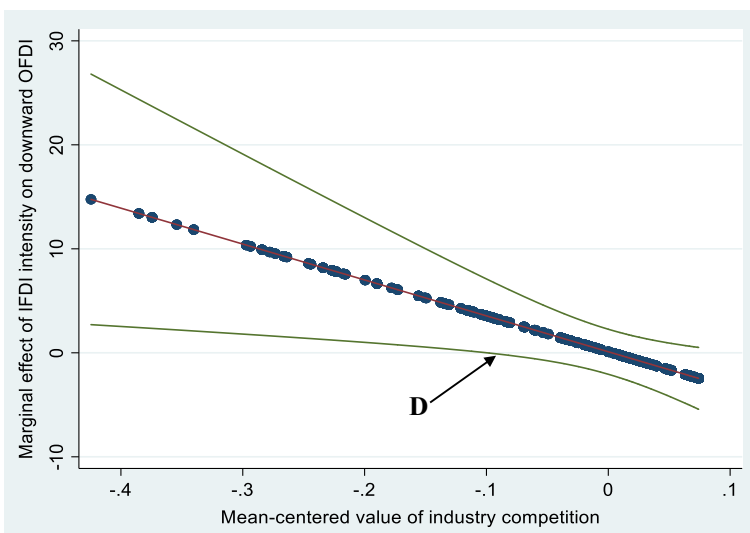


Fig. 5 Moderating effect of industry competition on IFDI-downward OFDI linkage (H3b)

such a negative influence may dominate the positive influence of industry competition in terms of pushing EMNEs' downward OFDI to seek alternative overseas markets.

Endogeneity tests by the 2SLS-IV approach

I use the 2SLS-IV approach to check the potential endogeneity issues. The IFDI-OFDI linkages demonstrated above might be subject to biases led by omitted variables or reverse causality. Although IFDI intensity, the core independent variable, is measured at the industry level, this variable is not fully exogenous and may be influenced by certain unobservable factors that (1) also affect firm-level OFDI (i.e., omitted variables) or (2) could be affected by firm-level OFDI (i.e., reverse causality). Therefore, following recent recommendations in the literature (Bascale, 2008; Semadeni et al., 2014), I empirically check these potential endogeneity issues based on the 2SLS-IV approach.

Specifically, I first treat IFDI intensity as an endogenous variable and identify three instruments: (1) lagged industry sales growth, (2) lagged provincial marketization levels, and (3) two-year lagged IFDI intensity. The first one is calculated as the growth rate of the industry total sales in the home market. This indicates the industry-level growth opportunity, which may be related to industry-level IFDI (i.e., stronger growth, more attractive for foreign firms' entry) but is less likely to affect (or be affected by) EMNEs' OFDI. The second instrument is measured by the provincial marketization index developed by the Chinese National Economic Research Institute (Fan et al., 2016), which has been widely used in the literature (e.g., Luo et al., 2017). This instrument may also influence IFDI (i.e., higher marketization levels, more attractive for foreign firms' entry) but is less likely to affect (or be affected by) EMNEs' OFDI. Finally, I use the two-year lagged IFDI intensity as another instrument, which is less likely to be affected by EMNEs' OFDI in the coming years.

The first-stage results (available upon request) suggest that all instruments have significant effects on the IFDI intensity ($p < .001$ in most cases) and that the Cragg-Donald F statistics are well above the critical value at 10% level, suggesting that these three instruments are all relevant and sufficiently strong. Also, Sargan tests cannot be rejected in any second-stage model ($p > .10$), further suggesting that the instruments per se are not endogenous. Based on these quality instruments (i.e., relevant and exogenous), I run 2SLS-IV regressions, with results presented in Table 3. Models 1–2 (3–4) use upward (downward) OFDI as the dependent variable. Models 1(2) and 3(4) use EMNEs' home province (country) as the benchmark to divide OFDI projects into more versus less advanced host markets. Notably, Durbin-Wu-Hausman (DWH) tests of endogeneity cannot be rejected in any models ($p > .10$), suggesting that the effects of IFDI intensity are not significantly biased by the endogeneity issues (Semadeni et al., 2014). Furthermore, I find that the results are generally consistent with those in the main analysis.

Robustness checks

I also conduct a series of robustness checks based on alternative measures, samples, lagged effects, control variables, and estimation methods. All the results are available upon request. First, I alternatively use EMNEs' home country (i.e., China) as the benchmark to divide OFDI projects into more versus less advanced host countries.

Table 3 Endogeneity tests by 2SLS-IV regressions on EMNEs' upward and downward OFDI

	Model 1 H1a: upward OFDI Home region	Model 2 H1a: upward OFDI Home country	Model 3 H1b: downward OFDI Home region	Model 4 H1b: downward OFDI Home region
IFDI intensity	.579** (.176)	.578** (.177)	.581 (.339)	.480 (.320)
State ownership	-.252 (.157)	-.263 (.158)	-.076 (.043)	-.070 (.041)
Industry competition	-.044 (.290)	-.060 (.292)	-.121 (.085)	-.118 (.080)
Firm size	.164*** (.021)	.168*** (.021)	.045*** (.006)	.040*** (.006)
Firm age	-.008 (.005)	-.009 (.005)	-.001 (.001)	-.0001 (.001)
Profitability	-.326 (.343)	-.351 (.345)	-.037 (.095)	-.016 (.090)
Foreign ownership	-.160 (.326)	-.091 (.327)	-.014 (.077)	-.059 (.073)
R&D intensity	.048 (1.926)	-.014 (1.935)	-.387 (.564)	-.271 (.533)
Fixed-assets ratio	-.126 (.149)	-.140 (.150)	-.034 (.047)	-.031 (.045)
Growth opportunity	.039* (.017)	.039* (.017)	.006 (.005)	.005 (.005)
Current ratio	-.002 (.009)	-.001 (.009)	-.001 (.002)	-.001 (.002)
Leverage	.005 (.014)	.005 (.014)	-.000 (.004)	-.000 (.004)
GDP growth	-1.326 (1.213)	-1.406 (1.218)	.145 (.352)	.204 (.333)
Province IFDI	.0003 (.010)	.001 (.010)	-.002 (.003)	-.003 (.003)
Constant	-3.363*** (.570)	-3.426*** (.573)	-1.004*** (.249)	-.869*** (.236)
<i>N</i>	4787	4787	5340	5340
F-stat.	5.181***	5.386***	4.951***	4.391***
Cragg-Donald F	3.0e+04	3.0e+04	48.929	48.929
Critical Value	22.30	22.30	19.93	19.93
Sargan statistics	.093	.106	.089	.505
<i>P</i> value	.955	.948	.765	.477
DWH tests	.442	.318	2.147	1.460
<i>P</i> value	.506	.573	.143	.227

Standard errors are in parentheses; all tests are two-tailed; year dummies are included; * $p < .05$, ** $p < .01$, *** $p < .001$

The results are essentially the same as those in the main analysis. Additionally, I use alternative approaches to distinguishing upward and downward OFDI (i.e., based on GCI and OECD), which also generate consistent results. Furthermore, I measure upward and downward OFDI by the average difference in GDP per capita between OFDI host markets and EMNE home provinces or home country. Given that these dependent variables are not count variables but are left-censored continuous values with a large proportion of zero in the distribution, I use Tobit model with robust standard errors clustered at the firm level. The results are also robust. Overall, these results suggest that my findings are not sensitive to the criteria for the upward-downward OFDI dichotomy or to the variation of development-level distance within upward or downward OFDI destinations.

Second, I count EMNEs' OFDI projects based on two alternative ownership thresholds (i.e., only those in which a focal firm holds at least 5% and 25% of equity ownership are included, respectively). The results are essentially identical to the main analysis. Third, I separately use each of the four ratios of foreign firms (i.e., based on firm numbers, assets, sales, and revenues) to measure industry-level IFDI intensity, respectively. The results are highly consistent. Fourth, I run the same analyses in an alternative sample of firms without foreign ownership. The results are essentially the same. The results are also similar when running analyses in firms with foreign ownership that is less than 10% or 20%. Fifth, I add several additional control variables, such as industry or/and province dummies. The results are not sensitive to these changes. Sixth, I lag independent variables by two and three years, respectively, to examine longer lag effects of IFDI on upward and downward OFDI. The results remain generally robust. Finally, as an alternative estimation method, I run normal NB regressions with robust standard errors and find consistent results.

Discussion

This study aims to extend the research on IFDI-OFDI linkage by incorporating the directionality of internationalization. I examine how EMNEs make upward and downward OFDI by learning from IFDI spillovers, contingent on state ownership and industry competition. I find a positive relationship between IFDI intensity and upward OFDI, which is weakened by state ownership and industry competition. Moreover, while the linkage between IFDI intensity and downward OFDI is not significant in general, this linkage becomes positive when state ownership is higher or industry competition is weaker.

Theoretical and practical contributions

By exploring the directionality of EMNEs' OFDI (upward versus downward) in the face of IFDI spillovers, this study advances the research on the IFDI-OFDI linkage in a theoretically meaningful way. Specifically, although extant research provides evidence for a positive linkage between IFDI and OFDI (e.g., Gu & Lu, 2011; Xia et al., 2014), what remains underexplored is *where to go* for EMNEs in making OFDI by learning from IFDI spillovers. Indeed, prior IFDI-OFDI research typically treats OFDI as a homogeneous capital flow from EMNEs, but less is known about the heterogeneity

within EMNEs' OFDI. My study sheds light on *where to go* in the context of IFDI-OFDI linkage by distinguishing EMNEs' upward and downward OFDI, borrowing insights from the research on internationalization directionality (e.g., Dau, 2013; Deng et al., 2018). While the prior studies mostly examine the performance implications of different internationalization directions, I focus on theorizing the different motivations and capabilities EMNEs exhibit in making upward versus downward OFDI.

In particular, I articulate why EMNEs make upward versus downward OFDI in response to IFDI in the focal industry, based on different influences of IFDI on EMNEs and different requirements for EMNEs to enter into more versus less advanced host markets than the EMNEs' home markets. Moving beyond the general premise that EMNEs' OFDI benefits from IFDI spillovers (Gu & Lu, 2011; Zhang et al., 2010, 2014), this study illuminates that EMNEs are likely to utilize different benefits from IFDI spillovers to make OFDI in different directions. I find that industry-level IFDI is positively associated with EMNEs' upward OFDI, but is not associated with their downward OFDI. The former finding is consistent with my theory that EMNEs' upward OFDI benefits from IFDI spillovers in terms of learning about advanced technology and management skills, as well as obtaining competition experience with advanced foreign MNEs. The latter finding, although not supporting my theory, highlights the importance of exploring the boundary conditions of the linkage between IFDI and downward OFDI. Overall, these findings provide more fine-grained evidence for directionality (where to go) of EMNEs' OFDI in response to IFDI spillovers.

Furthermore, my findings also provide nuanced evidence about how the IFDI-OFDI linkages in upward and downward directions are differently contingent on government- and market-based resource channels, which are respectively captured by state ownership and industry competition. First, I show that state ownership hinders EMNEs' upward OFDI in response to IFDI, while it reinforces their downward OFDI in response to IFDI. These findings help uncover the mixed role of the government in EMNEs' OFDI. That is, while state ownership helps access stronger government support that generally benefits OFDI, especially downward OFDI; it meanwhile reduces firms' capabilities of transforming the resources into competitiveness to foster OFDI, especially upward OFDI. These findings enhance my theory by revealing the different mechanisms underlying the IFDI-OFDI linkages in two directions. Second, I find that industry competition negatively moderates the effects of IFDI spillovers on both upward and downward OFDI. That is, OFDI relies on resource support to transform the learning benefits into actual implementation. Consequently, OFDI in both directions in response to IFDI could be reduced by industry competition that hinders market-based resource accumulation. Taken together, this study builds two boundary conditions (i.e., ownership and industry structures) for the IFDI-OFDI linkages in two directions. Meanwhile, this study extends the IFDI-OFDI linkage by exploring how the effects of learning from IFDI spillovers are contingent on both government-based and market-based resource channels.

Additionally, this study also informs the literature on IFDI spillovers. A large body of research has shown how IFDI spillovers affect local firms' productivity (e.g., Buckley et al., 2002, 2007a; Zhang et al., 2010, 2014). Nevertheless, this approach implicitly assumes local firms as passive receivers of IFDI impact, while research on local firms' active response to IFDI remains nascent (Chang & Xu, 2008; Dau et al., 2015). My study enriches the IFDI spillovers research by illustrating local EMNEs'

more fine-grained investment strategies in the face of IFDI. My study suggests that OFDI is not a homogeneous capital flow to overseas markets but contains heterogeneity in terms of destinations as well as various motivations and capabilities behind their choice of the destinations. In this regard, my theory and findings better reveal local firms' strategic reactions to IFDI—i.e., the different directions of OFDI that exhibit their different considerations in their strategic reactions to IFDI spillovers.

From a practical perspective, this study has valuable implications for both firm decision-makers and public policy-makers. First, in many emerging markets, foreign MNEs are important players in the local markets, with profound influence on local firms' strategies and performance. This study shows several potential options of investment that local EMNEs can consider in the face of IFDI. Specifically, this study helps decision-makers of local EMNEs to more effectively evaluate the learning opportunities brought by the IFDI in the home market and thereby better balance their OFDI projects among host countries with different development levels. For another, my theory and findings can also help policy-makers in the emerging markets to better understand the potential effects of IFDI on local firms and the capabilities and resources that are needed for local EMNEs' OFDI. Such knowledge is valuable to inform more appropriate policy-making regarding both IFDI and OFDI to more effectively serve the national interests.

Limitations and future research

This study has several limitations that indicate directions for future research. First, this study extends the IFDI-OFDI linkage by examining the heterogeneity within OFDI directionality, but does not consider any potential heterogeneity within the IFDI in emerging markets. In this regard, future research may further explore more nuanced relationships between different types of IFDI and different types of OFDI for a more systematic framework of IFDI-OFDI linkage. Second, the measures of OFDI projects made by Chinese firms and IFDI in the Chinese market represent approximations to indicate Chinese firms' tendencies for OFDI and the IFDI spillovers for Chinese firms, respectively (Xia et al., 2014). However, both indicators may suffer from potential measurement errors led by certain entities with special purposes, such as round-tripping projects, especially in high-tech industries (Jones & Temouri, 2016). Due to data limitations, I can hardly observe the specific purposes of the FDI projects made by Chinese firms (i.e., OFDI) or in the Chinese markets (i.e., IFDI). Future research may provide more nuanced evidence about how the IFDI-OFDI linkage is subject to specific purposes of the investment projects. Finally, I test the hypotheses only in the sample of Chinese listed firms. Although China is an ideal setting for IFDI and OFDI research (e.g., Buckley et al., 2002, 2007a, 2007b; Li et al., 2017; Zhang et al., 2010, 2014), this design may lead to the concern about the generalizability of my findings to other emerging markets. I thus encourage scholars to test the extended IFDI-OFDI linkage in various emerging markets. Also, while the data on listed firms are more accessible and reliable, it is important for future research to test the theory in broader samples to enhance the generalizability of my findings across different types of firms, such as small and medium-sized enterprises and new ventures.

Open Access This article is licensed under a Creative Commons Attribution 4.0 International License, which permits use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons licence, and indicate if changes were made. The images or other third party material in this article are included in the article's Creative Commons licence, unless indicated otherwise in a credit line to the material. If material is not included in the article's Creative Commons licence and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder. To view a copy of this licence, visit <http://creativecommons.org/licenses/by/4.0/>.

References

- Alon, I., Anderson, J., Munim, Z. H., & Ho, A. 2018. A review of the internationalization of Chinese enterprises. *Asia Pacific Journal of Management*, 35(3): 573–605.
- Anand, J., & Delios, A. 2002. Absolute and relative resources as determinants of international acquisitions. *Strategic Management Journal*, 23(2): 119–134.
- Barnett, W. P. 1997. The dynamics of competitive intensity. *Administrative Science Quarterly*, 42(1): 128–160.
- Bascle, G. 2008. Controlling for endogeneity with instrumental variables in strategic management research. *Strategic Organization*, 6(3): 285–327.
- Basu, S., Phelps, C., & Kotha, S. 2011. Towards understanding who makes corporate venture capital investments and why. *Journal of Business Venturing*, 26(2): 153–171.
- Blalock, G., & Simon, D. H. 2009. Do all firms benefit equally from downstream FDI? The moderating effect of local suppliers' capabilities on productivity gains. *Journal of International Business Studies*, 40(7): 1095–1112.
- Bloomström, M., & Kokko, A. 1998. Multinational corporations and spillovers. *Journal of Economic Surveys*, 12(3): 247–277.
- Buckley, P. J., Clegg, J., & Wang, C. 2002. The impact of inward FDI on the performance of Chinese manufacturing firms. *Journal of International Business Studies*, 33(4): 637–655.
- Buckley, P. J., Clegg, J., & Wang, C. 2007a. Is the relationship between inward FDI and spillover effects linear? An empirical examination of the case of China. *Journal of International Business Studies*, 38(3): 447–459.
- Buckley, P. J., Clegg, L. J., Cross, A. R., Liu, X., Voss, H., & Zheng, P. 2007b. The determinants of Chinese outward foreign direct investment. *Journal of International Business Studies*, 38(4): 499–518.
- Buckley, P. J., Clegg, L. J., Voss, H., Cross, A. R., Liu, X., & Zheng, P. 2018. A retrospective and agenda for future research on Chinese outward foreign direct investment. *Journal of International Business Studies*, 49(1): 4–23.
- Chang, S. J., & Xu, D. 2008. Spillovers and competition among foreign and local firms in China. *Strategic Management Journal*, 29(5): 495–518.
- Clougherty, J., Kim, J., Skousen, B., & Szücs, F. 2017. The foundations of international business: Cross-border investment activity and the balance between market-power and efficiency effects. *Journal of Management Studies*, 54(3): 340–365.
- Cuervo-Cazurra, A., Inkpen, A., Musacchio, A., & Ramaswamy, K. 2014. Governments as owners: State-owned multinational companies: Editorial. *Journal of International Business Studies*, 45(8): 919–942.
- Cui, L., & Jiang, F. 2012. State ownership effect on firms' FDI ownership decisions under institutional pressure: A study of Chinese outward-investing firms. *Journal of International Business Studies*, 43(3): 264–284.
- Cui, L., Meyer, K. E., & Hu, H. W. 2014. What drives firms' intent to seek strategic assets by foreign direct investment? A study of emerging economy firms. *Journal of World Business*, 49(4): 488–501.
- Dau, L. A. 2013. Learning across geographic space: Pro-market reforms, multinationalization strategy, and profitability. *Journal of International Business Studies*, 44(3): 235–262.
- Dau, L. A., Ayyagari, M., & Spencer, J. 2015. Strategic responses to FDI in emerging markets: Are core members more responsive than peripheral members of business groups? *Academy of Management Journal*, 58(6): 1869–1894.
- Deng, Z., Jean, R.-J. B., & Sinkovics, R. R. 2018. Rapid expansion of international new ventures across institutional distance. *Journal of International Business Studies*, 49(8): 1010–1032.

- Dohse, D., Hassink, R., & Klaerding, C. (2012). *Emerging multinationals, international knowledge flows and economic geography: A research agenda*, Kiel Working Paper No. 1776. Kiel Institute for the World Economy, Kiel, Germany.
- Dunning, J. H. 1981. *International production and the multinational enterprises*. Allen & Unwin.
- Eapen, A. 2012. Social structure and technology spillovers from foreign to domestic firms. *Journal of International Business Studies*, 43(3): 244–263.
- Fan, G., Wang, X., & Zhu, H. 2016. *National economic research institute index of marketization of China's provinces*. Economic Science Press.
- Greene, W. 2012. *Econometric analysis*. Pearson Education Limited.
- Gu, Q., & Lu, J. W. 2011. Effects of inward investment on outward investment: The venture capital industry worldwide 1985–2007. *Journal of International Business Studies*, 42(2): 263–284.
- Guillén, M. F. 2002. Structural inertia, imitation, and foreign expansion: South Korean firms and business groups in China: 1987–95. *Academy of Management Journal*, 45(3): 509–525.
- Hoskisson, R. E., Wright, M., Filatotchev, I., & Peng, M. W. 2013. Emerging multinationals from mid-range economies: The influence of institutions and factor markets. *Journal of Management Studies*, 50(7): 1295–1321.
- Hu, H. W., & Cui, L. 2014. Outward foreign direct investment of publicly listed firms from China: A corporate governance perspective. *International Business Review*, 23(4): 750–760.
- Inoue, C., Lazzarini, S. G., & Musacchio, A. 2013. Leviathan as a minority shareholder: Firm-level implications of state equity purchases. *Academy of Management Journal*, 56(6): 1775–1801.
- Javorcik, B. S. 2004. Does foreign direct investment increase the productivity of domestic firms? Is search of spillovers through backward linkages? *American Economic Review*, 94(3): 605–627.
- Johanson, J., & Vahlne, J. 1977. The internationalization process of the firm: A model of knowledge development and increasing foreign market commitments. *Journal of International Business Studies*, 8(1): 23–32.
- Jones, C., & Temouri, Y. 2016. The determinants of tax haven FDI. *Journal of World Business*, 51(2): 237–250.
- Kafourous, M., & Aliyev, M. 2016. Institutions and foreign subsidiary growth in transition economies: The role of intangible assets and capabilities. *Journal of Management Studies*, 53(4): 580–607.
- Lee, I. H. I., Hong, E., & Makino, S. 2016. Location decisions of inward FDI in sub-national regions of a host country: Service versus manufacturing industries. *Asia Pacific Journal of Management*, 33(2): 343–370.
- Li, Y., & Cantwell, J. 2018. *Motives of inward FDI and subsequent outward FDI: Subnational evidence from China*. In *Academy of Management Proceedings* (Vol. 2018, no. 1, p. 11049). Briarcliff manor, NY 10510: Academy of Management.
- Li, J., & Tang, Y. 2010. CEO hubris and firm risk taking in China: The moderating role of managerial discretion. *Academy of Management Journal*, 53(1): 45–68.
- Li, M. H., Cui, L., & Lu, J. 2014. Varieties in state capitalism: Outward FDI strategies of central and local state-owned enterprises from emerging economy countries. *Journal of International Business Studies*, 45(8): 980–1004.
- Li, H., Yi, X., & Cui, G. 2017. Emerging market firms' internationalization: How do firms' inward activities affect their outward activities? *Strategic Management Journal*, 38(13): 2704–2725.
- Li, C., Gao, D., & Zhong, W. 2020. A political cycle of regional FDI spillovers in an emerging market: Evidence from China. *Management International Review*, 60(2): 151–176.
- Lin, W.-T. 2014. How do managers decide on internationalization processes? The role of organizational slack and performance feedback. *Journal of World Business*, 49(3): 396–408.
- Lin, W.-T., Cheng, K.-Y., & Liu, Y. 2009. Organizational slack and firm's internationalization: A longitudinal study of high-technology firms. *Journal of World Business*, 44(4): 397–406.
- Liu, X., Lu, J., Filatotchev, I., Buck, T., & Wright, M. 2010. Returnee entrepreneurs, knowledge spillovers and innovation in high-tech firms in emerging economies. *Journal of International Business Studies*, 41(7): 1183–1197.
- Long, J. S., & Freese, J. 2006. *Regression models for categorical dependent variables using STATA*. STATA Press.
- Lu, J., Liu, X., Wright, M., & Filatotchev, I. 2014. International experience and FDI location choices of Chinese firms: The moderating effects of home country government support and host country institutions. *Journal of International Business Studies*, 45(4): 428–449.
- Lu, J., Ma, X., Taksa, L., & Wang, Y. 2017. From LLL to IOL: Moving dragon multinationals research forward. *Asia Pacific Journal of Management*, 34(4): 757–768.
- Luo, Y., & Tung, R. L. 2007. International expansion of emerging market enterprises: A springboard perspective. *Journal of International Business Studies*, 38(4): 481–498.

- Luo, Y., Xue, Q., & Han, B. 2010. How emerging market governments promote outward FDI: Experience from China. *Journal of World Business*, 45(1): 68–79.
- Luo, J. H., Xiang, Y., & Zhu, R. 2017. Military top executives and corporate philanthropy: Evidence from China. *Asia Pacific Journal of Management*, 34(3): 725–755.
- Meyer, K. E., Estrin, S., Bhaumik, S. K., & Peng, M. W. 2009. Institutions, resources, and entry strategies in emerging economies. *Strategic Management Journal*, 30(1): 61–80.
- Morck, R., Yeung, B., & Zhao, M. 2008. Perspectives on China's outward foreign direct investment. *Journal of International Business Studies*, 39(3): 337–350.
- Musacchio, A., Lazzarini, S. G., & Aguilera, R. V. 2015. New varieties of state capitalism: Strategic and governance implications. *Academy of Management Perspectives*, 29(1): 115–131.
- O'Brien, J. P., & David, P. 2014. Reciprocity and R&D search: Applying the behavioral theory of the firm to a communitarian context. *Strategic Management Journal*, 35(4): 550–565.
- Peng, M. W., Bruton, G. D., Stan, C. V., & Huang, Y. 2016. Theories of the (state-owned) firm. *Asia Pacific Journal of Management*, 33(2): 293–317.
- Quer, D., Claver, E., & Rienda, L. 2012. Political risk, cultural distance, and outward foreign direct investment: Empirical evidence from large Chinese firms. *Asia Pacific journal of management*, 29(4): 1089–1104.
- Ramamurti, R., & Singh, J. V. 2009. Indian multinationals: Generic internationalization strategies. In R. Ramamurti, & J. V. Singh (Eds.). *Emerging multinationals from emerging markets*: 110–166. Cambridge University Press.
- Semadeni, M., Withers, M. C., & Certo, T. 2014. The perils of endogeneity and instrumental variables in strategy research: Understanding through simulations. *Strategic Management Journal*, 35(7): 1070–1079.
- Shapiro, D. M., Vecino, C., & Li, J. 2018. Exploring China's state-led FDI model: Evidence from the extractive sectors in Latin America. *Asia Pacific Journal of Management*, 35(1): 11–37.
- Spencer, J. W. 2008. The impact of multinational enterprise strategy on indigenous enterprises: Horizontal spillovers and crowding out in developing countries. *Academy of Management Review*, 33(2): 341–361.
- Sun, S. L., Peng, M. W., Lee, R. P., & Tan, W. 2015. Institutional open access at home and outward internationalization. *Journal of World Business*, 50(1): 234–246.
- Tsang, E. W., & Yip, P. S. 2007. Economic distance and the survival of foreign direct investments. *Academy of Management Journal*, 50(5): 1156–1168.
- UNCTAD 2017. *World investment report 2017*. United Nations Conference on Trade and Development.
- Wang, C., Hong, J., Kafourous, M., & Wright, M. 2012. Exploring the role of government involvement in outward FDI from emerging economies. *Journal of International Business Studies*, 43(7): 655–676.
- Wei, Z., & Nguyen, Q. T. 2019. Local responsiveness strategy of foreign subsidiaries of Chinese multinationals: The impacts of relational-assets, market-seeking FDI, and host country institutional environments. *Asia Pacific Journal of Management*, 37(3): 661–692. <https://doi.org/10.1007/s10490-019-09655-3>.
- Xia, J., Ma, X., Lu, J. W., & Yiu, D. W. 2014. Outward foreign direct investment by emerging market firms: A resource dependence logic. *Strategic Management Journal*, 35(9): 1343–1363.
- Xiao, S., & Park, B. I. 2018. Bring institutions into FDI spillover research: Exploring the impact of ownership restructuring and institutional development in emerging economies. *International Business Review*, 27(1): 289–308.
- Yi, J., Chen, Y., Wang, C., & Kafourous, M. 2015. Spillover effects of foreign direct investment: How do region-specific institutions matter? *Management International Review*, 55(4): 539–561.
- Zaheer, S., Schomaker, M. S., & Nachum, L. 2012. Distance without direction: Restoring credibility to a much-loved construct. *Journal of International Business Studies*, 43(1): 18–27.
- Zhang, Y., Li, H., Li, Y., & Zhou, L.-A. 2010. FDI spillovers in an emerging market: The role of foreign firms' country origin diversity and domestic firms' absorptive capacity. *Strategic Management Journal*, 31(9): 969–989.
- Zhang, Y., Li, Y., & Li, H. 2014. FDI spillovers over time in an emerging market: The roles of entry tenure and barriers to imitation. *Academy of Management Journal*, 57(3): 698–722.
- Zhou, K. Z., Gao, G. Y., & Zhao, H. 2017. State ownership and firm innovation in China: An integrated view of institutional and efficiency logics. *Administrative Science Quarterly*, 62(2): 375–404.

Publisher's note Springer Nature remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

Renfei Gao (PhD, the University of Melbourne) is a Presidential Fellow (equivalent to assistant professor) at Alliance Manchester Business School, the University of Manchester, UK. His research interests include behavioral strategy, corporate governance, nonmarket strategy, and international business, with a special focus on emerging markets. His papers have appeared in leading journals and conference proceedings, such as *Strategic Entrepreneurship Journal* and *Academy of Management Best Paper Proceedings*.