Innovativeness and the relevance of political ties in Chinese MNEs

Cong Su\textsuperscript{a}, Lingshuang Kong\textsuperscript{a}, Francesco Ciabuschi\textsuperscript{a,b,∗}

\textsuperscript{a} Department of Business Studies, Uppsala University, Uppsala, Sweden
\textsuperscript{b} Department of Management, University of Bologna, Bologna, Italy

A R T I C L E  I N F O

Keywords:
Chinese multinationals
Headquarters innovativeness
Subsidiary innovativeness
Reverse innovation transfer
Political ties

A B S T R A C T

In light of emerging-market multinationals’ substantial engagement in strategic asset-seeking internationalization, this study explores the effects of home-country political ties on innovativeness and reverse innovation transfer in Chinese multinationals. Based on a survey of 99 Chinese multinationals and their 177 subsidiaries, the results reveal that headquarters’ political ties hamper their innovativeness, an important factor in stimulating subsidiary innovativeness and, in turn, reverse innovation transfer in Chinese multinationals. This study contributes to the literature on subsidiary entrepreneurship and emerging-market multinationals and suggests that, without a certain level of innovativeness at headquarters, relying only on strategic asset-seeking overseas investment to achieve innovation catch-up is problematic. Our findings point also to the co-evolving nature of Chinese multinationals’ competence growth and catch-up process, and support the view on the liability of stateness suffered by Chinese multinationals.

1. Introduction

Since the introduction of the view of multinational enterprises (MNEs) as a “differentiated network” (Nohria & Ghoshal, 1997), MNEs have been considered as a worldwide learning network based on differentiated subsidiaries (Andersson, Forsgren, & Holm, 2002, 2007; Birkinshaw & Hood, 1998; Crespo, Lages, & Crespo, 2020). As global knowledge-seeking activity becomes more important for MNEs to maintain competitive leadership, subsidiaries are increasingly mandated by their headquarters (HQS) to create new competence and innovation (Cantwell & Mudambi, 2005; Figureiredo, Larsen, & Hansen, 2020; Tse, Yim, Yin, Wan, & Jiao, 2021). Accordingly, the development and reverse transfer of innovation by MNE subsidiaries have been receiving increased attention from international business scholars.

Unsurprisingly, however, the research on subsidiary innovativeness and reverse innovation transfer has developed based mostly on the Western MNE context (e.g., Elia, Petruzzelli, & Pisciello, 2019; Håkanson & Nobel, 2001; Jiménez-Jimenez, Martinez-Costa, & Sanz-Valle, 2020; Meyer, Li, & Schotter, 2020). As a result, less attention has been paid to the emerging-market MNE (EMNE) context (Awate, Larsen, & Mudambi, 2015; He, Khan, & Shenkar, 2018; Nair, Demirbag, Mellahi, & Gopalakrishna, 2018; Su, Kong, Ciabuschi, & Holm, 2020). Subsidiary innovation development and transfer have become crucial activities in EMNEs, particularly because of— and also supported by—the recent wave of EMNEs’ strategic asset-seeking internationalization, also referred to as asset-augmentation strategy. As many studies have identified, EMNEs open or acquire subsidiaries in other countries, particularly advanced ones, with the intention of sourcing new competence, innovation, and other strategic assets and bridging technological gaps when competing with global peers (e.g., Elia & Santangelo, 2017; Maksimov & Luo, 2021; Shi, Sutherland, Williams, & Rong, 2021).

In this sense, many MNEs’ subsidiaries, particularly those in advanced markets, are likely to be mandated with an entrepreneurial role, with the aim of contributing value to the entire multinational. In the specific case of Chinese MNEs (CMNEs), the strategy of asset seeking through foreign investments has been so far revealing a different picture. In reality, apart from some well-known examples of successful acquisitions, like that of Volvo by Geely, many CMNEs have difficulty fulfilling the orchestrating role of integrating subsidiary knowledge and gaining critical inputs (Su et al., 2020; Zhang, 2020). For instance, TCL’s acquisition of Thomson’s television businesses and Nanjing Automobile’s acquisition of the UK’s Rover have yet to make any progress. These concerns leave us with questions. For example, are CMNEs able to enhance subsidiary innovativeness and acquire innovation-related knowledge from subsidiaries? If so, under what conditions do these CMNEs tend to do better and reap greater benefits from subsidiaries? Our paper seeks to fill this void by exploring the influence of HQ-level factors on subsidiary innovativeness and reverse innovation transfer to...
HQs in CMNEs. In fact, compared to advanced-market MNEs, CMNEs have some idiosyncratic characteristics, such as the relatively limited experience as latecomers to the global business and coming from an emerging country with the might of political institutions and a predominant reliance on political relationships (Elia, Kafouros, & Buckley, 2020; Ramamurti, 2012). Therefore, CMNEs rely heavily on strong roots in their home-country institution, which may influence HQ-subsidiary relationship as well as subsidiary entrepreneurial activities. However, the literature focusing on subsidiary innovation development and transfer has so far paid little attention to the importance of HQs and that of the home-country context. In this paper, we argue that, in CMNEs, subsidiary innovation processes are potentially heavily imprinted by Chinese HQs and by their home-country embeddedness, and that the effects might be actually detrimental not only for subsidiary innovativeness, but consequently also for reverse innovation transfer.

The research stream on innovation development and transfer in MNEs is largely subsidiary-centered, emphasizing subsidiary-level characteristics (e.g., subsidiary embeddedness, subsidiary role, and subsidiary autonomy) and the host environment (e.g., Andersson, Forsgren, & Holm, 2002; Elia et al., 2019; Gölgeci, Ferraris, Arslan, & Tarba, 2019; Mudambi, Pisitello, & Rabbio, 2014). This research focus follows the concept of MNEs as a “differentiated network” (Nohria & Ghoshal, 1997), which emphasizes the roles and competence of subsidiaries rather than those of HQs. However, as Chandler (1991) asserted, MNE HQs carry with them the influences of their home countries when going abroad, and they “imprint” these influences on their subsidiary operations. We choose to focus specifically on the effects of HQs’ innovativeness and political ties on subsidiary innovativeness and reverse innovation transfer, both very relevant factors in the current debate, particularly with reference to the Chinese context, but still with unclear implications.

HQ innovativeness refers to their orientation and efforts to find new opportunities and solutions to support creativity and experimentation in introducing new products/services, and to develop new processes aimed at sustaining technological leadership (Lumpkin & Dess, 1996). HQ innovativeness is also relevant to further understand subsidiary entrepreneurial behavior as it may contribute to higher subsidiary innovation, as well as to stimulate reverse innovation transfer. This is a widely debated conjecture in the literature on MNEs and is typically related to the context of subsidiary evolution and centers of excellence (e.g., Birkinshaw & Hood, 1998; Frost, Birkinshaw, & Ensign, 2002); so far, however, the relationship between HQ innovativeness and subsidiary innovativeness has received limited empirical analysis. The situation is even more complicated in the context of CMNEs. On one hand, it is known that CMNE HQs are more likely to be less innovative than their Western rivals; hence, Chinese HQs invest in foreign markets to seek innovativeness (Maksimov & Luo, 2021). This translates into subsidiaries’ innovativeness, via reverse innovation transfer, contributing to HQs’ innovativeness (see, for instance, Jiménez-Jiménez et al., 2020; Nair et al., 2018). On the other hand, HQ innovativeness can also be an underlying and enabling factor in subsidiary innovation development and transfer, as strategic asset-seeking internationalization itself is an entrepreneurial initiative of CMNE HQs (Maksimov & Luo, 2021). Clearly, the relationships between HQ innovativeness, subsidiary innovativeness, and reverse innovation transfer in CMNEs needs further understanding.

HQs’ political ties are important for understanding this topic, as strategic asset-seeking internationalization in CMNEs is, to some extent, politically driven (Su et al., 2020). With China being latecomers, the Chinese government is making great efforts to move towards an innovation-led growth model to upgrade national technological capabilities and promote integration into the global economy (Howell, 2020). The Chinese government depends largely on state-connected firms to achieve its ambitious innovation goals and champion national interests (Cuervo-Cazurra & Li, 2021; Howell, 2020). Hence, Chinese state-connected firms are main players in driving strategic asset-seeking internationalization (Buckley et al., 2017; Elia et al., 2020; Sun, Doh, Rajwani, & Siegel, 2021). Although a few studies have revealed the detrimental role that political ties play in reverse knowledge transfer (Ciabuschi, Kong, & Su, 2017; Su et al., 2020), the question about how HQs’ political ties affect subsidiary innovativeness remains untapped.

This study contributes to and extends current research in several ways. First, the literature on subsidiary innovativeness and reverse innovation transfer focuses almost exclusively on subsidiary corporate and/or external embeddedness in the host country (e.g., Ciabuschi, Dellestrand, & Martin Martin, 2011; Gölgeci et al., 2019; Håkanson & Nobel, 2001). Our study adopts a “top-down” perspective and focuses on the HQ and its home embeddedness. Second, we provide evidence of a potential detrimental role of HQs’ political ties in relation to subsidiary innovativeness and reverse innovation transfer. This is a novel finding as, in the literature so far, CMNEs’ political ties have mostly indicated a positive effect and been substantially studied in relation to internationalization, while we point to such a different effect when researched in relation to the management of innovation related processes. Third, we take an initial step towards establishing a theoretical link among HQ innovativeness, subsidiary innovativeness, and reverse innovation transfer in CMNEs. We show how HQ innovativeness can improve reverse innovation transfer by triggering higher levels of subsidiary innovativeness. This result is important because it provides evidence related to the debate about the risks of losing core industrial technology by Western countries to China (Fang & Chimenson, 2017). In fact, HQs with greater innovativeness trigger higher levels of innovation at subsidiary level, which would also be beneficial to the local market. Moreover, at a theoretical level, our results challenge the perception of HQs as one player amongst others in MNEs (Andersson, Forsgren, & Holm, 2007); in the context of CMNEs, HQs may have a pivotal role in shaping the behaviors of subsidiaries. At last, by identifying the co-evolving nature of the innovation-augmentation process and the liability of political ties in innovation management, our study provides new insights into the specificities of EMNEs and their management.

The remainder of this paper is structured as follows. In the next section, we provide a theoretical background to the role of subsidiaries, HQs and political ties in EMNEs. Then we develop our research hypotheses, present the research methods, and report the empirical results. Finally, we discuss the findings and the theoretical and managerial implications, as well as propose possible directions for future research.

2. Theoretical background

2.1. The role of subsidiaries in EMNEs

There has been a surge of research interest in multinational subsidiaries and their role vis-à-vis the whole MNE since the introduction of the concept of MNEs as a “differentiated network” (Nohria & Ghoshal, 1997). This conceptualization presents the MNE as a worldwide learning organization comprising a set of geographically dispersed subsidiaries with heterogeneous technological competences and different product-market responsibilities (Andersson et al., 2007; Crespo et al., 2020). Accordingly, subsidiaries’ roles vary because of how they are internally and externally embedded. Still, for the same reason, subsidiaries can be managed in different ways and can be an important source of new knowledge for MNEs as a whole, thereby contributing to an MNE’s overall competitive advantage (Gupta & Govindarajan, 2000; Jiménez-Jiménez et al., 2020; Yang, Mudambi, & Meyer, 2008).

This logic and the potential of subsidiaries as providers of new competence for the entire MNE also explain the growing interest in strategic asset-seeking foreign investment and R&D internationalization (e.g., Awate et al., 2015; The et al., 2021). In particular, EMNEs – especially Chinese firms – have shown to rely on international R&D investments to tap into technologically superior resources. This seems to be particularly important as EMNEs are strongly committed to catching
up in terms of innovation and technology with Western MNEs (e.g., Deng, 2009; Elia & Santangelo, 2017; Schaefer & Liefner, 2017; Shi et al., 2021). Hence, EMNEs tend to position themselves in key markets with subsidiaries mandated to access, absorb, and integrate knowledge from the host countries.

However, compared with advanced-market MNEs, EMNEs confront more challenges when managing R&D internationalization, particularly in advanced markets. From an evolutionary perspective, as Ramamurti (2012) claimed, EMNEs and advanced-market MNEs are in different stages of evolution. Advanced-market MNEs generally have a long history of internationalization. EMNEs, in contrast, are still generally young MNEs with limited international experience and insufficient international managerial capabilities (Elia et al., 2020; Ramamurti, 2012). Moreover, EMNEs may also confront other problems, such as a larger gap between their knowledge stock and the knowledge that they wish to access abroad; a liability of emergingness; a liability of thinness; and distance in culture, institutions, and language, as well as spatial distance (Schaefer & Liefner, 2017). They have to overcome these problems in order to conduct successful R&D abroad and to source innovation from subsidiaries. Hence, from an evolutionary perspective, EMNEs have fewer capabilities compared to Western MNEs and widespread difficulties to seize opportunities related to subsidiary innovation development and transfer. At the same time, it is through subsidiary investments that they may offset the limits to developing such capabilities in their home countries.

### 2.2. The role of HQs

Typically, subsidiaries may evolve and develop their innovation competences because of (1) local environment, (2) subsidiary traits, and (3) HQs’ strategy (Birkinshaw & Hood, 1998; Meyer et al., 2020). However, research related to the differentiated-network MNE focuses mostly on antecedents at the subsidiary level and on host markets, and has so far tended to overlook HQ-level factors, except for the relevance of mandates and organizational design features. As HQs are perceived as entities with ultimate decision rights within MNEs (Chandler, 1991), subsidiary entrepreneurial behaviors are also subject to the influence of their HQs. A few studies have underlined the critical roles of HQs’ strategies (e.g., HQ involvement, knowledge diffusion, resource allocation, mandates, decentralization, and communication through expatriation) in determining subsidiary innovation development and transfer (e.g., Crespo et al., 2020; Dellestrand & Kappen, 2012; Tse et al., 2021). According to the literature, without R&D mandates and support by HQs, subsidiaries may have more difficulty developing innovation and becoming knowledge contributors. This is because even though subsidiaries can increase power in the networked MNE through their entrepreneurial activities and local embeddedness (Andersson et al., 2002), MNE subsidiaries are still “affiliates” with relatively low power, while HQs still have a more dominant power based on formal authority and the control of critical resources (Chandler, 1991). This is also in line with a multiple embeddedness view (Meyer et al., 2020), which argues that a subsidiary is shaped by the role it has been assigned within the global strategy of its parent.

In this sense, MNEs are considered as loosely coupled networks of far-flung subsidiaries with a hierarchically acting HQ that attempts to design global organizations to ensure support for their strategic agendas (Vahline, Schweizer, & Johanson, 2012). This notion is especially pertinent to CMNEs. CMNEs are generally young, less integrated into the international market (Elia et al., 2020; Ramamurti, 2012), and have HQs that are more likely to be strongly embedded in the home-country context, rather hierarchical and bureaucratic (Ciabuschi et al., 2017). Consequently, their subsidiaries’ behavior is likely to be influenced by the HQs and their home-country embeddedness (for example, political embeddedness) (Estrin, Meyer, Nielsen, & Nielsen, 2016).

As mentioned above, HQ innovativeness – a critical part of HQs’ strategies – seems to be largely neglected in relation to subsidiary innovation development and transfer. This might be because of the claim that innovation processes are largely carried out at the level of subsidiaries rather than HQs (Andersson et al., 2002; Cantwell & Mudambi, 2005). While subsidiaries may contribute greatly to innovation, we cannot discharge the arguments that HQs still play a role as resource allocators, network orchestrators, and integrators of intra-organizational knowledge flows with the purpose of developing innovation capabilities (Awate et al., 2015; Dellestrand & Kappen, 2012). Therefore, HQ innovativeness also matters for subsidiary entrepreneurial activities. For EMNEs, the common view in the literature is that HQs have a disadvantageous position in terms of advanced technologies (e.g., Awate et al., 2015; Elia & Santangelo, 2017). However, some papers have challenged this view by claiming that many EMNEs do have ownership advantages and unique innovative capabilities, involving – for example – the novel utilization of existing technologies, new ways of merging different technologies, and new business models (Cuervo-Cazurra & Ramamurti, 2014; He et al., 2016). This point was reinforced by Zhang (2020), who demonstrated that HQs, and not subsidiaries, are important sources of knowledge and patents in EMNEs. However, those studies have not explored the relationship between HQ and subsidiary innovativeness.

### 2.3. The role of political ties

Political ties play an important role when doing business in emerging markets, especially in China, and this is a common theme in the literature (Anand, McDermott, Mudambi, & Narula, 2021; Sun et al., 2021). This is because emerging markets still have the institutional inadequacies of formal regulatory frameworks, the persistent power of government, and a predominant reliance on relationship-based connections (Luo, Xue, & Han, 2010; Xin & Pearce, 1996). This is very apparent in China as the country is governed by a dominant party. On the one hand, emerging markets use state-ownership ties, or a range of market and support mechanisms in key enterprises, to help them survive under open market conditions and achieve political and social objectives (Goldeng, Grünfeld, & Benito, 2008). On the other hand, the institutional voids of emerging markets encourage enterprises to build ties with government authorities as a remedy for market failure and a substitute for formal institutional support, thereby enhancing legitimacy and government support (Xin & Pearce, 1996). Thus, political ties are recognized as a unique strategic asset for enterprises in emerging markets, particularly in China (Xin & Pearce, 1996).

The last decade has seen a surge of studies on the role of government and politics in shaping the internationalization strategy and outcomes of CMNEs (Sun et al., 2021). Many studies indicate that involvement of and ties with politics play a prominent role in driving CMNEs’ internationalization (e.g., Buckley et al., 2007; Buckley et al., 2017; Luo et al., 2010; Wei, Clegg, & Ma, 2015). Specifically, strong political ties translate, to some extent, into “insidership” in the political system (Sun, Mellahi, & Thun, 2010). This can provide enterprises with more government support in the form of financial and political/policy resources to compensate for weaker firm-specific assets and to boost internationalization (Luo et al., 2010; Wei et al., 2015). Strategic asset-seeking internationalization, such as M&A or the establishment of overseas R&D centers, is costly and risky. Hence, politically connected CMNEs are in a relatively favorable position to take on such risks (Buckley et al., 2017; Elia et al., 2020; Su et al., 2020). This point was emphasized by Rudy, Miller, and Wang (2016), who identified that state-owned firms in emerging markets are willing to overpay for strategic assets in an effort to gain entry into an industry deemed important to the state.

Other than internationalization, the effect of political ties on organizational innovation in emerging markets, particularly China, is another research avenue that has received attention (Anand et al., 2021), but with mixed results. The advocates of political ties as a strategic asset for firms have uncovered the positive effects of such ties on firms’ innovation (Jean, Sinkovics, & Zagelmeyer, 2018; Kotabe, Jiang,
innovativeness and further subsidiary development. This point was less capable of withstanding competition (Ciabuschi et al., 2017; Rudy et al., 2016). Representatives of their home government rather than as simple business entities (Globerman & Shapiro, 2009). As Meyer et al. (2014) revealed, to address their legitimacy issues, Chinese state-owned firms have to adapt their entry modes to host countries’ rules of law and shareholder protection, thus trading ownership for legitimacy.

3. Hypotheses development

3.1. HQs’ political ties, HQ and subsidiary innovativeness

In Chinese firms, strong political ties lead to high embeddedness in bureaucratic networks (for example, the corporate Party Committee1) and to following administrative tasks of government (Chang & Xu, 2008). High embeddedness with political actors and repetitive learning from interactions with political actors (Granovetter, 1985) is also generated. This can lead state-connected HQs’ managers to take on the characteristics of political ideology and government authorities, with an emphasis on hierarchy, a tight bureaucratic structure, and centralized business governance in MNEs (Ciabuschi et al., 2017; Howell, 2020; Wang, Jin, & Banister, 2019). This kind of “superstitious learning” and a high level of bureaucracy are detrimental to corporate innovation.

Specifically, MNE HQs need advanced knowledge to assess host markets and devise effective solutions and strategies to develop subsidiary innovation (Lages & Montgomery, 2005). But, state-connected HQs typically gain a rich knowledge of the political scene (government subsidy systems, prediction of government actions, etc.) (Agrawal & Knoeber, 2001) and a general location-bound managerial knowledge in a politically protected and less market-oriented domestic environment (Narula, 2012). This leaves Chinese state-connected HQs with limited managerial experience and capabilities to foster their foreign subsidiaries’ innovation activities in more market-oriented economies (Ciabuschi et al., 2017; Rudy et al., 2016). This might be particularly true of CMNEs venturing into advanced markets (e.g., Europe and the United States). In these cases, large institutional differences between home and host countries confronted by state-connected HQs may induce additional difficulties.

Moreover, social embeddedness easily leads organizations into an inertial tendency to repeat transactions over time (Granovetter, 1985). Organizational inertia is described as “an overarching concept that encompasses personal commitments, financial investments, and institutional mechanisms supporting the current way of doing things” (Huff, Huff, & Thomas, 1992: 55). Stronger political ties generate organizational inertia for Chinese firms, which interferes with the efficiency of organizational routines in innovation development through managerial disincentives (Chang, Wang, & Cui, 2019; Wu, 2011; Zhou et al., 2017). Specifically, Chinese state-connected MNEs often enjoy more government-created advantages, enabling such MNEs to have comparative advantages (Chang et al., 2019; Meyer et al., 2014; Wang et al., 2019; Xia et al., 2014), or even to have the legacy of a monopolistic or dominant incumbent position in the domestic market (Sun et al., 2021; Wei et al., 2015). The reduced competitive pressure stemming from embeddedness in political institutions leads state-connected HQs to have less sensitivity to market competition and dynamics and makes them slow to engage in the realities of market-driven efficiency with less internal incentive to pursue long-term innovation development activities (Li, Liu, Yuan, & Yu, 2017; Rugman & Li, 2007; Wang et al., 2019). Strong political ties induce organizational inertia, which suggests that the routines, commitments to established patterns of behavior, and institutionalized mechanisms create bureaucracy and “habits of mind” (Louis & Sutton, 1991). In this sense, owing to the inherent risks and uncertainties associated with R&D activities (Holmstrom, 1989) and to political stability stemming from the sole power of the Chinese Communist Party in the Chinese government, CMNEs are more likely to continue to rely on the political system and government-created advantages, instead of prioritizing innovation (Chang et al., 2019; Xia et al., 2014). Thus, Chinese HQs with strong political ties are more likely to follow a risk-averse course, engaging less in R&D activities.

MNEs and their subsidiaries often confront complex legitimacy pressures in multiple environments as a result of institutional duality (Kostova & Zaheer, 1999). This is particularly apparent for Chinese state-connected MNEs. Specifically, because of the relevance of home political ties, CMNEs often suffer from political sensitivities and illegitimacy issues, particularly in host advanced countries (Meyer et al., 2014; Shi et al., 2021). In this situation, misbehavior by subsidiaries of Chinese state-connected MNEs is more likely to be utilized by the government and media of host countries for criticizing Chinese state-connected MNEs. However, R&D activities involve a high risk of failure, with many contingencies that are impossible to foresee (Holmstrom, 1989). Failing innovation in a subsidiary can lead to substantial negative consequences for that subsidiary (O’Attaoma & Ieva, 2020). Problems with innovation in subsidiaries might become the subject of criticism and accusations of illegitimacy by host-country governments and media as a means of criticizing Chinese state-connected HQs, and even the Chinese government. Because legitimacy is vital for organizational survival and success, enterprises must adopt suitable practices for legitimacy reasons, and not necessarily for efficiency reasons (Kostova & Roth, 2002). In essence, to prevent this criticism of subsidiaries in host markets, Chinese state-connected HQs are more likely to prefer a conservative approach (e.g., “Wu Wei” – a non-action strategy and a stability maintenance strategy) to manage the subsidiary, including their

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1 Every Chinese state-connected enterprise typically establishes a corporate “Party Committee” or “General Party Branch Committee”, depending on the size of employees with Party membership, which is under the control of the next higher-level Party organization. The corporate Party committee provides the direction and manages the overall situation of an enterprise (including decisions on significant issues). Many members of the corporate Party committee serve as enterprise board members and top managers at the same time.
innovation initiatives. Subsidiary managers also need to conform to HQs’ expectations to enhance internal legitimacy and reputation (Kos-tova & Roth, 2002); accordingly, they tend to take fewer innovative initiatives. This also results in demotivation at subsidiary level, which can potentially limit their innovativeness even further. Apparently, although strong political ties provide CMNEs with abundant financial resources to increase the possibility of creating a lot of slack for innovation development in subsidiaries, at the same time they also can engender more political liabilities and illegitimacy issues in host countries. As mentioned above, the latter would reinforce CMNEs’ inertia and limited entrepreneurship when managing subsidiaries, particularly those in advanced markets.

Moreover, because of strong political ties, CMNEs enjoy favorable home-based country-specific assets (Meyer et al., 2014) and leading positions (Narula, 2012; Sun et al., 2021). The overwhelming influence of the Chinese Communist Party in China ensures political stability in the domestic. In this situation, Chinese state-connected HQs are likely to continue to rely on domestic or regional expansion, by taking advantage of political ties and country-specific advantages, rather than becoming globally competitive (Buckley et al., 2017; Rugman & Li, 2007; Shi et al., 2021), even though they engage in foreign investments because of the demands and the support of government. This focus and dependence on the domestic market constrain the motivation of state-connected HQs to support overseas subsidiaries’ competence development, thereby dampening subsidiary innovativeness. As Yan, Wang, and Deng (2018) indicated, Chinese firms use foreign investments as a positive signal for implementing a “going global” policy, showing their stronger capability and credibility to domestic stakeholders in order to obtain more government resources and enhance market growth in China. Thus, we propose the following hypotheses:

Hypothesis 1a. HQs’ political ties are negatively associated with HQ innovativeness in CMNEs.

Hypothesis 1b. HQs’ political ties are negatively associated with subsidiary innovativeness in CMNEs.

3.2. HQ innovativeness, subsidiary innovativeness, and reverse innovation transfer

HQs with strong innovativeness prioritize the creation and implementation of novel ideas and products that have the potential to succeed in the marketplace (Andonova & Losada-Otalora, 2020; Lumpkin & Dess, 1996). Specifically, HQs’ top managers that have rich experience in innovation are constantly scanning their internal and external business environments to find new opportunities to strengthen their competitive positions (Covin & Miles, 1999). Innovative HQs can provide support to subsidiaries (Baer & Frese, 2003) to seize new opportunities and engage in entrepreneurial activities through various strategies (e.g., providing incentives, allocating resources, providing autonomy to subsidiary leadership, and HQs’ mandates). As Dunning (1980) stated, in the absence of support from HQs, the subsidiary is considered only as a market seeker or an implementer.

Subsidiary entrepreneurship requires corporate-level support, which involves multi-level processes (Crespo et al., 2020). HQ involvement in subsidiary innovation development is a determinant that shapes subsidiary innovation (Ciabuschi et al., 2011; Dellestrand & Kappen, 2012) and potentially has a value-adding nature (Goold, Campbell, & Alexander, 1990). But a necessary condition for value-adding is that “the parent has sufficient understanding of the business” (Goold et al., 1998: 310). HQs with greater innovativeness have accumulated technological knowledge stock from experience in prior R&D activities and have sufficient knowledge and skills to undertake innovative activities (Cohen & Levinthal, 1990). This can enable HQs to be effective participants in committing and supporting the subsidiary innovation process. In particular, HQs’ top managers with substantial innovation experience can provide extra necessary resources and suitable guidance (e.g., setting new directions of development), which support subsidiaries in overcoming potential difficulties related to the innovation processes (Ciabuschi et al., 2011). Further, given the differentiated nature of the MNE network, knowledge from HQs and from other subsidiaries is expected to encompass a rich diversity. Innovative HQs can transfer their technological knowledge to subsidiaries, thereby providing opportunities for knowledge re-combinations, which enhances the scale and quality of subsidiary innovation (Figueiredo et al., 2020; Phene & Almeida, 2008). As Crespo et al. (2020) identified, HQs’ knowledge transfer is a more efficient source of knowledge and superior in terms of promoting a subsidiary’s innovation capability. This view was also highlighted by Almeida and Phene (2004), who showed that the technological richness of the MNE is conducive to innovation in subsidiaries. In CMNEs, if HQs possess certain innovativeness, this can exercise power and encourage innovation upgrading in subsidiaries. Thus, we propose that:

Hypothesis 2. HQ innovativeness is positively associated with subsidiary innovativeness in CMNEs.

Reverse innovation transfer is not an automatic or easy process, requiring motivation and knowledge competence in both HQs and subsidiaries (Nair et al., 2018). As Bartlett and Ghoshal (1989) stated, if HQs’ receptiveness to innovations from subsidiaries tends to be zero, or notably slight, a reverse transfer of subsidiary innovation is almost impossible. Clearly, effective reverse innovation transfer requires the motivation of the knowledge recipients, i.e., the HQs (Gupta & Govindarajan, 2000; Szulanski, 1996). HQs that possess greater innovative- ness have a stronger propensity to engage in value-creation strategies (Andonova & Losada-Otalora, 2020). Therefore, HQs are proactive in absorbing and integrating different sources of new knowledge to consolidate their competitive advantage. In this sense, innovative HQs have a strong willingness to acquire and learn from subsidiaries, particularly innovation knowledge that is developed locally, so they proactively commit to the subsidiary innovation acquisition process (Ciabuschi et al., 2011; Gupta & Govindarajan, 2000). Specifically, experienced top managers of HQs are more likely to allocate extra resources, to enforce the use of coordination systems, communication channels and human resource management practices, and to design incentive and evaluation systems. This helps overcome potential difficulties in reverse innovation transfer processes and ensures both their occurrence and their effectiveness (Bjorkman, Barner-Rasmussen, & Li, 2004; Gupta & Govindarajan, 2000). Innovative HQs are “insiders” and this gives them knowledge to provide suitable guidance and expertise at the right time in the reverse innovation transfer process, thereby improving the effectiveness of the transfer (Dellestrand & Kappen, 2012). Conversely, HQs’ lack of knowledge and motivation may lead to difficulties (Szulanski, 1996) and result in foot-dragging, passivity, feigned acceptance, hidden sabotage, or outright rejection in the implementation and use of innovation knowledge transferred from subsidiaries (Gupta & Govindarajan, 2000). This is particularly common in Chinese state-connected MNEs, which are more likely to confront subsidiaries’ low-level willingness to transfer knowledge to HQs (Ciabuschi et al., 2017; Su et al., 2020).

HQs with a high level of innovativeness intensify their R&D and learning efforts and possess higher absorptive capacity (Cohen & Levinthal, 1990; Lewin, Massini, & Peeters, 2011; Wu, Wang, Hong, Piperopoulos, & Zhuo, 2016). Learning and absorptive capacity is a necessary component of effective knowledge acquisition (e.g., Gupta & Govindarajan, 2000; Jimenez-Jimeenez et al., 2020; Kostabe et al., 2017; Szulanski, 1996). Specifically, innovative HQs are more capable of assessing and identifying valuable knowledge from their subsidiaries, and of understanding and applying subsidiary knowledge (Gupta & Govindarajan, 2000; Szulanski, 1996). Strong learning capacity also enables HQs to be in a better position to overcome cognitive or technological barriers that would otherwise prevent innovation transfer from subsidiaries (Howell, 2020). Learning and absorptive capacity are
particularly relevant in CMNEs (Cuervo-Cazurra & Rui, 2017; Kotabe et al., 2011; Li et al., 2017; Schaefer & Liefner, 2017), since the knowledge gap between CMNEs and the knowledge-rich subsidiaries is mostly higher than it is for advanced-market MNEs (Rabbiosi, Elia, & Bertoni, 2012; Schaefer & Liefner, 2017; Wu et al., 2016). Because of this knowledge gap, CMNE HQs need to be actively innovative and keen to learn from subsidiaries so as to be in a better position to integrate and use the more sophisticated technology obtained from abroad (Cuervo-Cazurra & Rui, 2017; Li, Li, Lyles, & Liu, 2016). In short, HQs with greater innovativeness have a high degree of motivation and the learning capacity to acquire subsidiary innovation, triggering more reverse innovation transfer.

**Hypothesis 3.** HQ innovativeness is positively associated with reverse innovation transfer from subsidiary to HQ in CMNEs.

A high level of innovativeness in subsidiaries stimulates knowledge exploration and intensifies R&D efforts. This accumulates a large knowledge stock in terms of innovation activities, which is potentially valuable to the whole MNE (Frost et al., 2002; Mudambi et al., 2014). The higher the level of innovativeness in subsidiaries, the more knowledge is potentially available in subsidiaries that can then be transferred to HQs (Foss & Pedersen, 2002; Gupta & Govindarajan, 2000; Noorderhaven & Harzing, 2009).

However, some studies have asserted that subsidiaries with a high level of innovativeness are likely to act in self-interest and to exercise rent-seeking behavior by retaining their own power and advantages in the MNE network, which translates to less willingness to transfer innovation (Awate et al., 2015; Björkman et al., 2004; Mudambi et al., 2014). However, from a resource dependency perspective, one could also argue that subsidiaries with greater innovativeness will be motivated to transfer innovation in order to gain influence at HQs and to obtain more benefits (e.g., upgrading the subsidiary role). Specifically, innovative subsidiaries are motivated to signal their performance and strategic importance by transferring their innovation to HQs. Such behavior is defined as “issue selling” (Dorrenbächer & Gammelgaard, 2016) and is deployed to gain increased attention from HQs and thereby gain more support and resources from HQs (Miao, Choe, & Song, 2011). This applies particularly to CMNEs as their HQs mostly have hierarchical management structures and strong controlling powers over corporate resources. Moreover, the extent of subsidiary innovativeness affects the level of attention that can be paid by HQs, as their reliance on – and attention to – subsidiaries is influenced by a subsidiary’s existing or potential contribution to the MNE (Bouquet & Birkinshaw, 2008).

In other words, as subsidiary innovativeness increases, it is more likely to increase HQs’ reliance on subsidiary competence and therefore reverse innovation transfers will be promoted (Mudambi et al., 2014) through a variety of mechanisms (Foss & Pedersen, 2002). This is particularly true for CMNEs with strategic asset-seeking internationalization.

Hence, when subsidiaries possess a novel knowledge base, innovative subsidiary managers are more likely to make an attempt to transfer their innovation to their HQs. This was emphasized by Johnston and Paladino (2007) who identified that the level of technology of Australian subsidiaries is positively associated with their degree of involvement in the innovation network of MNEs. Similarly, Noorderhaven and Harzing (2009) revealed that a subsidiary’s strong capabilities make it more likely to act as a knowledge sender and to generate knowledge of value for the whole MNE.

**Hypothesis 4.** Subsidiary innovativeness is positively associated with reverse innovation transfer from subsidiary to HQ in CMNEs.

**4. Research methods**

**4.1. Data and sampling**

We test our research hypotheses using data from a survey consisting of 99 CMNEs and their 177 subsidiaries in 34 foreign markets. The data for this study is gathered through a survey via two questionnaires, administered within the same Chinese MNE to the HQ and to the subsidiaries. The strategic asset-seeking investments made by CMNEs mostly target advanced markets where there is a comparative advantage in high-tech R&D (Deng, 2009; Rabbiosi et al., 2012). Following this logic, to generate the necessary data on reverse innovation transfer from subsidiaries to HQs in CMNEs, our survey targets are CMNEs with at least one subsidiary that has been operating in advanced markets for a minimum of three years. We apply three criteria in selecting foreign subsidiaries: that they are majority-owned by the MNE (i.e., the MNE has to have at least a 50 % equity share of the subsidiary); they have been part of the MNE for a minimum of three years; and they are important to the MNE’s business (in order to avoid representation offices or very small subsidiaries). We require the subsidiaries to be part of the MNE for a minimum of three years because such subsidiaries have certain experience both in the host country and in the internal MNE network (Foss & Pedersen, 2002). Such experience serves as a proxy for organizational learning and for the quality of relationships with other MNE units, creating a basis for possible innovation transfer (Frey & Puru, 2008). All these criteria supported the selection of suitable subsidiaries in which there was a high possibility of conducting reverse innovation transfer within the sampled MNEs.

As it is difficult to obtain public information for non-listed firms in China, we chose the sample MNEs from the 2,679 Chinese firms publicly listed on the Shenzhen Stock Exchange, the Shanghai Stock Exchange, and the Hong Kong Stock Exchange. These listed firms represent the majority of large state-connected firms in China (Estrin et al., 2016) that have a high probability of being MNEs. The sampling criteria and the known difficulties in gaining access to large Chinese firms (particularly state-controlled ones) make finding and ultimately accessing these firms rather time-consuming. Therefore, a purposive sampling procedure was adopted. This approach enables us to use judgment (based on secondary data and public information) to select the MNEs that met the research objectives and to obtain “difficult-to-reach” and “difficult-to-identify” samples (Saunders, Lewis, & Thornhill, 2009). This process ensures that the responding MNEs match our requirements and that we can obtain the necessary support to complete the questionnaires.

We obtained an initial sample of 106 CMNEs and their 185 subsidiaries. After eliminating the MNEs and subsidiaries that do not fulfill the criteria mentioned above, we eventually have a valid sample of 177 subsidiaries owned by 99 CMNEs located in 20 out of a total of 31

<table>
<thead>
<tr>
<th>Table 1 Sampling characteristics.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chinese MNEs</strong></td>
</tr>
<tr>
<td><strong>Industry</strong></td>
</tr>
<tr>
<td>-Manufacture industries</td>
</tr>
<tr>
<td>-High-technology industries</td>
</tr>
<tr>
<td>-Medium-high-technology</td>
</tr>
<tr>
<td>industries</td>
</tr>
<tr>
<td>-Medium-low-technology</td>
</tr>
<tr>
<td>industries</td>
</tr>
<tr>
<td>-Low-technology industries</td>
</tr>
<tr>
<td>-Non-manufacture industries</td>
</tr>
<tr>
<td><strong>No. of employees</strong></td>
</tr>
<tr>
<td>1200–3000</td>
</tr>
<tr>
<td>3001–5000</td>
</tr>
<tr>
<td>5001–10,000</td>
</tr>
<tr>
<td>10,001–20,000</td>
</tr>
<tr>
<td>&gt;20,000</td>
</tr>
<tr>
<td><strong>State ownership</strong></td>
</tr>
<tr>
<td>0 %</td>
</tr>
<tr>
<td>1 %–10 %</td>
</tr>
<tr>
<td>11 %–30 %</td>
</tr>
<tr>
<td>31 %–50 %</td>
</tr>
<tr>
<td>51 %–70 %</td>
</tr>
<tr>
<td>71 %–100 %</td>
</tr>
<tr>
<td><strong>Ownership by the MNE</strong></td>
</tr>
<tr>
<td>50 %–60 %</td>
</tr>
<tr>
<td>61 %–70 %</td>
</tr>
<tr>
<td>71 %–80 %</td>
</tr>
<tr>
<td>81 %–99 %</td>
</tr>
<tr>
<td>100 %</td>
</tr>
</tbody>
</table>

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of the 99 CMNEs are in high-tech and medium-state ownership. Our sampled MNEs are also quite representative of access to subsidiaries (in order to administer the subsidiary question phone interviews and clarifies the meaning of the questions with them. that the respondents encountered when answering the questionnaire via field subsidiaries and one acquired subsidiary) before their full-scale rion, which is when the subsidiary is indicated to be important for the development and also transfer practices from the sampled subsidiaries. Spe-

Out of 177 sampled subsidiaries, 49 are acquisitions and 128 are established by greenfield. 141 are located in advanced markets (mainly in the US, Germany, Australia, and the UK) and 36 in developing markets (mainly in Brazil, India, Thailand, and Vietnam). Our analysis includes subsidiaries in developing markets only in those cases where the three initial criteria are satisfied. Especially relevant is the third criterion, which is when the subsidiary is indicated to be important for the whole MNE. This is also consistent with the literature on subsidiary innovation development and transfer based on Western MNEs. The literature always covers analysis of subsidiaries in developing markets (e.g., Figueiredo et al., 2020; Häkanson & Nobel, 2001; Yang et al., 2008). This is because there is an increasing trend in MNEs’ R&D investments in developing markets (Awate et al., 2015; Tse et al., 2021), and subsidiaries in developing markets are likely to possess product or production competence and practice reverse innovation transfer (e.g., cases of cost innovation).

4.2. Questionnaires and data collection

In our survey, we designed two questionnaires: one answered by HQs’ executives and the other filled out by subsidiary managers. Considering the research context of CMNEs, the two questionnaires are designed in English, based on a thorough literature review, translated into Chinese, and then back-translated independently (by two Chinese lecturers who are competent in English) into English to ensure the consistency and accuracy of the translation (Brislin, 1986). After this, the questionnaires are pilot-tested in four CMNEs (two state-owned MNEs and two private MNEs) and their four subsidiaries (three greenfield subsidiaries and one acquired subsidiary) before their full-scale launch. The research team then discusses the questions and problems that the respondents encountered when answering the questionnaire via phone interviews and clarifies the meaning of the questions with them. When any confusion arose, the layout and wording of the questionnaires are modified. The pilot test helps to make the questionnaire more comprehensive, appropriate and easy to understand.

The data collection process starts with contacting and scheduling an interview appointment with HQs’ managers. In CMNE HQs the survey is mainly administered in person through face-to-face interviews with HQs’ managers. Face-to-face interviews offer the opportunity to clarify the questions under investigation to secure valid responses and to obtain access to subsidiaries (in order to administer the subsidiary questionnaire). The HQs’ respondents are asked to provide up to five relevant foreign subsidiaries (at least one subsidiary in advanced markets) that fulfill the above sampling criteria for subsidiaries in the HQs’ questionnaire. Then, the HQs’ respondents help us contact the senior managers of the selected subsidiaries to fill out the subsidiary questionnaire. Most of the subsidiary questionnaires are received via online social tools (e.g., e-mail, QQ, and Wechat). The HQ questionnaires are answered by the senior managers of MNE HQs (e.g., board secretary, vice-CEO, manager of the board office, and the heads of the HQs’ divisions). For the subsidiaries’ questionnaire, the majority of respondents are Chinese expatriate managers, although a few are local top managers, the assistants of CEOs, or heads from different divisions (e.g., heads of R&D). These respondents are expected to be knowledgeable about the subsidiary’s management and the HQ-subsidiary relationship.

In an attempt to reduce the likelihood of common method variance (CMV), which is a source of endogeneity (Antonakis, Bendahan, Jacquart, & Lalive, 2010), we adopt several feasible procedural techniques based on the recommendations of Chang, Van Witteloostuijn, and Eden (2010) and Podsakoff, Mackenzie, Lee, and Podsakoff (2005). First, we collect data concerning the exogenous and endogenous variables from the surveys of both HQs and subsidiaries to reduce possible CMV that may arise from a single source (See Table 2). Second, the sets of questions and indicators referring to the investigated variables and controls are either structurally placed in different sections of the questionnaire or measured using different response formats (i.e., “strongly disagree/strongly agree” and “not at all/very much”). Third, our pilot study of the

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2 The classification follows the industry classification guidelines established by the OECD (2011).

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Table 2: Operationalization of the constructs.

<table>
<thead>
<tr>
<th>Construct/Indicator</th>
<th>Label</th>
<th>Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>HQ’s political ties</td>
<td>POT HQ</td>
<td>POT1</td>
</tr>
<tr>
<td>The MNE headquarters has frequently contacted Chinese government officials for issues which are important to your MNE.</td>
<td>POT2</td>
<td></td>
</tr>
<tr>
<td>The MNE headquarters has been closely connected with the Chinese government.</td>
<td>POT3</td>
<td></td>
</tr>
<tr>
<td>HQ innovativeness</td>
<td>HIN HQ</td>
<td>HIN1</td>
</tr>
<tr>
<td>The headquarters intensively stimulates innovation.</td>
<td>HIN2</td>
<td></td>
</tr>
<tr>
<td>The headquarters’ top managers have strong experience with innovation.</td>
<td>HIN3</td>
<td></td>
</tr>
<tr>
<td>Subsidiary innovativeness</td>
<td>SIN Subsidiary</td>
<td>SIN1</td>
</tr>
<tr>
<td>Your subsidiary intensively stimulates innovation.</td>
<td>SIN2</td>
<td></td>
</tr>
<tr>
<td>Your subsidiary’s top managers have strong experience with innovation.</td>
<td>SIN3</td>
<td></td>
</tr>
<tr>
<td>Reverse innovation transfer from subsidiary to HQ</td>
<td>RIT HQ</td>
<td>RIT1</td>
</tr>
<tr>
<td>Product/service know-how</td>
<td>RIT2</td>
<td></td>
</tr>
<tr>
<td>Production know-how</td>
<td>RIT3</td>
<td></td>
</tr>
<tr>
<td>Control Variables</td>
<td>Size Subsidiary</td>
<td>ADV HQ</td>
</tr>
<tr>
<td>Subsidiary size (number of employees)</td>
<td>SIN1</td>
<td></td>
</tr>
<tr>
<td>Subsidiary location (advanced market versus non-advanced market)</td>
<td>SIN2</td>
<td></td>
</tr>
<tr>
<td>Mode of establishment (acquisition versus non-acquisition)</td>
<td>ACQ HQ</td>
<td>ACQ</td>
</tr>
<tr>
<td>Strategic asset-seeking motivation</td>
<td>SAM HQ</td>
<td>SAM</td>
</tr>
<tr>
<td>HQ-subsidiary socialization</td>
<td>HSS Subsidiary</td>
<td>HSS1</td>
</tr>
<tr>
<td>Joint training programs involving participants from multiple units</td>
<td>HSS2</td>
<td></td>
</tr>
<tr>
<td>Participation of expatriates and repatriates in daily routines</td>
<td>HSS3</td>
<td></td>
</tr>
<tr>
<td>Inter-unit trips and visits</td>
<td>ACQ</td>
<td></td>
</tr>
</tbody>
</table>

---

a To what extent do you agree with the following statements?
b To what extent, during the past 12 months, has the MNE headquarters received different knowledge (listed below) from each subsidiary?
c To what extent are the following mechanisms used for coordination of activities between your subsidiary and the MNE headquarters?
questionnaires helps to prevent the use of confusing, vague, or unfamiliar terms in the wording of questions and the content of items, ensuring that respondents would not have problems in understanding and answering questions. Moreover, the majority of the HQs’ questionnaires are collected via face-to-face interviews, enhancing the reliability and quality of the data (Podsakoff et al., 2003). Further, respondents and their firms are provided with assurances of confidentiality to ensure unbiased responses. In conclusion, these remedies point to a limited likelihood of CMV bias in our data.

4.3. Measures

We present the measurement items used to operationalize the exogenous, endogenous and control variables in Table 2. We adopt most constructs from prior studies and modify some of the measures to reflect our study’s specific context, that of Chinese multinationals.

4.3.1. Exogenous and endogenous variables

A three-item scale is employed to measure HQs’ political ties with the Chinese government and government officials (Table 1). The scales are adapted from the study of CMNEs by Kotabe et al. (2011) and range from 1 (strongly disagree) to 7 (strongly agree). Innovativeness refers to the corporate tendency, and efforts, to engage in and support new ideas, novelty, experimentation, and creative processes resulting in new products, or technology (Lumpkin & Dess, 1996). HQ innovativeness is measured by a three-item scale, adapted from the studies of Dess and Lumpkin (2005) and Engelen, Gupta, Strenger, and Brettel (2015). The same questions are used to measure subsidiary innovativeness (see Table 2). The items range, on a seven-point scale, from 1 (strongly disagree) to 7 (strongly agree). Reverse innovation transfer from subsidiary to HQ is the extent to which a subsidiary transfers innovation-related knowledge to its HQ (Gupta & Govindarajan, 2000; Yang et al., 2008). To measure this endogenous variable, we use a three-item, seven-point scale, from 1 (not at all) to 7 (very much), which is adapted from the studies by Gupta and Govindarajan (2000) and Yang et al. (2008).

4.3.2. Control variables

We included five control variables that may influence subsidiary innovativeness and reverse innovation transfer. Specifically, subsidiary size and mode of establishment are controlled for. This is because size and mode of establishment serve as a proxy for many subsidiary characteristics – including the availability of resources for innovation, economies of scale and scope, and the importance and power within MNE networks – that potentially influence subsidiary innovativeness and reverse innovation transfer (Bjorkman et al., 2004; Elia et al., 2020; Gupta & Govindarajan, 2000). Subsidiary size is determined according to the number of subsidiary employees, while the mode of establishment is distinguished by whether or not a subsidiary was acquired. An acquired subsidiary is coded as 1, while a non-acquired one is coded as 0. Moreover, we control for subsidiary location. Advanced-market locations take on the value of 1 (0 otherwise). Further, the HQs’ respondents assess the extent of the role that strategic asset-seeking motives (e.g., acquiring critical resources or capability, including technological know-how, management practices, brands, marketing and sales know-how, etc.) have played as drivers behind the establishment of each subsidiary. The scale ranges from 1 (not at all) to 7 (very much). In addition, socialization between HQ and subsidiary is also controlled for. Adapting from the studies of Bjorkman et al. (2004), Håkanson and Nobel (2001) and Noorderhaven and Harzing (2009), this variable is measured by a three-item scale ranging from 1 (not at all) to 7 (very much).

5. Analysis and results

The data is analyzed through partial least squares (PLS) path modeling (Wold, 1982) via the SmartPLS (Ringle, Wende, & Will, 2005) software program. PLS is a powerful variance-based structural equation modeling (SEM) technique (Hair, Sarstedt, Pieper, & Ringle, 2012), making it possible to examine measurement and structural models and to consider measurement error. A main advantage of the SEM technique is that it allows for the testing of all relationships between multiple independent and dependent variables in the entire system simultaneously (Byrne, 2001), which makes SEM suitable for testing mediation effects. Also, PLS-SEM has minimal requirements in terms of sample size for achieving sufficient statistical power (Hair et al., 2012). A relatively small sampling size, such as ours (i.e., 177 subsidiaries in 99 CMNEs) is indicated for the use of PLS.

Table 3 shows the item and construct reliability and the average variance extracted (AVE) for the measurement models. First, the majority of the individual item loadings (see column 2 in Table 3) are over the ‘ideal’. 0.7 threshold (Garmines & Zeller, 1979). The only exception is one indicator (POT1 = 0.60) for HQs’ political ties, which is still over the acceptance threshold of 0.5 used in many studies (e.g., Hulland, 1999). Considering that the reliability and AVE of this exogenous construct are satisfactory, and that the results for the structural model are similar with or without this indicator in the construct, we decided to retain this indicator. Second, construct reliability, measured in terms of composite reliability (Werts, Linn, & Jreskog, 1974), is higher than the suggested 0.7 boundary for all the constructs. Third, the AVE (Fornell & Larcker, 1981) is over the 0.5 threshold for all the constructs, implying convergent validity. Finally, the square root of each construct’s AVE is greater than its correlation with the rest of the constructs (see Table 4) and the Heterotrait-Monotrait Ratio (HTMT) matrix (Henseler, Ringle, & Sarstedt, 2015) is also satisfactory, implying that each construct meets the requirement of discriminant validity and is sufficiently different from the others. We can therefore conclude that the measures are reliable and valid.

Turning to the structural model, based on bootstrap tests with 5000 resamples (the nonparametric approach for estimating the precision of the PLS-SEM estimates), three of the five hypothesized relationships are statistically significant (see Fig. 1 and Table 5). Specifically, the path coefficient between HQs’ political ties and HQ innovativeness ($\beta$ = −0.45, $p < 0.001$) is significant. Hypothesis 1a is therefore empirically confirmed. However, the path coefficient between HQs’ political ties and subsidiary innovativeness ($\beta$ = 0.08, $p > 0.05$) is insignificant. Hence, Hypothesis 1b is not empirically supported. Further, HQ innovativeness is positively and significantly related to subsidiary innovativeness ($\beta$ = 0.22, $p < 0.001$), which confirms Hypothesis 2. However,
Table 4

Discriminant validity: Correlations and square root of the AVE.

<table>
<thead>
<tr>
<th>Construct</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>POT</td>
<td>0.80</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIN</td>
<td>-0.45</td>
<td>0.85</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIN</td>
<td>-0.17</td>
<td>0.39</td>
<td>0.89</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RIT</td>
<td>-0.19</td>
<td>0.34</td>
<td>0.71</td>
<td>0.85</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>-0.09</td>
<td>0.11</td>
<td>0.12</td>
<td>0.24</td>
<td>0.28</td>
<td>-0.10</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADV</td>
<td>-0.02</td>
<td>-0.03</td>
<td>0.29</td>
<td>0.28</td>
<td>-0.10</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACQ</td>
<td>0.08</td>
<td>-0.05</td>
<td>0.32</td>
<td>0.26</td>
<td>0.27</td>
<td>0.19</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SAM</td>
<td>-0.11</td>
<td>0.15</td>
<td>0.63</td>
<td>0.58</td>
<td>0.14</td>
<td>0.36</td>
<td>0.44</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>HSS</td>
<td>-0.35</td>
<td>0.49</td>
<td>0.54</td>
<td>0.56</td>
<td>0.16</td>
<td>0.00</td>
<td>0.07</td>
<td>0.30</td>
<td>0.81</td>
</tr>
</tbody>
</table>

Diagonal values in bold are the square roots of the variance shared between the reflective constructs and their measures. For discriminant validity to be established, the diagonal elements must be greater than the off-diagonal elements in the corresponding rows and columns.

Fig. 1. The resulting model n.s.: not significant; *** p < 0.001 (based on a two-tailed Student’s t(4999) distribution).

Table 5

Endogenous variables: Total, direct and indirect effects, bias-corrected confidence intervals (BCCI) and explained variances.

<table>
<thead>
<tr>
<th>Effects on endogenous variables</th>
<th>Total effects</th>
<th>Direct effects</th>
<th>Indirect effects</th>
<th>95% BCCI</th>
<th>Variance explained</th>
<th>Stone-Geisser Q²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effects on HQ innovativeness</td>
<td>-0.45*** (8.738)</td>
<td>-0.45*** (8.738)</td>
<td>-0.09*** [-0.17; -0.04]</td>
<td>0.20</td>
<td>0.13</td>
<td></td>
</tr>
<tr>
<td>HQ’s political ties (H1a)</td>
<td>0.45*** (8.738)</td>
<td>0.45*** (8.738)</td>
<td>0.20</td>
<td>0.59</td>
<td>0.44</td>
<td></td>
</tr>
<tr>
<td>HQ innovativeness (H2)</td>
<td>0.22*** (3.268)</td>
<td>0.22*** (3.268)</td>
<td>0.08</td>
<td>0.01</td>
<td>0.08</td>
<td></td>
</tr>
<tr>
<td>Control variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subsidiary size</td>
<td>-0.03*** (-0.413)</td>
<td>-0.03*** (-0.413)</td>
<td>-0.03*** (-0.413)</td>
<td>0.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subsidiary location</td>
<td>0.12 (2.216)</td>
<td>0.12 (2.216)</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
<td></td>
</tr>
<tr>
<td>Mode of establishment</td>
<td>0.10*** (1.572)</td>
<td>0.10*** (1.572)</td>
<td>0.03</td>
<td>0.03</td>
<td>0.03</td>
<td></td>
</tr>
<tr>
<td>Strategic asset-seeking motivation</td>
<td>0.42*** (6.028)</td>
<td>0.42*** (6.028)</td>
<td>0.42*** (6.028)</td>
<td>0.26</td>
<td>0.18</td>
<td></td>
</tr>
<tr>
<td>HQsubsidiary socialization</td>
<td>0.34*** (4.959)</td>
<td>0.34*** (4.959)</td>
<td>0.34*** (4.959)</td>
<td>0.18</td>
<td>0.42</td>
<td></td>
</tr>
<tr>
<td>Effects on reverse innovation transfer</td>
<td>0.10*** (1.897)</td>
<td>0.01 (0.244)</td>
<td>0.01 (0.244)</td>
<td>0.09** [0.03; 0.16]</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>HQ innovativeness (H3)</td>
<td>0.10*** (1.897)</td>
<td>0.01 (0.244)</td>
<td>0.01 (0.244)</td>
<td>0.09** [0.03; 0.16]</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Subsidiary innovativeness (H4)</td>
<td>0.41*** (4.965)</td>
<td>0.41*** (4.965)</td>
<td>0.41*** (4.965)</td>
<td>0.29</td>
<td>0.29</td>
<td></td>
</tr>
<tr>
<td>Control variables</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Subsidiary size</td>
<td>0.13*** (2.851)</td>
<td>0.14 (2.448)</td>
<td>0.01*** [-0.06; 0.05]</td>
<td>0.03</td>
<td>0.03</td>
<td></td>
</tr>
<tr>
<td>Subsidiary location</td>
<td>0.16*** (3.315)</td>
<td>0.11 (2.230)</td>
<td>0.05 [0.01; 0.11]</td>
<td>0.02</td>
<td>0.02</td>
<td></td>
</tr>
<tr>
<td>Mode of establishment</td>
<td>0.00*** (0.023)</td>
<td>-0.04*** [0.01; 0.11]</td>
<td>-0.04*** [0.01; 0.11]</td>
<td>0.01</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>Strategic asset-seeking motivation</td>
<td>0.38*** (6.164)</td>
<td>0.21*** (3.255)</td>
<td>0.17*** [0.09; 0.27]</td>
<td>0.12</td>
<td>0.12</td>
<td></td>
</tr>
<tr>
<td>HQsubsidiary socialization</td>
<td>0.38*** (6.420)</td>
<td>0.25*** (3.873)</td>
<td>0.13*** [0.07; 0.22]</td>
<td>0.14</td>
<td>0.14</td>
<td></td>
</tr>
</tbody>
</table>

n.s.: not significant; *p < 0.05; **p < 0.01; ***p < 0.001 (based on a two-tailed Student’s t(4999) distribution).
HQ innovativeness is insignificantly related to reverse innovation transfer from subsidiary to HQ (β = 0.01, p > 0.05). Thus, Hypothesis 3 is not empirically confirmed. The significant and positive effect of subsidiary innovativeness on reverse innovation transfer from subsidiary to HQ (β = 0.41, p < 0.001) supports Hypothesis 4.

To examine the mediating effects, we follow the procedures for mediation analysis in PLS (Nitzl, Roldan, & Cépeda, 2016) to assess the significance of indirect effects with percentile bootstrap. If the interval for an indirect effect does not include zero, it receives support that the indirect effect is significantly different from zero with 95% confidence. The results (see Table 5) show that HQ innovativeness has a mediating role in the relationship between HQs’ political ties and subsidiary innovativeness, while subsidiary innovativeness has a mediating role in the relationship between HQ innovativeness and reverse innovation transfer. As mentioned above, the path coefficients between HQs’ political ties and subsidiary innovativeness, and between HQ innovativeness and reverse innovation transfer, are insignificant. Taken together, the results reveal a full mediation effect of HQ innovativeness and subsidiary innovativeness. This could be explained by the fact that subsidiaries in CMNEs may have limited willingness to transfer innovation (Su et al., 2020). HQs’ strong intention and capability to seek and absorb subsidiary knowledge are not sufficient to motivate subsidiaries to engage in reverse innovation transfer. Only when HQs help subsidiaries with their innovation development, by providing innovation capability and taking on initiatives, do subsidiaries show greater innovativeness and willingness to actively transfer innovation to HQs.

A number of control variables yield statistically significant results in line with the literature on subsidiary innovativeness and reverse innovation transfer. Specifically, subsidiary innovativeness is positively influenced by advanced-market location, HQs’ strategic asset-seeking motivation and socialization between HQ and subsidiary. Reverse innovation transfer is positively affected by subsidiary size, advanced-market location, HQs’ strategic asset-seeking motivation and socialization between HQ and subsidiary.

The structure model fit is assessed based on the $R^2$ statistic, the Stone-Geisser $Q^2$ statistic, and the standardized root mean square residual (SRMR). The $R^2$ statistic gauges the amount of construct variance explained by the model. The model explains 20% of the variance ($R^2$) of HQ innovativeness, 59% of subsidiary innovativeness, and 61% of reverse innovation transfer (see Table 5), showing a satisfactory explanatory power of the model. The Stone-Geisser $Q^2$ statistic is adopted to estimate the predictive relevance of the model. This is calculated using a “blindfolding” technique, with the omission distance fixed at 8. According to the Stone-Geisser $Q^2$ statistic, with results being 0.13, 0.44 and 0.42 respectively for HQ innovativeness, subsidiary innovativeness and reverse innovation transfer from subsidiary and HQ, the model has predictive validity. The SRMR introduced by Henseler et al. (2014) is used as a goodness of fit measure for PLS-SEM to avoid model misspecification. A value of < 0.10 (or of 0.08 in a more conservative version) indicates a good fit (Hu & Bentler, 1999). The SRMR of 0.070 illustrates that our structural model presents a good fit.

We also perform additional analyses to assure the robustness of our results. First, we use Ordinary Least Squares (OLS) Regression, with robust standard errors, to test our hypothesized relationships in order to assess the reliability of our findings. The results for hypothesized relationships, reported in Table 6, remain consistent with the results using the PLS-SEM technique. Second, we use an alternate measure of HQs’ political ties and reverse innovation transfer from subsidiary to HQ to perform the same model by using PLS-SEM, as illustrated in Table 7. The results (see Table 7) do not change substantially in terms of magnitude and statistical significance, thus providing support for our empirical findings.

6. Discussions and conclusions

Our study takes an important step into the research area of subsidiary innovativeness and reverse knowledge transfer in CMNEs. Unlike the extant literature based on advanced-market MNEs, which primarily focuses on the role of subsidiary-level factors in subsidiary innovativeness and reverse knowledge transfer (e.g., Anderson et al., 2002; Clabanschi et al., 2011; Gölgeci et al., 2019; Håkanson & Nobel, 2001), our study focuses on HQ-level factors. Specifically, we show how Chinese HQs’ home-country political ties and innovativeness matter in terms of subsidiary innovation development and transfer. This finding is very specific and relevant to the Chinese context because CMNE HQs present a higher level of home-country political ties compared with Western countries, and because CMNEs rely more than Western country MNEs on...
their (advanced markets) subsidiaries as a source of competitive advantage for the whole organization.

Our empirical findings reveal that CMNEs HQs’ home-country political ties directly stifle the innovativeness of HQs, consequently hampering subsidiary innovativeness and reverse innovation transfer. Contrary to the well-established view that political ties are a strategic asset in emerging markets and conducive to CMNEs’ international expansion (e. g., Buckley et al., 2007; Luo et al., 2010; Wei et al., 2015), we find that political ties play a detrimental role in subsidiary innovation augmentation and transfer. This effect is highly relevant and very context-related because it means that HQs’ political ties in China may inhibit international expansion in the long run and this contrasts with the Chinese political intention to employ internationalization as a means of enhancing competitiveness. Our results align with recent findings that political involvement does not assist CMNEs in reaping innovation-related benefits from outward foreign investments (Li et al., 2017; Wu et al., 2016); they also support the view that Chinese state-connected firms are inefficient innovators (Ayyagari et al., 2011; Howell, 2020; Kotabe et al., 2017; Zhou et al., 2017). This view contrasts clearly with the context of Western MNEs where HQs are often an important source of innovation.

The downside of the political ties that we uncover in relation to innovation augmentation confirms the “liability of stateness” view (Cuervo-Cazurra & Li, 2021; Meyer et al., 2014). This notion challenges the view of political ties as a corporate strategic resource contributing to innovation development in emerging markets (Jean et al., 2018; Kotabe et al., 2017; Tse et al., 2021). China seeks advanced innovation (e. g., the Made in China 2025 strategy) and relies on state-connected firms to contribute to subsidiary innovation with new competence that they can leverage and transfer. Instead, it exerts an indirect positive effect through the mediation of knowledge transfer. This finding complements earlier studies claiming that subsidiary embeddedness is conducive to subsidiary innovation development and transfer (e. g., Ciabuschi et al., 2011; Gögeci et al., 2019; Håkanson & Nobel, 2001). Also, it appears that subsidiary embeddedness and HQs’ embeddedness in the home context work differently and we must consider embeddedness in both home and host countries to advance our understanding of the “multiple embeddedness” nature of MNEs (Meyer et al., 2020).

Our study takes a step toward clarifying the theoretical relationships between HQ innovativeness, subsidiary innovativeness and reverse innovation transfer in CMNEs, which is a neglected area (Buckley et al., 2017). We uncover how subsidiary innovativeness is a positive mediator in the impact of HQ innovativeness on reverse innovation transfer. Without triggering subsidiary innovativeness, HQs cannot obtain valuable innovation-related knowledge from subsidiaries. Our findings support a widely debated (but largely untested) conjecture in the multinational literature, namely that subsidiary innovativeness is also driven and shaped by HQ innovativeness. This challenges the perception of an HQ as merely one player amongst others in networked MNEs (Andersson et al., 2007). Unlike previous studies, based on Western MNEs, which emphasize the importance of reverse knowledge transfer in fostering HQ innovativeness (Jimenez-Jimenez et al., 2020; Yang et al., 2009), we suggest that, in CMNEs, HQ innovativeness is a relevant precondition for promoting subsidiaries’ entrepreneurial activities. In other words, subsidiaries’ entrepreneurial activities are not developed in a vacuum; instead, their implementation requires innovative HQs’ involvement and support as CMNE HQs are typically entities with ultimate decision rights, playing a pivotal role in shaping subsidiary behaviors (Chandler, 1991). With little innovation orientation, Chinese

6.1. Theoretical contributions

This study advances the understanding of subsidiary innovativeness and reverse innovation transfer by uncovering the relevance of HQs’ political ties and innovativeness in the context of CMNEs. The literature on subsidiary innovativeness and reverse innovation transfer has focused almost exclusively on subsidiary embeddedness (e. g., Andersson et al., 2002; Ciabuschi et al., 2011; Håkanson & Nobel, 2001). From a top-down perspective, our study has focused on HQs’ political embeddedness in home countries and has identified the hampering effect on subsidiary innovativeness and reverse innovation transfer that results from stifling HQ innovativeness. This finding complements earlier studies claiming that subsidiary embeddedness is conducive to subsidiary innovation development and transfer (e. g., Ciabuschi et al., 2011; Gögeci et al., 2019; Håkanson & Nobel, 2001). Also, it appears that subsidiary embeddedness and HQs’ embeddedness in the home context may work differently and we must consider embeddedness in both home and host countries to advance our understanding of the “multiple embeddedness” nature of MNEs (Meyer et al., 2020).
HQs have difficulties in facilitating subsidiaries’ innovation development and transfer. This means that, even though HQs have abundant resources to establish subsidiaries or acquire foreign firms under government support, CMNEs’ innovation catch-up is difficult to fulfill.

Our study also provides new insights into EMNEs by uncovering the co-evolving nature of the asset-augmentation process, answering He et al. (2018) recent call. Our findings support He et al. (2018) views concerning HQs’ “co-learner” role and the multidirectional conceptualization of upgrading in EMNEs’ strategic asset-seeking process. Compared with advanced-market MNEs, which traditionally have HQs with greater innovativeness, better positioned at high-tech R&D than their subsidiaries, EMNEs, as latecomers to internationalization and innovation, are likely to be less innovative than their R&D subsidiaries and likely to face a considerable technological gap (Rabbiosi et al., 2012; Schaefer & Liebfirer, 2017; Wu et al., 2016). In this case, EMNEs’ innovation-augmentation process necessitates multidirectional learning and requires HQs to co-learn with subsidiaries. This enriches our understanding of how EMNEs can better achieve innovation catch-up via strategic asset-seeking investments (Deng, 2009; Elia & Santangelo, 2017; Maksimov & Luo, 2021).

Finally, our findings point to HQs’ home-country political ties as an inhibitor in shaping subsidiary entrepreneurial activities in CMNEs. This challenges the view of political ties as strategic assets in EMNEs’ international expansion (e.g., Buckley et al., 2007; Luo et al., 2010; Wei et al., 2015), while reinforcing the argument for a liability of stateness (Cuervo-Cazurra & Li, 2021; Meyer et al., 2014).

6.2. Managerial implications

Our study also generates some important managerial implications. CMNE HQs, particularly state-connected ones, need to stimulate a robust entrepreneurial culture and to take initiatives to enhance their own knowledge base and learning capability. Without a certain level of innovation-related knowledge and experience in HQs, relying only on subsidiary assets through foreign investments to achieve competence upgrading is a weak strategy. Moreover, since subsidiary innovativeness is essential for reverse innovation transfer, CMNE HQs should nurture subsidiaries with an active entrepreneurial orientation and support them in the pursuit of innovation activities. To maximize innovation-related benefits from overseas assets, CMNE HQs could develop symbiotic and trusting relationships with subsidiaries and establish a mutual-learning environment to facilitate knowledge sharing.

6.3. Limitations and future research directions

Like any research, our study has certain limitations, which may pave the way for future research. First, in line with the theoretical interest in the role of home government involvement in EMNEs, this paper focuses only on the effect of HQs’ ties with home political institutions and does not consider other political ties, particularly subsidiaries’ political ties. Subsidiary behaviors in CMNEs may be driven by a nexus of factors that are mutually dependent. For instance, because many subsidiaries have Chinese expatriate managers, these may have direct ties with political institutions in China. It is possible that these political ties at subsidiary level, jointly with HQs’ political ties, may shape subsidiaries’ entrepreneurial behaviors. To obtain more granular insights into subsidiary innovation, future research could take the effects of subsidiary-level political ties into account. Further, our study is based on a high percentage of Chinese expatriate managers responding to the subsidiary survey, which is reasonable from a methodological perspective as they are among the most knowledgeable in the subsidiary. However, in order to shed more light on possible cultural biases and gain more comprehensive and in-depth understandings of political ties and entrepreneurial activities at subsidiary level, future studies could focus more on the subsidiary side and compare the responses of expatriate managers’ response to those of locals.

Second, consistent with the common theoretical focus on government influence in emerging-market firms, our study focuses on the effect of HQs’ political ties to discuss home government influence in a broad way, instead of the specific direct influence of the political party in China. This is also partly because our quantitative approach, based on the survey of many CMNEs with variations in political ties, makes it difficult to capture the influence of the Chinese political party on MNEs’ innovation upgrading, particularly how the party controls an enterprise, how it regulates and supports R&D, and what kind of innovation the political party has an interest in. These issues might be investigated by using a qualitative case-study approach to provide a better understanding of the effect of home-country political influence on CMNEs from the political party perspective.

Third, acknowledging that HQs’ home-country context matters in EMNEs (e.g., Buckley et al., 2017; Estrin et al., 2016), we investigate the effects of CMNE HQs’ home-country political ties in relation to subsidiary entrepreneurial activities. We do not argue that political ties are the only important factor in the home context. Suggestions for future research can examine other contextual characteristics of home countries, such as intellectual property protection, marketing competition level, and regional economic development, when studying subsidiary entrepreneurial activities. This can help to further develop our understanding of the role of home-country context for EMNEs’ international activities.

Fourth, this study, adopting a top-down perspective, focuses on HQ-level factors. As subsidiary entrepreneurial activities are well recognized as being embedded in the local context (Ciabuschi et al., 2011; Golgeci et al., 2019; Håkanson & Nobel, 2001), it would be fruitful to explore simultaneously the interactions of HQs’ and subsidiaries’ contextual factors. For example, the host-country institutional environment, subsidiary business embeddedness, or the composition of the subsidiary top management team, might be moderating factors shaping the impact of Chinese HQs’ political ties on subsidiary innovation development and transfer.

In conclusion, due to the popularity of the strategic asset-seeking internationalization of CMNEs, further studies in this area are warranted, particularly in relation to the co-evolving nature of the innovation-augmentation process of CMNEs. This would advance the emerging literature on EMNEs’ subsidiaries and on the mixed implications of political ties in relation to the international competition of CMNEs.

CRediT authorship contribution statement

Cong Su: Methodology, Investigation, Formal analysis, Data curation, Conceptualization, Funding acquisition, Validation, Visualization, Writing - original draft, Writing - review & editing. Lingshuang Kong: Methodology, Investigation, Formal analysis, Data curation, Validation, Visualization, Writing - review & editing. Francesco Ciabuschi: Supervision, Project administration, Methodology, Investigation, Conceptualization, Resources, Validation, Writing - review & editing.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgement

We thank the editors of this special issue, especially Professor Stefano Elia for his critical insights and encouragement, and the anonymous reviewers for their excellent comments and guidance that greatly improved our paper. We also gratefully acknowledge financial support (W18-0042) from Jan Wallander och Tore Nordens stifelse Tore Nordens Stiftelse (Sweden).
References


Lingshuang Kong (Ph.D) is a post-doc researcher at Department of Business Studies, Uppsala University, Sweden. She obtained her PhD degree from Uppsala University. Her research focuses on the internationalization and management of emerging-market multinationals (particularly Chinese multinationals), reverse knowledge transfer and expatriation within multinationals. She has published in refereed journals such as Industrial and Corporate Change, Journal of Business Research, International Business Review and Journal of International Management.

Francesco Ciabuschi is a Professor of International Business at the Department of Business Studies, Uppsala University. Francesco Ciabuschi research is published in many international journals (such as JIBS, AMP, JMS, JBR, IMM, JWB, IBR, LRP) and received several recognition and awards at international conferences. He has been guest editor of several special issues and his research interests concern international strategy, management of multinationals, emerging market MNEs, reshoring, international multisectorial partnerships, innovation management, and antibiotic industry.