Chinese SOEs’ technological upgrading through OFDI: The impact of political ties and subnational institutions. A survey of literature

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Abstract

This paper presents a systematic literature review on the relationship between outward foreign direct investment (OFDI) and technological upgrading in Chinese state-owned enterprises (SOEs), emphasizing the moderating role of political ties and subnational institutions. Analyzing 51 core papers from 2011 to 2022, the study synthesizes key theories on how political ties influence Chinese SOEs’ technological upgrading through OFDI. It also finds that political ties affect motivations and resources of SOEs with various types of state ownership and thus affect their OFDI strategies and innovation capabilities. This research further explores the impact of subnational institutions and their interactions with political ties. The findings underscore the perspective that subnational institutions shape a firm’s learning capability, and their impact is moderated by SOEs’ political ties. Finally, the study identifies key issues in SOEs’ technological upgrading through OFDI and offers valuable insights for policymakers and SOE managers. Future research directions are outlined to understand the impact of OFDI on the technological upgrading of Chinese SOEs.

Keywords: outward foreign direct investment, state-owned enterprises, technological upgrading, innovation, political ties, subnational institutions

Actualització tecnològica de les empreses estatals xineses mitjançant la inversió directa estrangera: l’impacte dels vincles polítics i les institucions subnacionals. Una analisi de la literatura

Resum

Aquest article presenta una revisió sistemàtica de la literatura sobre la relació entre la inversió directa estrangera (OFDI) i l’actualització tecnològica a les empreses estatals xineses, posant èmfasi en el paper moderador dels vincles polítics i les institucions subnacionals. Analitzant 51 articles bàsics del 2011 al 2022, l’estudi sintetitza teories clau sobre com les relacions polítiques influeixen en l’actualització tecnològica de les empreses estatals xineses a través de l’OFDI. També constata que els lliaços polítics afecten les motivacions i els recursos de les empreses estatals amb diversos tipus de propietat estatal i, per tant, afecten les seves estratègies d’OFDI i les seves capacitats d’innovació. Aquesta recerca explora més l’impacte de les institucions subnacionals i les seves interaccions amb els vincles polítics. Les troballes subjacent la perspectiva que les institucions subnacionals configuren la capacitat d’aprenentatge d’una empresa i que el seu impacte està moderat per les relacions polítiques de les empreses estatals. Finalment, l’estudi identifica qüestions clau en l’actualització tecnològica de les empreses públiques mitjançant l’OFDI i ofereix informació valuosa per als responsables polítics i els gestors de les empreses públiques. Es descriuen futurs directors de recerca per entendre l’impacte de l’OFDI en l’actualització tecnològica de les empreses estatals xineses.

Paraules clau: inversió estrangera directa, empreses estatals, actualització tecnològica, innovació, vincles polítics, institucions subnacionals

Actualitzación tecnológica de las empresas estatales chinas a través de la inversión directa extranjera: el impacto de los vínculos políticos y las instituciones subnacionales. Un estudio de la literatura

Resumen

Este artículo presenta una revisión sistemática de la literatura sobre la relación entre la inversión extranjera directa (OFDI) y la actualización tecnológica en las empresas estatales chinas (SOEs), enfatizando el papel moderador de los vínculos políticos y las instituciones subnacionales. Al analizar 51 artículos básicos de 2011 a 2022, el estudio sintetiza teorías clave sobre cómo los vínculos políticos influyen en la actualización tecnológica de las empresas estatales chinas a través de la OFDI. También se concluye que los vínculos políticos afectan las motivaciones y los recursos de las empresas estatales con diversos tipos de propiedad estatal y, por lo tanto, afectan sus estrategias de OFDI y sus capacidades de innovación. Esta investigación explora más a fondo el impacto de las instituciones subnacionales y sus interacciones con los vínculos políticos. Los hallazgos subrayan la perspectiva de que las instituciones subnacionales dan forma a la capacidad de aprendizaje de una empresa y su impacto es moderado por los vínculos políticos de las empresas estatales. Finalmente, se describen futuros lineas de investigación para comprender el impacto de la OFDI en la modernización tecnológica de las empresas estatales chinas.

Palabras clave: salida de inversión extranjera directa, empresas estatales, modernización tecnológica, innovación, vínculos políticos, instituciones subnacionales
Introduction

Outward Foreign Direct Investment (OFDI) has served as a significant "springboard" enabling developing countries to achieve technological upgrading over many decades (Buckley et al. 2016; Luo and Tung 2007; Mathews 2006). Several scholars have employed theories such as Organizational Learning (Jiang, Luo, and Zhou 2020; Fu, Hou, and Liu 2018; Thakur-Wernz and Samant 2019; Yuan, Pangarkar, and Wu 2016), the Springboard Perspective (Luo and Tung 2007), and the Linking, Leveraging, and Learning (LLL) paradigm (Mathews 2006) to illustrate how Emerging Market Multinational Enterprises (EMNEs) may harness OFDI. EMNEs can then acquire advanced knowledge and bolster their innovation capabilities, thereby fostering technological progress. Chinese OFDI, due to its enormous scale, has garnered significant attention. As indicated by UNCTAD (2022), despite the adverse conditions of a global pandemic, China maintained its status as one of the primary global investors in 2021, with an investment totaling $145 billion. By the end of 2021, nearly 28,600 Chinese companies had established approximately 46,000 overseas companies in 190 different countries and regions worldwide through OFDI (MOFCOM 2022).

Chinese state-owned enterprises (SOEs) constitute significant contributors to Chinese OFDI. In 2021, SOEs’ OFDI represented 51.6% of the non-financial OFDI stock in China (MOFCOM 2022). Currently, these enterprises serve as vital components of the Chinese economy. For instance, the profits of state-holding enterprises accounted for approximately 26% of profits generated by large-scale industrial enterprises in 2021 (NBS 2022). SOEs have also been instrumental in China’s economic development as policy tools (Lin 2021; Fang et al. 2023), particularly in enhancing China’s innovation capabilities. Ranked 11th on the Global Innovation Index and first among the upper-middle-income countries (WIPO 2022), China aspires to establish itself as a global innovation powerhouse. In 2022, China’s R&D expenditure was $443 billion, constituting 2.55% of its GDP. Furthermore, it aims to augment its R&D expenditure to 7% of its GDP during its 14th Five Year Development period (China Daily 2023). Consequently, the Chinese government has also impelled SOEs to prioritize innovation development, especially in burgeoning fields like green technologies and advanced manufacturing (China Daily 2022).

Bearing the strategic policy burden, many SOEs have chosen to acquire strategic assets, such as technology and brands, through OFDI to build long-term competitiveness and enhance their innovative capacities (Cui, Meyer, and Hu 2014; Li, Anwar, and Peng 2022; Ramasamy, Yeung, and Laforet 2012; Rudy, Miller, and Wang 2016). Therefore, understanding the technological upgrading of Chinese SOEs through OFDI is of utmost importance.

This paper thoroughly reviews previous literature from three distinct perspectives: Firstly, this research analyses how past studies discuss the overall influence of political ties on OFDI’s innovation-enhancing effect on Chinese SOEs. Political ties of a firm encompass a range of institutional and personal relationships that firms maintain with governmental authorities (Chen, Li, and Fan 2018; Kotabe, Jiang, and Murray 2011; Su et al. 2021; Sun, Mellahi, and Wright 2012). Given that Chinese SOEs are deeply embedded in political ties at both the institutional and individual levels, these ties play a significant role in shaping the impact of OFDI within SOEs.

Secondly, this study adopts a nuanced view to
assess how prior research investigates the impact of political ties on different types of SOEs. It is essential to note that Chinese SOEs are not monolithic entities, and their political ties can vary based on the government levels with which they are affiliated (Li, Cui, and Lu 2014). Thus, this study explores how previous scholars have discussed the impact of political ties on the OFDI strategies and innovation capabilities of central SOEs and local SOEs, contributing to a more profound understanding of the influence of political ties on different Chinese SOEs’ technological upgrading.

Thirdly, this research explores how existing studies investigate the impact of subnational institutions and their interplay with political ties on SOEs’ technological upgrading through OFDI. The institutional environment at the subnational level in China is highly diverse, significantly influencing local firms’ political ties and strategies (Wu and Chen 2014; Yang 2018). Previous scholars have also called for more research on the impact of subnational institutions on EMNEs (Chen, Li, and Shapiro 2015; Li et al. 2018; Liu and Yu 2018; Meyer and Peng 2016). Therefore, this study deepens the discussions on the impact of political ties and responds to the call for further investigation of the role of subnational institutions.

This paper enriches the existing body of literature on OFDI and the performance of Chinese multinational enterprises (MNEs). While previous research has conducted literature reviews on the internationalization and innovation of MNEs (Christofi et al. 2019; Cui et al. 2022; Du, Zhu, and Li 2023; Papanastassiou, Pearce, and Zanfei 2020), few papers have focused narrowly on the internationalization of Chinese SOEs and their innovation performance. For instance, Cui et al. (2022) present a broad literature review on the performance outcomes of EMNEs’ OFDI, focusing not only on economic outcomes like profitability, stock market performance, and innovation performance, but also on non-economic outcomes such as job creation and corporate social responsibility. While Du, Zhu, and Li (2023) concentrate specifically on innovation performance in their systematic literature review, they assess studies spanning the pre-internationalization stage, the internationalization entry stage, and the post-internationalization stage. Moreover, Papanastassiou, Pearce, and Zanfei (2020) offer a comprehensive review of the literature on MNEs’ internationalization of R&D over the past 50 years, and Christofi et al. (2019) perform a systematic literature review on technological innovation through cross-border M&As. In contrast to these prior studies, this paper fills the gap by providing a more focused literature review on Chinese MNEs, particularly SOEs. Thus, this paper enriches the discussion on the internationalization of state-owned MNEs.

Furthermore, by examining how previous studies have analyzed the effect of political ties from both broad and nuanced perspectives, this paper contributes to a comprehensive understanding of political ties’ impact on Chinese MNEs. This is a crucial aspect of the dynamic between OFDI and MNE performance in the context of China. Although many studies have examined the impact of political ties on MNEs’ OFDI strategies and innovation activities (Boateng et al. 2022; Ciabuschi, Kong, and Su 2017; Du, Boateng, and Newton 2016; Su et al. 2021; 2020; D. Wang et al. 2022), few have focused on the effects of OFDI. One such effect is firms’ technological upgrading. Moreover, this paper also highlights the major issues identified in previous literature in the internationalization and technological upgrading of Chinese SOEs. Consequently, this paper not only enhances the theoretical understanding of political ties, but
also provides practical implications for policymakers and managers to leverage political ties in SOEs’ OFDI and innovation activities.

In the following section, this paper outlines the methodology employed to conduct the literature review, followed by a thematic analysis of the results derived from the review. The paper culminates with a discussion on future research, policy and managerial implications, and research limitations.

**Research method**

This study employs a systematic literature review approach and thematic analysis in the examination of selected literature. The systematic literature review approach is a well-established method in business and management research (Kuckertz and Block 2021; Paul and Criado 2020). It allows for comprehensive discussions on specific themes, synthesizing existing studies, identifying research gaps, and suggesting future research directions. Furthermore, the systematic literature review is an excellent tool for addressing specific research questions as it offers a comprehensive, transparent, and objective knowledge base derived from prior literature (Clark et al. 2021).

The reviewed literature in this paper was selected from journals with 3 stars and above on the 2021 ABS journal lists such as *International Business Review, Journal of Business Research, Journal of International Business Studies, Journal of World Business, Industrial and Corporate Change,* and *Review of Quantitative Finance and Accounting*. Some journals that are rated below 3 but are relevant to the study of Chinese multinationals such as *China Economic Review* and *China & World Economy* are also included. All the journals are selected from fields such as economics, international business, innovation, strategy, management, and other relevant fields of social sciences.

We used the Web of Science (WoS) to search for relevant literature in academic journals. The keywords were selected based on a preliminary keyword search of relevant papers. The research keywords are divided into six groups: 1) China; 2) OFDI; 3) upgrading; 4) political ties; 5) central SOEs vs local SOEs; 6) subnational institutions. The research keywords for each group are presented in Table A1 in the Appendix. In particular, core research groups (“China,” “OFDI,” and “upgrading”) are included in every search and are combined with each research group (“political ties,” “central SOEs vs local SOEs,” and “subnational institutions”) respectively. For example, when researching literature regarding political ties, keywords are selected from research groups “China,” “OFDI,” “upgrading,” and “political ties”. The research period is from 2011 to 2022.

At first, keywords for each group were generally identified in the “General Research” column in Table A1 in the Appendix. Then, more alternatives of keywords for each group (Table A1 “Alternatives” column) are added; these are based on the results of general research keywords. In particular, when combining the research theme “central SOEs vs local SOEs” with the core research groups, only 6 relevant papers were selected from the WoS database. To obtain more papers relating to the theme of “central SOEs vs local SOEs,” research keywords were further broken into two groups of research: 1) “central SOEs vs local SOEs,” “China,” and “upgrading”; 2) “central SOEs vs local SOEs,” “China,” and “OFDI”. After the breakdown, 84 papers that relate to “central SOEs vs local SOEs” were identified.

After evaluating the relevance of the papers
based on their titles and abstracts, 116 papers were selected on the subject of “political ties,” 84 papers on “central SOEs vs local SOEs,” and 88 papers on “subnational institutions”. These papers were subsequently assigned relevance scores ranging from 1 to 4, based on their relevance to research questions, with higher scores indicating greater relevance. By considering the assigned scores for each paper and tracing their citations, we thoroughly read and reviewed 51 core papers that were most relevant to our literature survey. Detailed statistics for each selection process are provided in Table 1 below. These 51 core papers used for analysis in the paper are listed in Table A2 in the Appendix. Additionally, other papers with lower relevance scores have contributed to the theoretical framework and contextual understanding of our research topic.

**Received Wisdom**

In this section, we initially present an overview of prior literature addressing OFDI’s impact on a firm’s technological upgrading in emerging countries. Subsequently, we provide a thematic analysis on three distinct topics: 1) The influence of political ties on the technological upgrading effect of OFDI in SOEs; 2) How the impact of political ties differs among SOEs with various types of state ownership; 3) How subnational institutions affect SOEs’ OFDI and innovation capabilities and how their influences interact with political ties.

The impact of OFDI on a firm’s technological upgrading

Existing research suggests that EMNEs have different investment goals than MNEs from developed countries. While MNEs from developed countries invest abroad to exploit their Ownership-specific advantages (O), Location advantages (L), and Internationalization advantages (I) in line with the OLI framework (Dunning 2001), EMNEs primarily invest overseas to bolster their competitive advantages (Cui and Jiang 2012; Cui, Meyer, and Hu 2014; Du and Luo 2016). As a result, EMNE research concentrates on how firms can leverage OFDI to acquire advanced knowledge, enhance their innovation capability, and ultimately contribute to their technological advancement. For instance, organizational

**Table 1. The number of papers during the selection process**

<table>
<thead>
<tr>
<th>Research group</th>
<th>Initial selection (Relevancy based on titles and abstracts)</th>
<th>Assigned Scores 3 &amp; above</th>
<th>Core Literature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Political ties</td>
<td>116</td>
<td>81</td>
<td>35</td>
</tr>
<tr>
<td>Central SOEs vs local SOEs</td>
<td>84</td>
<td>52</td>
<td>8</td>
</tr>
<tr>
<td>Subnational institutions</td>
<td>88</td>
<td>48</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>288</td>
<td>181</td>
<td>51</td>
</tr>
</tbody>
</table>

Source: Own elaboration
learning theories propose that OFDI enables EMNEs to broaden their knowledge base and amplify their innovation capability via avenues such as demonstration, competition, labor mobility, and industrial linkage (Fu, Hou, and Liu 2018; Jiang, Luo, and Zhou 2020; Thakur-Wernz and Samant 2019). The springboard perspective posits that EMNEs acquire advanced technology and know-how through OFDI to overcome latecomer disadvantages and upgrade their competitive standing (Luo and Tung 2007). The Linking, Leveraging, and Learning (LLL) paradigm demonstrates that outward-oriented EMNEs can augment their learning capacity by repeatedly linking and leveraging resources in foreign markets (Mathews 2006).

Focusing specifically on how OFDI impacts a firm's performance related to technological upgrading, existing research has examined outcomes such as innovation performance (Anderson, Sutherland, and Severe 2015; Fu, Hou, and Liu 2018; Piperopoulos, Wu, and Wang 2018; C. Wang et al. 2022), reverse knowledge transfer (Ciabuschi, Kong, and Su 2017; Su et al. 2021; 2020), and productivity (Chen 2018; Chen, Tian, and Yu 2019; Cozza, Rabellotti, and Sanfilippo 2015; Haiyue and Manzoor 2020; Li et al. 2017). These studies also reveal important moderating factors that could influence the impact of OFDI's technological upgrading on firms. These factors range from firm-level characteristics such as absorptive capacity and international experience to contextual-level aspects including the developmental stage of host countries and the organizational distance between home and host countries (Anderson, Sutherland, and Severe 2015; Fu, Hou, and Liu 2018; Su et al. 2021; 2020).

Due to their large scale and rapid growth rate, Chinese EMNEs have attracted considerable scholarly attention. Previous research has examined the impact of OFDI on the performance of Chinese EMNEs, encompassing financial performance (Boateng et al. 2022; Du, Boateng, and Newton 2016; Haiyue and Manzoor 2020; Tu et al. 2021), firm productivity (Chen, Tian, and Yu 2019; Cozza, Rabellotti, and Sanfilippo 2015; Guo and Clougherty 2022; Haiyue and Manzoor 2020; Li et al. 2017), and innovation performance (Yuan, Pangarkar, and Wu 2016; Cuervo-Cazurra and Rui 2017; Fu, Hou, and Liu 2018; Piperopoulos, Wu, and Wang 2018). However, among these studies, only a few have focused specifically on the impact of OFDI on Chinese SOEs (Anderson, Sutherland, and Severe 2015; Boateng et al. 2022; Du, Boateng, and Newton 2016; Li et al. 2017; Tu et al. 2021). Given that SOEs play a major role in implementing China’s national innovation strategies and hold a significant position in the Chinese economy, it is crucial to deepen our understanding of OFDI’s impact on the technological upgrading of Chinese SOEs.

The overall impact of political ties

In this paper, we align with most studies in defining SOEs as companies where the majority of ownership is held by the state (Bruton et al. 2015; Estrin et al. 2016). The political ties of Chinese SOEs exist at both the organizational and individual levels. At the organizational level, SOEs are managed by various state agencies such as the State-Owned Asset Supervision and Administration Commission (SASAC). Established in 2003 under the State Council, SASAC governs SOEs and ensures that they operate under governmental guidance (Wang 2014). At the individual level, SOE executives in China act as “quasi-officials.” Given their role as key decision-makers in SOEs and the fact that their career paths can straddle both business and government (Beck and Brødsgaard 2022; Hu and Xu 2022), SOE strategies are inevitably affected by
governmental influences. Therefore, political ties at both organizational level and individual level have significant impacts on the OFDI strategies of Chinese SOEs, and consequently on the effects of OFDI.

Previous literature has utilized various theories to discuss the impact of political ties on Chinese SOEs’ OFDI, with the majority of studies examining this impact from the perspective of institutional theory. The main departure from their arguments is that institutions are “the rules of the game” (North 1990), so that firm performance is shaped by the institutional environment in which they are embedded (Tu et al. 2021). In particular, this approach argues that firms’ strategic decisions are bounded by institutional constraints and incentives. Firms need to conform to institutional pressures to maintain their institutional legitimacy to survive in their home countries, which affects the motivations for firm behaviors (Du, Boateng, and Newton 2016; Lee, Xiao, and Choi 2021; Su et al. 2020). In China’s context, state ownership is an important organizational level political tie for SOEs, which makes their strategic decisions bounded by governmental preferences. Therefore, SOEs need to respond to the institutional pressures from governments when engaging with OFDI activities. For example, SOEs are expected to fulfill government demands by achieving political and societal goals through OFDI, such as resource-seeking or enhancing innovation capacity for national competitiveness (Amighini, Rabellotti, and Sanfilippo 2013; Li, Anwar, and Peng 2022; Li et al. 2017; Su et al. 2020).

On the other hand, some studies also focus on the “regulatory” perspective of institutions (Scott, 2013) and point out that Chinese SOEs receive more home-government institutional support than private-owned enterprises (POEs) in OFDI, due to political ties (Boateng et al. 2022; Fu, Hou, and Liu 2018; Yan et al. 2018; Zhou et al. 2015). The preferential government policy support can serve as an institutional advantage for SOEs by reducing business costs and uncertainty when investing abroad, generating positive returns for the SOEs (Anderson, Sutherland, and Severe 2015; Boateng et al. 2022; Han et al. 2018; Wang and Liu 2022).

However, not much empirical research supports the positive government policy impact on SOEs’ OFDI (Anderson, Sutherland, and Severe 2015; Boateng et al. 2022; Fu, Hou, and Liu 2018). For example, Anderson, Sutherland, and Severe (2015) find that SOEs, even with R&D budget support for acquiring strategic assets overseas, do not exhibit better innovation performance than POEs. Their understanding is that SOEs do not invest their R&D expenditure wisely. Fu, Hou, and Liu (2018) also highlight that, despite receiving substantial subsidies and tax incentives, Chinese SOEs still suffer from the inefficiencies of the former centrally planned economy, hindering their innovation performance.

Furthermore, studies on the resource-based view emphasize that SOEs’ activities are affected by their resource providers: home governments. This approach suggests that while political ties enable SOEs to receive resources from governments, they also lead to a dependence on these resources, which may not be transferable to host countries and could reduce adaptability to overseas market competition. Market competition could benefit a firm’s performance because it could incentivize firms to enhance their performance to survive in fierce competition. However, with the dependence on home government resources, SOEs are less likely to benefit from competition through OFDI (Huang et al. 2017; Li et al. 2017; Li, Anwar, and Peng 2022; C.
Wang et al. (2022).

Both institutional theory and the resource-based view also address the legitimacy issues of SOEs in host countries, which are widely discussed in previous literature and could impede the integration and reverse knowledge transfer of SOEs. On the one hand, the institutional pressure from home governments and the resource dependence on government support drive SOEs to prioritize political goals over commercial goals in OFDI. Therefore, SOEs are more likely to be perceived as political actors in host countries (Boateng et al. 2022; Cui and Jiang 2012; Li and Oh 2016; Li et al. 2017; Su et al. 2021; Tu et al. 2021). C. Wang et al. (2022) highlights that the legitimacy issue is especially serious when there is a large institutional misfit between home countries and host countries.

On the other hand, the lack of legitimacy can negatively affect the integration of SOEs with local communities, impacting knowledge learning and transfer from host countries. For example, SOEs may reduce their internationalization activities and commitments in host countries due to discrimination (Cuervo-Cazurra and Li 2021). Besides, the lack of trust between Chinese SOEs and local communities can hinder SOEs’ knowledge learning (Ciabuschi, Kong, and Su 2017; Su et al. 2021), as trust is vital for reducing uncertainties in knowledge transfer (Johanson and Vahlne 2009).

Other theoretical approaches used in prior research highlight how political ties affect SOEs’ innovation capabilities, particularly through the interactions between headquarters (HQs) in home countries and their foreign subsidiaries in host countries. The principal-agent conflicts in agency theory suggest that there could be potential misalignment between the state’s political and societal objectives and firms’ commercial goals of profit maximization. Therefore, state ownership could be a source of agency conflict (Boateng et al., 2022; Shleifer 1998; Zhu, Tse, and Li 2019). For example, Xu et al. (2023) shows that conflicting objectives between state and SOEs divert SOEs’ attention from economic goals and impair their implementation of R&D strategies in internationalization.

In addition, Su et al. (2020) investigates the principal-agent conflicts between HQs and their foreign subsidiaries. They demonstrate that HQs with political ties in China are motivated by government’s expectation of enhancing innovation capability, while foreign subsidiaries may want to pursue their own interests. Such mixed motivation could inhibit the reverse knowledge transfer between foreign subsidiaries and HQs, since the demand from HQs for knowledge transfer is strong, and the willingness of foreign subsidiaries is weak.

Ciabuschi, Kong, and Su (2017) use the learning perspective to investigate how “political embeddedness” influences the reverse knowledge transfer from foreign subsidiaries to HQs. They found that “political embeddedness” impairs the absorptive capacity of SOEs, as they inherit a “hierarchical and bureaucratic” management structure from governments, which reduces organizational efficiency and flexibility. Consequently, SOEs face challenges in attracting and retaining top talent, especially international talent, making it difficult for them to absorb advanced knowledge transferred from foreign subsidiaries.

Drawing from parenting theory, Su et al. (2021) emphasizes the core role of HQs to allocate resources and manage inter-organizational knowledge flow. They indicate that the political ties of HQs could complicate their parenting role, as they need to prioritize government goals of enhancing national innovation
competitiveness over creating values for the entire companies. For example, they argue that political ties bring much location-bound managerial knowledge in home countries and reduce their incentives to develop non-location-bound firm-specific assets, limiting their capacity in internationalization and in further undertaking reverse knowledge transfer from foreign subsidiaries.

The impact of different types of state ownership

Recent studies advocate for a more nuanced understanding of political ties’ impact by examining various types of SOEs (Li, Xia, and Zajac 2018; Li et al. 2023). SOEs are not a homogenous group. Different SOE types have varied political ties with their home governments, influencing their internationalization strategies and innovation performance (Kwak, Chang, and Jin 2023; Li, Cui, and Lu 2014; Lin 2021; D. Wang et al. 2022; Xia et al. 2014). A crucial method for investigating this impact involves comparing central and local SOEs, governed at different government levels and possessing unique ownership-based political ties. These distinct governmental affiliations carry significant implications for both central and local SOEs in their motivations and resources (Li, Xia, and Zajac 2018; Li, Cui, and Lu 2014; Li et al. 2023; D. Wang et al. 2022).

For differences in motivations, institutional theory argues that firms face isomorphic pressures to conform to the norms and expectations of the institutional environment in which they are embedded (DiMaggio and Powell 1983; Cui and Jiang 2012; North 1990). Facing institutional pressures from the central government, Chinese central SOEs are more inclined to prioritize the central government’s strategic goals (Fang et al. 2023; Li, Xia, and Zajac 2018; Li, Cui, and Lu 2014; Lin, Fu, and Fu 2021). In contrast, local SOEs, governed by local governments, face fewer obligations to national strategic objectives and are more driven to achieve commercial objectives, since the revenues of local SOEs are important sources to alleviate fiscal pressure for local governments (Li, Xia, and Zajac 2018; Li, Cui, and Lu 2014).

Regarding resource differences, while SOEs are thought to receive superior resource support from home governments compared to POEs, research shows that the level of governmental support varies between central and local SOEs. Generally, due to the central government’s larger resource capacity, central SOEs not only receive more favorable treatment, including privileged support and protections, but also enjoy superior access to financial and informational resources, policy support, and government-backed networks compared to local SOEs (Fang et al. 2023; Kwak, Chang, and Jin 2023; Li, Xia, and Zajac 2018; Li et al. 2018; Li et al. 2023; Lin, Fu, and Fu 2021).

The differences in resource support between central and local SOEs also influence their motivations. From the perspective of resource dependence theory (Deng, Yan, and Van Essen 2018; Oliver 1991; Pfeffer and Salancik 2003; Xia et al. 2014), compliance is an adaptation strategy that firms can use to cope with external constraints they face from powerful social actors who provide them with resources. Given that central SOEs depend on resources from the central government and local SOEs on those from local governments, central SOEs typically align with the central government’s political objectives, whereas local SOEs are more likely to pursue the commercial objectives of local governments (Li, Cui, and Lu 2014).

The variances in motivations and resources between central and local SOEs also have implications for their OFDI strategies and innovation capabilities. Regarding the
implications of OFDI strategies, previous literature indicates that local SOEs exhibit a stronger market orientation in their OFDI strategies compared to central SOEs. With fewer resources from local governments and less protection from the central government, yet burdened by local fiscal responsibilities, local SOEs tend to pursue more commercial objectives in their overseas investments than central SOEs (Li, Cui, and Lu 2014; Li et al. 2023; D. Wang et al. 2022). Furthermore, local SOEs enjoy greater managerial autonomy, leveraging their interdependent relationships with local governments for operational flexibility (Li et al. 2023). In contrast, central SOEs face more restrictive regulatory approvals from the central government. Therefore, their overseas activities are largely constrained by the central government (Huang et al. 2017; Li, Cui, and Lu 2014; Yan et al. 2018).

This stronger market orientation and greater managerial autonomy enable local SOEs to adapt more effectively to global market competition (Li, Cui, and Lu 2014). Market stakeholders drive the demand for innovation through competition, pressuring firms to innovate (Li, Xia, and Zajac 2018; Li, Cui, and Lu 2014). Additionally, competition from overseas rivals motivates emerging market multinationals to boost their innovation capacity and quickly catch up with global leaders (Piperopoulos, Wu, and Wang 2018; Wu et al. 2022). Hence, local SOEs are more likely to learn in the global market and gain competitive advantages (Huang et al. 2017; Li, Cui, and Lu 2014).

Moreover, research suggests that local SOEs enjoy greater legitimacy in host countries than central SOEs due to their fewer obligations to national strategies and greater managerial autonomy, making their commercial objectives more credible to host countries (Li et al. 2018; Li, Cui, and Lu 2014; Li et al. 2023; D. Wang et al. 2022). Consequently, local SOEs may integrate more smoothly with communities in host countries than central SOEs, further facilitating learning and knowledge transfer.

Regarding the differences in innovation capabilities between central SOEs and local SOEs, some studies which focus on their resource differences argue that with superior resources from the central government, central SOEs can better attract talent to boost innovation and have a greater capacity for R&D investment, thus enhancing their innovation performance (Li, Xia, and Zajac 2018; Lin, Fu, and Fu 2021). However, another line of research contends that although the central government supplies central SOEs with superior resources, it operates with broader national considerations, which might limit its ability to address the specific needs of individual firms. Conversely, local governments, with closer interactions and deeper connections with local SOEs, are more apt to grasp the needs of local firms. As a result, local governments are more likely to launch local regulations and rules that benefit the innovation of local SOEs (Kwak, Chang, and Jin 2023; Zheng, Singh, and Mitchell 2015).

Furthermore, some studies focusing on the differences in motivations demonstrate that central SOEs may possess a stronger motivation for innovation than local SOEs. For example, since China implemented the national innovation development plan in 2006 and recognized indigenous innovation as one of the primary objectives in the national development plan, the central government has launched numerous policies and regulations to improve the nation’s innovation capability (Fu 2015). As a result, being subject to the central government’s strict regulations, central SOEs feel pressured to align with the national
innovation objectives and enhance their innovation performance. In contrast, local governments do not necessarily prioritize regional innovation development. Within the “tournament-style” career system, local officials often prioritize goals that might advance their careers, such as economic growth and social stability. Hence, enhancing innovation performance may not be a primary focus in the strategies of local SOEs (Lin, Fu, and Fu 2021; Xu 2011).

The impact of subnational institutions

Most international business (IB) research focuses on how national-level institutional factors shape firm strategies. However, IB scholars have called for more research on the role of subnational institutions in EMNEs’ internationalization, an area currently not fully studied (Chen, Li, and Shapiro 2015; Li et al. 2018; Liu and Yu 2018; Meyer and Peng 2016). Scholars have noted greater variance in subnational institutions in developing countries compared to developed countries (Chan, Makino, and Isobe 2010; Shi et al. 2017; Yang 2018). China, in particular, exhibits significant regional institutional differences. For example, regulatory institutions supporting local business are more efficient in coastal regions than in inland regions (Yang 2018). Also, property rights’ protection is stronger in the Southeast region than in other regions (Chen, Li, and Shapiro 2015). Therefore, many scholars have emphasized the importance of analyzing the impact of Chinese subnational institutions on firm strategies (Liu, Lu, and Chizema 2014; Ma, Ding, and Yuan 2016; Shi et al. 2017; Yang 2018).

From the institution-based view, existing research has emphasized how home subnational institutions including economic, political, and social institutions, shape a firm’s OFDI strategies. Specifically, the influence has been explored on strategies such as location choices (Chen, Li, and Shapiro 2015; Yang 2018), entry modes (Liu and Yu 2018), and their propensities for and levels of internationalization (Li et al. 2018; Liu, Lu, and Chizema 2014; Ma, Ding, and Yuan 2016; Wu and Chen 2014). Some studies highlight that well-developed subnational institutions reduce information asymmetries and enhance market efficiencies, facilitating firms’ internationalization and encouraging SOEs to respond to market competition (Li et al. 2018; Liu and Yu 2018; Ma, Ding, and Yuan 2016; Wu and Chen 2014). Furthermore, Wu and Chen (2014) point out that institutional stability in home countries affects firms’ internationalization activities. They suggest that institutional instability brings uncertainty to firms, causing them to lack resources and confidence to explore foreign markets and learn from internationalization.

Furthermore, existing research has discussed how subnational institutions affect a firm’s learning capabilities, which could also shed light on their impacts on SOEs’ learning through OFDI. For example, prior research has pointed out that firm capability is affected by the local institutional environment in which it is embedded. Firms also tend to use the knowledge that they learned from home subnational institutions during their internationalization (Ma, Ding, and Yuan 2016; Yang 2018). Chen, Li, and Shapiro (2015) specifically note that subnational market-supporting institutions, such as economic liberalization and property rights protection, shape the technological and market-related capabilities of firms. These capabilities are crucial for enhancing a firm’s absorptive capacity and facilitating its knowledge learning in foreign markets. As a result, firms located in sub-regions with strong market supporting institutions are possessed with stronger
capabilities to be competitive and acquire new knowledge in the global market (Chen, Li, and Shapiro 2015; Cohen and Levinthal 1990; Tang, Shu, and Zhou 2022). Meanwhile, Yang (2018) also points out that there are institutional advantages for firms that are embedded in less developed subnational institutions. These firms would develop the capability to cooperate with inefficient bureaucratic systems and corruption, which benefits their survival when investing in host countries with less developed institutions.

Moreover, prior research has shown political ties can moderate the impact of subnational institutions on SOEs’ OFDI strategies. For example, Yang (2018) examines the impact of government involvement on firms’ location choices and finds that SOEs’ decisions are less affected by subnational institutions. This is attributed to the strong support SOEs receive from subnational governments, which reduces their motivation to engage institutional embedded learning in weak subnational institutions. Consequently, SOEs are generally less motivated to enter host countries with weak institutional systems. Besides, Wu and Chen (2014) corroborate Yang (2018)’s findings, suggesting that stronger government support makes it less likely for SOEs’ decisions on international expansion to be influenced by the level of subnational institutional development and stability. Finally, prior research also highlights that the political ties of SOEs enable them to be less affected by political and economic risks at home and to collaborate with subnational policymakers. This also reduces the likelihood of SOEs resorting to OFDI as a strategy to escape local institutional fragility (Li et al. 2018; Shi et al. 2017).

Finally, there are few studies investigating how subnational institutions affect the impact of political ties on SOEs’ OFDI activities. For example, Li et al. (2018), from the institutional theory perspective, argue that the home subnational forces, including coercive and mimetic factors (DiMaggio and Powell 1983), moderate the negative impact of political ties on SOEs’ OFDI frequency. They demonstrate that home institutional compatibility and institutional incompatibility in host countries drive SOEs to focus on the domestic market rather than internationalization. However, they found that subnational institutional factors could help reduce this trend, thereby increasing SOEs’ frequency of establishing foreign subsidiaries in host countries.

**Conclusions and Discussions**

**Conclusions**

Based on a systematic literature review of 51 core papers, this paper provides a comprehensive review on how political ties and subnational institutions shape the impact of OFDI on the technological upgrading of Chinese SOEs. This paper also investigates previous discussions on how the effect of political ties varies between SOEs with different modes of state ownership and the interactions between the impact of political ties and subnational institutions.

Existing research indicates that political ties affect the motivations, resources, and capabilities of Chinese SOEs, which further affects OFDI’s innovation-enhancing effect on them. In addition, major issues including SOEs’ legitimacy issues in host countries, home policy supports, and interactions between home HQs and foreign subsidiaries are highlighted in prior research when discussing the moderating impact of political ties (Boateng et al. 2022; Ciabuschi, Kong, and Su 2017; Du, Boateng, and Newton 2016; Su et al. 2021; 2020; C.Wang et al. 2022).
Discussions and implications

Prior research has stressed several major issues in the OFDI of Chinese SOEs, which further influence their technological upgrading. There are also policy and managerial implications that are suggested by prior research to mitigate these issues. First, many studies have highlighted that there are legitimacy concerns for Chinese SOEs in host countries due to their political ties, hindering knowledge acquisition and transfer in OFDI (Boateng et al. 2022; Li et al. 2017; Su et al. 2021; Tu et al. 2021; C. Wang et al. 2022). To mitigate these legitimacy concerns, previous studies suggest that home government should build good interstate relationships and implement rule-based policies to help reduce suspicions and concerns from the host country (Boateng et al. 2022; Clegg et al. 2016; Han et al. 2018; Tang, Shu, and Zhou 2022).

For SOEs, some studies recommend that SOE managers should be mindful of the differences in institutional environment between China and host countries and be aware of nonacceptable activities in host countries (Su et al. 2021; C. Wang et al. 2022). In addition, home HQs should increase interactions with their foreign subsidiaries to foster close and trusting relationships and facilitate the reverse knowledge transfer (Su et al. 2021). This is particularly important for local SOEs, which should leverage their managerial autonomy and lesser legitimacy concerns in host countries to build positive local community relationships (Li, Cui, and Lu 2014). Moreover, Chinese SOEs could use their political ties to secure necessary home government support, including diplomatic and informational assistance, when investing in culturally distant environments (Tu et al. 2021).

Second, existing research has also highlighted the mixed impact of government policy support on SOEs’ technological upgrading from OFDI. Prior studies suggest that home governments should diversify their policy portfolio to support SOEs (Anderson, Sutherland, and Severe 2015; Boateng et al. 2022; Fu, Hou, and Liu 2018). It is recommended that home governments should not only focus on financial policies but also consider non-financial policies. These include streamlining the administrative process of OFDI projects, providing information about host countries, and offering diplomatic support to reduce operational costs of SOEs and enhance their competence overseas (Han et al. 2018). Home policymakers are also advised to enable SOEs to adopt more flexible and diverse strategies for better adaptation in host countries (Li, Xia, and Zajac 2018). Additionally, it is crucial for subnational governments to maintain policy stability so that local firms can adapt to institutional changes and have the confidence and resources for internationalization (Wu and Chen 2014).

Third, existing research underscores the importance of enhancing firm capability to...
improve innovation capacity from OFDI. Prior research has argued that SOE structural reform should continue to be implemented to improve organizational efficiency and enhance the absorptive capacity of SOEs (Ciabuschi, Kong, and Su 2017; Fu, Hou, and Liu 2018). Subnational governments are also suggested to create a developed institutional environment and maintain policy stability, thereby boosting firms’ learning capacity (Chen, Li, and Shapiro 2015; Liu, Lu, and Chizema 2014; Wu and Chen 2014).

For SOEs, given that firms embedded in different institutional environments will develop unique institutional advantages (Yang 2018), it is important for SOEs with different state ownership and from different subnational institutions to leverage their distinct institutional advantages in formulating OFDI and innovation strategies. They should also consider the factor of subnational institutions in their locational choice and select locations that benefit firm capability (Chen, Li, and Shapiro 2015). Additionally, Chinese SOEs should increase their level of internationalization and accumulate non-location-bound knowledge assets to facilitate reverse knowledge transfer (Su et al. 2021).

**Future research**

Previous research has emphasized the importance of understanding different contexts and boundary conditions when studying Chinese institutions and SOE topics (Liu and Yu 2018; Tang, Shu, and Zhou 2022; Tu et al. 2021). Based on this literature survey, we have identified four important factors that future research could further explore to understand OFDI’s impact on SOEs’ technological upgrading in various contexts and boundary conditions.

Nuanced political ties

This research has mainly focused on SOEs with state ownership. However, the composition of Chinese SOEs has become complex with the mixed ownership reform. For example, some SOEs have evolved into hybrid organizations with both state ownership and private ownership (Bai, Chen, and Xu 2021; Zhou 2018; Estrin et al. 2016). Therefore, it would be interesting for future research to explore SOEs with mixed ownership and investigate how this mixed ownership affects their OFDI and technological upgrading.

Moreover, it is also important to investigate the political ties of POEs. POEs in China have also significantly contributed to Chinese OFDI (Li and Oh 2016; Ma, Ding, and Yuan 2016). By the end of 2021, POEs had become the largest and most active entities in China’s OFDI, accounting for 32.7% of total Chinese domestic investors (MOFCOM, 2022). Additionally, POEs play a significant role in the Chinese economy, being responsible for about 50% of the nation’s tax revenue, contributing to 60% of China’s GDP, driving 70% of technological innovation, and providing 80% of urban employment opportunities (Xinhua, 2023). Therefore, future studies could research the impact of political ties of Chinese POEs and compare their impacts with SOEs in affecting OFDI’s technological upgrading effect.

**Institutional changes**

As prior research has highlighted the dynamic changes of the Chinese institutional environment (Li, Cui, and Lu 2014; Shi et al. 2017; Wu and Chen 2014), future research could also take a dynamic perspective to further explore how the institutional changes shape the impact of political ties on SOEs’ technological upgrading from OFDI. In addition, most prior research has used the Doing Business Survey on China conducted by the World Bank (World Bank 2008) to measure the
regulatory business environment for China’s 30 provincial capitals (Chen, Li, and Shapiro 2015; Yang 2018). However, the Survey was published in 2008 and there have been significant institutional changes in China since then. An example of such regulatory reform is the "Fang Guan Fu" initiative launched in 2013, which aimed to improve the business environment by reducing bureaucratic red tape, streamlining administrative procedures, and delegating more power to lower-level governments to enhance the regulatory environment for business (China Daily 2016). Hence, future research should consider the impact of institutional changes in China and update the measurement of subnational institutions to reflect these changes.

Informal institutions

Informal institutions, including values, culture, norms, and belief, play an important role in shaping firm strategies, and they vary within subnational China (Ahlstrom et al. 2014; Ma et al. 2023; Ma, Ding, and Yuan 2016). Previous studies also point out that the role of informal institutions is more significant at the subnational level of developing countries, where the formal institutions are less developed (Holmes et al. 2013; Mbalyohere and Lawton 2022). However, the impact of informal institutions on SOEs’ technological upgrading through OFDI has been scarcely explored in previous literature. Moreover, most current research utilizes the marketisation index developed by the National Economic Research Institutes (NERI) to measure the subnational institutional environment in Chinese provinces, which primarily includes measurements of formal institutions such as economic and legal institutions (Du and Luo 2016; Liu, Lu, and Chizema 2014). Hence, future research should develop a more comprehensive measurement of the Chinese institutional environment and particularly explore the impact of informal institutions.

Managerial self-interests

Prior research tends to assume that agency conflicts are not a significant issue in Chinese SOEs because the national interests align with firm interests and also the personal interests of SOE executives (Clegg, Voss, and Tardios 2018; Li, Anwar, and Peng 2022; Tu et al. 2021). However, managerial self-interests do not necessarily align with organizational interests, even in the context of Chinese SOEs (Zhu, Tse, and Li 2019). In reality, there are corruption cases involving Chinese SOE executives (Cao, Wang, and Zhou 2018), challenging the assumption of interest alignment. Given that SOE executives significantly influence firm strategies, future research could focus on the managerial self-interests of SOE executives and explore how individual factors, such as compensation and career aspirations, may affect SOEs’ OFDI strategies and OFDI’s innovation enhancing effect.

There are also several limitations of this research concerning the study of Chinese multinationals and OFDI’s impact. First, the time period of this research is from 2011 to 2022, which is relatively short considering that Chinese SOEs started their OFDI in the early 2000s. Future research could incorporate a longer time span to study whether the focus on OFDI’s technological upgrading in SOEs has evolved over time. Second, this research only analyzed papers published in 3-star and above journals on the 2021 ABS journal list, as well as some 2-star journals that are relevant to Chinese multinationals. Future research could expand the article selection criteria and include more papers to enhance the comprehensiveness of the discussions.

Finally, while this study concentrates on the impact of OFDI on Chinese SOEs, reverse causality often poses a challenge in OFDI and
firm performance studies (Cozza, Rabellotti, and Sanfilippo 2015; Li et al. 2017), suggesting that a firm’s OFDI activities might also be influenced by its capabilities. Future research should thus consider the reverse relationship to explore how the technological capability of SOEs might influence OFDI and whether this relationship varies among SOEs with different political ties.

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# Appendix

## TABLE A1. Research Keywords for Each Research Group

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<td>Upgrading</td>
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<td>Political ties</td>
<td>&quot;State-owned&quot; OR &quot;state-owned enterprise&quot; OR SOE OR &quot;Political tie&quot; OR &quot;national champion&quot; OR &quot;state-business&quot; OR &quot;government involvement&quot; OR &quot;state capitalism&quot; OR &quot;mixed ownership&quot; OR &quot;government affiliation&quot; OR &quot;political connection&quot; OR &quot;political embeddedness&quot; OR &quot;nonmarket strategy&quot; OR &quot;government support&quot; OR &quot;state-led&quot; OR &quot;developmental state&quot; OR &quot;government ownership&quot; OR &quot;hybrid SOE&quot; OR &quot;state affiliated&quot;</td>
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| Central SOEs vs Local SOEs | "Local government" OR "SOE" OR "autonomy" | "SOE autonomy" OR "agency theory" OR "principal agent" OR "tournament theory" OR decentralization? OR centralization? OR recentralization? OR "federalism" OR "local bureaucrat" OR "political selection" OR "fiscal policy" OR "local protectionism" OR "political incentive" OR career promotion" OR "autonomy" OR "SOE heterogeneity" OR "managerial autonomy" OR "organizational diversity" OR affiliation OR "organizational diversity" OR affiliation
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<td>Wang, Qingtao, and Bin Liu</td>
<td>2022</td>
<td>‘State Equity and Outward FDI under the Theme of Belt and Road Initiative’</td>
<td><em>Asia Pacific Journal of Management</em></td>
<td>39(3)</td>
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<td>877–97</td>
<td><a href="https://doi.org/10.1007/s10490-020-09716-y">10.1007/s10490-020-09716-y</a></td>
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