

State-Owned Enterprises and Cross-Border Alliances

Chenchen Huang, Neslihan Ozkan, and Fangming Xu*

April 4th 2021

Abstract

This study investigates the cross-border alliances that state-owned enterprises (SOEs) take part in over the period 1990-2018. We show the country-level political and economic factors (e.g., autocracy, institutional environment, foreign ownership restrictions, foreign currency reserve, and industry composition) influence SOEs' decisions on cross-border alliances. Moreover, we find international firms tend to collaborate with SOEs when there is high expropriation risk and state-dominated banking system in the host country. Also, the SOEs involved cross-border alliances are more likely to be the projects which require more investments and stronger commitments, i.e., joint ventures, manufacturing partnerships and exploration agreements. Further, international firms, especially financially constrained firms, could experience higher announcement returns when collaborating with SOEs than with non-SOEs, implying that the exclusive benefits from SOEs are value-creating for the partner firms through alliance partnerships. Overall, we provide novel evidence on differences between SOE and non-SOEs in terms of how they form global partnerships through cross-border alliances, as well as disclose the wealth implication on the SOEs' partner firms.

Keywords: Cross-border alliances, state-owned enterprises

JEL classification: G3, F3

* Chenchen Huang (ch17572@bristol.ac.uk), Neslihan Ozkan (n.ozkan@bristol.ac.uk), and Fangming Xu (fangming.Xu@bristol.ac.uk) are with the School of Economics, Finance and Management, the University of Bristol. We thank Dirk Jenter and Andrew Karolyi, and the participants at the SWFA 2021 conference for their insightful comments and suggestions.

1. Introduction

State-owned enterprises (SOEs), controlled by the national or local government, have been playing an important role in international activities.¹ In order to kick-start local economic development, SOEs choose to form strategic alliances and joint ventures with foreign companies, such as the Government-Linked Corporations (GLC) in Singapore (see, PwC 2016). Also, the government of Zambia, in order to diversify the industrial structures away from copper, announced the building of a \$548 million cement plant in a joint venture between the country's mining investment ministry and China's SINOCONST (see, World Investment Report 2018). In terms of SOE's partner firms, collaboration with SOEs could also enable the partner firms to gain access to the local markets. For instance, Sanofi, a French publicly listed pharmaceutical company, and Sanjiu, a Chinese state-owned, publicly listed pharmaceutical company, formed a joint venture in 2016. Sanofi, which has been an active participant in international transactions, pointed out that forming an alliance with a leading local player in China would enable it to accelerate its growth in a key strategic market.² Moreover, recent studies shows that around 10% of the Forbes Global 2000 companies are majority SOEs which have spread ownership across 37 countries. International investments by SOEs account for 10%-15% of outward investment flows between 1998 and 2012 (e.g., Kowalski et al., 2013, Christiansen and Kim, 2014). Therefore, as state capitalism has recently risen, the role of SOEs in international activities has become even more evident.³

In this study, we investigate SOEs investments on global partnerships through alliances, i.e., strategic alliances and joint ventures, which have been viewed as major modes for foreign direct investment.⁴ More specifically, we focus on the following questions: What are the country-specific factors that influence SOEs' decisions on cross-border alliance deals? Which factors could influence international firm's selection on SOEs rather than non-SOEs? What's the impact of allying with SOEs on

¹ See, for instance, Shima (2015) and "Partnering with SOEs-a new path for growth?", KPMG report, 2017.

² See, 2017 Sanofi China Corporate Social Responsibility Report.

³ "State capitalism's global reach: New masters of the universe", the Economist, January 21st, 2012. See also the OECD paper "State-Invested Enterprises in the Global Marketplace: Implications for a Level Playing Field" (Christiansen and Kim, 2014).

⁴ See World Investment Report for more information about strategic alliances and joint ventures as the role in the foreign direct investment.

the foreign firm's performance?

There is a large literature showing how SOEs differ from non-SOEs, i.e., privately or publicly owned firms, in terms of their corporate objectives and sources of funding. Different from non-SOEs, SOEs might have a specific goal of societal and public value creation to maximize social welfare (e.g., Shleifer, 1998). However, the political motivations and the “dissonant objectives” in the internal organization of governments between bureaucrats and politicians could lead to operating inefficiency of SOEs (e.g., Shleifer and Vishny, 1994; Tirole, 1994). Prior studies investigate how SOEs differ from other firms in terms of international investments for maintaining their competitive position in global markets, such as the national, economic and political goals for SOEs international investments (e.g., Cuervo-Cazurra et al., 2014; Karolyi and Liao, 2017; Grøgaard et al., 2019), resources and political supports from home government (e.g., Cui and Jiang, 2012; Duanmu, 2014), investment performance of sovereign wealth funds (e.g., Dewenter et al., 2010; Kotter and Lei, 2011), and regulations on foreign government-owned investors (e.g., Shima, 2015).

Building on this literature, we aim to enhance our understanding of how SOEs invest globally through engaging in cross-border alliances. Despite the increasing role of state capitalism globally, previous research has devoted limited attention to the cross-border alliances as one of the strategies for SOEs' international expansions. Faced with rapid technological advances and increasing global competition, firms choose to form alliances with international partners to reduce their investment risk, share technology and complementary resources, improve efficiency, and strengthen global competitiveness (e.g., Tse, Pan and Au, 1997). International corporate alliances create value for firms in various ways: they allow firms to reduce their risk, e.g., expropriation risk of government in the host countries, as they expand their operations globally (Bodnaruk et al., 2016), facilitate R&D collaboration (e.g., Hagedoorn and Narula, 1996; Li et al., 2008), and conform the host government policies on ownership restriction etc. (e.g., Glaister and Buckley, 1996; Desai et al., 2004).

Given the benefits of corporate alliances mentioned above, it is not surprising that

there is striking number of SOEs involved in cross-border alliances reported worldwide. There might be various reasons for SOEs to get involved in cross-border alliances. For instance, SOEs could extract advanced technology or/and complementary resources for national goals (e.g., support national champions, increase competition and efficiency) through forming alliances with foreign partners (e.g., Narula and Dunning, 1998; Sojli and Tham, 2017). Also, cross-border alliances provide an alternative for SOEs' international expansion especially when the partners' countries limit the foreign wholly owned enterprises in the domestic market,⁵ such as foreign ownership restriction in China,⁶ and strict national scrutiny regulations such as Foreign Investment and National Security Act in 2007 and Foreign Investment Risk Review Modernization Act of 2018 (FIRRMA) in the US.⁷

To explore the SOEs decisions on cross-border alliances, we construct our sample with 34,932 cross-border alliance deals which happened during 1990 to 2018 in 188 countries.⁸ Previous studies examine the impacts of various country-level factors on SOEs' international investment, such as institutional environment and economic conditions (e.g., Dikova et al., 2010; Karolyi and Liao, 2017; Grøgaard, et al., 2019). Therefore, our first question is that whether the SOEs' participation in alliances could be driven by the county-specific characteristics (i.e., political, social and economic factors) given SOE's investments are to some extent motivated by the national goals as well as are supported by the government. To start with, we examine the impacts of country-level factors on aggregated activities of SOEs and non-SOEs at the level of annual country-pair deal flow, following the approach in Karolyi and Liao (2017). It allows us to capture the impacts of country-level factors on the overall movements of

⁵ An anecdotal evidence is that China Eastern Airlines signed an alliance agreement with Australian carrier Qantas Groups rather than engaging in an acquisition in 2015, since the acquisition are opposed by the Australian competition authority.

⁶ For instance, some countries such as China restrict the foreign ownership in the strategic industries, e.g., financial, mining, media, telecommunication sectors (Foreign Investment Law of the People's Republic of China).

⁷ Beyond the foreign investment review mechanisms, several countries also have specific rules and restrictions on the inward investments by foreign government-controlled investors, such as Australia, Canada, Russia Federation and the United States (Shima, 2015).

⁸ We keep completed cross-border alliances with only two participants, and also exclude the deals if the alliance activities happened in more than one country, or the alliance location is in the third country. See details in Section 3. In our sample, there are around 80% of the SOEs involved cross-border alliances are the ones where alliance nation is same as the SOEs' domicile country.

deals between paired countries. Based on the sample countries, we generate 58,388 country-pair-year observations with non-missing country-level variables.

We find that the country-level determinants such as political and economic factors do have impacts on alliance decisions for the SOE participants. In terms of political-institutional factors, SOEs from the autocratic countries with poor institutional environment are more likely to collaborate with the foreign firms, compared with non-SOEs. This finding implies that political motivations and government intervene in the autocratic countries could influence SOEs' other international expansion form, i.e. the investments on cross-border alliances. We also find that higher foreign ownership restrictions in the SOE's domiciled country significantly increase the activity intensity of SOEs involved cross-border alliances than non-SOEs involved deals. It further implies that when the governments set high restrictions on foreign ownerships, SOEs rather than non-SOEs are more likely to ally with foreign firms for the better managements and realization of the government's intention of foreign ownership restrictions, e.g., national sovereignty.

In terms of economic factors, we find the countries with higher foreign currency reserves are more likely to form SOEs involved cross-border alliances than non-SOEs involved deals. Also, bigger industry dissimilarity between the partner countries encourages SOEs to get involved in the international alliances than the non-SOEs. Besides, the SOEs involved cross-border alliances are positively associated with the total volume of domestic alliances which SOEs have formed. The findings of the economic factors, e.g., foreign currency reserves and the industry structures, support the view that SOEs' investments are supported by government resources for the national economic development.

Besides the above political and economic variables which we are interested in, some controlled country-level factors also significantly explain the variance of SOEs involved deals. We find SOEs from the countries with higher GDP growth rate, higher inflation rate, but lower anti-self-dealing index are more likely to form cross-border alliances than non-SOEs. The geographic distance and legal origin difference between

paired-countries also positively lead to more SOEs involved deals. Overall, we show that the country-level political and economic factors could influence SOEs' decisions on cross-border alliances.

Given the significant impacts from the country-specific factors on SOE's cross-border alliance activities, we further conduct deal-level regressions and examine the likelihood of being the partners of SOEs by controlling for the impact from foreign firm-level and deal-specific factors. We find foreign firms which have larger firm size, lower market to book ratio and lower sales growth are more likely to form alliances with local SOEs. We also find the impacts of these political and economic factors are still consistent at the deal-level regressions. Moreover, we find foreign firms are more likely to select SOEs as the alliance partners when there is relatively high expropriation risk from the host country. Also, the SOEs involved alliances more likely happen in the countries which have state-dominated banking systems.

Furthermore, in terms of alliance types between foreign firms and SOEs, we find SOEs involved cross-border alliances are more likely to be the forms of joint ventures as well as some specific type of alliances which require more investments and commitments, such as manufacturing, supply, and exploration related alliances. Overall, the above findings suggest the motivations of foreign firms when selecting SOEs rather than non-SOEs, that is, due to SOE's privileges of accessing resources and close connection to the government, SOEs could better help the foreign firms deal with expropriation risk and gain access to government controlled financial resources in the host countries. So far, we document the SOEs motivations from country-level aspects and also explore partner selections of the SOEs involved cross-border alliances. Given the specialty of SOEs discussed above, our next question is about the wealth implication on foreign firms during the collaboration with SOEs. To figure out the impacts of the SOEs on foreign partners, we focus on the foreign firm's performance after the alliances. We propose two opposite assumptions about foreign firm's performance. On the one hand, we assume the foreign firm could experience an increasing performance since foreign firms can get benefits from SOEs. Connecting to the government could not only

help the foreign firms to get the access to the state's controlled resources and favorable policies and privileges (e.g., Tse et al., 1997), but also help them to reduce the liability of foreignness (e.g., Sojli and Tham, 2017). While, on the other hand, we assume foreign firms could experience decreased performance after alliances due to the inefficiency of SOEs investments (e.g. Shleifer and Vishny, 1994; La Porta et al., 2002) and the expropriation risk from the government (e.g. Thomas and Worrall, 1994).

We use foreign firm's 3-days (or 11-days, or 21-days) market-adjusted cumulative abnormal returns (CARs) around the announcement date as the measurements of foreign firm's alliance performance (e.g., Chan et al., 1997). Our empirical results suggest that foreign partners which ally with SOEs rather than non-SOEs could enjoy around 0.3% to 0.8% higher announcement returns. The findings support our assumption about the beneficial impacts of SOEs on foreign firm's performance. Moreover, considering one of the benefits of allying with SOEs for foreign firms could be the access to financial resources, we further ask whether foreign firms with financial constraints are more likely to experience the benefits from SOEs. By using Kaplan-Zingales index, Whited-Wu index, Size-Age index and dividend payout ratio as the proxies for financial constraints, we find the positive impacts of allying with SOEs are more pronounced on the stock performance of financially constrained foreign firms than non-financially constrained foreign firms.

In addition, we conduct several robustness tests for foreign firms' alliance performance. Besides short-term stock performance of foreign firms, we also use the change of the ratio of industry-adjusted operating income to sales over three years in the post-alliance period to measure the foreign firms' long-term operating performance (e.g., Boone and Ivanov, 2012). We find foreign firms could also experience higher long-term operating performance after allying with SOEs than non-SOEs. Our results for alliance performance are also robust by using Heckman two-steps procedures and propensity score matching approach.

Our paper contributes to the literatures about SOEs investments. Prior studies explore various aspects of SOEs on their investment decisions, such as the political

motivations of their investment (e.g., Shleifer and Vishny, 1994; Dinc 2005; Li et al., 2019) and sources of inefficiency in corporate performance and governance (e.g., Megginson et al., 1994; Dewenter and Malatesta, 2001; Chen et al., 2011; Borisova et al., 2012). We examine the SOEs investments in the global markets and focus on the cross-border alliances as the channel for their international expansions. Our studies compensate the extant researches about SOEs/government-led international investments, which mainly focus on the cross-border acquisitions (e.g. Del Bo et al., 2017; Karolyi and Liao, 2017; Grøgaard et al, 2019) and sovereign wealth fund investments (e.g., Dewenter et al., 2010; Kotter and Lei, 2011).

Our paper also add to the literature about cross-border alliances (e.g. Gomes-Casseres et al., 2006; Chang et al., 2008; Qiu, 2010; Owen and Yawson, 2013; Bodnaruk et al., 2016). Our findings highlight the impact of ownership difference (government-owned and privately-owned) on the decisions of cross-border alliances. It compensate the findings in Owen and Yawson (2013), which show that the ownership structure (public, private and government) of the partner firm could influence the firm's selection preference due to the information cost from different ownership structure. We also add to the study of Bodnaruk et al. (2016) by addressing the host country's expropriation risk through allying with local SOEs.

Moreover, our experiments on foreign firm's performance also contribute to a strand of studies investigating the alliance performance (e.g. Chan et al, 1997; Das et al., 1998; Park et al., 2004; Chiou and White, 2005; Bodnaruk et al., 2016). Although the extant studies highlight the difference of alliance performance in various types of alliance contracts, they have not yet thoroughly examined the impact of firm's ownership on cross-border alliance performance. We provide further evidence that collaborating with government-controlled firms could significantly increase the foreign partner's performance, which imply that the foreign firms could get benefits from SOEs, e.g. privileged resources and discriminatory treatment (e.g. Hoskisson et al., 2000; Pedersen et al., 2011).

The remainder of the paper is organized as follows. Section 2 reviews the extant

literature and builds several hypotheses based on the research questions. Section 3 describes the sample and empirical methodology. Empirical results are presented in section 4. Section 5 concludes.

2. Literature Review

2.1 Corporate Alliance

Corporate alliance, which is one of the primary channels for firms to expand the boundaries, could help firms to acquire the scarce resources with relatively low capital investment and thus increase the firm values (e.g. Chan et al., 1997; Allen and Phillips, 2000; Johnson and Houston, 2000; Ireland et al., 2002). Through alliances, participant firms can also avoid the risk of value uncertainty derived from acquisitions (Kale et al., 2002; Mantecon, 2016; Cabral and Pacheco-de-Almeida, 2018).

In the context of globalization and competitive environment, many businesses are turning to specialization for improving its competitiveness and rapid its revolution. It is much difficult for a single firm to possess all resources (e.g. Dyer and Singh, 1998). While, international alliances can be served as the entry mode for the firms to expand to other economies, and access to external resources such as complementary capabilities and knowledge (e.g. Zahra et al., 2000; Hitt et al., 2000). International expansion by corporate alliances could also help to reduce the opportunistic behavior of the government in the host countries (Bodnaruk et al., 2016), facilitate R&D collaboration (e.g. Hagedoorn and Narula, 1996; Li et al., 2008), conform the host government policies on ownership restriction (e.g. Glaister and Buckley, 1996; Desai et al., 2004).

Different types of firms could offer different pools of resources in the alliance partnerships. Firms' features such as size, ownership and structures, and purpose might influence the alliance partners' capabilities of learning and accessing to resources. For instance, Jiang et al. (2010) find that organizational diversity in alliances (e.g. private-public, for-profit and nonprofit) could bring different performance for alliance participants. Robinson and Stuart (2007) also find the public partners and private

partners could influence differently on the alliance contract characteristics such as deal size, size of up-front payment in R&D projects, control and oversight of project, and termination provisions. Owen and Yawson (2013) find that the different ownership structure (public, private and government) of the partner firm could influence the firm's selection preference, because the partner's ownership structure can be related to the information costs. The public firm and government owned firms are regard as the safer partner than the privately owned firm. Owen and Yawson (2015) study on whether R&D intensity could affect the choice of the overseas partner type in international alliances. They find the US firm with higher leverage and capital expenditure are more likely to form alliances with governmental organizations, which further experience higher abnormal return than allying with private and subsidiary partners. Based on the previous studies, in this paper we mainly explore the role of government ownership in corporate's cross-border alliances and compare the difference between SOEs and non-SOEs in making decisions on cross-border alliances. Particular, we explore whether the country-level factors could influence the cross-border alliances initiated by SOEs and non-SOEs, whether SOEs and non-SOEs have different preference in selecting alliance partners, and the implication of allying with SOEs on the partner's performance.

2.2 State-Owned Enterprises' Investments and Country-Level Factors

State-owned enterprises are different with other type of firms due to the non-profit national objectives, such as supporting national economies, supplying specific public goods and services, performing business operations in a monopoly situation in the key industries, pursuing for policy objectives and others (OECD, 2018).⁹ Although government can provide various resources for the SOEs' development, such as financial supports (e.g. subsidies) and favorable policies (tax breaks, low cost of loans), while SOEs are considered to be inefficient in terms of corporate performance and governance. For instance, Megginson et al. (1994) find that SOEs have less efficient operation with lower sales, lower capital investment spending, lower work forces and higher leverage

⁹ See OECD (2018), Ownership and Governance of State-Owned Enterprises: A Compendium of National Practices.

ratio, compared with the post-privatization status. Dewenter and Malatesta (2001) also show that the operating performances of SOEs increase after the privatization, which indicates the inefficiency of SOEs before privatization. Borisova et al. (2012) examine the impact of government ownership on the quality of corporate governance. They find the ownership of government is significantly negative with the governance measured by RiskMetrics corporate governance quotient, which is mostly due to fewer board committees and a greater amount of CEO power.

A strand of literature well documents various motivations for SOEs' investments, such as the political goals derived from politicians or national goals including economic development and social welfare. On the one hand, national goals for SOEs' international investments could be for natural and strategic resources (e.g. Luo and Tung, 2007; Kolstad and Wiig, 2012; Grøgaard, et al., 2019), for industry diversification (e.g. Luo, 2002; Chhaochharia and Laeven, 2009; Karolyi and Liao, 2017), and for compensating competitive disadvantages (e.g. Luo et al., 2010). However, on the other hand, the investments of SOEs can also be driven by the political goals due to the "dissonant objectives" between bureaucrats and politicians (e.g. Tirole 1994). For example, Shleifer and Vishny (1994) demonstrate that the politician can use the investment to provide various benefits for their supporters, in order to obtain the political gains such as votes, political contributions and bribes. La Porta et al. (2002) show that the investment of government-controlled banks emphasize the political objectives rather than social objectives, due to the slower subsequent financial and economic development. Bertrand et al. (2018) find that the politically connected CEOs increase the rate of new plant openings and decrease the destruction rate in election year. Dinc (2005) provide supplementary evidence that the investment of government-owned banks rather than private banks increase the lending in the politician election years. Alok and Ayyagari (2019) and Li et al. (2020) examine the investment decisions of SOEs during the political cycle, and uncover the fact that such political motivations lead to more capital expenditure projects. They find the politicians use the investment of SOEs as the tool to improve the economic conditions and pave the way for their

election.

Beyond the motivations of SOEs' investment, prior studies also indicate that the country-level political and economic factors could influence the SOE's investments. Given that SOE's investments are decided and supported by the national and local government, the specific country-level characteristics could influence the objectives and efficiency of SOE's international investments. Institutional environment, which presents the regulatory and normative conditions, are believed to influence the international investment (e.g. Kostova and Zaheer, 1999; Xu and Shenkar, 2002; Dikova et al., 2010; Lai et al., 2017). On the one hand, Wurgler (2000) find that poor institutional governance is related to less efficient investment, and state-owned firms do not allocate capital efficiently. Firms especially SOEs in the country with weak institutional conditions have more ability and opportunity to undertake value destruction transactions in exchange of personal gain (Ke et al., 2016). D'Souza and Nash (2017) and Holland (2019) show that the extraction of private benefits of control by government ownerships could be mitigated in strong legal mechanism, while the political interference more likely happens in weak institutions. Also, Li et al. (2020) find government intervention is much higher in autocratic countries with weak institutions where the politicians are less constrained on executive power, so that SOEs from such countries are more likely to control the markets and conduct the investments for national goals and other political intentions. Karolyi and Liao (2017) also indicate the SOEs are more likely to do international acquisition when they are from autocratic countries.

In terms of country-level economic factors, national resources (i.e. oil in Abu Dhabi and commodities such as diamonds and copper) or the long-term trade surpluses (e.g. in China and Singapore) provide the government sufficient funds and large foreign reserve, which could encourage government to seek broader and riskier portfolio instead of holding safe and low-return assets (Bernstein, Lerner and Schoar, 2013). Supported by the government, the SOEs tend to increase the international investment when there are sufficient reserves. Moreover, as for the countries with unbalanced industry

development, diversifying the industrial structures and gaining more resources and knowledge from the countries which have developed sectors is the other economic objective for SOEs' international expansion (e.g. Luo, 2002; Chhaochharia and Laeven, 2009; Deng, 2009). Government tends to take control of the strategic industries in the domestic market and also invest in the foreign countries which have rich resources and technologies (e.g. mining, oil, energy, telecommunication, etc.). For examples, Grøgaard et al., (2019) find that SOEs tend to acquire the stand-alone assets in Canadian oil and gas market.¹⁰ Deng (2009) find Chinese firms, especially SOEs, tend to acquire strategic assets to address competitive disadvantage. Borensztein et al. (1998) also find foreign direct investment (FDI) flows from industrial countries to developing countries could contribute to the economic growth of the hosting countries. Therefore, collaborating with foreign countries whose industries are well developed could benefit the development of local emerging industries, resulting in the economy growth and the diversification of national revenue.

As discussed above, the country-level political and economic factors could influence the SOEs' investments. However, in the context of cross-border alliances, all partners are entitled with the selection rights and bargain powers in these collaborations. Therefore, the country-level factors could not only influence the domiciled firms but also their international alliance partners when they make cross-border investment decisions. Particularly, the country-level factors from the host countries do matter for the foreign partners when they consider to invest in the host countries. For instance, prior studies show that host country's characteristics could influence the entry strategies of foreign partners (e.g., Tse, Pan and Au, 1997; Owen and Yawson, 2013; Bodnaruk et al., 2016; Delios and Beamish, 1999). When the host country has a weak institutional environment, foreign firms are less likely to make acquisition and set up wholly owned subsidiaries. Instead, they prefer shared ownership with local firms to counteract the institutional hazard and the expropriate risk from the government (e.g., Bodnaruk et al.,

¹⁰ Kolstad and Wiig (2012) research on the Chinese outward FDI and find the countries with large natural resources and poor institutions are attractive for Chinese investment.

2016). Also, Owen and Yawson (2013) find selecting local governmental alliance partners is common for the US firms when entering the countries with weak institutional structures, since such governmental connection could be a way of reducing information costs and minimizing their investment risk. Furthermore, different characteristics of host countries could influence the foreign firm's liability of foreignness when they enter the host country. For instance, the costs resulting from economic nationalism, a lack of legitimacy, and discriminatory economic and political regulations on foreign firms in the autocratic host country could exacerbate the liability of foreignness (e.g., Zaheer, 1995; Mezias, 2002). Presumably, allying with local SOEs from such autocratic countries could also help the foreign firms to gain favorable resources and supportive policies from the government, e.g., government subsidies and project approvals, which further reduce the disproportionate costs of foreign firms compared with local firms.

2.3 The impact of SOEs on the partner's performance

Collaboration with SOEs in the cross-border alliance might be beneficial for the partner firms. For instance, SOEs can provide foreign partners with the access to critical resources controlled by the government, such as critical resources in strategic and pillar industries, state's distribution channels, and operating permits etc. (Pedersen et al., 2011). Foreign partners also benefit from government privileges, such as government approvals of projects, favorable policies, government subsidies, and tax exemptions (e.g., Tse et al., 1997, Faccio et al., 2006, Borisova et al., 2015). SOEs might also share the monopoly power and exclusive rights (e.g. regulatory and tax exemptions, preferential access to credit and financial resources) with the joint ventures (OECD, 2009). Moreover, SOEs can perform as the credit guarantees for the foreign partners with preferential rates of borrowing (Pedersen et al., 2011). As the joint venture partners with SOEs, foreign firms are more likely to receive direct financial subsidies and indirect privileged treatment (Hoskisson et al., 2000). In addition, since there are few tracks of reliability and reputation of the foreign firms in the host country, partnering with SOEs could help foreign firms to build trusts among the local customers about

their business and operations and thus facilitate trust-based transactions. Additionally, collaboration with SOEs might help foreign firms to overcome the liability of foreignness. Due to the unfamiliarity of the new market's operating and the cultural, political and economic differences between the partners' countries, the foreign firms face additional costs when operating abroad, i.e., liability of foreignness (e.g., Zaheer, 1995). Allying with firms which have large government ownership could strengthen the foreign firms' political connections with local government, and thus reduce liability of foreignness through such as obtaining regulatory legitimacy, accessing government-controlled resources, and building reputations among the local consumers (Sojli and Tham, 2017).

However, on the contrary, a plausible view cannot be ignored, that is, allying with SOEs might be detrimental to foreign firm's value, especially when collaboration with SOEs is the only choice for foreign firms to get access to the new market. Due to certain host-country policies, foreign firms are required to collaborate with SOEs (Chen et al., 2010). For instance, some essential resources for business operation are controlled by local SOEs, and the foreign firms can only access through alliances such as joint ventures (Nguyen and Meyer, 2004). Also, some countries, e.g. China, have restricted the foreign ownerships in some specific industries, such as telecommunications, median services, real estate and financial sectors.¹¹ Foreign firms can only use strategic alliances and joint ventures with local firms to get access to specific industries. Since such restricted industries are to some extent controlled by the government, there could be many alliances deals with local SOEs in the restricted industries. Therefore, if the alliances with SOEs becomes the only feasible entry strategy, the foreign firms might lose bargaining power in the joint projects. There might be the expropriation risk from the host government on the foreign direct investment (e.g. Thomas and Worrall, 1994). Moreover, the output control might be restricted due to misallied objectives between SOEs and foreign firms, where the SOEs objectives often include political and social goals (Peng et al., 2004). Due to the SOEs' unique features such as political connection,

¹¹ See the classifications from "Guiding Catalogues for Foreign Investment in Industry" in China.

dissonant objectives and easy financing, the investment of SOEs are documented to be inefficient in extant literatures (e.g. Shleifer and Vishny, 1994; La Porta et al., 2002; Dinc, 2005; Li et al., 2019). Inefficient investment could lead to the underperformance of the joint project, and further influence the performance of participant firms themselves. Therefore, if this is the case, the foreign firms might underperform after allying with local SOEs.

3. Data and Methodology

3.1 Sample Selection

To conduct empirical analysis, we collect completed cross-border corporate alliances between January 1, 1990 and December 31, 2018 from Securities Data Company (SDC) Platinum database. We keep only cross-border alliance deals with just two participants and one alliance nation (define the location of the alliance activities) specified in the SDC.¹² Cross-border alliance deals are defined if the nations of two participant firms in a deal are different. We use the ultimate parent firm's nation to define the nation of the alliance participant firms. Since we study on SOEs' cross-border investment and the ultimate shares are controlled by the government or state, we use ultimate partner firm's nation to better capture the motivation of the government's international investment. In the literatures of cross-border investments, the nation of ultimate parent firm is commonly used to define the nation of the participants (e.g. Buch and DeLong, 2004; Harris, 2014). In order to dissect the investment traits in the cross-border alliances, we use the location of the alliance activities (defined as "alliance nation") to differentiate two participants.¹³ We define the partner as the local partner if its country is the same as the alliance nation, thus the counterparty is the foreign partner.

¹² From 1990s, international partnerships from different national economies represent the majority of alliances (both domestic and international alliances), where on average there are around two international alliances for every domestic partnership (Kang and Sakai, 2000). Experienced the wave of privatization in the end of 20th century, sovereign investments start the renaissance at the beginning of 21st century in the global economy (McLaughlin, 2019). Therefore, we use the cross-border alliances deals happened between 1990 to the latest year 2018 as our samples. Keeping cross-border deals with only two partners and one alliance nation could facilitate the definition of the local partner and foreign partner explained in the next paragraph. Bilateral alliances are common applied in the alliance literature (e.g. Lerner et al., 2003; Fich et al., 2014).

¹³ The location of alliances is also applied in Owen and Yawson (2013) when analyzing US international alliances.

There are 34,932 deals remaining with 69,864 participants from 188 countries. For the main regression analysis, we generate country-pair-year observations from 1990 to 2018.¹⁴ After combining with country-level control variables, there are 58,388 country-pair-year observations remaining from 59 countries with non-missing control variables.

State-owned enterprises (SOEs) are flagged by using the variable “PUPPUBLIC” in SDC, which indicates the public status of participant’s ultimate parent firm and define the firm as state- or government-owned firm whose entity is at least 50% or more owned by the government.¹⁵ Looking through the SOEs involved cross-border alliance deals in the SDC database, we find SOEs participant more in the deals when the alliance activities happen in the SOEs’ local market.¹⁶ We conjecture this is the main form for SOEs to conduct international collaboration, and thus we focus on the SOEs involved cross-border alliances where the alliance nation is the same as the SOEs’ domicile country in our empirical analysis. We call such SOEs participants as “Local SOEs” in our following contents. In the same vein, we call the non-SOE participants as “Local non-SOEs” if the alliance nation is the same as the non-SOE firms.

Table 1 gives a glance at the distribution of the cross-border alliance activities from different countries in the world. We only focus on the cross-border alliance deals which happened in the local market. The top 20 countries are reported in a descending order by the total number of local SOEs involved cross-border alliances in a given country during 1990 to 2018. China is far ahead than other countries in the total number of cross-border alliances with local SOEs (718 deals account for 27.23% in the world), followed by Hungary (104 deals account for 3.94% in the world), Russia (100 deals account for 3.79% in the world), India (95 deals account for 3.60% in the world) and Czech (90 deals account for 3.41% in the world). We also notice that some emerging

¹⁴ There are 1,019,524 observations at the country-pair-year level with 188 countries during 1990 to 2018 (1,019,524=188*187*29).

¹⁵ SOEs involved literatures indicate that the ultimate controller of an SOE is the state or government, e.g., see Zhang et al. (2016) and Del Bo et al. (2017). Therefore, we look at the ownership structure of participant’s ultimate parent firm.

¹⁶ In our sample, there are around 80% of the SOEs involved cross-border alliances are the ones where alliance nation is same as the SOEs’ domicile country.

countries are more likely to use SOEs than non-SOEs to collaborate with foreign firms. For instance, there are above 70% deals in Algeria and Czech are the local SOEs involved cross-border alliances, followed by Cuba (63.04%), Hungary (59.43%) and Venezuela (46.05%). It further imply that such emerging countries are more likely to invite the foreign partners to come to the local markets, and build partnership with their local SOEs than local non-SOEs.

[Table 1 about here]

3.2 Variables Definitions

The first research question in this paper is to figure out whether the country-level factors such as political, social and economic motives could influence the SOEs' involved cross-border alliance, which differentiate the alliances with non-SOEs. In other words, we investigate whether the country-level factors could influence the cross-border activities between two countries in terms of the selection on SOEs or non-SOEs as the partners.

In order to answer this question, firstly, we measure the alliance intensity between two countries of alliance participants at the country-pair-year level. The alliance intensity, which is the main dependent variable, is measured as the number of alliances between two countries, normalized by the total number of cross-border alliances which the foreign partner's country forms in the world¹⁷. More specifically, P_{ijt}^{LG} (or P_{ijt}^{LC}) is the number of cross-border alliance where the defined local partner is the SOEs (or non-SOEs) from country j and the defined foreign partner is from country i , divided by the total number of cross-border deals in which the foreign firms from country i collaborate with SOEs (or non-SOEs) in the world and operate alliances activities in the overseas markets. The ratio of the alliance intensity is transferred into percentage by multiplying 100.

We employ a set of variables of interest that are involved to political, economic and social factors. In terms of political variables, we use Polity IV democracy index to

¹⁷ This measurement is consistent with Karolyi and Liao (2017) paper.

measures the properties of political system, which indicates whether the general regime is autocratic (low score on the index) or democratic (high score on the index) in the country. This variable could well capture the power of the government and politician and it is commonly used in the involved studies (e.g. Glaeser et al., 2004; Bodnaruk et al., 2016). The difference of the Polity IV democracy index between the country of local partner and the country of foreign partner ("*Polity IV Democracy Differences*") is applied in the country-pair empirical analysis. As for the complementary to the political variables, we employ the World Bank's six governance indicators, which are commonly used in extant literatures (e.g. Tomas, 2010; Humphery-Jenner and Powell, 2014; Lai et al., 2017), as the proxy to assess the environment from the dimensions of accountability, political stability, government effectiveness, regulatory quality, rule of law, and corruption control. We take the average value of the six indicators and calculate the difference between two countries ("*Institutional Differences*"). Moreover, FDI restrictions could also reflect the government regulations and intervention on the foreign investor's investment in the market. To measure the restrictions on foreign ownerships in the local partner's country, we use ownership restriction scores ("*Foreign Ownership Restrictions*") from Economic Freedom of the World to evaluate whether foreign ownership of companies in the local partner's country is rare. In order to interpret, we transfer the sign of this score, where the higher value indicating more restrictions.

In terms of economic factors, we use the variables for industrial development and total foreign currency reserve to indicate nation's economic motivations for the expansion. As for the industrial development, on the one hand, we ask whether industry dissimilarity ("*Industry Dissimilarity*") among the participant countries could stimulate them to pursue the industry diversification by increasing the intensity of international investment. The industry dissimilarity is calculated based on the sum-of-squared differences in the relative weights of each industry in each country in each year. The relative weights for industry are each industry fraction of the total market capitalization

in that country in that year¹⁸. On the other hand, since the international expansion of SOEs tends to target at foreign sectors with rich natural resources or some strategic sectors in which the foreign countries have developed, we therefore consider the development of the strategic sectors in the foreign partner's countries to indicate this motivation of the local partners ("*Relative Weight of Foreigner's Strategic Sector*"). It is calculated by the weight of the strategic industries in the foreign partner's country minus the world average weight of these strategic industries. In terms of total foreign currency reserve, we use total reserves scaled by GDP to measure the size of the foreign currency reserve in the country's economy. The relative size ("*Total Reserves as a % of GDP Differences*"), i.e. the difference between foreign partner's country and local partner's country, are examined in the empirical analysis. Besides, we consider whether the international expansion of SOEs market is also correlated with its active domestic investment. Therefore, for the country of local partners, we use the number of domestic alliances which include at least one local SOE participant, scaled by the total number of domestic alliances, to indicate the intensity of SOEs involved alliance in the domestic market ("*SOEs Domestic Alliance Activity*").

We also consider a series of other country-level factors as control variables which might influence international investment and corporation alliances in the regression models. We use GDP growth rate ("*GDP Growth Differences*") and inflation rate ("*Inflation Differences*") to control for the relative difference of the macroeconomic conditions between the alliance participants countries. Not only could the strong economy support the SWFs to invest abroad, but also reduce the information cost between the alliance partners (Owen and Yawson, 2013). The development capital market could also influence the foreign direct investment (FDI). Bodnaruk et al. (2016) find that the stock market capitalization in the host countries would influence the likelihood of forming alliances. Therefore, we use the "*Stock Capitalization Difference*" to measure the relative difference on the development of capital market between the alliance partners. In terms of the investors protection, we also use the anti-self-dealing

¹⁸ The industries are classified into 48 categories according to Fama and French (1997).

index (“*Anti-Self-Dealing Index Difference*”) from Djankov, La Porta, Lopez-de-Silanes and Shleifer (2008) as the supplementary proxy for the institutional environments, which is commonly used in international investment studies (e.g. Mantecon, 2009; John et al., 2010; Bodnaruk et al., 2016). Moreover, we also consider that the distance of two countries, not only the geographic distance but also the culture distance, could influence the international investment due to the information asymmetry and contracting costs (e.g. Lee et al., 2008; Erel et al., 2012; Reuer and Lahiri, 2014; Dai and Nahata, 2016). Therefore, we use the difference of legal origin (“*Legal Origin Differences*”) and geographic proximity (“*Geographic Distance*”) between the capitals of two countries as the proxies, respectively. Appendix Table A1 gives detailed explanations for the dependent and explanatory variables.

3.3 Summary Statistics

Table 2 reports the summary statistics of the dependent variables and the main explanatory variables in our analysis. Panel A and panel B include the country-level variables for country-pairs and firm-level variables for foreign partners, respectively. In panel A, we observe that the average ratio of the SOEs involved cross-border alliances between two countries (average 0.304%) is lower than the ratio of alliances with non-SOE partners (average 1.190%). This result is consistent with Karolyi and Liao (2017), who find the corporate acquirer deal ratio is higher than the government-controlled acquirer deal ratio. Since the country-pair-year observations in our sample are symmetric,¹⁹ so the mean value of some variables which measure the differences of country-level factors is zero. The statistics also show the average geographic distance between two countries in the country pair is around 4,664 miles. About 65.2% country-pairs have two countries with different legal origin. In terms of SOEs’ participation in the domestic alliances, there are 5% of domestic alliances where SOEs are at least one of the partners.

Panel B shows the characteristics of the firms which are defined as foreign

¹⁹ That is, we have both Country A - Country B pair and Country B - Country A pair which represents the deals between these two countries but happened in Country A and Country B, respectively.

partners in the cross-border alliances. There are around 20% foreign firms which are in the same industry as the local partners, and also around 23% foreign firms which didn't distribute dividend in the one year prior to the alliances announcement. In average, the foreign partners in our sample have around 4.521 billions total assets in US dollar before the alliances. The average ratio of market to book, leverage, and liquidity are around 2.151, 0.153, and 1.940, respectively. In terms of profitability, the foreign firms experience around 22% sales growth and 5.169% return on equity in average.

[Table 2 about here]

4. Main Results

4.1 Cross-border alliances and determinants

To study whether the country-level factors such as political, social and economic motives in the country could make differences for SOEs and non-SOEs investment on alliances, we employ the following regression model to estimate the impact on the annual alliances intensity for SOEs involved alliances and non-SOEs involved alliances in the country pairs:

$$PLG_{ijt} - PLC_{ijt} = \beta_0 + \beta_1 X_{ijt-1} + \beta_2 Y_{ijt-1} + FES + \varepsilon$$

Where i and j represent the countries of two partners in domicile, and t represents the year of the alliance announcement. The dependent variable is the excess activities ratio between the SOEs involved alliances and non-SOEs involved alliances, which capture the differences of activity intensity of local SOEs involved deals and local non-SOEs involved deals between pair countries. It also facilitates the comparison between SOEs and non-SOEs that could be affected by the country-level factors in a given country. X_{ijt-1} and Y_{ijt-1} are a set of variables which measure the country-level factors (or differences) between the country-pairs. X_{ijt-1} are the variables of interests, which denotes political and economic variables at country-year level, including *Polity IV Democracy Differences*, *Institutional Differences*, *Foreign Ownership Restrictions*, *Industry Dissimilarity*, *Relative Weight of Foreigner's Strategic Sector*, *Total Reserves as a % of GDP Differences*, and *SOEs Domestic Alliance Activity*. Y_{ijt-1} is a set of

additional control variables includes *GDP Growth Differences*, *Inflation Differences*, *Stock Market Capitalization Difference*, *Anti-Self-Dealing Index Difference*, *Legal Origin Differences*, and *Geographic Distance*. We also control for the year fixed effect and the fixed effect from the country of foreign partner, which capture the differences across year and the time-invariant variations across country. Standard errors are robust and clustered at the level of foreign partner's country, which account for potential correlations in the unobserved variables that affect different deals with the same country of foreign partners.

We regress the excess activities ratio between the SOEs involved alliances and non-SOEs involved alliances ($P^{LG}_{ijt} - P^{LC}_{ijt}$) on a set of country-level factors discussed in the previous section. Table 3 shows the regression results. Panel A includes the key political and institutional factors as the variables of interest, i.e., *Polity IV Democracy Differences*, *Institutional Differences*, *Foreign Ownership Restrictions*, and panel B includes the key economic factors as the variables of interest, i.e., *Industry Dissimilarity*, *Relative Weight of Foreigner's Strategic Sector*, *Total Reserves as a % of GDP Differences*, and *SOEs Domestic Alliance Activity*. We also control for several additional country-level characteristics in the regression.

In panel A, the model of column (1) only considers the variance from additional country-level factors, while column (2) to (4) adds the variables of interest, i.e. political and institutional factors, in the model separately. We find *Polity IV democracy difference* and *Institutional difference*, which are the proxies for political and institutional environment, presenting a negative effect on the excess ratio. One-standard-derivation decrease in the difference of democratic index lead to a 0.46% (0.072×6.406) higher ratio of SOEs involved alliances compared to the non-SOEs' ratio. Similarly, the SOEs from the country with relatively weaker institutional environment tend to do more cross-border alliances than the non-SOEs from same country. Our results are supported by the studies that the political motives play an important role in the SOE's domestic and international investments (e.g. Chen et al., 2011; Del Bo et al., 2017), and the weak institutional environment could lead to the inefficiency of SOE's

investments (e.g. Estrin et al., 2016; Cannizzaro and Weiner, 2018). Moreover, we use *Foreign ownership restriction* to indicate the government's regulations on FDI, which can be performed as another proxy for national and political objectives. Column (4) shows that higher restrictions on the foreign ownerships in country of local partner, i.e. the alliance activities located country, could lead to more local SOEs involved cross-border alliances than local non-SOEs involved deals. The finding of foreign ownership restriction is consistent with the argument of Bodnaruk et al. (2016), who find forming alliances becomes the only available form for the foreign investors since the foreign ownership restriction deters the majority ownership of foreigner such as through acquisition. It further implies that local SOEs as the partner of the cross-border alliances could better manage the joint project considering the government's intention of foreign ownership restrictions, i.e. national sovereignty and economic rent (e.g. Karabay, 2010).

In panel B, we use four variables as the proxies for economic motivations. The coefficient of *Industry dissimilarity* in column (1) shows that the ratio of SOEs involved alliances is higher than the ratio of non-SOEs involved alliances when the industrial structures of two partners' countries are more dissimilar. It highlights the motivations of SOEs investment on industrial diversification (e.g. Luo, 2002; Chhaochharia and Laeven, 2009). Besides, we also find more foreign currency reserves (*Total reserves as %GDP difference*) and more domestic alliances the SOEs participant (*SOEs domestic alliances activity*) encourage SOEs instead of non-SOEs to form more cross-border alliances with foreign countries. It implies that large foreign currency reserves could provide SOEs with financial supports for the international investments. Surprisingly, we find the impact of *Relative weight of foreigner's strategic sectors* is not significant on differentiating the SOEs and non-SOEs involved cross-border alliances shown in column (2). Summarily, the findings in panel B highlight the importance of economic factors on the SOEs international investment.

Besides, the additional controlled country factors provide supplementary supports that the economic and institutional factors do matter in terms of SOEs activities.²⁰ For

²⁰ As the robustness check, we also examine the impacts of these country-level factors on the SOEs involved

instance, in terms of economic development, the coefficient of *GDP growth differences* in column (1) of panel A is significant and positive at 1% significance level, which imply that the higher GDP growth rate in the local partner's country could significantly make the portion of local SOEs involved cross-border alliances outstanding to the one of non-SOEs involved deals. One-standard-deviation increase in the GDP growth difference (4.232) between the paired countries lead to 0.16% (0.037×4.232) higher excess activities ratio between SOEs involved deals and non-SOEs involved deals. Also, *Inflation differences* has significantly positive impacts on the excess ratio, where one-standard-deviation increase in the inflation difference between paired countries lead to 0.20% (0.014×14.366) increase in the ratio of SOEs involved alliances compared to the ratio of non-SOEs involved deals. However, when looking at the impacts on the standalone SOEs involved deals and non-SOEs involved deals shown in Appendix Table A2, we find there are positive effect of GDP growth and negative effect of inflation on the formation of corporate alliances which are consistent with the findings in Owen and Yawson (2013). It further supports the arguments that the economic growth is attractive for foreign direct investment, while the inflation impedes the incentives of international investment (Chakrabarti, 2001; Li and Liu, 2005). Furthermore, we find *Anti-self-dealing index difference* is significantly and negatively associated with the excess ratio shown in table 3, implying that SOEs are more likely than non-SOEs to come from the countries with weaker investor protections when forming cross-border alliances. While, the positive coefficients in column (1) and (2) of Appendix Table A2 indicate that the soundness of investor protection against the corporate insiders could facilitate more corporate alliances, which are consistent with the findings shown in Bodnaruk et al. (2016). In terms of the distance between the paired countries, we find larger geographic distance and legal origin difference could lead to more SOEs involved cross-border alliances than the non-SOEs involved deals shown in table 3, implying that the SOEs might be risk-taking than non-SOEs in the

alliances and non-SOEs involved alliances, separately. Appendix table A2 shows the results.

selection of alliance partners. However, the negative coefficients of geographic distance and cultural distance in Appendix Table A2 indicate that being far away from the partner could reduce the incentives of both SOEs and non-SOEs to collaborate with the distant partners. It is consistent with the extant FDI studies which find the geographic distance could reduce the bilateral foreign direct investments (e.g. Bénassy-Quéré et al., 2007). It also supports the findings in Owen and Yawson (2013) that the firms prefer to make alliances with foreign firms which are in locations with the same legal background.

Overall, the regression results of the excess activities ratio between SOEs and non-SOEs involved cross-border alliances on a set of control variables in table 3 indicate that the country characteristics (e.g., economic developments, institutions, legal origins and geographic distance) could significantly differentiate the cross-border alliance activities led by SOEs and non-SOEs, which further highlight the country-level motivations of SOEs' international investments. SOEs from the autocratic countries with poor institutional environment, higher foreign ownership restrictions and more foreign currency reserve are more likely than non-state-owned enterprise (non-SOEs) to form alliances with other countries which have different industrial structures.

[Table 3 about here]

Further, we conduct two robustness tests on the impacts of political-economic factors on SOEs involved alliances. First, to capture the overall impacts from those political-economic factors, we add all of them in the regression model as a robustness test. Since political-economic based factors could be correlated, we construct a single index by using the principal component analysis on these variables ("First Principle Component"). The details of the approach are shown in Appendix Table A3. We take the first principal component to build the index since the eigenvalue is greater than 1 and accounts for 26.6% of the variation across the six variables. We find the coefficient of first principal component in panel C of Appendix Table A3 is significant and negative, indicating the lower score is associated with higher ratio of SOEs involved alliances than the ones of non-SOEs. According to signs of correlations between the first

principal component and comprising variables in panel B of Appendix table A3, the impact of the first principal component is consistent with the effect of the four components, except for industry dissimilarity and relative weight of foreigner's strategic sectors in despite of weaker correlations.

The second robustness test is using alternative sample about SOEs involved alliances. As what we explained in the sample construction section, we focus on the comparison between the local SOEs and local non-SOEs in one type of cross-border alliances, that is, the alliance location is in the domestic market (i.e. alliance nation is the same as the given country). It is because the SOEs involved alliances that happen in the domestic market account for a majority part of the whole cross-border deals, compared with the SOEs involved alliances occurring in the foreign market. However, we cannot ignore the cases that SOEs operate alliances in the foreign market (i.e. alliance nation is different from the given country). Accordingly, we conduct robustness tests by looking at the SOEs investment happening in the foreign market. In other words, in this alternative sample, we identify whether the foreign partners are SOEs or non-SOEs rather than looking at the local partners' ownership. We examine the political-economic factors on the alliance intensity between the country-pairs use this alternative sample. The number of SOEs involved alliances is calculated by counting the cross-border alliance where the foreign partner is SOE, vice versa for the number of non-SOEs involved alliances. The political and economic factors and the controlled country-level factors shown in the models are the differences between the local partner's country and the foreign partner's country. Appendix Table A4 shows the results. We can find there are consistent results for the impact of political and economic factors on the SOEs involved alliances compared with non-SOEs involved alliances. The robust results support that the SOEs from the autocratic countries with poor institutional environment and more foreign currency reserve are more likely than non-state-owned enterprise (non-SOEs) to form alliances with other countries which have different industrial structures.

4.2 Partner selection in SOEs involved cross-border alliances

The regression results of alliance activities between country-pairs present the significant impacts of country-level characteristics on SOEs' cross-border alliances. In this section, we further explore which type of foreign firms are more likely to collaborate with local SOEs, and whether the country-level factors could influence the foreign firm's selection on local SOEs and non-SOEs. To answer these questions, we perform the deal-level experiments about the likelihood of picking local SOEs for foreign firms by using the following regression model:

$$SOE Firm_{jt} = \beta_0 + \beta_1 X_{ijt-1} + \beta_2 D_{ijt-1} + \beta_3 Z_{it-1} + FES + \varepsilon$$

Where i represent the country of foreign partner in domicile, j represent the country of local partner in domicile, and t represents the year of the alliance announcement. $SOE Firm$ is a dummy variable, which equals one if the foreign firm is collaborating with local SOEs, and zero if is collaborating with local non-SOEs. X_{ijt-1} are the variables of interests, which are the same set of political and economic variables used in the previous section. Moreover, since the above findings indicate that the SOEs involved alliances are more than the non-SOEs involved alliances when there is more industrial dissimilarity. Therefore, we add a deal-specific variable D_{ijt-1} , which is a dummy variable to indicate whether the two partners are from the same industry (*Related deal dummy*) at the deal-level regressions. Besides, we also control for the foreign firm's fundamental characteristics Z_{it-1} based on extant literatures about cross-border alliances (e.g. Owen and Yawson, 2015; Bodnaruk et al., 2016), including firm size ($Ln(total\ assets(\$ U.S))$), dividend payment (*Zero-dividend dummy*), market to book ratio (*Market-to-book*), return on equity (*ROE*), leverage (*Long-term debt/assets*), sales growth (*Sales growth*), and quick ratio as the proxy for firm liquidity (*Liquidity*). We also control for the year fixed effect and the fixed effect from the country of foreign partner. Standard errors are robust and clustered at the level of foreign partner's country.

Table 4 present the results of probit regression, where panel A and panel B showing the results by adding political and economic factors, respectively. The model of column (1) in panel A only includes the foreign firm specific variables. As for the deal-specific

characteristic, the negative coefficients of *Related deal dummy* in all the models from column (1) to (4) in both panel A and panel B indicate that SOEs involved cross-border alliances are more likely happened between the partners which are from different industries. It is also consistent with our previous findings that SOEs involved alliances are more than non-SOEs involved alliances when there is more industrial dissimilarity. Also, the foreign firms with larger size, lower market to book ratio and lower sales growth are more likely to pick the local SOEs when doing cross-border alliances.

As for the political and economic variables at the country-level, we find the impacts of these factors on the likelihood of collaborating with SOEs for individual firms are consistent with our previous regression results at the country-pair level. After controlling for firm-specific characteristics, the political variables have the negative impact (*Polity IV democracy diff* and *Institutional differences*) and the economic variables have the positive impact (*Industry dissimilarity*, *Total reserves as %GDP diff* and *Government domestic alliance activity*) on the foreign firm's likelihood of collaborating with SOEs at 1% significant level. Also, the higher foreign ownership restrictions in the local partner's country could increase the foreign firm's likelihood of allying with local SOEs. However, we find there is a negative association between the likelihood of allying with local SOEs and the relative weight of foreigner's strategic sector, which imply that the foreign firms from the country with undeveloped strategic sectors are more likely to ally with local SOEs. It is opposite to the findings of Bass and Chakrabarty (2014) and Karolyi and Liao (2017), which emphasize the motivation of securing natural and strategic resources in the SOEs' international acquisition. One plausible reason is that the foreign firms are motivated by the undeveloped strategic sectors in their countries and tend to ally with other countries which have more strategic resources, and normally the strategic resources are controlled by states or state-owned enterprises.

[Table 4 about here]

Prior studies document the expropriation risk from the host countries when the

international firms invest globally (e.g., Henisz, 2000; Stulz, 2005; Bodnaruk et al., 2016). Host country could either directly (e.g., seizure of firm assets) or indirectly (e.g., adverse changes in taxes, overregulation, limiting value-adding activities, and solicitation of bribes) extract wealth from the multinational enterprise, leading to the value destruction. Henisz (2000) argue that partnering with host country firms which have comparative advantage in interaction with the host-country governments can safeguard against the opportunistic expropriation risk by the government. However, on the other hand, it could also increase the likelihood that the host-country joint venture partners manipulate the political systems for own benefits as the expense of multinationals when there is also high contractual hazards between the partners. Therefore, given SOEs are closely connected to the government, we ask whether the foreign firms would choose SOEs than non-SOEs when there is high expropriation risk of the host countries.

We measure host country's risk following Bodnaruk et al. (2016), who differentiate the risk into direct partner risk and indirect partner risk. Direct partner risk is the risk derived from the partner firms, and indirect partner risk is the expropriation risk from the government. Specifically, we use *Legal formalism* and *Procedural complexity* as two proxies for the direct partner risk, and use *Constraints on executive* and *Protection against expropriation* as two proxies for the indirect expropriation risk from the partners' domiciled countries. *Legal formalism* is the index measuring substantive and procedural statutory intervention in judicial cases at lower-level civil trial courts, and the higher score means a higher level of a higher level of control or intervention in the judicial process (Djankov et al., 2003). *Procedural complexity* is the index of complexity in collecting a commercial debt and resolving the case of an unpaid commercial debt, extracting from World Bank. *Constraints on executive*, extracting from Polity IV dataset, is the index (ranging from 1 to 7) which measure the extent of institutionalized constraints on the decision making powers of chief executives, whether individuals or collectivities. Since the higher score indicates more constraints, we change the sign of the score into negative so that a higher value is related to higher

indirect partner risk. *Protection against expropriation*, collecting from Polity Risk Service, is the index of protection against government expropriation (1-lowest, 10-highest) to measure the risk of expropriation of private foreign investment, where the higher score means less risk. We reported with the negative sign to facilitate the interpretation of results, so that the higher value indicates high indirect partner risk.

To be consistent with our previous country-level variables, we use the differences of these risks between the local partner and foreign partners as the variables of interest in our regression analysis. Table 5 present the results of partner firms' likelihood models, which add the variables of direct and indirect risks based on the models shown in table 4. Column (1) and (2) of table 5 firstly show that the variable *Direct risk diff*, i.e. *Legal formalism* and *Procedural complexity*, has significantly positive impact on the foreign firm's likelihood of collaborating with local SOEs at 1% significance level. It indicates that foreign firms tend to ally with local SOEs rather than non-SOEs if there is relatively higher direct risks from the local partners. Moreover, the positive and significant coefficients in column (3) and (4) also show that the relatively higher indirect risk from local firm's country compared to foreign firm's country could also significantly increase the foreign firm's probability of being SOE's alliance partner. It supports our argument that allying with SOEs could help the foreign firms to address the expropriation risk from the government.

Additionally, considering SOEs have privileges of the access to financial resources, we wonder whether the foreign firms select SOEs as the partners for the intention of gaining financial supports from the host counties. Li et al. (2020) find that SOEs are more likely to increase their investments in election years by using the loans from state-owned banks when the SOEs are from the countries with state-dominated banking systems. Therefore, we assume that the foreign firms are more likely to pick SOEs than non-SOEs as the alliance partners for their financial motives, when the foreign firms enter the host countries which having a higher percentage of state-owned banks. We follow Li et al. (2020) to use a dummy variable *State-dominated banking system* to indicate whether the host country has state-dominated banking system and non-state-

dominated banking system. We define the banks as the government owned banks if 50 percent or more of the shares are controlled by the government. We then calculate the proportion of banking assets in government owned banks among the country's banking system. Finally we identify the banking system as a state-dominated banking system if the proportion is higher than the median level of the sample countries.²¹ Column (5) of table 5 reports the results. The positive and significant coefficient of *State-dominated banking system* suggest that the likelihood of allying with local SOEs for the foreign firms would be significantly increase when the government owned bank assets in the host country occupy pretty larger proportion. Overall, the results in table 5 imply that the foreign firms tend to ally with local SOEs partners rather than non-SOEs to take advantage of SOEs when there is high expropriation risk from the host country and when the host country has the state-dominated banking system.

[Table 5 about here]

Furthermore, we investigate whether some types of alliance deals are more preferable in the partnerships between SOEs and foreign partners. Strategic alliance and joint ventures are two main forms of alliances, which cover various categories such as marketing alliances, manufacturing alliances, supply alliances, licensing alliances, and exploration alliances. Joint ventures require partner firms' equity investment, which have relatively higher startup and continuation costs compared with the contractual alliances, i.e. strategic alliances. Also, there are deeper commitments and more irreversible investment involved in manufacturing, supply and exploration alliances than licensing and marketing alliances (Baxamusa et al., 2019). Since SOEs are granted with larger budgets and resources supported by the government than non-SOEs, we assume foreign firms are more likely to collaborate with local SOEs when forming projects which need more commitments and investments. For this purpose, we use a dummy variable (*Deal type*) as the variable of interest to indicate the deal types, which equals one if the alliance deal is joint venture, market agreement, licensing agreement,

²¹ We thank Barth, Caprio, and Levine (2013) for providing the government owned bank assets data.

manufacturing agreement, supply agreement, or exploration agreement in each specification, respectively, and zero otherwise. Table 6 presents the estimates of the probit model where the dependent variable equals one if the foreign firm is collaborating with local SOEs, and zero if is collaborating with local non-SOEs. The coefficients of *Deal type* in column (1) is positive and significant at 1% significance level, indicating that the main form of cross-border alliances with SOEs are joint ventures instead of strategic alliances. The significantly positive coefficients in column (4), (5) and (6) further disclose that SOEs involved alliances are more likely to be about manufacturing, supply and exploration deals. On the other hand, we also find there is a negative relationship between the likelihood of allying with SOEs and the deals forms including marketing and licensing alliances. Overall, our findings on deal types indicate that foreign firms are more likely to collaborate with SOEs when the alliance projects require more investments and commitments.

[Table 6 about here]

4.3 The performance of partners in cross-border alliances

Since the SOEs investments could be motivated from national and political concerns indicated from our previous findings, we ask whether the foreign firms which collaborate with local SOEs could have different alliance performance, compared with allying with local non-SOEs. In order to figure out whether there is a beneficial effect or adverse effect from SOEs on the foreign partners as what we explain in previous section, we examine foreign partner's short-term stock performance around the deal announcement date and the operating performance in the post-alliance period.

For the short-term stock performance, we use the cumulative abnormal returns (CARs) to measure the market reaction to the alliance announcement. We collect shares daily price of the foreign firms from Compustat Global and use the Daily WRDS World Indices as the market index returns from different countries as the market return.²²

²² Public status of the foreign firms and the availability of public information (e.g. shares daily prices and annual financial information) restrict our sample with a smaller size. In this new sample, we exclude the foreign participant firms if the total number of cross-border alliances in foreign firm's country is less than 10 over the sample period.

CARs are calculated by using the market-adjusted models, and we use “(-1,+1)” to indicate the abnormal returns over 3-days around the alliance announcement date. We employ the OLS regression of foreign partner’s announcement CARs on a set of firm characteristic variables shown in the previous section. The variable of interest is *Local SOEs dummy*, which equals one if the foreign firms’ partners are local SOEs and zero otherwise. Table 7 shows the regression results of foreign partner’s performance with controlling for the fundamental characteristics of foreign firms which are used in the previous section, where the dependent variables are foreign firm’s cumulative abnormal returns.

Column (1) shows the regression results of foreign firms’ 3-day CARs. The coefficient of *Local SOEs dummy* in column (1) indicates that the foreign partners which ally with local SOEs have around 0.324% ($t=2.33$) more abnormal returns in 3-day windows than the foreign firms collaborate with local non-SOEs. We also examine the (-5,+5) window CARs and (-10,+10) window CARs to see whether the impacts could last in the longer horizons. The results in column (2) and (3) indicate that the difference of foreign firm’s performance between allying with SOEs and allying with non-SOEs is larger and significant in 11-days and 21-days around the alliance accountment date. Allying with local SOEs rather than non-SOEs could bring the foreign firms 0.490% and 0.836% more abnormal returns in 11-days and 21-day window, respectively. Overall, the results in table 8 imply that partnering with local SOEs could bring higher share-price reactions to the foreign firms, compared with the firms partnering with local non-SOEs.²³

[Table 7 about here]

Next, we investigate which type of foreign firms are more likely to benefit from the alliances with local SOEs. Given one of benefits gaining from SOEs for the foreign firms is the access to sufficient financial resources, we assume the beneficial impacts

Daily WRDS World Indices provide the market returns for all the countries in our sample, except Russia due to the gaps in the time series.

²³ Our results are consistent when we use the buy-and-hold abnormal returns as the alternative measurement of foreign firm’s short-term performance.

from SOEs could be more pronounced on the foreign participant firms which are financially constrained. We use several proxies to measure the level of financial constraints, including *Kaplan-Zingales index*, *Whited-Wu index*, *Size-Age index* and *dividend payout ratio*. We classify our sample into financially constrained and financially unconstrained firms by using the median value of the proxies in the sample, and financially constrained firms are defined as the firms with higher KZ index, high WW index, high SA index and lower dividend payout ratio. Table 8 reports the estimation results of foreign firms short-term performance on financial constraints. The larger significant coefficients of *Local SOEs dummy* for financially constrained firms shown in column (1) to column (8) support our expectation that financially constrained foreign firms than non-financially constrained foreign firms could significantly experience much higher stock market returns when allying with local SOEs, implying the benefits of gaining financial supports from SOEs.

Besides the above proxies which measure the degree of firm's financial constraints, we also examine whether the level of industry's external financial dependence could explain the variance of the foreign firm's performance. Higher external finance dependence means the firms use more external financing to fund its tangible and intangible investment. Following Rajan and Zingales (1998), we first calculate firm's dependence on external finance as capital expenditure minus cash flow from operation, divided by capital expenditure. Then, for each industry, the industry's dependence on external finance is calculated as the median of all firms' dependence on external finance in a year. We finally compute dependence as the time series median of industry's dependence on external finance during the period 1990-2018. We split the sample into the foreign firms with high level of industry's external financial dependence and the ones with low level of dependence. The regression results are shown in column (9) and (10) in table 8. The significantly positive coefficient of *Local SOEs dummy* in column (9) suggests that the impact of local SOEs on the foreign firms performance is more pronounced for the foreign firms which are from the industry with high external finance dependence. Overall, the findings in table 8 highlight the financial motivations of the

foreign firms by selecting SOEs as the alliance partners when operating in the oversea market.

[Table 8 about here]

In terms of the improved performance of foreign firms after allying with SOEs, we concern whether there is an endogeneity issue, e.g. observed and unobserved factors, which could lead to the incorrect inferences of the impact of SOEs on the foreign firm's performance. For instance, whether the omitted factors could both influence the likelihood of allying with SOEs and the foreign firms' performance. Such endogeneity issue could lead to the unreliable OLS estimates of the alliance performance of the foreign firms. To address this concern, we employ the two methods: one is Propensity Score Matching approach, and the other one is Heckman two-step procedures to address the potential endogeneity issues (Heckman, 1979).

We first employ Propensity Score Matching approach to correct for any endogenous selection on observed variables in the tests of foreign firms' performance. We first use a logistic regression to estimate the probability of collaborating with local SOEs for foreign firms (treated group) on a series of firm fundamental characteristics, including some variables which are proved to significantly affect the likelihood shown in table 4 such as firm size, market-to-book ratio and sales growth. We also add other firm specific characteristics such as return on assets (ROA), long-term debt to assets as the proxy for the leverage, and liquidity measured by quick ratio. We then match each treated firm with a control firm which is the foreign firm allying with local non-SOEs. We apply a one-to-one nearest-neighbor propensity score matching without replacement, and require the propensity scores for each matched pair to be within 5%.

Panel A of table 9 reports the post-match diagnostic tests by using univariate comparisons of the means of each matched variables between treated and control groups in the short-performance model. Column (1) and (2) are the mean values of the treated and control groups, and column (3) and (4) are the t-statistics and p-value. The results show that the means of the matched variables are not significantly different

between two groups, which indicate that the matching procedure is successful. Panel B present the regression results of the foreign firm's 3-day CARs based on the propensity score matched sample. Consistent with our earlier findings, the coefficients of the *Local SOEs dummy* are positive and significant in the regression model of foreign firm's 3-day CARs.

[Table 9 about here]

As for the Heckman two-step procedures, we employ the Heckman treatment effect model to address the endogeneity problems between the treatment effect of allying with local SOEs and foreign firm's performance. In order to conduct Heckman tests, we need to find the instrument variables. Our pervious finding show that the political and economic variables have significant impacts on the likelihood of collaborating with local SOEs for foreign firms. While, such country-level factors are less likely to affect the firms' alliance performance *ex ante*. Therefore, we use the political and economic variables that we are interested in the previous sections as the instruments. Specifically, in the first-stage we use the probit model to estimate the likelihood of the foreign firms being selected by the local SOEs, and regress it on the political and economic variables. We get the *inverse Mills ratio* from the estimated parameters in the first-stage equation, and then add the *inverse Mills ratio* as the additional regressor in second-stage selection equation.

Table 10 shows the estimated results of Heckman two-step procedures by using the Heckman treatment effect. Column (1) shows the estimates of Pobit regression in the first-step equation. The coefficients of the political and economic variables are consistent with the results in the above sections on the country-pairs alliance activities and the likelihood of allying with local SOEs for the foreign partners. Column (2) presents the results of the second-step equations by adding the *inverse Mills ratio*, where the dependent variables are the 3-dayCARs around the announcement date. We find the inverse Mills ratio is not significant in each model. The insignificant *inverse Mills ratio* in the re-estimated models suggest that there is no selection bias when using

the model to analyze the foreign firm's short-term performance. Overall, based on the robustness tests on the foreign firm's performance by using Heckman and propensity score matching methods, we find the estimations on the *Local SOEs dummy* are reliable, and we conclude that foreign firms could experience significantly higher announcement returns if the foreign firms make cross-border alliances with local SOEs rather than local non-SOEs.

[Table 10 about here]

Finally, as the robustness check for the foreign firm's performance, we further look at their long-term performance after the alliances. Particularly, we look at the change of industry-adjusted operating incomes to sales over the three years after the alliance announcement. Industry-adjusted operating incomes to sales is calculated as the firm's operating incomes to sales minus industry's median value, and the industry median value is measured at the two-digit SIC level. Specifically, we use ΔIncome_1 , ΔIncome_2 , and ΔIncome_3 to indicate the change of annualized firm's operating performance in the post one, two and three years compared to the average operating performance in the pre three years of alliances announcement year.

We run the regression of the change of operating performance in the post-alliance period on the dummy variable *Local SOEs dummy*. Table 11 shows the results of OLS regressions. The coefficient of *Local SOEs dummy* in column (1) is significantly positive at 5% significant level. It indicates that foreign partners that ally with local SOEs could have around 0.021 increases of operating to sales in the one year after the alliances. The results in column (2) and (3) also suggest that the foreign firm's average performance in the post two years and three years significantly increase when allying with local SOEs, which lead to 0.028 ($t=2.24$) and 0.034 increase ($t=2.37$) compared with the average performance in the three years before alliances.

Overall, the findings on foreign firms short-term and long-term performance support the argument that collaborations with local SOEs could bring the foreign firms with more benefits which lead to not only higher stock performance but also higher long-term operating performance. It further implies that the motivations of

collaborating with local SOEs could be for the SOE's discriminatory treatments and privileged resources.

[Table 11 about here]

5. Conclusion

In this paper we examine the motivations of the SOEs international investment, and mainly focus on the SOEs involved cross-border alliance, which is the one type of international expansion strategies for SOEs. We ask a series of questions around the SOEs involved alliances and address the puzzles by comparing the difference between SOEs involved cross-border alliances and non-SOEs involved cross-border alliances. Since SOEs have different objectives and resources from non-SOEs, we focus on the country-level factors and ask whether the political-economic factors could help to reflect such differences between SOEs and non-SOEs when they make cross-border alliances. Using the worldwide cross-border alliances data from 1990 to 2018, we first look at the intensity of the alliances activities in the country-pairs and compare the volumes of SOEs involved alliances and non-SOEs involves alliances. We find if the countries have lower democracy, poorer institutional environment, higher foreign ownership restrictions, and more foreign currency reserves, the SOEs from such countries are more likely to form cross-border alliances than the non-SOEs in these countries. Also, such SOEs are more likely to form with foreign firms if there is a bigger industry dissimilarity between SOEs' country and foreign partner's country. The impacts from country-level political and economic factors reflect the different investment objectives between SOEs and non-SOEs, and these differences could be driven by the political objectives, national goals and external financial supports of SOEs.

We next explore the deal and firm specifics of SOEs involved alliances at the individual deal level. We find foreign firms which have larger firm size, lower market to book ratio and lower sales growth are more likely to form alliances with local SOEs. The country-level political and economic factors still play the roles on the likelihood of collaborating with local SOEs when we consider the likelihood functions at the deal-

level. We further find that foreign firms tend to ally with local SOEs when the host country has relatively high expropriation risk and when the host country has the state-dominated banking system. Moreover, in terms of the type of alliances, we find foreign firms select SOEs to conduct the cross-border alliances which are related to joint ventures, manufacturing alliances, supplier-customer alliances and exploration alliances since such type of deals require more investments and commitments and SOEs have privileges for gaining resources and favorable policies. The above results implies that the privileges of SOEs could help to attract foreign firms' investment since foreign firms can take advantage of SOEs to address government expropriation risk and gaining government supported resources.

We finally examine the economic consequences on the foreign partners when they ally with SOEs. We find the foreign firms could experience positive market reactions and higher abnormal stock returns when they form alliance with SOEs than non-SOE. Specially, we find the impact is more pronounced if the foreign firms are financial constrained. It highlight the financial motives of foreign firms when selecting SOEs as alliances partners due to SOE's privilege of accessing government supported resources. Overall, our findings deepen our understanding of the difference of SOEs and non-SOEs in the international investment market, highlight the importance of political and economic factors on the SOEs' cross-border alliances decisions and discuss the firms benefits of collaborating with SOEs.

Reference:

- Acemoglu, D. and Johnson, S., 2005. Unbundling institutions. *Journal of Political Economy*, 113(5), pp.949-995.
- Allen, J.W. and Phillips, G.M., 2000. Corporate equity ownership, strategic alliances, and product market relationships. *The Journal of Finance*, 55(6), pp.2791-2815.
- Alok, S. and Ayyagari, M., 2019. Politics, state ownership, and corporate investment. Working Paper, Indian School of Business and George Washington University.
- Barth, J.R., Caprio, G. and Levine, R., 2013. Bank regulation and supervision in 180 countries from 1999 to 2011. *Journal of Financial Economic Policy*, 5(2), pp.111-219.
- Baxamusa, M., Datta, S. and Jha, A., 2019. Does policy uncertainty reduce the number of strategic alliances?. Working paper, St. Thomas University.
- Bénassy-Quéré, A., Coupet, M. and Mayer, T., 2007. Institutional determinants of foreign direct investment. *The World Economy*, 30(5), pp.764-782.
- Bernstein, S., Lerner, J. and Schoar, A., 2013. The investment strategies of sovereign wealth funds. *Journal of Economic Perspectives*, 27(2), pp.219-38.
- Bertrand, M., Kramarz, F., Schoar, A. and Thesmar, D., 2018. The cost of political connections. *Review of Finance*, 22(3), pp.849-876.
- Bodnaruk, A., Manconi, A. and Massa, M., 2016. Cross-border alliances and risk management. *Journal of International Economics*, 102, pp.22-49.
- Boone, A.L. and Ivanov, V.I., 2012. Bankruptcy spillover effects on strategic alliance partners. *Journal of Financial Economics*, 103(3), pp.551-569.
- Borensztein, E., De Gregorio, J. and Lee, J.W., 1998. How does foreign direct investment affect economic growth?. *Journal of International Economics*, 45(1), pp.115-135.
- Borisova, G., Brockman, P., Salas, J.M. and Zagorchev, A., 2012. Government ownership and corporate governance: Evidence from the EU. *Journal of Banking & Finance*, 36(11), pp.2917-2934.
- Borisova, G., Fotak, V., Holland, K. and Megginson, W.L., 2015. Government ownership and the cost of debt: Evidence from government investments in publicly traded firms. *Journal of Financial Economics*, 118(1), pp.168-191.
- Buch, C.M. and DeLong, G., 2004. Cross-border bank mergers: What lures the rare animal?. *Journal of Banking & Finance*, 28(9), pp.2077-2102.
- Cabral, L. and Pacheco-de-Almeida, G., 2019. Alliance formation and firm value. *Management Science*, 65(2), pp.879-895.
- Cannizzaro, A.P. and Weiner, R.J., 2018. State ownership and transparency in foreign direct investment. *Journal of International Business Studies*, 49(2), pp.172-195.
- Chakrabarti, A., 2001. The determinants of foreign direct investments: Sensitivity analyses of

cross-country regressions. *Kyklos*, 54(1), pp.89-114.

Chan, S. H., Kensinger, J. W., Keown, A. J., and Martin, J. D., 1997. Do strategic alliances create value? *Journal of Financial Economics*, 46(2), pp. 199-221.

Chang, S.C., Chen, S.S. and Lai, J.H., 2008. The wealth effect of Japanese-US strategic alliances. *Financial Management*, 37(2), pp.271-301.

Chen, D., Paik, Y. and Park, S.H., 2010. Host-country policies and MNE management control in IJVs: Evidence from China. *Journal of International Business Studies*, 41(3), pp.526-537.

Chen, S., Sun, Z., Tang, S. and Wu, D., 2011. Government intervention and investment efficiency: Evidence from China. *Journal of Corporate Finance*, 17(2), pp.259-271.

Chhaochharia, V. and Laeven, L., 2009. Sovereign wealth funds: Their investment strategies and performance. Working paper, University of Miami and European Central Bank.

Chiou, I. and White, L.J., 2005. Measuring the value of strategic alliances in the wake of a financial implosion: Evidence from Japan's financial services sector. *Journal of Banking & Finance*, 29(10), pp.2455-2473.

Christiansen, H. and Kim, Y., 2014. State-invested enterprises in the global marketplace: Implications for a level playing field. Working paper, OECD.

Cuervo-Cazurra, A., Inkpen, A., Musacchio, A. and Ramaswamy, K., 2014. Governments as owners: State-owned multinational companies. *Journal of International Business Studies*, 45(8), pp 919-942.

Cui, L. and Jiang, F., 2012. State ownership effect on firms' FDI ownership decisions under institutional pressure: A study of Chinese outward-investing firms. *Journal of International Business Studies*, 43(3), pp.264-284.

Dai, N. and Nahata, R., 2016. Cultural differences and cross-border venture capital syndication. *Journal of International Business Studies*, 47(2), pp.140-169.

Das, S., Sen, P.K. and Sengupta, S., 1998. Impact of strategic alliances on firm valuation. *Academy of Management Journal*, 41(1), pp.27-41.

Del Bo, C.D., Ferraris, M. and Florio, M., 2017. Governments in the market for corporate control: Evidence from M&A deals involving state-owned enterprises. *Journal of Comparative Economics*, 45(1), pp.89-109.

Delios, A. and Beamish, P.W., 1999. Ownership strategy of Japanese firms: Transactional, institutional, and experience influences. *Strategic Management Journal*, 20(10), pp.915-933.

Deng, P., 2009. Why do Chinese firms tend to acquire strategic assets in international expansion?. *Journal of World Business*, 44(1), pp.74-84.

Desai, M.A., Foley, C.F. and Hines Jr, J.R., 2004. The costs of shared ownership: Evidence from international joint ventures. *Journal of Financial Economics*, 73(2), pp.323-374.

- Dewenter, K.L., Han, X. and Malatesta, P.H., 2010. Firm values and sovereign wealth fund investments. *Journal of Financial Economics*, 98(2), pp.256-278.
- Dewenter, K.L. and Malatesta, P.H., 2001. State-owned and privately owned firms: An empirical analysis of profitability, leverage, and labor intensity. *American Economic Review*, 91(1), pp.320-334.
- Dikova, D., Sahib, P.R. and Van Witteloostuijn, A., 2010. Cross-border acquisition abandonment and completion: The effect of institutional differences and organizational learning in the international business service industry, 1981–2001. *Journal of International Business Studies*, 41(2), pp.223-245.
- Dinc, I.S., 2005. Politicians and banks: Political influences on government-owned banks in emerging markets. *Journal of Financial Economics*, 77(2), pp.453-479.
- Djankov, S., La Porta, R., Lopez-de-Silanes, F. and Shleifer, A., 2003. The regulation of entry. *Quarterly Journal of Economics*, 117, pp.1-37.
- Djankov, S., La Porta, R., Lopez-de-Silanes, F. and Shleifer, A., 2008. The law and economics of self-dealing. *Journal of Financial Economics*, 88(3), pp.430-465.
- D'Souza, J. and Nash, R., 2017. Private benefits of public control: Evidence of political and economic benefits of state ownership. *Journal of Corporate Finance*, 46, pp.232-247.
- Duanmu, J.L., 2014. State-owned MNCs and host country expropriation risk: The role of home state soft power and economic gunboat diplomacy. *Journal of International Business Studies*, 45(8), pp.1044-1060.
- Dyer, J.H. and Singh, H., 1998. The relational view: Cooperative strategy and sources of interorganizational competitive advantage. *Academy of Management Review*, 23(4), pp.660-679.
- Erel, I., Liao, R.C. and Weisbach, M.S., 2012. Determinants of cross-border mergers and acquisitions. *The Journal of Finance*, 67(3), pp.1045-1082.
- Estrin, S., Meyer, K.E., Nielsen, B.B. and Nielsen, S., 2016. Home country institutions and the internationalization of state owned enterprises: A cross-country analysis. *Journal of World Business*, 51(2), pp.294-307.
- Faccio, M., Masulis, R.W. and McConnell, J.J., 2006. Political connections and corporate bailouts. *The Journal of Finance*, 61(6), pp.2597-2635
- Fich, E.M., Starks, L.T. and Yore, A.S., 2014. CEO deal-making activities and compensation. *Journal of Financial Economics*, 114(3), pp.471-492.
- Glaeser, E.L., La Porta, R., Lopez-de-Silanes, F. and Shleifer, A., 2004. Do institutions cause growth?. *Journal of Economic Growth*, 9(3), pp.271-303.
- Glaister, K.W. and Buckley, P.J, 1996. Strategic motives for international alliance formation. *Journal of Management Studies*, 33(3), pp. 301-332.

- Gomes-Casseres, B., Hagedoorn, J. and Jaffe, A.B., 2006. Do alliances promote knowledge flows?. *Journal of Financial Economics*, 80(1), pp.5-33.
- Grøgaard, B., Rygh, A. and Benito, G.R., 2019. Bringing corporate governance into internalization theory: State ownership and foreign entry strategies. *Journal of International Business Studies*, pp.1-28.
- Hagedoorn, J. and Narula, R., 1996. Choosing organizational modes of strategic technology partnering: international and sectoral differences. *Journal of International Business Studies*, 27(2), pp.265-284.
- Harris, J., 2014. The Resolution of Uncertainty: Cross-Border, Country-Specific Merger Programs. Working paper, Kent State University.
- Heckman, J.J., 1979. Sample selection bias as a specification error. *Econometrica*, 47(1), pp.153-161.
- Henisz, W.J., 2000. The institutional environment for multinational investment. *The Journal of Law, Economics, and Organization*, 16(2), pp.334-364.
- Hitt, M.A., Dacin, M.T., Levitas, E., Arregle, J.L. and Borza, A., 2000. Partner selection in emerging and developed market contexts: Resource-based and organizational learning perspectives. *Academy of Management Journal*, 43(3), pp.449-467.
- Hoskisson, R.E., Eden, L., Lau, C.M. and Wright, M., 2000. Strategy in emerging economies. *Academy of Management Journal*, 43(3), pp.249-267.
- Humphery-Jenner, M. and Powell, R., 2014. Firm size, sovereign governance, and value creation: Evidence from the acquirer size effect. *Journal of Corporate Finance*, 26, pp.57-77.
- Ireland, R.D., Hitt, M.A. and Vaidyanath, D., 2002. Alliance management as a source of competitive advantage. *Journal of Management*, 28(3), pp.413-446.
- Jiang, R.J., Tao, Q.T. and Santoro, M.D., 2010. Alliance portfolio diversity and firm performance. *Strategic Management Journal*, 31(10), pp.1136-1144.
- John, K., Freund, S., Nguyen, D. and Vasudevan, G.K., 2010. Investor protection and cross-border acquisitions of private and public targets. *Journal of Corporate Finance*, 16(3), pp.259-275.
- Johnson, S.A. and Houston, M.B., 2000. A reexamination of the motives and gains in joint ventures. *Journal of Financial and Quantitative Analysis*, 35(1), pp.67-85.
- Kale, P., Dyer, J., and Singh H., 2002. Alliance capability, stock market response, and long-term alliance success: The role of the alliance function. *Strategic Management Journal*, 23(8), pp. 747–767.
- Kang, N.H. and Sakai, K., 2000, *International Strategic Alliances: Their Role in Industrial Globalisation*, OECD Publishing, Paris,
- Karabay, B., 2010. Foreign direct investment and host country policies: A rationale for using ownership restrictions. *Journal of Development Economics*, 93(2), pp.218-225.
- Karolyi, G.A. and Liao, R.C., 2017. State capitalism's global reach: Evidence from foreign acquisitions by state-owned companies. *Journal of Corporate Finance*, 42, pp.367-391.

- Ke, B., Liu, N. and Tang, S., 2016. The effect of anti-corruption campaign on shareholder value in a weak institutional environment: Evidence from China. Working Paper, National University of Singapore, Nanyang Technological University and Shanghai University of Finance and Economics.
- Kolstad, I. and Wiig, A., 2012. What determines Chinese outward FDI?. *Journal of World Business*, 47(1), pp.26-34.
- Kostova, T. and Zaheer, S., 1999. Organizational legitimacy under conditions of complexity: The case of the multinational enterprise. *Academy of Management Review*, 24(1), pp.64-81.
- Kotter, J. and Lel, U., 2011. Friends or foes? Target selection decisions of sovereign wealth funds and their consequences. *Journal of Financial Economics*, 101(2), pp.360-381.
- Kowalski, P., Büge, M., Sztajerowska, M. and Egeland, M., 2013. State-owned enterprises: Trade effects and policy implications. OECD Trade Policy Papers.
- La Porta, R., Lopez-de-Silanes, F. and Shleifer, A., 2002. Government ownership of banks. *The Journal of Finance*, 57(1), pp.265-301.
- Lai, J.H., Lin, W.C. and Chen, L.Y., 2017. The influence of CEO overconfidence on ownership choice in foreign market entry decisions. *International Business Review*, 26(4), pp.774-785.
- Lee, S.H., Shenkar, O. and Li, J., 2008. Cultural distance, investment flow, and control in cross-border cooperation. *Strategic Management Journal*, 29(10), pp.1117-1125.
- Lerner, J., Shane, H. and Tsai, A., 2003. Do equity financing cycles matter? Evidence from biotechnology alliances. *Journal of Financial Economics*, 67(3), pp.411-446.
- Li, D., Eden, L., Hitt, M.A. and Ireland, R.D., 2008. Friends, acquaintances, or strangers? Partner selection in R&D alliances. *Academy of Management Journal*, 51(2), pp.315-334.
- Li, Q., Lin, C. and Xu, L., 2020. Political Investment Cycles of State-Owned Enterprises. *The Review of Financial Studies*, 33(7), pp.3088-3129.
- Li, X. and Liu, X., 2005. Foreign direct investment and economic growth: an increasingly endogenous relationship. *World Development*, 33(3), pp.393-407.
- Luo, Y., 2002. Product diversification in international joint ventures: Performance implications in an emerging market. *Strategic Management Journal*, 23(1), pp.1-20.
- Luo, Y. and Tung, R.L., 2007. International expansion of emerging market enterprises: A springboard perspective. *Journal of International Business Studies*, 38, pp.481-498.
- Luo, Y., Xue, Q. and Han, B., 2010. How emerging market governments promote outward FDI: Experience from China. *Journal of World Business*, 45(1), pp.68-79.
- McLaughlin, M., 2019. Defining a State-Owned Enterprise in International Investment Agreements. *ICSID Review - Foreign Investment Law Journal*, 34(3), pp.595-625.
- Mantecon, T., 2009. Mitigating risks in cross-border acquisitions. *Journal of Banking &*

Finance, 33(4), pp.640-651.

Mantecon, T., 2016. Why Do Some Firms Expand by Acquisitions and Others by Creating Alliances? Working paper, University of North Texas.

Meggison, W.L., Nash, R.C. and Van Randenborgh, M., 1994. The financial and operating performance of newly privatized firms: An international empirical analysis. *The Journal of Finance*, 49(2), pp.403-452.

Mezias, J.M., 2002. How to identify liabilities of foreignness and assess their effects on multinational corporations. *Journal of International Management*, 8(3), pp.265-282.

Narula, R. and Dunning, J.H., 1998. Explaining international R&D alliances and the role of governments. *International Business Review*, 7(4), pp.377-397.

Nguyen, H.T. and Meyer, K., 2004. Managing joint venture partnerships with state-owned companies: experiences from Vietnam. *Business Strategy Review*, 15(1), pp.39-50.

OECD, 2009. State Owned Enterprises and the Principle of Competitive Neutrality. OECD Publishing, Paris.

Owen, S. and Yawson, A., 2013. Information asymmetry and international strategic alliances. *Journal of Banking & Finance*, 37(10), pp.3890-3903.

Owen, S. and Yawson, A., 2015. R&D intensity, cross-border strategic alliances, and valuation effects. *Journal of International Financial Markets, Institutions and Money*, 35, pp.1-17.

Park, N.K., Mezias, J.M. and Song, J., 2004. A resource-based view of strategic alliances and firm value in the electronic marketplace. *Journal of Management*, 30(1), pp.7-27.

Pedersen, T., Asmussen, C.G., Devinney, T. and Tihanyi, L., 2011. Dynamics of globalization: location-specific advantages or liabilities of foreignness? In Pedersen, T., Asmussen, C.G., Devinney, T. and Tihanyi, L. (Eds), *Advances in International Management*. Bingley: Emerald Group Publishing.

Peng, M.W., Tan, J. and Tong, T.W., 2004. Ownership types and strategic groups in an emerging economy. *Journal of Management Studies*, 41(7), pp.1105-1129.

Qiu, L.D., 2010. Cross-border mergers and strategic alliances. *European Economic Review*, 54(6), pp.818-831. Reuer, J.J. and Lahiri, N., 2014. Searching for alliance partners: Effects of geographic distance on the formation of R&D collaborations. *Organization Science*, 25(1), pp.283-298.

Robinson, D.T. and Stuart, T.E., 2007. Financial contracting in biotech strategic alliances. *The Journal of Law and Economics*, 50(3), pp.559-596.

Shima, Y., 2015. The Policy Landscape for International Investment by Government-controlled Investors: A Fact Finding Survey. OECD Working Paper.

Shleifer, A., 1998. State Versus Private Ownership. *Journal of Economic Perspectives*, 12(4), pp.133-150.

- Shleifer, A. and Vishny, R.W., 1994. Politicians and firms. *The Quarterly Journal of Economics*, 109(4), pp.995-1025.
- Sojli, E. and Tham, W.W., 2017. Foreign political connections. *Journal of International Business Studies*, 48(2), pp.244-266.
- Stulz, R.M., 2005. The limits of financial globalization. *The Journal of Finance*, 60(4), pp.1595-1638.
- Thomas, J. and Worrall, T., 1994. Foreign direct investment and the risk of expropriation. *The Review of Economic Studies*, 61(1), pp.81-108.
- Tirole, J., 1994. The Internal organization of government. *Oxford Economic Papers* 46, 1-29
- Tse, D.K., Pan, Y. and Au, K.Y., 1997. How MNCs choose entry modes and form alliances: The China experience. *Journal of International Business Studies*, pp.779-805.
- Wurgler, J., 2000. Financial markets and the allocation of capital. *Journal of Financial Economics*, 58(1-2), pp.187-214.
- Xu, E.Q., 2017. Cross-border merger waves. *Journal of Corporate Finance*, 46, pp.207-231.
- Xu, D. and Shenkar, O., 2002. Note: Institutional distance and the multinational enterprise. *Academy of Management Review*, 27(4), pp.608-618.
- Zaheer, S., 1995. Overcoming the liability of foreignness. *Academy of Management journal*, 38(2), pp.341-363.
- Zahra, S.A., Ireland, R.D. and Hitt, M.A., 2000. International expansion by new venture firms: International diversity, mode of market entry, technological learning, and performance. *Academy of Management Journal*, 43(5), pp.925-950.
- Zhang, M., Lijun, M., Zhang, B. and Yi, Z., 2016. Pyramidal structure, political intervention and firms' tax burden: Evidence from China's local SOEs. *Journal of Corporate Finance*, 36, pp.15-25.

Table 1 Distribution of SOEs involved cross-border alliance activities

This table shows the number of cross-border alliances over the world from 1990 to 2018. We only focus on the cross-border alliance deals which happened in the local market. The top 20 countries are listed which have the highest number of cross-border alliances where the local partners are SOEs. The local partner is the participant whose domicile country is the same as the alliance nation. “Total Number of Deals” indicates the total number of cross-border alliances which happened in the given country. “Local SOEs” indicates the number of cross-border alliances where the local partners are SOEs. “The % of Local SOEs” is the ratio of the number of local SOEs involved cross-border alliances to the total number of cross-border alliances happened in a given country. “The % of Local SOEs in the world” indicates the percentage of local SOEs involved cross-border alliances in a given country to the total number of local SOEs involved cross-border alliances in the world.

Country	Total Number of Deals	Local SOEs	The % of Local SOEs	The % of Local SOEs in the world
China	4,586	718	15.66%	27.23%
Hungary	175	104	59.43%	3.94%
Russia	641	100	15.60%	3.79%
India	1,954	95	4.86%	3.60%
Czech	124	90	72.58%	3.41%
Vietnam	404	83	20.54%	3.15%
Singapore	483	67	13.87%	2.54%
Poland	197	66	33.50%	2.50%
Australia	1,163	60	5.16%	2.28%
Malaysia	571	54	9.46%	2.05%
UAE	311	53	17.04%	2.01%
United States	8,446	52	0.62%	1.97%
Canada	1,381	36	2.61%	1.37%
United Kingdom	1,560	35	2.24%	1.33%
Venezuela	76	35	46.05%	1.33%
Indonesia	422	33	7.82%	1.25%
Romania	73	29	39.73%	1.10%
Cuba	46	29	63.04%	1.10%
Myanmar(Burma)	71	28	39.44%	1.06%
Algeria	37	28	75.68%	1.06%
The Rest	12,211	842	6.90%	31.93%
Total deals	34,932	2,637	7.55%	100.00%

Table 2 Summary Statistics

This table reports the summary statistics of the main dependent and explanatory variables. Panel A and panel B shows the statistics of country-level variables for the country-pairs and firm-level variables for foreign partners, respectively. The local partner is the participant whose domicile country is the same as the alliance nation, and the foreign partner is the participant whose domicile country is different from the alliance nation. P_{ijt}^{LG} (or P_{ijt}^{LC}) is the total number of deals between a country pair, normalized by the total number of cross-border alliances which the foreign partner's country forms in the world, where "LG" (or "LC") presents the local partner is SOE (or non-SOE). Continuous variables for the firm characteristics are winsorized at 1% level. The definitions of other variables are explained in Table A1.

Panel A: Country-level variables

Variables	Obs.	Mean	Median	SD	Min	Max
P_{ijt}^{LG} (%)	58,388	0.304	0.000	4.510	0.000	100.000
P_{ijt}^{LC} (%)	58,388	1.190	0.000	6.909	0.000	100.000
$P_{ijt}^{LG} - P_{ijt}^{LC}$ (%)	58,388	-0.886	0.000	7.899	-100.000	100.000
Polity IV democracy diff	55,804	0.000	0.000	6.406	-17.000	17.000
Institutional differences	50,854	0.000	0.000	1.226	-3.225	3.225
Foreign ownership restriction	49,553	-7.216	-7.253	1.303	-10.000	-3.783
Industry dissimilarity	58,388	0.374	0.342	0.179	0.000	1.414
Relative weight of foreigner's strategic sector	57,686	0.089	0.091	0.265	-0.904	0.828
Total reserves as a % of GDP diff	58,052	0.000	0.000	25.911	-124.965	124.965
SOEs domestic alliance activity	58,388	0.050	0.000	0.140	0.000	1.000
GDP growth diff	58,388	0.000	0.000	4.232	-28.708	28.708
Inflation diff	58,388	0.000	0.000	14.366	-121.471	121.471
Stock capitalization diff	58,388	0.000	0.000	1.640	-12.688	12.688
Anti-self-dealing index diff	58,388	0.000	0.000	0.353	-0.925	0.925
Legal origin diff	58,388	0.652	1.000	0.476	0.000	1.000
Geographic distance ('000)	58,388	4.664	4.941	3.027	0.035	12.351

Panel B: Firm-level variables

Variables	Obs.	Mean	Median	SD	Min	Max
Related deal dummy	11,732	0.202	0	0.401	0.000	1.000
Zero-dividend dummy	11,732	0.232	0	0.422	0.000	1.000
Ln (total assets(\$ U.S))	11,732	22.230	22.880	2.610	15.220	26.278
Market-to-book	11,732	2.151	1.398	2.343	0.706	16.314
ROE (%)	11,732	5.169	9.800	34.333	-187.769	84.442
Long-term debt/assets	11,732	0.153	0.141	0.120	0.000	0.518
Sales growth (%)	11,732	21.969	7.001	72.141	-53.877	565.833
Liquidity	11,732	1.940	1.384	1.870	0.446	13.702

Table 3 Cross-country determinants of cross-border alliance with local SOE firms

This table presents the regression results of the effect of country-level determinants on the total number of cross-border alliances from 1990 to 2018. Panel A and Panel B show the regressions results by controlling for the variables of interest including political and economic determinants, respectively. The dependent variables in panel A and B is $P_{ijt}^{LG} - P_{ijt}^{LC}$, which is the excess fraction of the number of deals between local SOEs and non-SOEs. P_{ijt}^{LG} (or P_{ijt}^{LC}) is the number of cross-border alliance where the defined local partner is the SOEs (or non-SOEs) from country j and the defined foreign partner is from country i , divided by the total number of cross-border deals in which the foreign firms from country i collaborate with SOEs (or non-SOEs) in the world and operate alliances activities in the overseas markets. The foreign partner is defined as the participant whose domicile country is different from the alliance nation. The local partner is the participant whose domicile country is the same as the alliance nation. The definition of the dependent variables and control variables is interpreted in Appendix Table A1. Asterisks denote statistical significance at different percentages using year and foreign country fixed effect and robust standard errors clustered by foreign country and associated t-statistics are in parentheses.

Panel A: Political and institutional factors

	$P_{ijt}^{LG} - P_{ijt}^{LC}$ (%)			
	(1)	(2)	(3)	(4)
		Polity IV democracy diff	Institutional differences	Foreign ownership restriction
Political-institutional factors		-0.072*** (-6.75)	-0.328*** (-7.15)	0.075*** (3.17)
GDP growth diff	0.037*** (4.16)	0.024*** (2.97)	0.009 (1.07)	0.030*** (3.17)
Inflation diff	0.014*** (4.90)	0.006*** (3.74)	0.002 (1.24)	0.009*** (3.14)
Stock capitalization diff	-0.008 (-0.40)	-0.578*** (-7.67)	0.031 (1.66)	0.009 (0.44)
Anti-self-dealing index diff	-1.919*** (-7.70)	-1.835*** (-6.82)	-1.656*** (-6.97)	-1.797*** (-7.18)
Legal origin diff	0.263* (1.73)	0.304* (1.89)	0.236 (1.65)	0.227 (1.46)
Geographic distance	0.108** (2.62)	0.116*** (2.76)	0.085** (2.41)	0.105*** (2.78)
Constant	-2.319*** (-6.83)	-2.293*** (-6.71)	-1.418*** (-8.01)	-0.750*** (-2.88)
Year	YES	YES	YES	YES
Country	YES	YES	YES	YES
Observations	58,388	55,804	50,854	49,553
Adjusted R ²	0.009	0.014	0.008	0.008

Panel B: Economic factors

	$P_{ijt}^{LG} - P_{ijt}^{LC} (\%)$			
	(1)	(2)	(3)	(4)
	Industry dissimilarity	Relative weight of foreigner's strategic sector	Total reserves as a % of GDP diff	SOEs domestic alliance activity
Economic factors	2.043*** (5.35)	-0.038 (-0.27)	0.045*** (9.48)	1.006*** (3.66)
GDP growth diff	0.034*** (3.96)	0.035*** (3.99)	0.015** (2.02)	0.036*** (4.09)
Inflation diff	0.014*** (4.80)	0.013*** (4.83)	0.013*** (4.89)	0.014*** (4.87)
Stock capitalization diff	-0.008 (-0.43)	-0.015 (-0.84)	-0.363*** (-7.70)	0.000 (0.01)
Anti-self-dealing index diff	-1.742*** (-7.26)	-1.880*** (-7.66)	-2.530*** (-8.91)	-2.062*** (-8.14)
Legal origin diff	0.262* (1.70)	0.260* (1.74)	0.245* (1.69)	0.264* (1.72)
Geographic distance	0.101** (2.45)	0.106** (2.64)	0.112*** (2.85)	0.107** (2.62)
Constant	-2.247*** (-6.56)	-2.197*** (-8.24)	-2.506*** (-9.34)	-2.274*** (-6.77)
Year	YES	YES	YES	YES
Country	YES	YES	YES	YES
Observations	58,388	57,686	58,052	58,388
Adjusted R ²	0.011	0.009	0.018	0.010

Table 4 Likelihood of foreign firms collaborating with local SOEs partners

This table presents probit regression analysis of the likelihood that foreign firm is collaborating with local SOEs partners. Political and economic factors are added in panel A and panel B, respectively. The dependent variable equals one if the foreign firm is collaborating with local SOEs, and zero if is collaborating with local non-SOEs. The foreign partner is defined as the participant whose domicile country is different from the alliance nation. The local partner is the participant whose domicile country is the same as the alliance nation. The control variables are the fundamentals of the foreign firms in one year prior to the alliance announcement date. The definitions of the firm characteristic at the firm-year level are explained in Appendix Table A1. Continuous variables for the firm characteristics are winsorized at 1% level. Asterisks denote statistical significance at different percentages using year and foreign country fixed effect and robust standard errors clustered by foreign country and associated t-statistics are in parentheses.

Panel A: Control for political and institutional factors

	(1)	(2)	(3)	(4)
		Polity IV democracy diff	Institutional differences	Foreign ownership restriction
Political-institutional factors		-0.057*** (-13.93)	-0.409*** (-9.96)	0.174*** (6.72)
Related deal dummy	-0.149*** (-2.81)	-0.178*** (-3.23)	-0.495*** (-5.27)	-0.478*** (-6.10)
Zero-dividend dummy	0.072 (0.87)	0.076 (0.86)	0.041 (0.48)	0.059 (0.68)
Ln(total assets(\$ U.S))	0.049*** (4.62)	0.059*** (4.98)	0.059*** (5.28)	0.057*** (5.12)
Market-to-book	-0.017** (-2.36)	-0.018** (-2.45)	-0.020** (-2.21)	-0.020* (-1.88)
ROE	-0.023 (-0.21)	-0.047 (-0.49)	-0.075 (-0.94)	-0.040 (-0.50)
Long-term debt/assets	-0.105 (-0.58)	-0.047 (-0.24)	-0.235 (-0.68)	-0.142 (-0.46)
Sales growth	-0.113*** (-3.57)	-0.148*** (-5.00)	-0.135*** (-3.55)	-0.150*** (-3.24)
Liquidity	-0.024 (-1.45)	-0.007 (-0.46)	0.002 (0.13)	0.001 (0.06)
Constant	-2.048*** (-7.40)	-2.577*** (-7.94)	-3.085*** (-10.12)	-1.781*** (-9.10)
Year	YES	YES	YES	YES
Country	YES	YES	YES	YES
Observations	11,618	11,221	7,514	7,799
Pseudo R ²	0.087	0.165	0.138	0.112

Panel B: Control for economic factors

	(1)	(2)	(3)	(4)
	Industry dissimilarity	Relative weight of foreigner's strategic sector	Total reserves as a % of GDP diff	SOEs domestic alliance activity
Economic factors	1.522*** (7.90)	-0.577*** (-2.76)	0.012*** (15.12)	1.296*** (11.20)
Related deal dummy	-0.142*** (-2.73)	-0.162*** (-3.12)	-0.188*** (-3.10)	-0.160*** (-3.11)
Zero-dividend dummy	0.054 (0.65)	0.041 (0.48)	0.041 (0.46)	0.070 (0.76)
Ln(total assets(\$ U.S))	0.047*** (4.66)	0.048*** (4.61)	0.051*** (4.39)	0.048*** (4.41)
Market-to-book	-0.016** (-2.16)	-0.016** (-2.36)	-0.018*** (-2.68)	-0.018*** (-2.63)
ROE	-0.014 (-0.13)	-0.035 (-0.34)	-0.060 (-0.60)	-0.022 (-0.22)
Long-term debt/assets	-0.115 (-0.61)	-0.119 (-0.61)	-0.056 (-0.24)	-0.089 (-0.49)
Sales growth	-0.120*** (-3.62)	-0.114*** (-3.47)	-0.107*** (-3.18)	-0.139*** (-4.24)
Liquidity	-0.021 (-1.31)	-0.022 (-1.34)	-0.019 (-1.19)	-0.018 (-1.13)
Constant	-2.002*** (-7.39)	-1.718*** (-6.35)	-2.672*** (-8.35)	-2.045*** (-7.12)
Year	YES	YES	YES	YES
Country	YES	YES	YES	YES
Observations	11,618	11,358	11,089	11,618
Pseudo R ²	0.106	0.089	0.087	0.121

Table 5 Additional controls: Partner risk and state-dominated banking system

This table presents probit regression analysis of the likelihood that foreign firm is collaborating with local SOEs partners by considering the effect of the partner risk and state-dominated banking system. The dependent variable equals one if the foreign firm is collaborating with local SOEs, and zero if is collaborating with local non-SOEs. *Direct risk diff* is the differences between local partner and foreign partner in the measure of direct partner risk, which are proxied by *Legal formalism* and *Procedural complexity*. *Indirect risk diff* is the differences between the country of local partner and the country of foreign partner in the measure of indirect partner risk, which are proxied by *Constraints on executive* and *Protection against expropriation*. *State-dominated banking system* measures whether the local firm's domiciled country has the state-dominated banking system. It is a dummy variable, which equals one if the proportion of banking assets in government owned banks among the country's banking system is higher than the median level of the sample countries, and zero otherwise. The control variables are the fundamentals of the foreign firms in one year prior to the alliance announcement date. The definitions of the firm characteristic at the firm-year level are explained in Appendix Table A1. Continuous variables for the firm characteristics are winsorized at 1% level. Asterisks denote statistical significance at different percentages using year and foreign country fixed effect and robust standard errors clustered by foreign country and associated t-statistics are in parentheses.

	(1)	(2)	(3)	(4)	(5)
Dependent: Local SOEs	Legal formalism	Procedural complexity	Constraints on executive	Protection against expropriation	State-dominated banking system
Direct risk diff	0.296*** (6.03)	0.184*** (13.30)			
Indirect risk diff			0.239*** (16.60)	0.349*** (22.42)	
State-dominated banking system					0.345** (2.02)
Related deal dummy	-0.180*** (-2.92)	-0.182*** (-3.12)	-0.206*** (-3.79)	-0.209*** (-3.58)	-0.297*** (-4.97)
Zero-dividend dummy	0.095 (1.18)	0.101 (1.08)	0.083 (0.83)	0.096 (1.06)	0.070 (0.95)
Ln(total assets(\$ U.S))	0.055*** (4.69)	0.056*** (4.84)	0.060*** (4.30)	0.055*** (4.94)	0.078*** (6.72)
Market-to-book	-0.013 (-1.59)	-0.019** (-2.31)	-0.011 (-1.46)	-0.014* (-1.85)	-0.021** (-2.21)
Return on equity	-0.033 (-0.35)	-0.035 (-0.36)	-0.056 (-0.60)	-0.032 (-0.40)	-0.140 (-1.57)
Long-term debt/assets	-0.215 (-0.96)	-0.142 (-0.61)	-0.057 (-0.29)	-0.085 (-0.36)	-0.514 (-1.47)
Sales growth	-0.146*** (-4.40)	-0.109*** (-3.48)	-0.140*** (-5.67)	-0.120*** (-4.29)	-0.385*** (-4.53)
Liquidity	-0.022 (-1.31)	-0.018 (-1.12)	-0.000 (-0.03)	-0.008 (-0.49)	-0.016 (-0.95)
Constant	-2.518*** (-9.34)	-1.576*** (-7.05)	-1.203*** (-4.16)	-1.388*** (-6.07)	-3.176*** (-10.91)
Year	YES	YES	YES	YES	YES
Country	YES	YES	YES	YES	YES
Observations	11,110	10,198	10,060	10,204	7,865
Pseudo R ²	0.099	0.097	0.169	0.156	0.116

Table 6 Alliance types in SOEs involved cross-border alliances

This table presents probit regressions of deal types on the likelihood of allying with local SOEs. The dependent variable equals one if the foreign firm is collaborating with local SOEs, and zero if is collaborating with local non-SOEs. Variable of interest is the dummy variable about the deal types, which equals one if the alliance deal is joint venture, market alliance, licensing alliance, manufacturing alliance, supply alliance, or exploration alliance in each specification, respectively, and zero otherwise. The control variables are the fundamentals of the foreign firms in one year prior to the alliance announcement date. Continuous variables for the firm characteristics are winsorized at 1% level. Asterisks denote statistical significance at different percentages using year and foreign country fixed effect and robust standard errors clustered by foreign country and associated t-statistics are in parentheses.

	(1)	(2)	(3)	(4)	(5)	(6)
	Joint venture	Marketing alliances	Licensing alliances	Manufacturing alliances	Supply	Exploration alliances
Deal type	0.364*** (7.63)	-0.292*** (-8.84)	-0.635*** (-5.37)	0.160*** (4.17)	0.176*** (2.89)	0.245*** (2.64)
Related deal dummy	-0.152*** (-2.97)	-0.150*** (-2.87)	-0.143*** (-2.71)	-0.156*** (-3.04)	-0.147*** (-2.77)	-0.151*** (-2.76)
Zero-dividend dummy	0.098 (1.17)	0.068 (0.84)	0.077 (0.90)	0.079 (0.98)	0.075 (0.90)	0.071 (0.85)
Ln(total assets(\$ U.S))	0.056*** (5.38)	0.047*** (4.27)	0.048*** (4.31)	0.052*** (4.82)	0.050*** (4.65)	0.048*** (4.49)
Market-to-book	-0.008 (-1.39)	-0.017** (-2.34)	-0.013** (-1.97)	-0.015** (-2.18)	-0.017** (-2.29)	-0.016** (-2.15)
ROE	-0.037 (-0.33)	-0.024 (-0.22)	-0.043 (-0.39)	-0.023 (-0.22)	-0.017 (-0.16)	-0.021 (-0.19)
Long-term debt/assets	-0.174 (-0.91)	-0.131 (-0.69)	-0.103 (-0.54)	-0.108 (-0.58)	-0.098 (-0.54)	-0.096 (-0.52)
Sales growth	-0.118*** (-3.63)	-0.117*** (-3.71)	-0.116*** (-3.75)	-0.110*** (-3.48)	-0.113*** (-3.53)	-0.117*** (-3.77)
Liquidity	-0.014 (-0.90)	-0.021 (-1.28)	-0.017 (-1.06)	-0.023 (-1.38)	-0.024 (-1.42)	-0.024 (-1.46)
Constant	-2.522*** (-8.97)	-1.931*** (-6.54)	-2.002*** (-7.11)	-2.188*** (-7.49)	-2.065*** (-7.45)	-2.025*** (-7.34)
Year	YES	YES	YES	YES	YES	YES
Country	YES	YES	YES	YES	YES	YES
Observations	11,618	11,618	11,618	11,618	11,618	11,618
Pseudo R ²	0.100	0.093	0.097	0.090	0.088	0.088

Table 7 Short-term Stock Performance of Foreign Partners

This table reports the regression analysis of foreign partners' short-term stock performance when doing cross-border alliances. The short-term stock performance is measured by market-adjusted cumulative abnormal returns (CARs) in percentage around the announcement date. CARs are cumulated over the three different event windows around the alliance announcement date ($t=0$), including from days $t = -1$ to $t = +1$ (“(-1,+1)”), days $t = -5$ to $t = +5$ (“(-5, +5)”), and days $t = -10$ to $t = +10$ (“(-10, +10)”). The foreign partner is defined as the participant whose domicile country is different from the alliance nation. The local partner is the participant whose domicile country is the same as the alliance nation. All the continuous variables are winsorized at 1% level. Asterisks denote statistical significance at different percentages using year and foreign country fixed effect and robust standard errors clustered by foreign country and associated t-statistics are in parentheses.

	(1)	(2)	(3)
	CARs (-1, +1)	CARs (-5, +5)	CARs (-10, +10)
Local SOEs dummy	0.324** (2.33)	0.490** (2.30)	0.836** (2.20)
Related deal dummy	-0.113 (-1.15)	0.048 (0.25)	0.088 (0.33)
Zero-dividend dummy	0.377 (1.55)	0.482 (1.34)	0.285 (0.67)
Ln(total assets(\$ U.S))	-0.217*** (-5.25)	-0.318*** (-7.57)	-0.312*** (-5.69)
Market-to-book	-0.002 (-0.07)	-0.040 (-0.87)	-0.001 (-0.02)
ROE	-0.726*** (-4.56)	-0.153 (-0.78)	-0.139 (-0.51)
Long-term debt/assets	-1.373** (-2.66)	-3.075*** (-3.25)	-1.642* (-1.91)
Sales growth	-0.153*** (-2.79)	0.079 (0.36)	-0.058 (-0.20)
Liquidity	-0.014 (-0.23)	-0.190* (-1.79)	-0.083 (-0.94)
Constant	6.331*** (6.29)	9.666*** (8.32)	7.809*** (6.26)
Year	YES	YES	YES
Country	YES	YES	YES
Observations	7,459	7,459	7,459
Adjusted R ²	0.0415	0.0282	0.0145

Table 8 Cross section tests of foreign firm's performance

This table reports subsample regression analysis of foreign firm's performance by considering the impacts of financial constraints and industrial external finance dependence. The levels of financial constraints are defined based on Kaplan-Zingales index, Whited-Wu index, Size-Age index and dividend payout ratio. High KZ index, high WW index, high SA index and low dividend payout ratio indicate high financial constraints. The level of industry's external financial dependence (EFD) is calculated following the method of Rajan and Zingales (1998), which indicate whether the firm's industry depends on the external financing to fund its tangible and intangible investments. The sample is split by the median value of the proxies. The dependent variable is the 3-day market-adjusted cumulative abnormal returns (CARs) in percentage around the announcement date. All the continuous variables are winsorized at 1% level. Asterisks denote statistical significance at different percentages using year and foreign country fixed effect and robust standard errors clustered by foreign country and associated t-statistics are in parentheses.

Dependent variable: CARs(-1, +1)	(1) High KZ	(2) Low KZ	(3) High WW	(4) Low WW	(5) High SA	(6) Low SA	(7) Low Dividend	(8) High Dividend	(9) High EFD	(10) Low EFD
Local SOEs dummy	0.564*** (3.33)	0.150 (0.92)	0.386* (2.02)	0.305 (1.01)	0.270** (2.19)	0.428 (1.45)	0.706** (2.18)	-0.020 (-0.11)	0.405** (2.06)	0.139 (0.68)
Related deal dummy	-0.265* (-1.81)	0.109 (0.58)	-0.049 (-0.37)	-0.060 (-0.39)	-0.050 (-0.63)	-0.173 (-1.59)	-0.113 (-0.50)	-0.195** (-1.12)	-0.199* (-1.72)	-0.029 (-0.20)
Zero-dividend dummy	0.377 (1.44)	0.191 (0.54)	0.274 (0.71)	0.294 (1.37)	0.296 (1.15)	0.316 (1.06)	-0.023 (-0.10)	0.000 (0.000)	0.708*** (4.83)	-0.028 (-0.05)
Ln(total assets(\$ U.S))	-0.155** (-2.68)	-0.250*** (-3.42)	-0.153*** (-5.75)	-0.331*** (-6.81)	-0.111** (-2.33)	-0.362*** (-3.20)	-0.325*** (-6.32)	-0.094*** (-2.93)	-0.202*** (-5.20)	-0.257*** (-3.32)
Market-to-book	0.148** (2.19)	-0.134*** (-4.80)	-0.027 (-0.76)	0.013 (0.24)	-0.083*** (-4.11)	0.018 (0.33)	-0.006 (-0.14)	0.023 (0.29)	0.043 (0.84)	-0.046 (-1.67)
ROE	-0.760** (-2.52)	-0.386 (-1.65)	-0.143 (-0.45)	-0.679*** (-3.39)	0.250 (0.79)	-0.692*** (-3.21)	-0.760*** (-4.03)	0.258 (0.94)	-0.908*** (-2.96)	-0.308*** (-2.91)
Long-term debt/assets	-2.122** (-2.67)	-0.873** (-2.06)	-0.111 (-0.28)	-1.579** (-2.45)	-0.528 (-1.26)	-1.533** (-2.47)	-1.708** (-2.56)	-0.958** (-2.41)	-1.838** (-2.32)	-1.065*** (-2.97)
Sales growth	-0.207 (-1.60)	-0.155 (-1.26)	0.159 (0.90)	-0.191*** (-3.01)	-0.313 (-0.94)	-0.175*** (-3.00)	-0.209*** (-4.18)	-0.134 (-0.89)	-0.082 (-0.82)	-0.239*** (-3.09)
Liquidity	0.118** (2.15)	-0.008 (-0.11)	-0.072* (-1.99)	-0.032 (-0.42)	-0.001 (-0.02)	-0.030 (-0.43)	-0.028 (-0.39)	-0.036 (-0.52)	0.020 (0.30)	-0.144 (-1.56)
Constant	3.614*** (3.46)	8.302*** (4.63)	1.748* (1.95)	8.791*** (7.28)	1.377 (0.97)	9.483*** (3.58)	8.552*** (6.47)	2.912*** (3.49)	5.102*** (6.74)	8.610*** (4.91)
Country, Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	3,649	3,645	3,633	3,627	3,730	3,729	3,166	3,166	4,382	3,077
Adjusted R ²	0.063	0.033	0.004	0.053	0.002	0.0466	0.0495	0.002	0.0597	0.0323

Table 9 Propensity Score Matching

This table explores the impact of local SOEs partner on the foreign partners' short-term stock performance by using the propensity score matched sample. The short-term stock performance is measured by 3-day market-adjusted cumulative abnormal returns (CARs) in percentage around the deal announcement date. The treatment and control groups consist of foreign firms which collaborate with local SOEs and local non-SOEs, respectively. We first use a Logistic regression to estimate the probability of being a treat firm on Ln (total assets(\$ U.S)), Market-to-book, ROA, Long-term debt/assets, Sales growth and Liquidity, and estimate the propensity score. We approach a one-to-one propensity score matching, and require the propensity scores for each matched pair to be within 5%. Panel A presents post-match diagnostic tests, where column (1) and (2) present the mean value of the matching variables from the treated and control groups. Column (3) and column (4) present t-statistics and p-value from the t-test. Panel B presents the results from estimating the impact of local SOEs partners on the foreign partners' short-term performance by using the propensity score matched sample. All the continuous variables are winsorized at 1% level. Asterisks denote statistical significance at different percentages using year and foreign country fixed effect and robust standard errors clustered by foreign country and associated t-statistics are in parentheses.

Panel A: Post-match diagnostic test for short-term performance model

	(1)	(2)	(3)	(4)
	Treated	Control		
	Number: 532	Number: 532	T-value	p> t
Ln (total assets(\$ U.S))	22.892	22.981	-0.656	0.512
Market-to-book	1.994	2.008	-0.133	0.894
ROA	0.042	0.035	0.917	0.359
Long-term debt/assets	0.157	0.155	0.302	0.763
Sales growth	0.119	0.121	-0.064	0.949
Liquidity	1.587	1.571	0.225	0.822

Panel B: Short-term and long-term performance on PSM matched sample

	(1)
	CARs (-1, +1)
Local SOEs dummy	0.477** (2.53)
Related deal dummy	0.149 (0.89)
Zero-dividend dummy	0.338 (0.81)
Ln(total assets(\$ U.S))	-0.167* (-1.89)
Market-to-book	0.103 (1.15)
Return on equity	-1.856*** (-3.21)
Long-term debt/assets	-0.057 (-0.07)
Sales growth	-0.138 (-0.21)
Liquidity	-0.066 (-0.34)
Constant	6.828*** (3.56)
Observations	1,064
Year	YES
Country	YES
Adjusted R ²	0.081

Table 10 Heckman two-step procedures for foreign partner's alliance performance

This table shows the results of Heckman two-step procedures on foreign partner's short-term performance. Column (1) presents the results for the first-stage selection equation by using probit model, where the dependent variable is one if the foreign firm collaborates with local SOEs and zero otherwise. Column (2) is the second-stage equation, where the dependent variable is 3-day market-adjusted cumulative abnormal returns (CARs) in percentage around the deal announcement date. Continuous variables for the firm characteristics are winsorized at 1% level. Asterisks denote statistical significance at different percentages using year and foreign country fixed effect and robust standard errors clustered by foreign country and associated t-statistics are in parentheses.

	Short-term performance	
	Selection:	
	Local SOE dummy	CARs (-1, +1)
	(1)	(2)
Polity IV democracy diff	-0.035*** (-5.26)	
Institutional distance	-0.005 (-0.09)	
Industry dissimilarity	0.030 (1.04)	
Foreign ownership restriction	1.100*** (6.26)	
Relative weight of foreigner's strategic sector	-1.007** (-2.14)	
Total reserves as a % of GDP diff	0.004* (1.90)	
Government domestic alliance activity	0.733*** (3.40)	
Related deal dummy	-0.517*** (-5.50)	-0.018 (-0.10)
Zero-dividend dummy	-0.074 (-1.16)	0.502 (1.64)
Ln(total assets(\$ U.S))	0.036*** (3.03)	-0.230*** (-4.21)
Market-to-book	-0.018** (-2.28)	0.019 (0.39)
Return on equity	-0.050 (-0.67)	-0.774** (-2.77)
Long-term debt/assets	-0.217 (-0.75)	-0.811 (-1.19)
Sales growth	-0.267*** (-4.31)	-0.212** (-2.74)
Liquidity	0.024 (1.41)	-0.000 (-0.01)
Local SOEs dummy		1.538* (1.86)
Inverse Mills ratio		-0.526 (-1.41)
Constant	-1.793*** (-4.63)	6.320*** (4.45)
Observations	4,723	4,723
Year	YES	YES
Country	YES	YES
Adjusted R ² (Pseudo R ²)	0.162	0.042

Table 11 Long-term operating performance of foreign partners

This table reports the analysis of foreign partners' long-term operating performance when doing cross-border alliances. The long-term operating performance is measured by the change in the ratio of industry-adjusted operating income to sales in the post-alliance period. The industry median ratio is calculated at the two-digit SIC level. In column (1) to (3), we use ΔIncome_1 , ΔIncome_2 , and ΔIncome_3 to indicate the change of annualized firm's operating performance in the post one, two and three years compared to the average operating performance in the pre three years of alliances announcement year. The foreign partner is defined as the participant whose domicile country is different from the alliance nation. The local partner is the participant whose domicile country is the same as the alliance nation. All the continuous variables are winsorized at 1% level. Asterisks denote statistical significance at different percentages using year and foreign country fixed effect and robust standard errors clustered by foreign country and associated t-statistics are in parentheses.

	(1)	(2)	(3)
	ΔIncome_1	ΔIncome_2	ΔIncome_3
Local SOEs dummy	0.021** (2.14)	0.028** (2.24)	0.034** (2.37)
Related deal dummy	0.018 (1.17)	0.029 (1.49)	0.030 (1.47)
Zero-dividend dummy	-0.021 (-0.56)	-0.018 (-0.46)	-0.024 (-0.73)
Ln(total assets(\$ U.S))	-0.011** (-2.31)	-0.011** (-2.21)	-0.007 (-1.63)
Market-to-book	0.019*** (3.79)	0.021*** (6.66)	0.021*** (4.46)
ROE	-0.415*** (-6.16)	-0.443*** (-6.37)	-0.372*** (-6.20)
Long-term debt/assets	-0.090 (-1.50)	-0.084 (-1.40)	-0.047 (-0.76)
Sales growth	0.211*** (5.31)	0.223*** (5.29)	0.202*** (5.08)
Liquidity	-0.006 (-0.67)	-0.003 (-0.27)	0.002 (0.16)
Constant	0.217* (1.98)	0.192* (1.73)	0.087 (0.89)
Year	YES	YES	YES
Country	YES	YES	YES
Observations	8,553	8,553	8,553
Adjusted R ²	0.146	0.176	0.145

Table A1 Variable Definition

Variables	Definition
Dependent Variables	
P_{ijt}^{LG}	The ratio of the number of cross-border alliance where the defined local partner is the SOEs from country j and the defined foreign partner is from country i, divided by the total number of cross-border deals in which the foreign firms from country i collaborate with SOEs in the world and operate alliances activities in the overseas markets. The ratio is converted to percentage points. The foreign partner is defined as the participant whose domicile country is different from the country of alliance activities happening. The local partner is the participant whose domicile country is the same as the country of alliance activities happening.
P_{ijt}^{LC}	The ratio of the number of cross-border alliance where the defined local partner is the non-SOEs from country j and the defined foreign partner is from country i, divided by the total number of cross-border deals in which the foreign firms from country i collaborate with non-SOEs in the world and operate alliances activities in the overseas markets. The ratio is converted to percentage points. The foreign partner is defined as the participant whose domicile country is different from the country of alliance activities happening. The local partner is the participant whose domicile country is the same as the country of alliance activities happening.
Explanatory Variables	
<i>Variables for Political, Economic and Social Factors</i>	
Polity IV Democracy Differences	Differences between the country of local partner and the country of foreign partner in the measure of regime democracy and/or autocracy, ranging from -10 (high autocracy) and +10 (high democracy). The PolityIV Project is led by Monty Marshall (George Mason University) and Keith Jagers (Colorado State) and was founded originally by Ted Robert Gurr (University of Maryland). We use the Polity IV Data Series Version 2018 with annual time-series for up to 168 countries from 1800 through 2018. (Source: http://www.systemicpeace.org/inscrdata.html).
Institutional Differences	Differences between the country of local partner and the country of foreign partner in the measure of the World Bank's six governance indicators. The difference is calculated as the difference on the average value of the governance indicators between two partners. The World Bank's six governance indicators comprise accountability, political stability, government effectiveness, regulatory quality, rule of law, and corruption control. The composite measure ranges from -2.5 to +2.5, with higher scores representing advanced institutional environments. (Source: World Bank: https://datacatalog.worldbank.org/dataset/worldwide-governance-indicators)
Foreign Ownership Restriction	The foreign ownership restriction in the country of local partner. The ownership restrictions score is based on an evaluation of whether foreign ownership of companies in the country in question is rare, and whether rules governing foreign direct investment are damaging and discourage FDI with lower values indicating more restrictions. In order to interpret, we transfer the sign of this score, where the higher value indicating more restrictions. (Economic Freedom of the World: Annual Report (2018) published by The Fraser Institute: https://www.fraserinstitute.org/studies/economic-freedom-of-the-world-2018-annual-report)

Industry Dissimilarity	The difference in the industrial composition between the country of local partner and the country of foreign partner is computed as the square root of an equally-weighted sum of squared differences in the relative weights of each industry in each country in each year. The industry weights are measured as the fraction of the total market capitalization comprised by the publicly-listed stocks in that industry in that country in that year. An industry is defined as one of 48 different categories according to Fama and French (1997) which are governed mostly by the first two or three digits of a Standard Industrial Classification (SIC) code. (Source: Worldscope).
Relative Weight of Foreigner's Strategic Sector	The difference in the weights of the strategic industries between the country of foreign partners and that of the world average by year. The foreign partner is defined as the participant whose domicile country is different from the country of alliance activities happening. The weights of the strategic industry in each country each year is computed as the total market capitalization of all publicly-listed stocks in the strategic industries (including steel, telecommunications, petrochemicals, airlines, mining, mail services, electricity, oil, banking, nuclear energy, rail transportation, and military-related productions) as a proportion of market value of all publicly-listed stocks in that country in that year. The definition of strategic sectors is from Manzetti (1994). I treat the Fama-French 48 industry classification code 14, 19, 22, 24, 25, 26, 28, 30, 32, 34, 44 as the strategic industries. (Source: Worldscope)
Total Reserves as a % of GDP Differences	Differences between the country of local partner and the country of foreign partner in the measure of total reserves as percentage of GDP (includes gold, defined in current U.S. dollars), measured in percentage. (Source: World Bank Development Indicators)
SOEs Domestic Alliance Activity	For the country of partners that are defined as the local partners in the cross-border deals, a measure of a government's presence in the domestic economy calculated as the ratio of the number of domestic alliances which involve SOE firms to total number of domestic alliances. (Source: SDC JV/Alliance database).
First Principal Component	The first principal component of the following political, economic and social variables: Polity IV democracy differences, total reserves as a percentage of GDP differences, industry dissimilarity, the world-adjusted weights of strategic industry in the country of foreign partners, the SOEs domestic alliance activity in the country of partners that are defined as the local partners, and the institutional distance. See Table A2 for computations.
<i>Other Country-Level Factors</i>	
GDP Growth Differences	Differences between the country of local partner and the country of foreign partner in the annual real growth rate (in percentage) of the Gross Domestic Product (Source: World Bank Development Indicators)
Inflation Differences	Differences between the country of local partner and the country of foreign partner in the measure of inflation (in percentage). Inflation is measured by the consumer price index reflects the annual percentage change in the cost to the average consumer of acquiring a basket of goods and services (Source: World Bank Development Indicators)
Stock Market Capitalization Differences	Differences between the country of local partner and the country of foreign partner in the measure of the ratio of stock market capitalization to GDP (Source: World Bank Development Indicators)
Anti-Self-Dealing Index Differences	Differences between the country of local partner and the country of foreign partner in the Anti-Self-Dealing Index, a survey-based measure of legal protection of minority shareholders against expropriation by corporate insiders. (Source: Djankov et al. (2008)).

Legal Origin Differences	Differences between the country of local partner and the country of foreign partner in the legal origin. The legal origin includes English, French, and German (Source: Djankov et al. (2008)).
Geographic Distance	The great circle distance between the capitals of countries i and j. We obtain latitude and longitude of capital cities of each country. We then apply the standard formula: $3963.0 \times \arccos [\sin(\text{lat}1) \times \sin(\text{lat}2) + \cos(\text{lat}1) \times \cos(\text{lat}2) \times \cos(\text{lon}2 - \text{lon}1)]$, where lon and lat are the longitudes and latitudes of the country of local partner (“1” suffix) and the country of foreign partner (“2” suffix) locations, respectively. The distance is measured in miles, and we divide it by 1,000 to facilitate presentation. (Source: http://www.mapsofworld.com/utilities/world-latitude-longitude.htm)
State Dominated Banking System	Dummy variable, equals one if the proportion of banking assets in government owned banks among the country’s banking system is higher than the median level of the sample countries, and zero otherwise. A bank is defined as government owned bank if 50 percent or more of the shares are controlled by the government (Source: Barth, Caprio, and Levine (2013)).
<i>Deal Characteristics</i>	
Related Deal Dummy	Equals 1 if the foreign partner’s Standard Industrial Classification (SIC) code equals that of the local partner’s at three-digit level.
<i>Firm Characteristics</i>	
Zero-Dividend Dummy	Equals 1 if the firm pays no dividends, and 0, otherwise. (Source: Worldscope item WC04551)
Ln(Total Assets(\$ U.S))	Book value of total assets in millions of constant 2000 US dollars (Source: Worldscope item WC07230)
Market-to-Book	(Book value of total assets in US dollars (Worldscope item WC07230)-book value of equity in US dollars (WC07220)+ market value of equity in US dollars (WC07210))/book value of assets in US dollars (WC07230)
Return on Equity	Return on equity (WC08301)
Return on Assets	Return on assets (WC08326)
Long-Term Debt/Assets	Ratio of long-term debt to book value of assets (Worldscope items WC03251/WC02999)
Sales Growth	One-year sales growth (Worldscope item WC08361)
Liquidity	Current assets (Worldscope item WC02201) / current liabilities (Worldscope item 03101)
Industry’s External Finance Dependence	External finance dependence is calculated following the method of Rajan and Zingales (1998). We calculate firm’s dependence on external finance as capital expenditure minus cash flow from operation, divided by capital expenditure. Each industry’s dependence on external finance is calculated as the median of all firms’ dependence on external finance in a year. We then compute dependence as the time series median of industry’s dependence on external finance during the period 1990-2018. An industry with higher external finance dependence uses more external financing to fund its tangible and intangible investment.
<i>Variables for Direct Partner Risk</i>	
Legal Formalism	The index measures substantive and procedural statutory intervention in judicial cases at lower-level civil trial courts, and is formed by adding up the following indices: (i) professionals vs. laymen, (ii) written vs. oral elements, (iii) legal justification, (iv) statutory regulation of evidence, (v) control of superior review, (vi) engagement formalities, and (vii)

	independent procedural actions. The index ranges from 0 to 7, where 7 means a higher level of control or intervention in the judicial process (Djankov et al., 2003)
Procedural Complexity	Index of complexity in collecting a commercial debt and resolving the case of an unpaid commercial debt. Original date range from 0 to 100, and here divided by 10 (World Bank, 2004)
<i>Variables for Indirect Partner Risk</i>	
Constraints on Executive	A seven-category scale, from 1 to 7, with a higher score indicating more constraint: 1 indicates unlimited authority; 3, slight to moderate limitations; 5, substantial limitations; 7, executive parity or subordination; 2, 4, and 6, intermediate values (Polity IV dataset). We reported with the negative sign to facilitate the interpretation of results, so that the higher value indicates high indirect partner risk.
Protection against Expropriation	Index of protection against government expropriation (1-lowest, 10- highest) to measure the risk of expropriation of private foreign investment, where the higher score means less risk (Polity Risk Service). We reported with the negative sign to facilitate the interpretation of results, so that the higher value indicates high indirect partner risk. ²⁴

²⁴ We thank Acemoglu and Johnson (2005) to share their updated data for *Procedural Complexity*, *Constraints on Executive* and *Protection against Expropriation*.

Table A2 Cross-border alliance with local SOEs and non-SOEs

This table presents the regression results of the effect of country-level determinants on the total number of cross-border alliances with local SOEs and non-SOEs. The dependent variables in column (1) and (2) of panel A are P_{ijt}^{LG} and P_{ijt}^{LC} , respectively. P_{ijt}^{LG} (or P_{ijt}^{LC}) is the number of cross-border alliance where the defined local partner is the SOEs (or non-SOEs) from country j and the defined foreign partner is from country i , divided by the total number of cross-border deals in which the foreign firms from country i collaborate with SOEs (or non-SOEs) in the world and operate alliances activities in the overseas markets. The foreign partner is defined as the participant whose domicile country is different from the alliance nation. The local partner is the participant whose domicile country is the same as the alliance nation. The definition of the dependent variables and control variables is interpreted in Appendix Table A1. Asterisks denote statistical significance at different percentages using year and foreign country fixed effect and robust standard errors clustered by foreign country and associated t-statistics are in parentheses.

	(1)	(2)
	$P_{ijt}^{LG}(\%)$	$P_{ijt}^{LC}(\%)$
GDP growth diff	0.031*** (3.30)	-0.006 (-0.66)
Inflation diff	-0.002** (-2.17)	-0.016*** (-5.05)
Stock capitalization diff	-0.056*** (-3.57)	-0.048** (-2.25)
Anti-self-dealing index diff	1.141*** (5.89)	3.060*** (10.64)
Legal origin diff	-0.011 (-0.19)	-0.274* (-1.80)
Geographic distance	-0.064*** (-3.33)	-0.171*** (-4.40)
Constant	-0.289* (-1.75)	2.030*** (7.39)
Year	YES	YES
Country	YES	YES
Observations	58,388	58,388
Adjusted R ²	0.010	0.024

Table A3 Principal Component Analysis for Political Economy Variables

This table presents the descriptive results of the principal component analysis. Panel A and panel B show the analysis for the political economy variables, including Polity IV democracy differences, institutional differences, foreign ownership restriction in the country of local partner, industry dissimilarity, the world-adjusted weights of strategic industry in the country of foreign partner, total reserves as a percentage of GDP differences, and the SOEs domestic alliance activity in the country of local partners. Panel A presents the results on the Eigenvalues of the principal components and the explained proportion of variances. Panel B presents the results on the correlations between each principal component and the comprising variables. Panel C shows the results of regressions on the first principal component, where the dependent variable is excess ratio of cross-border alliances with local SOEs.

Panel A: Eigenvalues and proportion of explained variances for political economy variables

Component	Eigenvalue	Difference	Proportion	Cumulative
Comp1	1.864	0.668	0.266	0.266
Comp2	1.196	0.159	0.171	0.437
Comp3	1.036	0.050	0.148	0.585
Comp4	0.986	0.092	0.141	0.726
Comp5	0.894	0.216	0.128	0.854
Comp6	0.678	0.333	0.097	0.951
Comp7	0.346	.	0.049	1.000

Panel B: Correlations between components and political economy variables

Variable	Comp1	Comp2	Comp3	Comp4	Comp5	Comp6	Comp7
Polity IV democracy diff	0.617	-0.137	-0.100	0.107	0.209	0.264	0.683
Institutional differences	0.570	0.298	0.127	0.026	-0.085	0.461	-0.592
Foreign ownership restriction	-0.355	-0.532	-0.205	0.150	0.256	0.657	-0.172
Industry dissimilarity	0.003	-0.174	0.757	-0.406	0.481	0.000	-0.010
Relative weight of foreigner's strategic sector	-0.018	-0.159	0.528	0.805	-0.208	-0.070	0.026
Total reserves as a % GDP of diff	-0.392	0.543	0.241	-0.091	-0.249	0.522	0.387
SOEs domestic alliance activity	-0.125	0.508	-0.149	0.380	0.740	-0.092	-0.057

Panel C: Regression on the first principle component

	First principal component
	$P_{ijt}^{LG} - P_{ijt}^{LC}$ (%)
Political economy proxy variable	-0.392*** (-7.15)
Controlled country-level variables	YES
Observations	45,969
Year	YES
Country	YES
Adjusted R ² (Pseudo R ²)	0.013

Table A4 Robustness test for alternative sample: foreign SOE partners

This table presents the results of the robustness tests by looking the SOEs involved cross-border alliances where the alliance nation is not the same as the SOEs domiciled country. The dependent variable in column (1) and (2) are P_{ijt}^{FG} and P_{ijt}^{FC} , respectively. P_{ijt}^{FG} (or P_{ijt}^{FC}) is the number of cross-border alliance where the local partner is from country j and the foreign partner is the SOE(or non-SOEs) from country i relative to the total number of cross-border deals in which the firms from country j collaborate with SOEs (or non-SOEs) in the world and operate alliances activities in the country j. The dependent variable in column (3) to column (9) is the excess fraction of the number of deals between foreign SOEs and non-SOEs, $P_{ijt}^{FG} - P_{ijt}^{FC}$. The foreign partner is defined as the participant whose domicile country is different from the alliance nation. The local partner is the participant whose domicile country is the same as the alliance nation. The difference of the country-level factors are measured as the country-level characteristics of local partners minus the country-level characteristics of foreign partners. The control variables are the fundamentals of the local firms. Asterisks denote statistical significance at different percentages using year and local partner's country fixed effect and robust standard errors clustered by local partner's country and associated t-statistics are in parentheses.

	P_{ijt}^{FG} (%)	P_{ijt}^{FC} (%)	$P_{ijt}^{FG} - P_{ijt}^{FC}$ (%)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
				Polity IV democracy diff	Institutional distance	Foreign ownership restriction	Industry dissimilarit y	Relative weight of local partner's strategic sector	Total reserves as a % of GDP diff	SOEs domestic alliance activity
Political economy factors				0.108*** (9.33)	0.895*** (13.90)	-0.086 (-1.56)	2.947*** (6.59)	-0.110 (-0.44)	-0.067*** (-10.39)	1.898*** (6.72)
GDP growth diff	0.002 (0.41)	0.112*** (11.07)	-0.111*** (-11.22)	-0.092*** (-11.06)	-0.050*** (-6.40)	-0.107*** (-10.76)	-0.105*** (-11.68)	-0.110*** (-11.20)	-0.079*** (-8.76)	-0.108*** (-11.07)
Inflation diff	0.003*** (3.03)	0.037*** (7.62)	-0.033*** (-7.30)	-0.021*** (-7.70)	-0.010*** (-4.27)	-0.039*** (-7.29)	-0.033*** (-7.17)	-0.033*** (-7.26)	-0.033*** (-7.75)	-0.034*** (-7.25)
Stock capitalization diff	0.009 (1.12)	-0.096*** (-4.47)	0.104*** (4.35)	0.959*** (11.03)	-0.027 (-1.41)	0.110*** (5.20)	0.105*** (4.71)	0.105*** (4.53)	0.626*** (9.06)	0.088*** (3.95)
Anti-self-dealing index diff	-0.835*** (-4.69)	-3.241*** (-12.29)	2.406*** (8.16)	2.250*** (7.70)	1.934*** (6.87)	2.342*** (7.93)	2.151*** (7.49)	2.390*** (8.11)	3.308*** (10.05)	2.676*** (8.68)
Legal origin diff	-0.081 (-1.51)	-0.196 (-1.12)	0.115 (0.61)	0.134 (0.72)	0.158 (0.94)	0.083 (0.47)	0.113 (0.59)	0.103 (0.55)	0.080 (0.46)	0.115 (0.61)
Geographic Distance	-0.062*** (-5.27)	-0.241*** (-5.35)	0.179*** (3.81)	0.187*** (4.12)	0.141*** (3.64)	0.171*** (3.84)	0.170*** (3.56)	0.178*** (3.81)	0.186*** (4.48)	0.178*** (3.86)
Constant	-0.068	2.297***	-2.365***	-1.785***		-2.304***	-2.530***	-2.891***	-2.645***	-2.485***

	(-0.26)	(6.58)	(-5.83)	(-3.85)		(-5.44)	(-6.36)	(-7.13)	(-7.45)	(-6.20)
Observations	58,388	58,388	58,388	55,804	50,854	49,553	58,388	57,686	58,052	58,388
Year	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Country	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Adjusted R ²	0.008	0.025	0.013	0.021	0.018	0.012	0.016	0.013	0.027	0.014
