# The Value Impact of Chinese listed firms' Outward Foreign Direct Investment on Firm Performance

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## Abstract

This study investigates the impact of greenfield outward foreign direct investment (OFDI) on firm performance in Chinese listed firms. We find a significantly positive relation between firm-level greenfield OFDI and firm performance measured by Tobin's Q. Our channel test provides direct evidence that Chinese firms' OFDI increases Tobin's Q through lowered effective tax rate, increased analyst coverage and upgraded analyst recommendations. Further tests show that the positive OFDI effect is more pronounced in privately owned enterprises, and state-owned enterprises (SOEs) tend to invest more in developing and Belt-Road countries due to political incentives, which can be recognized by the markets. Overall, our study contributes to the literature on the impact of OFDI on firms' market-based performance and how political interference reshapes the OFDI effect. Our results remain significant after employing the difference-in-differences (DiDs) and instrumental variable two-stage least squares (2SLS) analyses to mitigate potential endogeneity problems.

## 1. Introduction

China's outward foreign direct investment (OFDI) rises significantly after the "Go Global" policy in 1999. According to Ministry of Commerce of China (MOFCOM) and The National Bureau of Statistics of China (NBS), China's outward foreign direct investment (OFDI) reached about US$153.71 billion in 2020, representing a year-on-year increase of 12.3%, ranking the first place worldwide for the first time ever. The capital stock of Chinese OFDI reached $2.58 trillion at the end of 2020, ranking just behind the US and the Netherlands, and accounting for 20.2% of the total global investment volume. It is evident that China's OFDI plays an increasingly important role to enhance China's comparative advantages and integrate China into the global economy (Lin, 2016; Panthamit & Chaiboonsri, 2020).

The presence of Chinese firms' OFDI has received intense interests in corporate finance literature. One strand of literature focuses on the motivations of Chinese firms' OFDI and document the key drivers of Chinese firms' OFDI are to seek markets (Cai, 1999; Cheung & Qian, 2009), continuous supply of resource (Buckley et al., 2007; Cai, 1999; Cheung & Qian, 2009; Deng, 2004; Hong & Sun, 2006), strategic assets (Deng, 2004), and lower labor costs, more advanced technology, and management skills (Cai, 1999; Hong & Sun, 2006; Wu & Chen, 2001). Another strand of literature focuses on the economic consequences of Chinese firms' OFDI. In particular, the literature finds evidence of improved firms' productivity (Chen & Tang, 2014; Huang & Zhang, 2017; Li et al., 2017; Tian et al., 2016), but mixed results on profitability using accounting-based measures. For example, Cozza et al. (2015) document a negative effect of Chinese firms' OFDI on ROA, attributable to the lack of experience and capability to obtain the value from OFDI, especially for those firms that engage in OFDI for the first time. However, Tian et al. (2016) show that Chinese manufacturing firms' OFDI has a positive effect on firm profitability measured by profit to sales ratio. Similarly, Cui and Xu (2019) find that OFDI increases intangible assets growth and short-to-medium term profitability measured by net profits and ROA by using data on Chinese listed firms

during the period of 2002 to 2009. They attribute this finding to the use of OFDI by multinational firms as a tactic to diversify the risk of resource dependence at home country in the context of early stage of internationalization.

Building on the existing literature and motivated by the debate on whether Chinese firms' OFDI improves firm performance, we investigate the impact of Chinese firms' greenfield OFDI on firms' performance measured by market-based performance measure, Tobin's Q. Our market-based performance measure offers several advantages over the conventional accounting-based performance measures used in the previous literature. Firstly, accounting-based measurements such as ROA (Return on Assets) and ROS (Return on Sales) are likely to be manipulated by firms' management, especially in transition economies with weak institutions, such as China (Delios & Wu, 2005; Ma et al., 2006). Secondly, ROE (Return on Equity) is not commonly used in existing studies to measure firm performance of Chinese listed firms as the equity structure of Chinese listed firms is complicated with the inclusion of tradable and non-tradable shares (Delios & Wu, 2005). Finally, Tobin's Q, as a market-based measure, has been used to measure firm performance in more recent studies (Bennouri et al., 2018; Daniliuc et al., 2020; Ibhagui & Olokoyo, 2018). Given that Tobin's Q proxies market expectations about firm's future earnings, this market-based measure captures the special nature of Chinese OFDI better, which tends to be in large amount and generates returns in long term.

Studying OFDI in Chinese context is of particular interest given that the political interference is pronounced in Chinese OFDI. In particular, Yeung and Liu (2008) identify that SOEs conducted 82% of China's non-financial OFDI activities in 2006. Similarly, Shao (2020) proposes that the government-to-government relationships rather than the market-oriented factors may serve as the basis for Chinese firms' OFDI decisions. As an important extension, we investigate how political interference matters to Chinese firms' OFDI decisions and how it reshapes the impact of OFDI on firms' performance. We postulate that state owners may interfere firms' OFDI decisions to

serve for political goals instead of seeking for profit maximization, leading to a different impact on firms' performance.

Based on a sample of 3,744 Chinese listed firms collected from 2003 to 2019, we investigate the relation between firm-level greenfield OFDI and the market-based performance measure, Tobin's Q, in our baseline regression analysis. Our initial results show that undertaking OFDI has a positive effect on Tobin's Q for Chinese firms in general. To alleviate the endogeneity concerns, we employ the difference-in-differences (DiDs) approach combined with the propensity-score matching (PSM) technique as well as the instrumental variable two-stage least square (2SLS) regression to check our result findings. Our results hold after these robustness checks. To investigate the role of political interference on firms' OFDI decisions, we examine the differential effect of greenfield OFDI on firm performance between SOEs and non-SOEs. Specifically, we find that OFDI improves firms' performance only among non-SOEs firms, suggesting that market recognizes and responds positively to the greenfield OFDI activities that are not driven by the political interference. Further investigating firms' destination choices when making OFDI decisions, we find that SOEs firms are more likely to invest in developing economies and Belt-Road countries, corroborating the notion that OFDI activities by SOEs are induced by political objectives rather than profits maximization. In the final section, we identify three mechanisms through which Chinese OFDI improves firm performance, including tax effect, analyst coverage, and upgraded analyst recommendations, respectively. Our results show that OFDI has a positive effect on Tobin's Q through lowering the effective tax rate and increasing analyst coverage as well as the upgraded analyst recommendations. More importantly, we find these channels only exist among non-SOE firms.

We contribute to the literature in three aspects. Firstly, we join the debate on whether OFDI improves firms' performance and provide further supportive evidence based on market-based performance measure, Tobin's Q. Our market-based performance measure outperforms the conventional accounting-based measures and better reflects

investors' expectations of firms' future earnings, which is more consistent with the long-term nature of OFDI activities. Secondly, we conduct direct investigation on the role of political interference on firm-level OFDI decisions along with its associated impact on firms' performance. Our findings show that OFDI activities in SOEs tend to be politically oriented, and state ownership weakens the positive effect of OFDI on firms' performance. Our study complements the existing literature studying the political impact on corporate behaviors in the Chinese context (Li et al., 2017; Lin et al., 1998; Lioukas et al., 1993; Wang, Hong, Kafouros, & Boateng, 2012; Wang, Hong, Kafouros, & Wright, 2012), and improves our understanding on the real incentives of Chinese firms' OFDI decisions and the associated impact. Finally, our result findings shed further lights on the efficiency of Chinese market. By separating SOE and non-SOE firms, we show that the market-based performance among non-SOE firms, measured by Tobin's Q, is both statistically and economically higher than SOE firms following the OFDI activities. Our results indicate that market recognizes and rewards firms with OFDI activities that are not driven by the political incentives, which is in line with the literature suggesting that the Chinese stock market has become more efficient gradually (Chong et al., 2012).

The reminder of this study proceeds as follows. Section 2 reviews the related literature and builds the hypothesis. Section 3 presents the data and variable construction. Section 4 shows the empirical results. Finally, Sections 5 concludes the research.

## 2. Literature Review and Hypotheses Development

### 2.1 OFDI and firm performance

The research on the impact of OFDI on firm performance in developed countries are mainly based on cross-border merger and acquisitions (M&As). There are two general kinds of approaches to measure firm performance in previous literature, including expected performance and realized performance (Pangarkar & Lim, 2003). Several

studies have used stock market reactions to relevant OFDI announcement as a measure of expected performance (Chari et al., 2012; Doukas & Travlos, 1988; Jensen-Vinstrup et al., 2018; Morck & Yeung, 1992; Paul et al., 2004). However, the empirical results of previous literature have been inconclusive. Paul et al. (2004) find that Canadian acquirers underperform significantly over the three-year post-acquisitions period by using alpha and abnormal returns. Consistently, Jensen-Vinstrup et al. (2018) find cross-border acquirer firms underperform the firms without cross-border M&As by investigating the long-run stock return performance of European international M&As. However, according to Doukas and Travlos (1988) and Morck and Yeung (1992), overseas M&As increase abnormal returns significantly. They argue that the positive OFDI effect can be explained by seeking for the advantages of exploiting resources of foreign countries or imperfections in the financial markets.

Some studies have examined the impact of M&As on profitability, using accounting-based and market-based performance measures to measure the realized performance. For example, Agyei-Boapeah (2019) uses a sample of 9,414 acquisitions by UK firms to investigate the impact of cross-border acquisition on firm performance. They find that overseas acquisitions have a negative impact on firm performance (measure by ROA, Tobin's Q, operating cash flow ratio, and operating cost ratio) on average. The decline in the financial performance suggests that the international diversification is generally associated with more costs than benefits, at least in the short-term. However, Chari et al. (2012) find opposite results by focusing on targets instead of acquirers in US. Specifically, they find that the profitability and ROA of target firms tend to improve following the acquisitions.

Compared to the literature studying the effect of cross-border M&A, the studies on the effect of greenfield OFDI on firm performance in developed markets remain relatively scarce. Limited evidence has been documented in the previous literature. For example, Doukas and Lang (2003) find that undertaking greenfield OFDI related to core business increases shareholders value and improves long-term performance in US firms.

Consistently, Chang and Chang (2012) use the sample of US firms and find that greenfield investment has positive effect on stock abnormal returns around the announcement day. They also find that greenfield investment can improve ROE and BHARs in both short-term and long-term when it enters a host country for the first time or a developing country.

Similar to the studies in developed countries, the impact of OFDI on performance in developing countries has also been investigated mainly through M&A activities, for example, the stock market reaction to foreign M&As and realized performance of acquirers or targets of overseas M&As (Aybar & Ficici, 2009; Bertrand & Betschinger, 2012; Buckley et al., 2014; Edamura et al., 2014; Gubbi et al., 2010). Firms engaging in overseas investment would expect high returns, but also face more risks and uncertainties. For example, Aybar and Ficici (2009) find stock markets react negatively to the foreign M&As by using 433 foreign M&As announcements in developing countries. On the other hand, Gubbi et al. (2010) investigate the impact of cross-border M&As on shareholder value by using the sample of Indian firms and find that the abnormal returns increase for the acquirers' shareholders. Their findings support the view that firms in developing countries tend to use M&As as a springboard to overcome their competitive disadvantages and improve their competitive advantages by acquiring strategic assets in overseas markets (Luo & Tung, 2007).

Compared with firms in developed countries, firms in developing countries have less competitive advantages and international experience when exploring overseas markets, which would lead to negative impacts (Contractor, 2007). For example, Bertrand and Betschinger (2012) find that international acquisitions have a negative effect on performance of acquirers using a sample of Russian firms. They argue that the negative relation between cross-border M&As and performance is because of the lack of international M&As experience and capability. However, Buckley et al. (2014) find that the cross-border M&As made by firms in developing countries improve the performance of target firms. Acquisitions, on one hand, can be associated with agency

problems and organization costs, but on the other hand, can also be associated with synergy, competitive advantages, and higher market power.

In the Chinese context, most of earlier studies were conducted by using the state-level and provincial-level aggregate data and argued that the motives of Chinese OFDI are mainly to seek markets, the continuous supply of resource, and strategic assets (Buckley et al., 2007; Cai, 1999; Cheung & Qian, 2009; Deng, 2004; Hong & Sun, 2006). Research also examines the market seeking and resource seeking motives using firm-level data. For example, Luo et al. (2011) argue that, because of the underdevelopment of China's institution and the market imperfections, privately owned firms' OFDI is motivated to exploit their firm-specific competitive advantages.

As for the firm-level of OFDI data, some research has been done to examine the relation between Chinese OFDI and firm productivity. Specifically, it has been found that Chinese listed firms undertaking OFDI tend to be more productive (Chen & Tang, 2014; Huang & Zhang, 2017; Li et al., 2017; Tian et al., 2016), and Chinese OFDI into advanced European countries improves firm sales and employment, which can be attributed to the transfer of technology, knowledge, and management skills between parent and overseas affiliates (Cozza et al., 2015). While there are a few studies investigating the effect of Chinese OFDI on firms' profitability or accounting-based performance without separating the types of OFDI (Cozza et al., 2015; Cui & Xu, 2019; Tian et al., 2016), the impact of OFDI on Chinese firms' market-based performance remains unexplored. To the best of our knowledge, the only relevant study is Yuan et al. (2016), who investigate the relation between the degree of internationalization and firm performance measured by Tobin's Q using panel data of Chinese listed multinational corporations from 1992 to 2005. Their results show that multinational corporations' expansion from developing country to other developing countries has a positive effect on firm performance in short term, while the expansion to developed countries has a negative effect on firm performance. However, the increased performance due to OFDI in other developing countries erodes over time, and the decreased performance in

developed countries intends to improve over time because of learning effects.

While previous literature has tackled the effect of OFDI on firm performance, the result findings are mixed at best. Whether firms' greenfield OFDI activities improve firm performance and through which mechanisms therefore remain open questions. Collecting firm-level greenfield OFDI activities based on a larger sample of firms and longer sample period, we investigate the effect of firm-level OFDI on firm performance among Chinese listed firms. We propose that Chinese firms' OFDI would have a statistically significant impact on firm performance measured based on Tobin's Q. Thus, we have the following hypothesis.

H1: Chinese listed firms' OFDI has a positive impact on firm performance.
H2: Chinese listed firms' OFDI has a negative impact on firm performance.

### 2.2. The impact of state ownership

Empirical studies show that Chinese OFDI is one of the main channels to build political and commercial interactions with other countries and promote collaborations, which are in China's national interests (Bräutigam & Xiaoyang, 2011; Jiang, 2009). Chinese OFDI include various economic and political objectives, which result in location patterns that are not necessarily maximizing profits (Kang & Jiang, 2012; Liou, 2009; Ramasamy et al., 2012). For example, state ownership stimulates SOEs to follow and serve for political goals rather than seek for economic optimalization (Wang, Hong, Kafouros, & Boateng, 2012; Wang, Hong, Kafouros, & Wright, 2012). In contrast, non-SOEs intend to seek for profits and efficiency due to the pressure of survival (Li et al., 2017). Moreover, the different incentives between managers of SOEs and non-SOEs would results in different OFDI decisions. As SOEs managers intend to undertake overseas investment to follow the guidance, policy, and capital control by the government as they are appointed by the state directly as government officials or after

serving as government officials (Brockman et al., 2013; Fan et al., 2007). Accordingly, managers of SOEs are more likely incentivized by not only the prospect of firm performance but also the political goals and objectives of the government (Cuervo-Cazurra & Dau, 2009).

Political goals can lead to both government support and intervention to SOEs. Governments may support SOEs by giving subsidies, tax benefits, and backing in bad economic circumstances, while governments may also intervene SOEs by controlling and influencing their decisions, strategies, and activities with complicated administration procedures and policy pressures (Lin et al., 1998; Lioukas et al., 1993).

SOEs and non-SOEs tend to have different motives and location choices when undertaking outward direct foreign investment (Amighini et al., 2013; Ramasamy et al., 2012). SOEs tend to invest more in countries with large natural source endowment and risky political environments, while private firms tend to seek large markets and strategic assets (Voss et al., 2010). Luo et al. (2010) find that compared to SOEs, non-SOEs are more vulnerable to political risks, market volatility, and foreign competition without substantial policy and financial support from the government, which makes them set the survival in foreign markets as a primary goal and seek for value adding activities.

In addition, literature shows that host country institutions may put more pressures on SOEs to prevent them from resource-seeking activities because of their political status (Cui & Jiang, 2012). This result is inconsistent with the resource-based view which argues that SOEs should outperform non-SOEs in international markets with more institution-based resources (Wang, Hong, Kafouros, & Boateng, 2012; Wang, Hong, Kafouros, & Wright, 2012). Special theories are needed to be nested within general theories in explaining Chinese OFDI in SOEs as SOEs tend to invest in complex and costly projects and make risky acquisitions frequently (Quer et al., 2012). Overall, based on the literature discussed above, we postulate that state ownership has an influential role in firms' OFDI decisions, leading to a different impact on firms'

performance. Thus, we have following hypothesis.

H3: The impact of Chinese listed firms' OFDI on firm performance differs between state-owned enterprises and privately owned.

## 3. Data and Variable Construction

### 3.1.Data

Our initial sample includes all A-share firms listed on the Shanghai and Shenzhen Stock Exchanges. We obtain firms' greenfield OFDI, financial, accounting, and ownership data from the China Stock Market & Accounting Research (CSMAR) database. The sample period is from 2003 to 2019. We winsorize all the continuous variables at the 1% and 99% levels to minimize the effect of outliers. We exclude all the financial firms due to its special nature. Then, we merge all the greenfield investment, financial, accounting, and ownership data for empirical analyses. Finally, our final sample includes 3,744 firms and 32,484 firm-year observations.

### 3.2.Variables Construction

In the existing OFDI literature, researchers usually capture the firm-level OFDI in different ways. For example, OFDI is measured by the amount of capital a firm invested overseas in a given year (Wang, Hong, Kafouros, & Wright, 2012), the number of foreign investment projects of a firm in a specific foreign country (Ramasamy et al., 2012), the number of a firm's newly established foreign subsidiaries in a given year (Xia et al., 2014), or a dummy variable that a firm invests in foreign countries (Lu et al., 2014). Following Lu et al. (2014), we use the dummy variable that a firm has greenfield investment in foreign countries as the measurement of OFDI in our baseline regression. Due to data availability, dummy variable is commonly used in Chinese studies that examine the OFDI effect by providing firm-level evidence (Bu et al., 2019; Yan et al., 2018). *OFDI* is the key independent variable in this study, which equals 1 if

a firm engages in greenfield OFDI in a year, and 0 otherwise. We also use the number of foreign projects (*Nproject*) a firm undertakes in a year and the number of foreign investment destinations (countries) (*Ncountry*) a firm invests in a year as alternative measures for firm-level OFDI in our robustness checks.

Firm performance is measured based on Tobin's Q, which is defined as the market value of the firm divided by total assets of the firm. Compared with the conventional accounting-based profitability measures (such as ROA, ROS, ROE), our market-based performance measure is less likely to be manipulated by the management, especially in transition economies with weak institutions, such as China (Delios & Wu, 2005; Ma et al., 2006), avoids incorporating the complicated equity structure (e.g. tradable and non-tradable shares) for Chinese listed firms (Delios & Wu, 2005), and better captures the long-term nature of the OFDI projects.

We include a vector of control variables correlated with firm performance following the literature. We first include financial and accounting measures (firm size, leverage ratio, percentage of fixed assets, percentage of capital expenditure, percentage of operating cash flows, cash dividend, and firm growth): *Firm Size* is calculated as the natural logarithm of total assets. *Leverage* is total debt to total assets. *PPE/TA* is calculated as the value of firm's plant, property, and equipment divided by total assets. *CAPEX/TA* is firm's capital expenditure divided by total assets. *CF/TA* is firm's operating cash flow divided by total assets. *Cash Dividend* takes value of 1 if firm pays cash dividends, 0 otherwise. *Firm Growth* is calculated as firm's revenue growth. We then include corporate governance variables (board size, percentage of independent directors, firm age, and top ten shares concentration): *Ln (Board Size)* is calculated as the natural logarithm of the number of directors on the board. *Independent Directors%* is the ratio of number of independent directors to the total number of directors. *Ln (1+Firm Age)* is calculated as the natural logarithm of 1 plus firm age. *Top 10 Shareholders* is the total shareholding of top 10 shareholders. We also include CEO characteristics variables (CEO age, and CEO gender): *Ln (CEO Age)* is calculated as the natural logarithm of

CEO age. *CEO Gender* is a dummy variable takes value of 1 if the CEO is male, 0 otherwise. We last include the variable *Financial Constraint* to measure the firm's financial constraints by following Whited and Wu (2006).[1]

### 3.3.Regression model

We use the ordinary least squares regression to investigate whether firms' OFDI enhances or impedes firm performance in the baseline regression:

$$Tobin's\ Q_{i,t} = \alpha + \beta_1 OFDI_{i,t-1} + \beta_2 X_{i,t-1} + \varepsilon_i \quad (1)$$

where $Tobin's\ Q_{i,t}$ indicates the firm performance measured by the market value of a firm divided by the book value of total assets for firm i in year t. $OFDI_{i,t-1}$ is a dummy variable takes value of 1 if a firm engages in greenfield OFDI in year t-1, and 0 otherwise. $X_{i,t-1}$ is a vector of control variables for firm i in year t-1. $\varepsilon_i$ refers to error term. The key independent variable and all control variables are lagged for one year because firms need to get approvals from the government before they can undertake OFDI. Another reason why we use one-year lagged independent and control variables is that it partially mitigates the endogeneity problems, for example, firm performance may affect firms' decisions as to whether undertake OFDI in the following years.

### 3.4 Descriptive Statistics

Table 1 reports the descriptive statistics of the main variables used in this study. Tobin's Q is 2.136 on average, which is in line with previous Chinese studies (Cheng et al., 2018; Yuan et al., 2016). As for the control variables, firms on average have firm size of 21.955, leverage of 43.2%, firm age of 2.743, 93.9% of male CEOs, and growth rate of 6.4%. In addition, 73.1% of firms in our sample pay cash dividend.

[1] Detailed variable definitions are described in the Appendix Table A1.

[ *Insert Table 1 here*]

Table 2 shows the difference of the key characteristics of the OFDI and non-OFDI firms. The results show that OFDI firms have higher Tobin's Q, suggesting that the market recognizes OFDI as performance-enhancing activities for OFDI firms, and therefore, firms tend to have better performance by undertaking overseas investment. Furthermore, OFDI firms are larger, higher leveraged, more mature, and have lower financial constrains compared with non-OFDI firms. Besides, OFDI firms tend to have lower *PPE/TA*, lower capital expenditure ratio, smaller board size, more independent directors on the board, and older CEOs. These results provide preliminary evidence that there are significant differences between OFDI and non-OFDI firms.[2]

[ *Insert Table 2 here*]

## 4. Empirical Results

### 4.1. Baseline regression

The results of the baseline regression are presented in Panel A of Table 3. We control for industry and year fixed effects in column (1) and control for firm and year fixed effects in column (2).

The results show that undertaking OFDI has a significant and positive effect on Tobin's Q in both columns (1) and (2). The coefficient on *L.OFDI* is 0.122 and statistically significant at the 1% level based on industry and year fixed effects, while the coefficient is 0.041 and statistically significant at the 10% based on firm and year fixed effects. Our results of the positive OFDI effect on Tobin's Q indicates that OFDI can increase the market-based performance. Generally, undertaking OFDI would result in a 12.2%

[2] The correlation matrix for all the variables included are reported in Appendix Table A2.

increase in firm's Tobin's Q controlling for industry and year fixed effects, while it can lead to a 4.1% increase in Tobin's Q controlling for firm and year fixed effects. We argue that the market responses positively to firms engaging in overseas investment because OFDI sends a good signal to the market that they are mature and capable to expand investment in foreign markets, which in turn leads to an increase in Tobin's Q. Our baseline results remain significant when replacing independent variable *OFDI* with *Nproject* and *Ncountry* as robustness checks.[3]

As for the control variables, our results show a significant and negative relation between firm size and Tobin's Q in both columns (1) and (2). This indicates that small firms tend to seek for value-adding projects to increase their Tobin's. We also find a significantly negative relation between *PPE/TA* and Tobin's Q in both columns (1) and (2). According to Gulen and Ion (2016), higher *PPE/TA* represents higher adjustment costs for a firm. The significantly negative relationship between *PPE/TA* and Tobin's Q in our results indicates that firms with lower adjustment costs would have higher Tobin's Q. We also find significant negative relation between *CAPEX* and Tobin's Q, suggesting that higher capital expenditures reduce Tobin's Q. Firm age and firm growth are both shown to be positively related to Tobin's Q, indicating that mature firms and firms with high growth prospects are associated with better market-based performance.

We separate our full sample into SOEs and non-SOEs subsamples to investigate whether state ownership reshapes the relationship between OFDI and Tobin's Q. We expect the relationship is stronger in privately owned firms because political objectives associated with the state ownership may weaken the OFDI effect. As discussed, the political connection between SOEs and the government makes political interference much more pronounced in SOEs compared to privately owned firms. As the controlling shareholders of Chinese SOEs, the government agencies need to accomplish social and political objectives by utilizing listed firms' resources, as such, to strengthen their

[3] The regression results of the robustness check are provided in Appendix Table A3.

political capital (Li et al., 2017). According to Dunning (1998), there are four types of motivations of OFDI decisions, e.g., international production resource seeking, market seeking, efficiency seeking, and strategic assets seeking. We expect that SOEs and non-SOEs have different goals and objectives when undertaking outward foreign direct investment. Non-SOEs are more likely to seek for value-adding projects which increase firm performance. On the other hand, SOEs' OFDI decisions can mainly be driven by political goals. As a result, we expect that the effect of OFDI on Tobin's Q is stronger in non-SOEs than in SOEs.

[ *Insert Table 3 here*]

Panel B in Table 3 shows the OFDI effect on firm performance in non-SOEs and SOEs ( in columns (1) and (2) respectively). The coefficient on OFDI in column (1) is 0.158 and significant at the 1% level in column (1), while the coefficient on OFDI in SOEs subsample is insignificant in column (2), which is in line with our expectation. The results suggest that the positive effect of OFDI on Tobin's Q exists only in non-SOEs, which is consistent with the argument that SOEs serve for political goals rather than seek for economic optimalization or profit-maximizing (Kang & Jiang, 2012; Liou, 2009; Luo et al., 2010; Ramasamy et al., 2012; Wang, Hong, Kafouros, & Boateng, 2012; Wang, Hong, Kafouros, & Wright, 2012). This result also implies that the market recognizes the OFDIs driven by political objectives, which can potentially weaken the OFDI economic benefits.

3.1.Endogeneity

Our baseline regression results may be subject to endogeneity problems, for example the possibility of self-selection and reverse causality. Although our results show that firms undertaking ODFI are associated with increased Tobin's Q, firms with higher Tobin's Q might be more likely to undertake OFDI at the meantime. Due to the possible selection bias and reverse causality concern, we use a DiD approach combined with the

propensity score matching technique to address the possible endogeneity concern. Another potential endogeneity problem is that our results might be influenced by omitted variables and it is possible that there are non-observable factors affecting both Tobin's Q and OFDI decisions. Thus, we control for firm fixed effects to mitigate this problem, and in addition, we use the 2SLS regression with instrumental variables to further address endogeneity problems.

### 3.1.1. PSM technique and DiD approach

Following Barba Navaretti and Castellani (2004), Debaere et al. (2010), and Fang et al. (2014) we adopt the PSM technique to build a counterfactual by constructing the treatment group that consists of firms have OFDI and the control group of comparable firms that do not undertake OFDI. We match observable characteristics of the treatment and control groups to deal with the concern that the treatment and control firms are fundamentally different. After the PSM matching, compared with treatment firms, the control firms should have the same observable characters but without overseas investment. We use the Probit model to estimate the probability of undertaking OFDI as a function of firm characteristics:

$$\Pr\left(OFDI_{i,x,t} = 1 \middle| X_{i,x,t-1}\right) \quad (2)$$

where $OFDI_{i,x,t}$ equals 1 if a firm has greenfield OFDI, and 0 otherwise. $X_{i,x,t-1}$ is a vector of observable lagged firm characteristics, e.g., all control variables in equation (1). We also control for industry effects by using 3-digit industry codes. Finally, we employ the propensity score matching approach with one-to-one matching to estimate the propensity of engaging in OFDI.

Panel A in Table 4 shows the results of the Probit estimates and the post-match diagnostic tests. The results in column (1) show that the Probit model captures a good

amount of variation of the variables included, with the pseudo $R^2$ of 12.3% and the p-value of the chi-square test of 0.000. We find that larger, more mature, less leveraged, and lower financially constrained firms are more likely to engage in OFDI. Then, we compute the propensity scores based on the output of the Probit regression and perform the one-to-one nearest-neighbor propensity score matching. As such, each OFDI firm is matched with a firm without OFDI. Next, we conduct diagnostic tests to evaluate the results of the matching procedures following Cozza et al. (2015); Fang et al. (2014). We first re-run the Probit model by using the PSM matched sample, and the results are presented in column (2) of Panel A, Table 4. The results show that none of the variables are significant anymore except for *L.Cash Divident*, indicating no much observable differences between the treatment and control groups. Moreover, the coefficients on variables in Column (2) are all smaller in absolute value than those in column (1). Additionally, the pseudo $R^2$ (Sianesi, 2004) decreases sharply from 12.3% in the pre-matching sample to 0.18% in the post-matching analysis. The p-value of the chi-square test changes from 0.000 in column (1) to 1.0000 in column (2). In addition, as presented in Panel B of Table 4, we estimate the propensity score distribution for both the treatment and control groups and examine the difference between the two groups. The results show that the differences of propensity scores of two groups are rather small, which are all below 0.01 in absolute value. Moreover, we draw a figure to show the distribution of propensity scores for the treatment and control groups before (left-side graph) and after (right-side graph) PSM matching as presented in Figure 2. It shows that the distribution for propensity scores of two groups almost overlap after the matching. As such, the diagnostic tests show that the PSM process helps address thew observable differences of the treatment and control groups.

[ *Insert Table 4 & Figure 2 here*]

Before running the DiD regression, we conduct the parallel trends test (Fang et al., 2014) using the OBOR initiative in 2013 as the exogenous shock. The OBOR initiative is a top-level national policy that promotes the economic integration of China with Asia,

Europe, and Africa. The OBOR initiative is exogenous and unpredictable for firms, which promotes OFDI but is not directly related to Tobin's Q. Therefore, we expect the OBOR initiative serves as a good exogenous shock to perform a DiD test. Because the parallel trends assumption needs to be satisfied to verify that our results are reliable, we estimate the coefficients of the interactions of *Treat* dummy and year dummies over the period 2010 to 2016, a seven-year window including the pre-OBOR shock period from 2010 to 2012 and the post-OBOR shock period 2014-2016. The regression we use is shown as below:

$$\begin{aligned} Tobin's\ Q_{i,t} = {} & \alpha + \beta_1 Treat_i * Before^{2\&3} + \beta_2 Treat_i * Before^1 \\ & + \beta_3 Treat_i * Current + \beta_4 Treat_i * After^1 \\ & + \beta_5 Treat_i * After^{2\&3} + \beta_6 X_{i,t} + \varepsilon_i \end{aligned} \quad (3)$$

The dependent variable is $Tobin's\ Q_{i,t}$. $Treat_i$ is a dummy variable takes value of 1 for treatments firms (firms engage in OFDI), and 0 for control firms. $Before^{2\&3}, Before^1, Current, After^1, After^{2\&3}$ are dummy variables take value of 1 if the observation year is from 2010 to 2011, 2012, 2013, 2014, and 2015 to 2016 respectively, and 0 otherwise. The control variables remain the same as in equation (1). $\varepsilon_i$ refers to error term. The benchmark (omitted group) includes the firm-year observations for the period 2010-2011, e.g., two years before the OBOR initiative.

Column (1) of Table 5 shows the result of parallel trends test controlling for industry and year fixed effects and column (2) reports the results controlling for firm and year fixed effects. The coefficients on $Treat_i * Before^1$ are both statistically insignificant in columns (1) and (2), suggesting that there are no observable different trends between the treatment and control groups before the OBOR initiative, therefore, the parallel trends assumption is valid. The results in column (1) show that treatment firms have higher Tobin's Q in the year of the OBOR initiative (2013), and one year as well as two years after the initiative (2014, 2015, and 2016) compared to control firms as the coefficient on $Treat_i * Current$, $Treat_i * After^1$ and $Treat_i * After^{2\&3}$ is 0.133,

0.167, and 0.229 respectively, and the significant level increases accordingly. The results in column (2) show that treatment firms have higher Tobin's Q in 2015 and 2016 compared to control firms after controlling for firm and year fixed effects. Overall, the results in Table 5 indicate that the parallel trends assumption is valid for performing the DiD estimation.

[ *Insert Table 5 here* ]

We use the PSM matched sample to estimate the DiD estimator to address the time-invariant unobservable differences between the treatment and control groups in Table 6. The DiD model is shown as below:

$$Tobin's\ Q_{i,t} = \alpha + \beta_1 Treat_i * T_i + \beta_2 Treat_i + \beta_3 T_i + \beta_4 X_{i,t} + \varepsilon_i \quad (4)$$

The dependent variable is $Tobin's\ Q_{i,t}$. As discussed, $Treat_i$ is a dummy variable takes value of 1 for treatment firms, and 0 for control firms. $T_i$ is a dummy variable takes value of 1 if the observation year is from the shock and post-shock period, e.g., 2013 to 2016, and 0 otherwise. $Treat_i * T_i$ (DiD) is the interaction of *Treat* dummy and the shock dummy, so $\beta_1$ is the DiD estimator as the key interest. The control variables remain the same as in equation (1). $\varepsilon_i$ refers to error term.

Table 6, Panel A shows the results of DiD model.[4] Columns (1) and (2) shows the difference of Tobin's Q between the treatment and control groups before and after the OBOR initiative controlling for industry-year fixed effects and firm-year fixed effects, respectively. The coefficients on the DiD estimator is 0.147 in column (1) and 0.150 in column (2), both significant at the 1% level, indicating that OFDI has a significant and positive impact on Tobin's Q. The result is consistent with our baseline finding as shown in Panel A of Table 3. Besides, consistent with the results in Table 3, Panel A shows that

[4] We include the *Treat* dummy and shock variable when running the DiD regression, but they are omitted in the Table 6 because of potential collinearity problem.

firm size and *PPE/TA* (a proxy for adjustment cost) have negative relationship with Tobin's Q, while firm age and firm growth have positive relationship with Tobin's Q in columns (1) and (2).

Panel B of Table 6 reports the results of DiD regression in non-SOEs versus SOEs. Column (1) reports the DiD regression in non-SOEs and the coefficient on the DiD estimator is 0.164, statistically significant at the 1% level. Column (2) shows the DiD regression in SOEs with the coefficient on the DiD estimator becoming insignificant. Consistent with Panel B of Table 3, the results show that the positive effect of OFDI on Tobin's Q only exists in non-SOEs. The result is in line with our expectation that SOEs are more likely to be politically driven when undertaking OFDI. In sum, our results indicate that OFDI has a positive impact on the market-based firm performance, and the effect is more pronounced in the non-SOE subsample.

[ *Insert Table 6 here*]

3.1.2SLS estimate

In this section, we use an instrumental variable 2SLS method to further mitigate potential endogeneity concerns. The first instrumental variable we use is *International school* which is measured by the number of international schools in each province where a firm is headquartered. We hand collect the data on international schools from Xinxueshuo, which is a website and dataset of Chinese international school industry. The number of international schools varies with local education background and the level of foreign culture acceptance. Besides, the number of foreigners living and working in each province also affects the number of international schools as the international schools were originally established to facilitate the education requirement for foreigners' children. Therefore, we expect that firms locate in provinces with more international schools are more likely to have international exposure and engage in foreign investment.

In addition, we hand collect the latitude and longitude data of international airports in China from Wikipedia. By using the hand-collecting data, we calculate and use the average distance of a firm's headquarter to two of its nearest international airports as the second instrumental variable (*DIST*). The latitude and longitude data of each firm's headquarter are obtained from the CSMAR database. We expect that a close distance to international airports facilitates international travels which promotes international business, and firms with a closer distance to international airports are more likely to have international exposure and undertake overseas investment as a result. The two variables, *International school* and *DIST*, are exogenous as the number of international schools and the average distance to international airports are not correlated with firm performance, hence serve as appropriate instrumental variables for our 2SLS test.

Table 7 shows the 2SLS regression results. Columns (1) and (2) show the results of the first-stage analysis controlling for industry and year fixed effects as well as firm and year fixed effects, respectively. Coefficient of *International school* is significantly positive at the 1% level in columns (1), and it is significantly positive at the 5% level in columns (2). The coefficients of *DIST* are both significantly negative at the 1% level. Several diagnostic tests were conducted to examine the reliability of the instrumental variable estimates. The statistics of underidentification test and weak identification test indicates the strength of the instrumental variables. Moreover, the Hansen J test (overidentification test) does not reject the null hypothesis that the instrumental variables are valid at the 10% significance level. The results of second stage analysis are presented in columns (3) and (4). The coefficient on OFDI is 0.308 in column (3) and 3.343 in column (4), and both significant at the 1% level. Taken together, our results in Table 7 indicate that our baseline finding of the positive effect of OFDI on Tobin's Q remains significant after using the instrumental variable 2SLS estimate.

[ *Insert Table 7 here*]

### 3.2. Why state ownership matters?

In this section, we explore the possible explanations on why OFDI has differential effects on firm performance for non-SOEs versus SOEs. According to Ramasamy et al. (2012), the destination choice of host countries differs across different ownership. Inspired by Ramasamy et al. (2012), we separate the host countries of OFDI into different categories to further investigate the differential effect of OFDI on firm performance due to state ownership.

We categorize the host countries by continents where firms' investments locate in as the first classification. As a result, the destinations of investment are categorized into Asia, Europe, Africa, Oceania, North America, and South America. Next, we separate the host countries into developed and developing economies as the second classification. Finally, according to the OBOR initiative, host countries are classified into Belt-Road countries and non-Belt-Road countries. Because the OBOR initiative is a national level strategic initiative, we use it to investigate whether political interference matters to the impact of OFDI on firm performance. Based on the literature discussed previously (Cuervo-Cazurra et al., 2014; Li et al., 2017; Lin et al., 1998; Lioukas et al., 1993; Wang, Hong, Kafouros, & Boateng, 2012; Wang, Hong, Kafouros, & Wright, 2012), we expect that non-SOEs are more likely to invest in developed economies to seek for value-adding activities, while SOEs intend to invest in relatively less developed economies to pursue political objectives. In addition, compared to non-SOEs, SOEs are expected to invest in Belt-Road countries due to political objectives associated with state ownership.

#### 3.2.1. Univariate analysis

We first perform univariate analysis to investigate the relationship between ownership and OFDI destination choice, and the results are presented in Table 8. Panel A reports the number and percentage of firms engaging in OFDI and without OFDI based on state ownership. The results show that 37.04% of firms undertake OFDI, further separated

as 42.06% of non-SOEs and 28.77% of SOEs, indicating that non-SOEs are more likely to engage in OFDI to seek for growth in overseas markets. The results of continent choices are presented in Panel B. As shown in this Panel, Asia, North America and Europe are the top 3 ODFI destinations for both SOE and non-SOEs. However, when comparing between non-SOEs and SOEs, it is clear that non-SOEs tend to invest more in the relatively more developed continents including Europe and North America, whereas SOEs tend to invest more in the relatively less developed continents including Asia, Africa, Oceania, and South America.

Panel C presents the results by separating the host countries into developing and developed countries according to the International Monetary Fund's World Economic Outlook Database, October 2018. The results show that 88.03% of non-SOEs and 84.54% of SOEs invest in developing countries respectively. This finding is consistent with Panel B and suggests that state ownership matters when choosing destinations. The results of Belt-Road countries are reported in Panel D, we find that 18.99% of SOEs undertake OFDI in Belt-Road countries, while 13.50% of non-SOEs invest in those countries. View collectively, our findings support the notion that SOEs serve for political goals instead of seeking for economic optimalization (Wang, Hong, Kafouros, & Boateng, 2012; Wang, Hong, Kafouros, & Wright, 2012).

In Panel E, we employ t-test to investigate the difference of Tobin's Q based on different classifications discussed in Panel A to Panel D. Tobin's Q of non-SOEs is significantly higher than that of SOEs as the mean difference (Non-SOE minus SOE) is 0.458 and statistically significant at the 1% level. Besides, Tobin's Q of firms investing in developing countries is significantly lower than that of firms investing in developed countries. Finally, Tobin's Q of firms investing in non-Belt-Road countries is significantly higher than that of firms investing in Belt-Road countries.

[ *Insert Table 8 here*]

To summarize, the univariate analysis in Table 8 shows that non-SOEs are more likely to invest in developed countries and non- Belt-Road countries, and Tobin's Q of firms investing in developed countries and non-Belt-Road countries is higher than that of the counterparties. The overll results indicate that OFDI destination matters for the economic consequences of OFDI.

### 3.2.2. Two-step regression approach

We use a two-step regression approach following Kim et al. (2014) and Chen et al. (2018) to further examine the relation between ownership and destination choice, and the effect of OFDI destination on Tobin's Q.

In the first-step regression, we examine the relation between state ownership and destination choice, and then we examine the relation between destination choice and Tobin's Q in the second-step analysis. The variables *SOE*, *DVLP*, and *BRC* are used as proxy for ownership, developing/developed countries, and Belt-Road countries/non-Belt-Road countries, respectively. Specifically, *SOE* is a dummy variable which takes value of 1 if the firm is state owned enterprise, and 0 otherwise; *DVLP* is a dummy variable which takes value of 1 if the host country is a developed country, and 0 otherwise; *BRC* is a dummy variable takes value of 1 if the OFDI destination is classified as a Belt-Road country, and 0 otherwise. We expect a negative relationship between *SOE* and *DVLP*, and a positive relation between *SOE* and *BRC* in the first-step regression. As for the second-step regression, we expect a positive relationship between *DVLP* and Tobin's, and a negative relationship between *BRC* and Tobin's Q.

[ *Insert Table 9 here*]

Table 9 shows the results of the two-step regression. As shown in Panel A, the coefficient on *SOE* in column (1) is -0.024, the coefficient on SOE in column (2) is 0.052, and both statistically significant at the 1% level, suggesting that SOEs are more

likely to invest in developing countries and Belt-Road countries compared to non-SOEs. The results in Panel B show that *DVLP* is significantly and negatively associated with Tobin's Q at the 1% level, while *BRC* is significantly and positively associated with Tobin's Q at the 5% level, indicating that firms investing in developing countries or Belt-Road countries have lower Tobin's Q. These results are consistent with the results in Table 9 and support our expectations.

### 3.2.3. DDD approach

In addition, we use a difference-in-difference-in-differences (DDD) approach by extending equation (4) to examine whether and how political objectives such as the One Belt One Road initiative affects the impact of OFDI on Tobin's Q as an additional test.

$$Tobin's\ Q_{i,t} = \alpha + \beta_1 Treat_i * T_i * BRC_i + \beta_2 Treat_i * T_i + \beta_3 Treat_i * BRC_i + \beta_4 T_i * BRC_i + \beta_5 X_{i,,t} + \varepsilon_i \quad (5)$$

As discussed in section 4.2.1, $Treat_i$ is a dummy variable takes value of 1 for treatment firms and 0 for control firms. $T_i$ is a dummy variable takes value of 1 if the firm-year observation is from 2013 and afterwards, and 0 otherwise. $Treat_i * T_i * BRC_i$ (DDD) is the interaction of treatment, OBOR policy, and Belt-Road destination. The control variables remain the same as in equation (1).

Table 10 presents the results of the DDD regression.[5] Column (1) shows the results controlling for industry and year fixed effects, and the results controlling for firm and year fixed effects are presented in column (2). As shown in column (1), the coefficient on DDD is -0.198 and statistically significant at the 5% level, and the coefficient on DDD is -0.267 and significant at the 1% level in column (2), indicating that the positive effect of OFDI on Tobin's Q is lower for firms investing in Belt-Road countries than in non-Belt-Road countries. This result suggests that firms investing in Belt-Road

[5] Treats variable ($Treat_i * BRC_i$) and times variable ($T_i * BRC_i$) are included when running the DDD regression but omitted in the Table 10 because of potential collinearity problem.

countries due to the OBOR initiative can be driven by political objectives, which is consistent with the literature (Kang & Jiang, 2012; Liou, 2009; Ramasamy et al., 2012). Overall, our findings indicate that political factors play an important role in OFDI performance by influencing investment destinations, and the market will not respond positively if OFDI is recognized as politically driven.

[ *Insert Table 10 here*]

### 3.3. Channel test

In this section, we identify three channels, effective tax rate, analyst coverage, and analyst recommendations to examine the mechanisms via which OFDI affects Tobin's Q by using a two-step regression approach (Chen et al., 2018; Kim et al., 2014). In the first-step regression, we examine the relation between OFDI and each channel respectively, then we examine the relationship between the channels and Tobin's Q in the second-step analysis. If OFDI has a positive effect on Tobin's Q through reducing effective tax rate, we expect a negative relationship in both the first- and second-step regressions. If OFDI has a positive effect on Tobin's Q through increasing analyst coverage and upgraded analyst recommendations, we expect a positive relationship in both steps for both channels.

The State Taxation Administration of the People's Republic of China introduced and released several tax reduction and beneficial policies to encourage firms to invest overseas after the OBOR initiative was unveiled. Wu et al. (2012) investigate the differential effect of political connection on firm performance in Chinese listed firms from 1999 to 2017. They find that politically connected managers of private owned firms can help their firms to obtain tax benefits, whereas such managers do not influence taxation in SOEs significantly. Therefore, we expect that non-SOEs benefit more from the tax reduction when undertaking OFDI than SOEs' OFDI, which are more likely to be driven by political objectives.

As one of the strategic decisions, OFDI announcements may attract public attention and increase firm's visibility. As a result, firms with OFDI tend to attract more analysts to follow and give recommendations accordingly. Besides, it has been documented that analyst coverage can reduce information asymmetry and improve market efficiency ( Li et al. (2019). The effect is stronger in emerging markets like China as emerging markets tend to have higher growth, and higher information asymmetry. A few studies have examined the effect of analyst coverage on firm performance. For example, Das et al. (2006) find that higher analyst coverage is positively associated with future stock performance and they argue that investors can draw valuable and useful inferences from analysts' decisions of selectively following certain firms. In addition, Stickel (1995) and Womack (1996) find that firm with upgraded recommendations tend to outperform those with downgraded recommendations, which suggest that the investors can benefit from analyst recommendations if they pay attention to and consider the changes in recommendations. Jegadeesh and Kim (2006) also find that stock prices significantly react to recommendation revisions in all G7 countries expect for Italy. As a result, we use analyst coverage (*AC*), which is measured by the natural logarithm of the number of analysts following a firm in a year, as the second channel, and analyst recommendations (*AR*), which is measured by the natural logarithm of the numbers of upgraded recommendations in a year as the third channel.

The results of channel test are presented in Table 11. Panel A reports the results of first -step regression of channel test. The coefficient on *OFDI* from column (1) is -0.021 and statistically significant at the 1% level, which suggests that firms undertaking OFDI are more likely to receive beneficial tax rates. The coefficients on analyst coverage and analyst recommendation in columns (2) and (3) are 0.114 and 0.215, and both significant at the 1% level, indicating that OFDI attracts more attention from analysts and receive more upgraded analyst recommendations. Panel B shows the results of the second-step regression. As shown in columns (1) to (3), the coefficients on tax rate, analyst coverage, and analyst recommendations are -0.139, 0.148, and 0.156,

respectively, and all significant at the 1% level. The results indicate a significantly negative relationship between effective tax rate and Tobin's Q, and a significantly positive relation between analyst coverage/analyst recommendations and Tobin's Q. Therefore, the above findings support our expectations that OFDI increases Tobin's Q through reduced effective tax rate and increased analyst coverage as well as upgraded analyst recommendations.

[ *Insert Table 11 here*]

Furthermore, we re-run the two-step regression of channel tests by using non-SOEs versus SOEs subsamples respectively. The results in columns (1) and (2) in Panel C of Table 11 show that there is a negative relationship between OFDI and tax rate in non-SOEs, while the relationship becomes insignificant in SOEs. The results indicate that the tax benefit effect is more pronounced in non-SOEs than in SOEs, which is consistent with the finding in Wu et al. (2012). As shown in columns (3) and (4) in Panel C, there is a positive relationship between OFDI and analyst coverage in non-SOEs, while an insignificant relation in SOEs. Similar with analyst coverage, we find a significantly positive relationship between OFDI and upgraded analyst recommendations in non-SOEs and the relationship becomes insignificant in SOEs, as shown in columns (5) and (6). Viewed collectively, our first-step mechanism test suggests that the favorable effects of OFDI on tax benefits, analyst coverage and upgraded analyst recommendations only exists in non-SOEs.

Panel D of Table 11 reports the results of the second-step regression in non-SOEs versus SOEs. The coefficients of tax rate are -0.149 for non-SOEs in column (1) and -0.134 for SOEs in column (2), and both significant at the 1% level. As presented in columns (3) to (6) in Panel C, the coefficients on analyst coverage and upgraded analyst recommendation variables are 0.162, 0.120, 0.176, and 0.108, respectively, and all significantly positive at the 1% level. Overall, our second-step mechanism analysis finds supporting evidence that reduced tax rate, increased analyst coverage, and

upgraded analyst recommendations help improve firms' Tobin's Q among both non-SOEs and SOEs, but with stronger effect documented among non-SOEs.

## 4. Conclusion

This study investigates the impact of firm-level greenfield OFDI on firm performance. We find that greenfield OFDI has a positive effect on Tobin's Q in general. This result is robust to the endogeneity tests, including a DiDs approach combined with the PSM technique and a 2SLS regression with instrumental variables. Further analyses show that our results are more pronounced in non-SOEs than SOEs. We explore the possible explanations as to why the impact of OFDI on firm performance is differential in non-SOEs and SOEs. We find SOEs are more likely to invest in developing countries as well as Belt-Road countries, which explains the lower level of Tobin's Q in SOEs engaging in OFDI, and vice versa. The DDD regression, as additional test, provides consistent results that the positive effect of OFDI on Tobin's Q is weaker for firms investing in Belt-Road countries than in non-Belt-Road countries. This finding suggests that the stock market does not respond positively if OFDI is recognized as politically interfered.

We identify three possible channels, which are effective tax rate, analyst coverage, and analyst recommendations respectively, to explain the mechanisms through which OFDI improves Tobin's Q. We provide direct evidence that OFDI has a positive effect on Tobin's Q by lowering firm effective tax rate, increasing analyst coverage, and increasing upgraded analyst recommendations, which attracts more public attention and increase firm's visibility. Further analysis shows that the positive effect of OFDI on Tobin's Q achieved through tax, analyst coverage, and analyst recommendation channels only exists in non-SOEs.

# References


Agyei-Boapeah, H. (2019). Foreign acquisitions and firm performance: The moderating role of prior foreign experience. *Global Finance Journal*, *42*, 100415. https://doi.org/https://doi.org/10.1016/j.gfj.2018.02.001

Amighini, A. A., Rabellotti, R., & Sanfilippo, M. (2013). Do Chinese state-owned and private enterprises differ in their internationalization strategies? *China Economic Review*, *27*, 312-325. https://doi.org/https://doi.org/10.1016/j.chieco.2013.02.003

Aybar, B., & Ficici, A. (2009). Cross-border acquisitions and firm value: An analysis of emerging-market multinationals. *Journal of International Business Studies*, *40*(8), 1317-1338.

Barba Navaretti, G., & Castellani, D. (2004). *Investments Abroad and Performance at Home: Evidence from Italian Multinationals*. https://EconPapers.repec.org/RePEc:cpr:ceprdp:4284

Bennouri, M., Chtioui, T., Nagati, H., & Nekhili, M. (2018). Female board directorship and firm performance: What really matters? *Journal of Banking & Finance*, *88*, 267-291.

Bertrand, O., & Betschinger, M.-A. (2012). Performance of domestic and cross-border acquisitions: Empirical evidence from Russian acquirers. *Journal of Comparative Economics*, *40*(3), 413-437. https://doi.org/https://doi.org/10.1016/j.jce.2011.11.003

Bräutigam, D., & Xiaoyang, T. (2011). African Shenzhen: China's special economic zones in Africa. *The Journal of Modern African Studies*, *49*(1), 27-54.

Brockman, P., Rui, O. M., & Zou, H. (2013). Institutions and the performance of politically connected M&As. *Journal of International Business Studies*, *44*(8), 833-852.

Bu, M., Li, S., & Jiang, L. (2019). Foreign direct investment and energy intensity in China: Firm-level evidence. *Energy Economics*, *80*, 366-376.

Buckley, P. J., Clegg, L. J., Adam, R. C., Liu, X., Hinrich, V., & Ping, Z. (2007). The Determinants of Chinese Outward Foreign Direct Investment. *Journal of International Business Studies*, *38*(4), 499-518. www.jstor.org/stable/4540439

Buckley, P. J., Elia, S., & Kafouros, M. (2014). Acquisitions by emerging market multinationals: Implications for firm performance. *Journal of World Business*, *49*(4), 611-632.

Cai, K. G. (1999). Outward Foreign Direct Investment: A Novel Dimension of China's Integration into the Regional and Global Economy. *The China Quarterly*, *160*, 856-880. https://doi.org/10.1017/S0305741000001363

Chang, S.-C., & Chang, J.-C. (2012). Impacts of International Greenfield Investment on Firm Valuation [https://doi.org/10.1002/cjas.1226]. *Canadian Journal of Administrative Sciences / Revue Canadienne des Sciences de l'Administration*, *29*(4), 310-321. https://doi.org/https://doi.org/10.1002/cjas.1226

Chari, A., Chen, W., & Dominguez, K. M. E. (2012). Foreign Ownership and Firm Performance: Emerging Market Acquisitions in the United States. *IMF Economic Review*, *60*(1), 1-42. https://doi.org/10.1057/imfer.2012.1

Chen, W., & Tang, H. (2014). The Dragon Is Flying West: Micro-level Evidence of Chinese Outward Direct Investment. *Asian Development Review*, *31*(2), 109-140. https://doi.org/10.1162/ADEV_a_00032

Chen, Y., Xie, Y., You, H., & Zhang, Y. (2018). Does crackdown on corruption reduce stock price

crash risk? Evidence from China. *Journal of Corporate Finance*, *51*, 125-141. https://doi.org/https://doi.org/10.1016/j.jcorpfin.2018.05.005

Cheng, L. T., Chan, R. Y., & Leung, T. (2018). Impact of perk expenditures and marketing expenditures on corporate performance in China: The moderating role of political connections. *Journal of Business Research*, *86*, 83-95.

Cheung, Y.-W., & Qian, X. (2009). EMPIRICS OF CHINA'S OUTWARD DIRECT INVESTMENT. *Pacific Economic Review*, *14*(3), 312-341. https://doi.org/10.1111/j.1468-0106.2009.00451.x

Chong, T. T.-L., Lam, T.-H., & Yan, I. K.-M. (2012). Is the Chinese stock market really inefficient? *China Economic Review*, *23*(1), 122-137. https://doi.org/https://doi.org/10.1016/j.chieco.2011.08.003

Contractor, F. J. (2007). Is international business good for companies? The evolutionary or multi-stage theory of internationalization vs. the transaction cost perspective. *Management International Review*, *47*(3), 453-475.

Cozza, C., Rabellotti, R., & Sanfilippo, M. (2015). The impact of outward FDI on the performance of Chinese firms. *China Economic Review*, *36*, 42-57. https://doi.org/https://doi.org/10.1016/j.chieco.2015.08.008

Cuervo-Cazurra, A., & Dau, L. A. (2009). Promarket reforms and firm profitability in developing countries. *Academy of Management Journal*, *52*(6), 1348-1368.

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

Cui, L., & Xu, Y. (2019). Outward FDI and profitability of emerging economy firms: Diversifying from home resource dependence in early stage internationalization. *Journal of World Business*, *54*(4), 372-386.

Daniliuc, S. O., Li, L., & Wee, M. (2020). Busy directors and firm performance: Evidence from Australian mergers. *Pacific-Basin Finance Journal*, *64*, 101434.

Das, S., Guo, R. J., & Zhang, H. (2006). Analysts' selective coverage and subsequent performance of newly public firms. *The Journal of Finance*, *61*(3), 1159-1185.

Debaere, P., Lee, H., & Lee, J. (2010). It matters where you go: Outward foreign direct investment and multinational employment growth at home. *Journal of Development Economics*, *91*(2), 301-309. https://doi.org/https://doi.org/10.1016/j.jdeveco.2009.07.002

Delios, A., & Wu, Z. J. (2005). Legal person ownership, diversification strategy and firm profitability in China. *Journal of Management & Governance*, *9*(2), 151-169.

Deng, P. (2004). Outward investment by Chinese MNCs: Motivations and implications [Article]. *Business Horizons*, *47*(3), 8-16. https://doi.org/10.1016/S0007-6813(04)00023-0

Doukas, J., & Travlos, N. G. (1988). The Effect of Corporate Multinationalism on Shareholders' Wealth: Evidence from International Acquisitions. *The Journal of Finance*, *43*(5), 1161-1175. https://doi.org/10.1111/j.1540-6261.1988.tb03962.x

Doukas, J. A., & Lang, L. H. P. (2003). Foreign direct investment, diversification and firm performance. *Journal of International Business Studies*, *34*(2), 153-172. https://doi.org/10.1057/palgrave.jibs.8400014

Dunning, J. H. (1998). Location and the Multinational Enterprise: A Neglected Factor? *Journal of International Business Studies*, *29*(1), 45-66.

https://doi.org/10.1057/palgrave.jibs.8490024

Edamura, K., Haneda, S., Inui, T., Tan, X., & Todo, Y. (2014). Impact of Chinese cross-border outbound M&As on firm performance: Econometric analysis using firm-level data. *China Economic Review*, *30*, 169-179. https://doi.org/https://doi.org/10.1016/j.chieco.2014.06.011

Fan, J. P. H., Wong, T. J., & Zhang, T. (2007). Politically connected CEOs, corporate governance, and Post-IPO performance of China's newly partially privatized firms. *Journal of Financial Economics*, *84*(2), 330-357.

Fang, V. W., Tian, X., & Tice, S. (2014). Does stock liquidity enhance or impede firm innovation? *The Journal of Finance*, *69*(5), 2085-2125.

Gubbi, S. R., Aulakh, P. S., Ray, S., Sarkar, M., & Chittoor, R. (2010). Do international acquisitions by emerging-economy firms create shareholder value? The case of Indian firms. *Journal of International Business Studies*, *41*(3), 397-418.

Gulen, H., & Ion, M. (2016). Policy uncertainty and corporate investment. *The Review of Financial Studies*, *29*(3), 523-564.

Hong, E., & Sun, L. (2006). Dynamics of Internationalization and Outward Investment: Chinese Corporations' Strategies. *The China Quarterly*, *187*. https://doi.org/10.1017/s0305741006000403

Huang, Y., & Zhang, Y. (2017). How does outward foreign direct investment enhance firm productivity? A heterogeneous empirical analysis from Chinese manufacturing. *China Economic Review*, *44*, 1-15. https://doi.org/10.1016/j.chieco.2017.03.001

Ibhagui, O. W., & Olokoyo, F. O. (2018). Leverage and firm performance: New evidence on the role of firm size. *The North American Journal of Economics and Finance*, *45*, 57-82.

Jegadeesh, N., & Kim, W. (2006). Value of analyst recommendations: International evidence. *Journal of Financial Markets*, *9*(3), 274-309. https://doi.org/https://doi.org/10.1016/j.finmar.2006.05.001

Jensen-Vinstrup, M., Rigamonti, D., & Wulff, J. (2018). European cross-border acquisitions: Long-run stock returns and firm characteristics. *Journal of Multinational Financial Management*, *47-48*, 31-45. https://doi.org/https://doi.org/10.1016/j.mulfin.2018.09.003

Jiang, W. (2009). Fuelling the dragon: China's rise and its energy and resources extraction in Africa. *The China Quarterly*, *199*, 585-609.

Kang, Y., & Jiang, F. (2012). FDI location choice of Chinese multinationals in East and Southeast Asia: Traditional economic factors and institutional perspective. *Journal of World Business*, *47*(1), 45-53.

Kim, J. B., Luo, L., & Xie, H. (2014, 2014/8/2). Dividend Payments and Stock Price Crash Risk. 2014 American Accounting Association Annual Meeting,

Li, L., Liu, X., Yuan, D., & Yu, M. (2017). Does outward FDI generate higher productivity for emerging economy MNEs? – Micro-level evidence from Chinese manufacturing firms. *International Business Review*, *26*(5), 839-854. https://doi.org/https://doi.org/10.1016/j.ibusrev.2017.02.003

Li, Y., Lu, M., & Lo, Y. L. (2019). The impact of analyst coverage on partial acquisitions: Evidence from M&A premium and firm performance in China. *International Review of Economics & Finance*, *63*, 37-60. https://doi.org/https://doi.org/10.1016/j.iref.2018.08.004

Lin, C.-F. (2016). Does Chinese OFDI really promote export? *China Finance and Economic Review*,

*4*(1), 1-16.

Lin, J. Y., Cai, F., & Li, Z. (1998). Competition, policy burdens, and state-owned enterprise reform. *The American Economic Review*, *88*(2), 422-427.

Liou, C.-s. (2009). Bureaucratic politics and overseas investment by Chinese state-owned oil companies: Illusory champions. *Asian Survey*, *49*(4), 670-690.

Lioukas, S., Bourantas, D., & Papadakis, V. (1993). Managerial autonomy of state-owned enterprises: Determining factors. *Organization Science*, *4*(4), 645-666.

Lu, J., Liu, X., Wright, M., & Filatotchev, I. (2014). International experience and FDI location choices of Chinese firms: The moderating effects of home country government support and host country institutions. *Journal of International Business Studies*, *45*(4), 428-449.

Luo, Y., & Tung, R. L. (2007). International expansion of emerging market enterprises: A springboard perspective [journal article]. *Journal of International Business Studies*, *38*(4), 481-498. https://doi.org/10.1057/palgrave.jibs.8400275

Luo, Y., Xue, Q., & Han, B. (2010). How emerging market governments promote outward FDI: Experience from China. *Journal of World Business*, *45*(1), 68-79.

Luo, Y., Zhao, H., Wang, Y., & Xi, Y. (2011). Venturing Abroad by Emerging Market Enterprises. *Management International Review*, *51*(4), 433. https://doi.org/10.1007/s11575-011-0087-y

Ma, X., Yao, X., & Xi, Y. (2006). Business group affiliation and firm performance in a transition economy: A focus on ownership voids. *Asia Pacific Journal of Management*, *23*(4), 467-483.

Morck, R., & Yeung, B. (1992). Internalization: An event study test. *Journal of International Economics*, *33*(1), 41-56. https://doi.org/https://doi.org/10.1016/0022-1996(92)90049-P

Pangarkar, N., & Lim, H. (2003). Performance of foreign direct investment from Singapore. *International Business Review*, *12*(5), 601-624. https://doi.org/https://doi.org/10.1016/S0969-5931(03)00078-7

Panthamit, N., & Chaiboonsri, C. (2020). China's outward foreign direct investment in the greater mekong subregion. *Journal of Economic Integration*, *35*(1), 129-151.

Paul, A., Maher, K., & Jean-François, L. H. (2004). The Long-Run Performance of Mergers and Acquisitions: Evidence from the Canadian Stock Market [research-article]. *Financial Management*, *33*(4), 27. http://ezproxy.massey.ac.nz/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=edsjsr&AN=edsjsr.3666327&site=eds-live&scope=site

Quer, D., Claver, E., & Rienda, L. (2012). Political risk, cultural distance, and outward foreign direct investment: Empirical evidence from large Chinese firms. *Asia Pacific Journal of Management*, *29*(4), 1089-1104.

Ramasamy, B., Yeung, M., & Laforet, S. (2012). China's outward foreign direct investment: Location choice and firm ownership. *Journal of World Business*, *47*(1), 17-25. https://doi.org/10.1016/j.jwb.2010.10.016

Shao, X. (2020). Chinese OFDI responses to the B&R initiative: Evidence from a quasi-natural experiment. *China Economic Review*, *61*, 101435. https://doi.org/https://doi.org/10.1016/j.chieco.2020.101435

Sianesi, B. (2004). An Evaluation of the Swedish System of Active Labor Market Programs in the 1990s. *The Review of Economics and Statistics*, *86*(1), 133-155.

https://doi.org/10.1162/003465304323023723

Stickel, S. E. (1995). The Anatomy of the Performance of Buy and Sell Recommendations. *Financial Analysts Journal*, *51*(5), 25-39. https://doi.org/10.2469/faj.v51.n5.1933

Tian, W., Yu, M., & Zhang, F. (2016). The exceptional performance of Chinese outward direct investment firms. *China Economic Journal*, *9*(2), 209-219.

Voss, H., Buckley, P. J., & Cross, A. R. (2010). The impact of home country institutional effects on the internationalization strategy of Chinese firms. *Multinational Business Review*.

Wang, C., Hong, J., Kafouros, M., & Boateng, A. (2012). What drives outward FDI of Chinese firms? Testing the explanatory power of three theoretical frameworks. *International Business Review*, *21*(3), 425-438.

Wang, C., Hong, J., Kafouros, M., & Wright, M. (2012). Exploring the role of government involvement in outward FDI from emerging economies. *Journal of International Business Studies*, *43*(7), 655-676.

Whited, T. M., & Wu, G. (2006). Financial Constraints Risk. *The Review of Financial Studies*, *19*(2), 531-559. https://doi.org/10.1093/rfs/hhj012

Womack, K. L. (1996). Do Brokerage Analysts' Recommendations Have Investment Value? [https://doi.org/10.1111/j.1540-6261.1996.tb05205.x]. *The Journal of Finance*, *51*(1), 137-167. https://doi.org/https://doi.org/10.1111/j.1540-6261.1996.tb05205.x

Wu, H.-L., & Chen, C.-H. (2001). An Assessment of Outward Foreign Direct Investment from China's Transitional Economy. *Europe-Asia Studies*, *53*(8), 1235-1254. https://doi.org/10.1080/09668130120093219

Wu, W., Wu, C., Zhou, C., & Wu, J. (2012). Political connections, tax benefits and firm performance: Evidence from China. *Journal of Accounting and Public Policy*, *31*(3), 277-300. https://doi.org/https://doi.org/10.1016/j.jaccpubpol.2011.10.005

Xia, J., Ma, X., Lu, J. W., & Yiu, D. W. (2014). Outward foreign direct investment by emerging market firms: A resource dependence logic. *Strategic Management Journal*, *35*(9), 1343-1363. https://doi.org/10.1002/smj.2157

Yan, B., Zhang, Y., Shen, Y., & Han, J. (2018). Productivity, financial constraints and outward foreign direct investment: Firm-level evidence. *China Economic Review*, *47*, 47-64. https://doi.org/https://doi.org/10.1016/j.chieco.2017.12.006

Yeung, H. W.-c., & Liu, W. (2008). Globalizing China: The Rise of Mainland Firms in the Global Economy. *Eurasian Geography and Economics*, *49*(1), 57-86. https://doi.org/10.2747/1539-7216.49.1.57

Yuan, L., Pangarkar, N., & Wu, J. (2016). The interactive effect of time and host country location on Chinese MNCs' performance: An empirical investigation. *Journal of World Business*, *51*(2), 331-342.

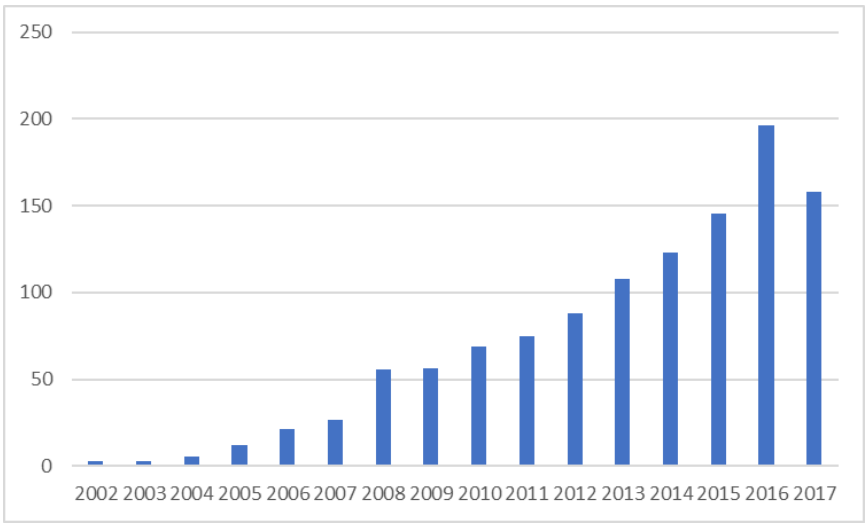


Figure 1 2012-2017 China's outward foreign direct investment flow (in billion US dollars)

Data source: Ministry of Commerce, the National Bureau of statistics and the State Administration of foreign exchange

**Table 1 Descriptive Statistics**

This table provides descriptive statistics of the main variables used in this study. Full sample comprises 32,484 firm-year observations. The definitions of all variables are presented in the Appendix Table A1.

| Variable | obs | mean | sd | max | min | p25 | p50 | p75 |
|---|---|---|---|---|---|---|---|---|
| Tobin's Q | 32484 | 2.136 | 1.446 | 10.482 | 0.925 | 1.280 | 1.663 | 2.415 |
| Firm Size | 32484 | 21.955 | 1.282 | 25.846 | 19.061 | 21.027 | 21.785 | 22.682 |
| Leverage | 32484 | 0.432 | 0.209 | 1.256 | 0.052 | 0.267 | 0.428 | 0.587 |
| PPE/TA | 32484 | 0.228 | 0.170 | 0.738 | 0.002 | 0.095 | 0.193 | 0.326 |
| CAPEX/TA | 32484 | 0.054 | 0.052 | 0.250 | 0.000 | 0.016 | 0.039 | 0.076 |
| CF/TA | 32484 | 0.048 | 0.074 | 0.261 | -0.205 | 0.008 | 0.047 | 0.090 |
| Cash Dividend | 32484 | 0.731 | 0.444 | 1.000 | 0.000 | 0.000 | 1.000 | 1.000 |
| Ln (Board Size) | 32484 | 2.155 | 0.205 | 2.996 | 1.099 | 2.079 | 2.197 | 2.197 |
| %Independent Directors | 32484 | 0.370 | 0.054 | 0.800 | 0.083 | 0.333 | 0.333 | 0.400 |
| Ln (1+Firm Age) | 32484 | 2.743 | 0.407 | 4.139 | 0.263 | 2.515 | 2.802 | 3.034 |
| Financial Constraint | 32484 | -1.064 | 0.072 | -0.880 | -1.249 | -1.110 | -1.065 | -1.017 |
| Ln (CEO Age) | 32484 | 3.875 | 0.141 | 4.500 | 3.178 | 3.784 | 3.892 | 3.970 |
| CEO Gender | 32484 | 0.939 | 0.240 | 1.000 | 0.000 | 1.000 | 1.000 | 1.000 |
| Top 10 Shareholders | 32484 | 57.988 | 16.383 | 91.190 | 9.090 | 47.240 | 59.680 | 70.480 |
| Firm Growth | 32484 | 0.064 | 0.094 | 0.448 | -0.839 | 0.023 | 0.054 | 0.094 |

## Table 2 The t-test of Key Characteristics

This table provides t-test results of key characteristics of firms between OFDI firms and non-OFDI firms. The definitions of all variables are presented in the Appendix Table A1. ***, **, and * indicate significance at the 1%, 5%, and 10% levels respectively.

| Variables | OFDI | Obs | Non-OFDI | Obs | MeanDiff |
|---|---|---|---|---|---|
| Tobin's Q | 2.167 | 13710 | 2.113 | 18774 | -0.053*** |
| Firm Size | 22.400 | 13710 | 21.630 | 18774 | -0.767*** |
| Leverage | 0.442 | 13710 | 0.424 | 18774 | -0.018*** |
| PPE/TA | 0.198 | 13710 | 0.250 | 18774 | 0.052*** |
| CAPEX/TA | 0.051 | 13710 | 0.057 | 18774 | 0.005*** |
| CF/TA | 0.048 | 13710 | 0.047 | 18774 | -0.001 |
| Cash Dividend | 0.783 | 13710 | 0.693 | 18774 | -0.090*** |
| Ln (Board Size) | 2.141 | 13710 | 2.166 | 18774 | 0.025*** |
| %Independent Directors | 0.376 | 13710 | 0.365 | 18774 | -0.011*** |
| Ln (1+Firm Age) | 2.814 | 13710 | 2.692 | 18774 | -0.123*** |
| Financial Constraint | -1.091 | 13710 | -1.045 | 18774 | 0.046*** |
| Ln (CEO Age) | 3.885 | 13710 | 3.867 | 18774 | -0.018*** |
| CEO Gender | 0.937 | 13710 | 0.940 | 18774 | 0.003 |
| Top 10 Shareholders | 58.240 | 13710 | 57.800 | 18774 | -0.436** |
| Firm Growth | 0.064 | 13710 | 0.064 | 18774 | -0.001 |

**Table 3 OFDI effect on firm performance**

This table provides the OLS results of equation (1). Panel A investigates the relation between undertaking overseas investment and firm performance by using the full sample controlling for multiple fixed effects. Panel B reports the baseline regression using the SOE and non-SOEs subsample respectively. The key independent variable and all control variables are lagged for one year. The definitions of all variables are presented in the Appendix Table A1. ***, **, and * indicate significance at the 1%, 5%, and 10% levels respectively.

| Panel A: Baseline regression | | |
|---|---|---|
| | (1) | (2) |
| Variables | Tobin's Q | Tobin's Q |
| L.OFDI | 0.122*** | 0.041* |
| | (7.51) | (1.87) |
| L.Firm Size | -0.762*** | -0.831*** |
| | (-29.36) | (-34.76) |
| L.Leverage | 0.059 | 0.546*** |
| | (1.35) | (9.72) |
| L.PPE/TA | -0.734*** | -0.476*** |
| | (-13.07) | (-6.64) |
| L.CAPEX/TA | -0.540*** | -0.355** |
| | (-3.66) | (-2.39) |
| L.CF/TA | 1.487*** | 0.542*** |
| | (12.69) | (5.07) |
| L.Cash Dividend | -0.645*** | -0.187*** |
| | (-16.14) | (-5.44) |
| L.Ln (Board Size) | -0.057 | -0.152** |
| | (-1.37) | (-2.56) |
| L.Independent Directors% | 0.748*** | 0.349* |
| | (5.06) | (1.95) |
| L. Ln (1+Firm Age) | 0.163*** | 0.707*** |
| | (7.44) | (10.17) |
| L. Financial Constraint | -6.925*** | -3.289*** |
| | (-12.01) | (-7.04) |
| L.Ln (CEO Age) | 0.182*** | 0.221*** |
| | (3.54) | (3.60) |
| L.CEO Gender | -0.030 | -0.042 |
| | (-1.01) | (-1.10) |
| L.Top 10 Shareholders | -0.004*** | -0.002*** |
| | (-8.31) | (-4.18) |
| L.Firm Growth | 0.377*** | 0.428*** |
| | (4.65) | (5.85) |
| Constant | 10.063*** | 13.537*** |
| | (38.68) | (33.78) |
| Observations | 29,344 | 29,344 |
| R-squared | 0.379 | 0.636 |
| Industry FE | YES | NO |
| Firm FE | NO | YES |
| Year FE | YES | YES |
| Panel B: Baseline regression in non-SOEs versus SOEs | | |
| | (1) | (2) |
| Variables | Tobin's Q | Tobin's Q |
| | Non-SOE | SOE |
| L.OFDI | 0.158*** | 0.034 |
| | (7.12) | (1.51) |
| L.Firm Size | -0.760*** | -0.662*** |
| | (-20.71) | (-19.54) |
| L.Leverage | 0.191*** | -0.235*** |
| | (3.16) | (-3.98) |

| | | |
|---|---|---|
| L.PPE/TA | -0.622*** | -0.897*** |
| | (-7.21) | (-13.51) |
| L.CAPEX/TA | -0.910*** | 0.333* |
| | (-4.41) | (1.69) |
| L.CF/TA | 2.006*** | 0.741*** |
| | (12.46) | (4.79) |
| L.Cash Dividend | -0.614*** | -0.481*** |
| | (-10.87) | (-9.36) |
| L.Ln (Board Size) | -0.130** | 0.049 |
| | (-2.09) | (0.98) |
| L.Independent Directors% | 0.609*** | 0.331* |
| | (2.77) | (1.85) |
| L. Ln (1+Firm Age) | 0.193*** | 0.100*** |
| | (6.66) | (3.02) |
| L. Financial Constraint | -5.157*** | -6.353*** |
| | (-6.31) | (-8.55) |
| L.Ln (CEO Age) | 0.123* | 0.198** |
| | (1.86) | (2.53) |
| L.CEO Gender | -0.042 | -0.022 |
| | (-1.11) | (-0.49) |
| L.Top 10 Shareholders | -0.008*** | 0.002*** |
| | (-12.08) | (3.93) |
| L.Firm Growth | 0.450*** | 0.578*** |
| | (4.09) | (5.23) |
| Constant | 12.214*** | 8.198*** |
| | (31.94) | (22.35) |
| Observations | 17,826 | 11,518 |
| R-squared | 0.383 | 0.387 |
| Industry FE | YES | YES |
| Year FE | YES | YES |

**Table 4 Probit Model**

This table reports the Probit model results from equation (2). It estimates the probability of undertaking OFDI as a function of firm characteristics. The results indicate what characteristics of firms are more likely to invest overseas. The key independent variable and all control variables are lagged for one year. The definitions of all variables are presented in the Appendix Table A1. ***, **, and * indicate significance at the 1%, 5%, and 10% levels respectively.

| Panel A: Pre-match Propensity Score Regression and Post-match Diagnostic Regression | | |
|---|---|---|
| | (1) | (2) |
| Variables | Pre-match | Post-match |
| L.Firm Size | 0.360*** | 0.026 |
| | (11.20) | (0.79) |
| L.Leverage | 0.212*** | -0.013 |
| | (4.21) | (-0.23) |
| L.PPE/TA | -1.176*** | -0.035 |
| | (-18.53) | (-0.48) |
| L.CAPEX/TA | 1.346*** | -0.043 |
| | (7.89) | (-0.22) |
| L.CF/TA | 0.622*** | 0.090 |
| | (4.62) | (0.60) |
| L.Cash Dividend | 0.183*** | 0.091* |
| | (3.82) | (1.81) |
| L.Ln (Board Size) | -0.061 | -0.010 |
| | (-1.30) | (-0.18) |
| L.Independent Directors% | 0.557*** | -0.108 |
| | (3.28) | (-0.52) |
| L. Ln (1+Firm Age) | -0.179*** | 0.012 |
| | (-7.98) | (0.45) |
| L. Financial Constraint | 1.592** | 1.083 |
| | (2.33) | (1.56) |
| L.Ln (CEO Age) | -0.541*** | 0.065 |
| | (-9.30) | (0.95) |
| L.CEO Gender | -0.032 | 0.052 |
| | (-0.96) | (1.32) |
| L.Top 10 Shareholders | 0.002*** | 0.001 |
| | (4.01) | (1.41) |
| L.Firm Growth | 0.257*** | 0.114 |
| | (2.83) | (1.14) |
| Constant | -4.403*** | 0.137 |
| | (-14.88) | (0.38) |
| Observations | 30,029 | 18,417 |
| Industry FE | YES | YES |
| Prob > Chi2 | 0.000 | 1.000 |
| Pseudo R-squared | 0.123 | 0.002 |
| Panel B: Estimated Propensity Score Distribution | | |

| P-Score | Obs | Min | p5 | Mean | p50 | SD | p95 | Max |
|---|---|---|---|---|---|---|---|---|
| Treatment | 9099 | 0.0450 | 0.295 | 0.580 | 0.591 | 0.154 | 0.812 | 0.985 |
| Control | 9318 | 0.0420 | 0.288 | 0.581 | 0.597 | 0.160 | 0.820 | 0.994 |
| Difference | | 0.000 | 0.007 | -0.001 | -0.006 | -0.006 | -0.008 | -0.009 |

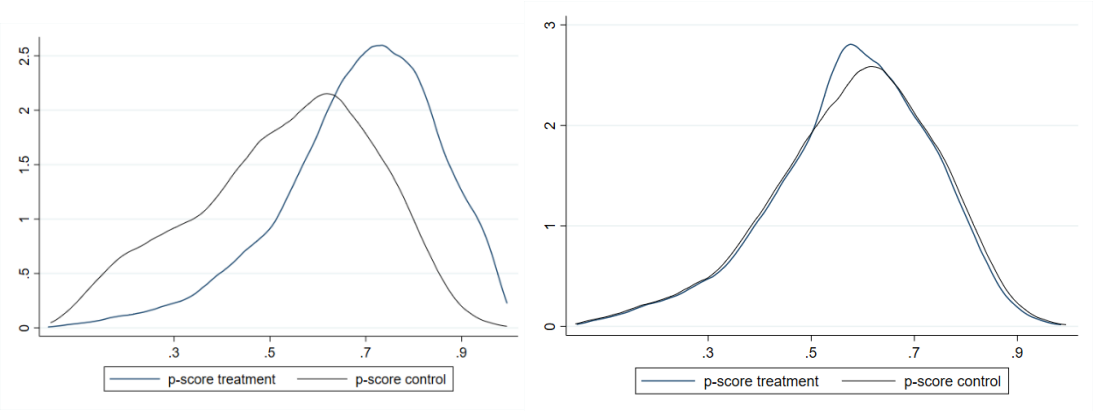


Figure 2 Distribution of propensity score of treatment and control groups before (left graph) and after (right graph) matching.

**Table 5 Parallel Trends**

This table shows the results of the parallel trends assumption test controlling for multiple fixed effects using the One Belt One Road initiative (OBOR) unveiled in 2013 as the exogenous shock. The key independent variable and all control variables are lagged for one year. $Treat_i$ is a dummy variable equals 1 for treatments firms (firms engage in OFDI), and 0 for control firms. $Before^{2\&3}, Before^{1}, Current, After^{1}, After^{2\&3}$ are dummy variables that equals 1 if the year of the observation is from 2010 to 2011, 2012, 2013, 2014, and 2015 to 2016 respectively, and 0 otherwise. The definitions of all variables are presented in the Appendix Table A1. ***, **, and * indicate significance at the 1%, 5%, and 10% levels respectively.

| | (1) | (2) |
|---|---|---|
| Variables | Tobin's Q | Tobin's Q |
| $Treat_i * Before^{1}$ | 0.046 | 0.007 |
| | (0.64) | (0.11) |
| $Treat_i * Current$ | 0.133* | 0.044 |
| | (1.93) | (0.68) |
| $Treat_i * After^{1}$ | 0.167** | 0.060 |
| | (2.40) | (0.93) |
| $Treat_i * After^{2\&3}$ | 0.229*** | 0.176*** |
| | (4.75) | (3.62) |
| Firm Size | -0.679*** | -0.765*** |
| | (-15.85) | (-19.75) |
| Leverage | -0.306*** | 0.261*** |
| | (-4.75) | (2.90) |
| PPE/TA | -0.672*** | -0.599*** |
| | (-8.70) | (-5.66) |
| CAPEX/TA | -0.419** | 0.007 |
| | (-2.01) | (0.03) |
| CF/TA | 1.500*** | 0.842*** |
| | (8.74) | (5.25) |
| Cash Dividend | -0.540*** | -0.077 |
| | (-8.37) | (-1.42) |
| Ln (Board Size) | -0.031 | 0.063 |
| | (-0.52) | (0.70) |
| Independent Directors% | 0.337 | 0.116 |
| | (1.58) | (0.42) |
| Ln (1+Firm Age) | 0.227*** | 0.900*** |
| | (6.58) | (6.63) |
| Financial Constraint | -5.193*** | -0.725 |
| | (-5.42) | (-0.95) |
| Ln (CEO Age) | 0.028 | -0.012 |
| | (0.40) | (-0.14) |
| CEO Gender | -0.026 | 0.016 |
| | (-0.66) | (0.30) |
| Top 10 Shareholders | -0.003*** | -0.002*** |

| | | |
|---|---|---|
| | (-4.36) | (-2.84) |
| Firm Growth | 1.735*** | 1.633*** |
| | (13.79) | (13.62) |
| Constant | 10.472*** | 14.624*** |
| | (27.49) | (22.44) |
| Observations | 13,728 | 13,728 |
| R-squared | 0.408 | 0.694 |
| Industry FE | YES | NO |
| Firm FE | NO | YES |
| Year FE | YES | YES |

**Table 6 DiD estimate**

This table presents the DiD estimators to examine the impact of OFDI on Tobin's Q employing the One Belt One Road initiative in 2013 as the exogenous shock. $Treat_i$ is a dummy variable equals 1 for treatments firms (firms engage in OFDI), and 0 for control firms. $T_i$ is a dummy variable that equals 1 if the year of the observation is from 2013 to 2016, and 0 otherwise. Panel A reports the full sample DiD test results controlling for multiple fixed effects. Panel B reports the subsample regression results by splitting the full sample into SOE and non-SOE subsamples. The definitions of all variables are presented in the Appendix Table A1. ***, **, and * indicate significance at the 1%, 5%, and 10% levels respectively.

| Panel A: DiD regression | | |
|---|---|---|
| | (1) | (2) |
| Variables | Tobin's Q | Tobin's Q |
| $Treat_i * T_i$ (DiD) | 0.147*** | 0.150*** |
| | (3.74) | (3.80) |
| Firm Size | -0.678*** | -0.768*** |
| | (-15.81) | (-19.81) |
| Leverage | -0.303*** | 0.259*** |
| | (-4.71) | (2.88) |
| PPE/TA | -0.679*** | -0.603*** |
| | (-8.78) | (-5.70) |
| CAPEX/TA | -0.415** | 0.011 |
| | (-2.00) | (0.05) |
| CF/TA | 1.497*** | 0.838*** |
| | (8.72) | (5.22) |
| Cash Dividend | -0.540*** | -0.078 |
| | (-8.36) | (-1.44) |
| Ln (Board Size) | -0.032 | 0.062 |
| | (-0.54) | (0.69) |
| Independent Directors% | 0.336 | 0.113 |
| | (1.58) | (0.41) |
| Ln (1+Firm Age) | 0.224*** | 0.929*** |
| | (6.50) | (6.82) |
| Financial Constraint | -5.196*** | -0.777 |
| | (-5.42) | (-1.02) |
| Ln (CEO Age) | 0.023 | -0.004 |
| | (0.32) | (-0.05) |
| CEO Gender | -0.025 | 0.015 |
| | (-0.63) | (0.28) |
| Top 10 Shareholders | -0.003*** | -0.002*** |
| | (-4.29) | (-2.79) |
| Firm Growth | 1.736*** | 1.626*** |
| | (13.80) | (13.55) |
| Constant | 10.470*** | 14.550*** |
| | (27.43) | (22.35) |
| Observations | 13,728 | 13,728 |
| R-squared | 0.408 | 0.694 |
| Industry FE | YES | NO |
| Firm FE | NO | YES |

| | | |
|---|---|---|
| Year FE | YES | YES |
| Panel B: DiDs regression in non-SOEs versus SOEs | | |
| Variables | (1)<br>Tobin's Q | (2)<br>Tobin's Q |
| | Non-SOE | SOE |
| $Treat_i * T_i$ (DiD) | 0.164*** | 0.023 |
| | (2.79) | (0.46) |
| Firm Size | -0.599*** | -0.732*** |
| | (-9.45) | (-13.86) |
| Leverage | -0.192** | -0.542*** |
| | (-2.10) | (-6.53) |
| PPE/TA | -0.586*** | -0.720*** |
| | (-4.86) | (-8.03) |
| CAPEX/TA | -0.880*** | 0.498* |
| | (-2.98) | (1.85) |
| CF/TA | 2.276*** | 0.528** |
| | (9.40) | (2.40) |
| Cash Dividend | -0.377*** | -0.594*** |
| | (-3.98) | (-7.51) |
| Ln (Board Size) | -0.160* | 0.043 |
| | (-1.71) | (0.64) |
| Independent Directors% | 0.099 | 0.004 |
| | (0.30) | (0.01) |
| Ln (1+Firm Age) | 0.252*** | 0.157*** |
| | (5.54) | (2.99) |
| Financial Constraint | -1.020 | -8.458*** |
| | (-0.72) | (-7.22) |
| Ln (CEO Age) | -0.077 | 0.246** |
| | (-0.84) | (2.33) |
| CEO Gender | -0.040 | 0.021 |
| | (-0.78) | (0.35) |
| Top 10 Shareholders | -0.006*** | 0.003*** |
| | (-6.95) | (3.09) |
| Firm Growth | 1.870*** | 1.687*** |
| | (10.77) | (10.04) |
| Constant | 13.717*** | 7.323*** |
| | (23.91) | (14.26) |
| Observations | 8,109 | 5,619 |
| R-squared | 0.405 | 0.447 |
| Industry FE | YES | YES |
| Year FE | YES | YES |

**Table 7 2SLS test**

This table provides the results of 2SLS regression with instrumental variables controlling for multiple fixed effects. *International school* is measured by the number of international schools in each province where a firm is headquartered. *DIST* is calculated by averaging the distance of a firm's headquarter to two of its nearest international airports. The definitions of all variables are presented in the Appendix Table A1. ***, **, and * indicate significance at the 1%, 5%, and 10% levels respectively.

| | First stage of 2SLS test | | Second stage of 2SLS test | |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| VARIABLES | OFDI | OFDI | Tobin's Q | Tobin's Q |
| International school | 0.051*** | 0.024** | | |
| | (16.96) | (2.48) | | |
| DIST | -0.061*** | -0.058*** | | |
| | (-12.62) | (-5.41) | | |
| OFDI | | | 0.308*** | 3.343*** |
| | | | (3.59) | (4.04) |
| Firm Size | 0.098*** | 0.099*** | -0.822*** | -1.260*** |
| | (10.65) | (12.66) | (-14.82) | (-13.03) |
| Leverage | 0.047*** | 0.028 | 0.206*** | 0.706*** |
| | (3.03) | (1.60) | (2.80) | (6.88) |
| PPE/TA | -0.185*** | 0.029 | -0.745*** | -0.773*** |
| | (-10.03) | (1.31) | (-11.60) | (-6.61) |
| CAPEX/TA | 0.213*** | -0.047 | -0.112 | 0.679*** |
| | (4.20) | (-1.10) | (-0.77) | (3.25) |
| CF/TA | 0.119*** | 0.037 | 1.205*** | 0.433** |
| | (2.88) | (1.10) | (6.95) | (2.44) |
| Cash Dividend | -0.027* | -0.044*** | -0.746*** | -0.073 |
| | (-1.88) | (-3.97) | (-9.90) | (-1.08) |
| Ln (Board Size) | -0.020 | 0.021 | 0.056 | 0.002 |
| | (-1.35) | (1.18) | (1.37) | (0.02) |
| Independent Directors% | 0.154*** | -0.000 | 0.878*** | 0.516* |
| | (2.98) | (-0.01) | (5.74) | (1.91) |
| Ln (1+Firm Age) | -0.023*** | 0.081*** | 0.212*** | 0.717*** |
| | (-2.86) | (3.54) | (10.45) | (5.85) |
| Financial Constraint | -0.595*** | -0.587*** | -7.886*** | -1.236 |
| | (-2.87) | (-3.85) | (-6.66) | (-1.28) |
| Ln (CEO Age) | -0.080*** | 0.002 | 0.103* | 0.077 |
| | (-4.32) | (0.10) | (1.91) | (0.84) |
| CEO Gender | 0.005 | 0.054*** | 0.005 | -0.153** |
| | (0.50) | (4.58) | (0.15) | (-2.10) |
| Top 10 Shareholders | -0.000** | -0.001*** | -0.006*** | -0.001 |
| | (-2.47) | (-6.28) | (-14.00) | (-1.19) |
| Firm Growth | -0.099*** | -0.085*** | 1.212*** | 1.634*** |
| | (-3.43) | (-3.58) | (7.37) | (9.92) |
| Observations | 29,182 | 29,063 | 29,182 | 29,063 |

| | | | | |
|---|---|---|---|---|
| Industry FE | YES | NO | YES | NO |
| Firm FE | NO | YES | NO | YES |
| Year FE | YES | YES | YES | YES |
| Underidentification test (Kleibergen-Paap rk LM statistic) | 1045.606 | 41.340 | | |
| Weak identification test (Kleibergen-Paap rk Wald F statistic) | 548.946 | 21.320 | | |
| Overidentification test (Hansen J statistic) | 0.725 | 0.045 | | |

**Table 8 Univariate analysis**

This table reports the results of univariate analysis. Panel A reports the number and percentage of firms engaging in OFDI or not based on state ownership. Panel B presents the continent choices in based on state ownership. Panel C provides the destination choices by separating host countries into developing and developed countries based on state ownership. Panel D reports destination choices by separating host countries into non- Belt-Road and Belt-Road countries based on state ownership. Panel presents the results of t-test on Tobin's Q based on different dimensions discussed in Panel A to Panel D. ***, **, and * indicate significance at the 1%, 5%, and 10% levels respectively.

Panel A: OFDI, Non-SOE vs SOE

| | (1) Non-SOE | | (2) SOE | | (3) Total | |
|---|---|---|---|---|---|---|
| OFDI | Freq | Percent | Freq | Percent | Freq | Percent |
| Non-OFDI | 13,800 | 57.94% | 10,315 | 71.23% | 24,115 | 62.96% |
| OFDI | 10,019 | 42.06% | 4,167 | 28.77% | 14,186 | 37.04% |
| Total | 23,819 | | 14,482 | | 38,301 | |

Panel B: Continents

| | (1) Non-SOE | | (2) SOE | | (3) Total | |
|---|---|---|---|---|---|---|
| Majority | Freq | Percent | Freq | Percent | Freq | Percent |
| Asia | 4,886 | 76.61% | 1,547 | 77.82% | 6,433 | 76.89% |
| Europe | 407 | 6.38% | 123 | 6.19% | 530 | 6.34% |
| Africa | 64 | 1.00% | 24 | 1.21% | 88 | 1.05% |
| Oceania | 86 | 1.35% | 53 | 2.67% | 139 | 1.66% |
| N.America | 927 | 14.53% | 222 | 11.17% | 1,149 | 13.73% |
| S.America | 8 | 0.13% | 19 | 0.96% | 27 | 0.32% |
| Total | 6,378 | | 1,988 | | 8,366 | |

Panel C: Developed vs developing countries

| | (1) Non-SOE | | (2) SOE | | (3) Total | |
|---|---|---|---|---|---|---|
| DVLP | Freq | Percent | Freq | Percent | Freq | Percent |
| Developing | 966 | 11.97% | 375 | 15.46% | 1,341 | 12.78% |
| Developed | 7,106 | 88.03% | 2,050 | 84.54% | 9,156 | 87.22% |
| Total | 8,072 | | 2,425 | | 10,497 | |

Panel D: Belt Road Countries

| | (1) Non-SOE | | (2) SOE | | (3) Total | |
|---|---|---|---|---|---|---|
| BRC | Freq | Percent | Freq | Percent | Freq | Percent |
| Non-BRC | 6,983 | 86.50 | 1,966 | 81.01 | 8,949 | 85.23 |
| BRC | 1,090 | 13.50 | 461 | 18.99 | 1,551 | 14.77 |
| Total | 8,073 | | 2,427 | | 10,500 | |

Panel E: T-test Table

Two-sample t-test with unequal variances: Full sample

| Variables | N | Non-SOE | N | SOE | MeanDiff |
|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| Tobin's Q | 20228 | 2.309 | 12256 | 1.850 | 0.458*** |
| Two-sample t-test with unequal variances: Developing VS Developed | | | | | |
| Variables | N | Developing | N | Developed | MeanDiff |
| Tobin's Q_Full | 1235 | 1.836 | 8313 | 2.222 | -0.386*** |
| Tobin's Q_Non-SOE | 896 | 1.956 | 6450 | 2.351 | -0.395*** |
| Tobin's Q_SOE | 339 | 1.520 | 1863 | 1.775 | -0.255*** |
| Two-sample t-test with unequal variances: BRC VS NBRC | | | | | |
| Variables | N | NBRC | N | BRC | MeanDiff |
| Tobin's Q_Full | 8113 | 2.210 | 1438 | 1.959 | 0.250*** |
| Tobin's Q_Non-SOE | 6327 | 2.338 | 1020 | 2.087 | 0.251*** |
| Tobin's Q_SOE | 1786 | 1.756 | 418 | 1.647 | 0.108** |

**Table 9 Channel SOE & Destinations**

This table provides the results of two-step regression approach. *SOE* is a dummy variable takes value of 1 if the firm is state owned enterprise, and 0 otherwise. *DVLP* is a dummy variable takes value of 1 if the host country is a developed country, and 0 otherwise. *BRC* is a dummy variable takes value of 1 if the destination is classified as a Belt-Road country, and 0 otherwise. Panel A investigates the relation between state ownership and investment destination choice with first-step regression. Panel B reports the second-step regression between destinations and Tobin's Q. The definitions of all variables are presented in the Appendix Table A1. ***, **, and * indicate significance at the 1%, 5%, and 10% levels respectively.

| Panel A: Regression of ownership and destinations | | | Panel B: Regression of destinations and Tobin's Q | | |
|---|---|---|---|---|---|
| | (1) | (2) | | (1) | (2) |
| VARIABLES | DVLP | BRC | VARIABLES | Tobin's Q | Tobin's Q |
| SOE | -0.024*** | 0.052*** | | | |
| | (-2.61) | (5.19) | | | |
| | | | DVLP | 0.157*** | |
| | | | | (4.29) | |
| | | | BRC | | -0.080** |
| | | | | | (-2.36) |
| Firm Size | 0.005 | -0.007 | L.Firm Size | -0.386*** | -0.384*** |
| | (0.25) | (-0.36) | | (-7.26) | (-7.23) |
| Leverage | -0.134*** | 0.143*** | L.Leverage | -0.471*** | -0.476*** |
| | (-5.70) | (5.64) | | (-5.62) | (-5.67) |
| PPE/TA | 0.027 | 0.063* | L.PPE/TA | -1.074*** | -1.065*** |
| | (0.84) | (1.84) | | (-9.39) | (-9.31) |
| CAPEX/TA | 0.299*** | -0.232*** | L.CAPEX/TA | -0.484* | -0.455* |
| | (3.75) | (-2.70) | | (-1.76) | (-1.65) |
| CF/TA | 0.033 | 0.109 | L.CF/TA | 2.455*** | 2.478*** |
| | (0.49) | (1.52) | | (11.14) | (11.23) |
| Cash Dividend | -0.032 | 0.028 | L.Cash Dividend | -0.320*** | -0.319*** |
| | (-1.14) | (0.94) | | (-4.00) | (-3.99) |
| Ln (Board Size) | -0.090*** | 0.048** | L.Ln (Board Size) | -0.104 | -0.112 |
| | (-4.26) | (2.12) | | (-1.39) | (-1.49) |
| Independent Directors% | 0.014 | 0.119 | L.Independent Directors% | 0.569** | 0.592** |
| | (0.20) | (1.58) | | (2.28) | (2.37) |
| Ln (1+Firm Age) | -0.065*** | 0.014 | L. Ln (1+Firm Age) | 0.063* | 0.055 |
| | (-6.00) | (1.23) | | (1.72) | (1.49) |
| Financial Constraint | -0.077 | -0.021 | L. Financial Constraint | -1.351 | -1.318 |
| | (-0.18) | (-0.05) | | (-1.13) | (-1.11) |
| Ln (CEO Age) | -0.037 | -0.058** | L.Ln (CEO Age) | 0.091 | 0.077 |
| | (-1.54) | (-2.23) | | (1.04) | (0.89) |
| CEO Gender | 0.006 | 0.023 | L.CEO Gender | -0.030 | -0.026 |
| | (0.46) | (1.60) | | (-0.61) | (-0.53) |

| | | | | | |
|---|---|---|---|---|---|
| Top 10 Shareholders | -0.000 | -0.000 | L.Top 10 Shareholders | -0.003*** | -0.003*** |
| | (-0.29) | (-0.61) | | (-3.68) | (-3.67) |
| Firm Growth | -0.074* | 0.087** | L.Firm Growth | 0.964*** | 0.955*** |
| | (-1.82) | (1.98) | | (6.58) | (6.52) |
| Constant | 1.174*** | 0.482*** | Constant | 8.449*** | 8.687*** |
| | (7.95) | (3.04) | | (16.25) | (16.78) |
| Observations | 9,846 | 9,849 | Observations | 9,156 | 9,158 |
| R-squared | 0.105 | 0.081 | R-squared | 0.407 | 0.406 |
| Industry FE | YES | YES | Industry FE | YES | YES |
| Year FE | YES | YES | Year FE | YES | YES |

**Table 10 DDD regression**

This table reports the results of DDD regression controlling for multiple fixed effects. $Treat_i$ is a dummy variable takes value of 1 for treatment firms and 0 for control firms. $T_i$ is a dummy variable takes value of if a firm-year observation is from 2013 and afterwards. *BRC* is a dummy variable takes value of 1 if the destination is classified as a Belt-Road country, and 0 otherwise. The definitions of all variables are presented in the Appendix Table A1. ***, **, and * indicate significance at the 1%, 5%, and 10% levels respectively.

| | (1) | (2) |
|---|---|---|
| VARIABLES | Tobin's Q | Tobin's Q |
| $Treat_i * T_i * BRC_i$ (DDD) | -0.198** | -0.267*** |
| | (-2.04) | (-3.22) |
| $Treat_i * T_i$ (DiD) | -0.198 | 0.763*** |
| | (-0.26) | (3.05) |
| Firm Size | -0.226*** | -0.396*** |
| | (-3.25) | (-6.77) |
| Leverage | -0.540*** | 0.647*** |
| | (-6.52) | (5.14) |
| PPE/TA | -1.181*** | 0.143 |
| | (-10.78) | (0.77) |
| CAPEX/TA | 0.306 | 0.570** |
| | (1.12) | (1.96) |
| CF/TA | 2.518*** | 1.236*** |
| | (10.60) | (5.97) |
| Cash Dividend | -0.241** | 0.127 |
| | (-2.36) | (1.63) |
| Ln (Board Size) | -0.044 | 0.206* |
| | (-0.62) | (1.75) |
| Independent Directors% | 0.748*** | 0.858** |
| | (3.11) | (2.57) |
| Ln (1+Firm Age) | 0.065* | 1.140*** |
| | (1.77) | (6.82) |
| Financial Constraint | 1.678 | 2.556** |
| | (1.06) | (2.23) |
| Ln (CEO Age) | -0.095 | -0.142 |
| | (-1.15) | (-1.30) |
| CEO Gender | 0.014 | 0.052 |
| | (0.31) | (0.71) |
| Top 10 Shareholders | -0.004*** | -0.000 |
| | (-5.90) | (-0.43) |
| Firm Growth | 2.132*** | 1.718*** |
| | (14.73) | (12.98) |
| Constant | 8.630*** | 8.865*** |
| | (17.37) | (9.26) |
| Observations | 9,551 | 9,551 |

| | | |
|---|---|---|
| R-squared | 0.410 | 0.731 |
| Industry FE | YES | NO |
| Firm FE | NO | YES |
| Year FE | YES | YES |

## Table 11 Channel test

This table reports the results of channel tests. *Tax* is the effective tax rate of each firm-year observation. *AC* is measured by natural log of the number of analysts following a firm in each observation year. *AR* is measured by natural log of the numbers of upgraded recommendations each year. Panel A presents the results of first step of channel test. Panel B provides the results of second step of channel test. Panel C reports the results of first step of channel test in non-SOEs versus SOEs subsample respectively. Panel D shows the results of second step of channel test in non-SOEs versus SOEs subsample respectively. The definitions of all variables are presented in the Appendix Table A1. ***, **, and * indicate significance at the 1%, 5%, and 10% levels respectively.

| Panel A: First step of channel test | | | | Panel B: Second step of channel test | | | |
|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | | (1) | (2) | (3) |
| Variables | Tax | AC | AR | Variables | Tobin's Q | Tobin's Q | Tobin's Q |
| OFDI | -0.021*** | 0.114*** | 0.215*** | L.Tax | -0.139*** | | |
| | (-4.09) | (7.27) | (10.11) | | (-8.07) | | |
| Firm Size | 0.053*** | 0.791*** | 0.925*** | L.AC | | 0.148*** | |
| | (5.88) | (22.97) | (14.18) | | | (21.16) | |
| Leverage | 0.237*** | -1.194*** | -1.124*** | L.AR | | | 0.156*** |
| | (17.34) | (-24.26) | (-15.47) | | | | (18.91) |
| PPE/TA | 0.189*** | -0.544*** | -0.954*** | L.Firm Size | -0.744*** | -0.552*** | -0.463*** |
| | (10.66) | (-9.54) | (-11.06) | | (-28.72) | (-17.06) | (-8.27) |
| CAPEX/TA | -0.585*** | 3.072*** | 3.370*** | L.Leverage | 0.099** | -0.319*** | -0.667*** |
| | (-12.31) | (21.25) | (14.34) | | (2.24) | (-6.05) | (-8.89) |
| CF/TA | 0.032 | 1.848*** | 2.254*** | L.PPE/TA | -0.742*** | -0.683*** | -0.869*** |
| | (0.85) | (14.25) | (10.71) | | (-13.23) | (-11.15) | (-9.61) |
| Cash Dividend | 0.008 | 0.801*** | 0.661*** | L.CAPEX/TA | -0.588*** | -0.876*** | -1.130*** |
| | (0.60) | (15.66) | (7.00) | | (-3.97) | (-5.68) | (-4.65) |
| Ln (Board Size) | 0.030** | 0.133*** | -0.070 | L.CF/TA | 1.510*** | 2.020*** | 2.204*** |
| | (2.26) | (3.23) | (-1.13) | | (12.89) | (15.25) | (10.90) |
| Independent Directors% | 0.136*** | 0.169 | -0.213 | L.Cash Dividend | -0.647*** | -0.432*** | -0.313*** |
| | (2.88) | (1.17) | (-1.00) | | (-16.21) | (-8.95) | (-3.84) |
| Ln (1+Firm Age) | 0.025*** | -0.271*** | -0.254*** | L.Ln (Board Size) | -0.059 | -0.137*** | -0.141** |
| | (3.57) | (-12.78) | (-7.46) | | (-1.41) | (-3.13) | (-2.19) |
| Financial Constraint | 0.959*** | 6.740*** | 5.936*** | L.Independent Directors% | 0.782*** | 0.252 | 0.289 |
| | (4.76) | (8.81) | (4.04) | | (5.29) | (1.64) | (1.31) |
| Ln (CEO Age) | 0.004 | -0.097* | -0.185** | L. Ln (1+Firm Age) | 0.165*** | 0.118*** | 0.064* |
| | (0.27) | (-1.89) | (-2.55) | | (7.52) | (5.25) | (1.84) |
| CEO Gender | 0.013 | -0.033 | 0.032 | L. Financial Constraint | -6.894*** | -3.853*** | -0.247 |
| | (1.46) | (-1.13) | (0.80) | | (-11.96) | (-5.47) | (-0.20) |
| Top 10 Shareholders | -0.001*** | 0.001 | -0.008*** | L.Ln (CEO Age) | 0.176*** | 0.186*** | 0.180** |
| | (-6.01) | (1.58) | (-12.68) | | (3.43) | (3.38) | (2.37) |
| Firm Growth | -0.188*** | 3.211*** | 1.893*** | L.CEO Gender | -0.028 | -0.013 | -0.035 |
| | (-7.53) | (35.47) | (14.64) | | (-0.94) | (-0.42) | (-0.84) |
| Constant | -0.003 | -9.321*** | -12.414*** | L.Top 10 Shareholders | -0.004*** | -0.003*** | 0.001 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | (-0.03) | (-34.84) | (-31.03) | | (-8.59) | (-5.23) | (1.49) |
| | | | | L.Firm Growth | 0.321*** | 0.800*** | 0.603*** |
| | | | | | (3.96) | (8.04) | (4.44) |
| | | | | Constant | 9.795*** | 9.083*** | 12.078*** |
| | | | | | (38.06) | (31.39) | (28.65) |
| Observations | 33,573 | 24,241 | 16,576 | Observations | 29,344 | 21,676 | 13,563 |
| R-squared | 0.201 | 0.356 | 0.344 | R-squared | 0.379 | 0.414 | 0.419 |
| Industry FE | YES | YES | YES | Industry FE | YES | YES | YES |
| Year FE | YES | YES | YES | Year FE | YES | YES | YES |

Panel C: First step of channel test in non-SOEs versus SOEs

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| VARIABLES | Tax | Tax | AC | AC | AR | AR |
| | Non-SOE | SOE | Non-SOE | SOE | Non-SOE | SOE |
| OFDI | -0.017*** | -0.008 | 0.129*** | -0.029 | 0.197*** | 0.057 |
| | (-3.09) | (-0.75) | (6.56) | (-1.09) | (7.68) | (1.48) |
| Firm Size | 0.071*** | -0.010 | 0.765*** | 0.918*** | 0.918*** | 0.863*** |
| | (7.16) | (-0.55) | (16.11) | (18.15) | (10.53) | (8.84) |
| Leverage | 0.132*** | 0.468*** | -1.056*** | -1.215*** | -0.895*** | -1.249*** |
| | (9.15) | (16.27) | (-16.58) | (-15.48) | (-9.96) | (-10.01) |
| PPE/TA | 0.145*** | 0.198*** | -0.934*** | 0.053 | -0.937*** | -0.603*** |
| | (6.96) | (6.19) | (-11.53) | (0.65) | (-8.32) | (-4.46) |
| CAPEX/TA | -0.520*** | -0.614*** | 3.074*** | 2.809*** | 3.225*** | 2.941*** |
| | (-10.21) | (-6.30) | (16.73) | (11.81) | (11.84) | (6.19) |
| CF/TA | 0.086** | -0.043 | 1.775*** | 2.083*** | 2.183*** | 1.966*** |
| | (2.12) | (-0.56) | (10.63) | (10.10) | (8.33) | (5.54) |
| Cash Dividend | 0.043*** | -0.053** | 0.705*** | 0.932*** | 0.486*** | 0.747*** |
| | (2.82) | (-2.01) | (10.06) | (12.42) | (3.85) | (5.28) |
| Ln (Board Size) | -0.005 | 0.049** | 0.170*** | 0.248*** | -0.040 | 0.142 |
| | (-0.32) | (2.00) | (2.99) | (4.10) | (-0.50) | (1.45) |
| Independent Directors% | 0.063 | 0.110 | 0.426** | -0.200 | 0.082 | -0.357 |
| | (1.16) | (1.27) | (2.16) | (-0.93) | (0.30) | (-1.07) |
| Ln (1+Firm Age) | 0.023*** | 0.032* | -0.227*** | -0.263*** | -0.165*** | -0.299*** |
| | (3.16) | (1.94) | (-8.83) | (-6.61) | (-4.16) | (-4.20) |
| Financial Constraint | 1.470*** | -0.102 | 5.246*** | 9.000*** | 3.976** | 5.419** |
| | (6.54) | (-0.26) | (4.94) | (8.11) | (2.01) | (2.48) |
| Ln (CEO Age) | -0.000 | -0.022 | -0.057 | 0.050 | -0.079 | -0.220 |
| | (-0.01) | (-0.57) | (-0.94) | (0.51) | (-0.98) | (-1.34) |
| CEO Gender | -0.001 | 0.043* | -0.022 | -0.010 | 0.045 | -0.054 |
| | (-0.10) | (1.94) | (-0.65) | (-0.18) | (1.00) | (-0.67) |
| Top 10 Shareholders | -0.001*** | -0.000 | 0.000 | 0.001 | -0.010*** | -0.003** |
| | (-8.80) | (-0.32) | (0.28) | (0.75) | (-12.98) | (-2.44) |
| Firm Growth | 0.002 | -0.626*** | 2.917*** | 3.565*** | 1.493*** | 2.790*** |
| | (0.06) | (-11.58) | (25.39) | (24.12) | (9.65) | (11.47) |

| | | | | | | |
|---|---|---|---|---|---|---|
| Constant | 0.302*** | 0.214 | -10.498*** | -10.812*** | -14.642*** | -12.656*** |
| | (3.26) | (1.18) | (-29.31) | (-22.78) | (-28.99) | (-15.81) |
| Observations | 21,068 | 12,505 | 15,335 | 8,906 | 11,659 | 4,917 |
| R-squared | 0.188 | 0.203 | 0.332 | 0.441 | 0.346 | 0.434 |
| Industry FE | YES | YES | YES | YES | YES | YES |
| Year FE | YES | YES | YES | YES | YES | YES |
| Panel D: Second step of channel test in non-SOEs versus SOEs | | | | | | |
| | (1) | (2) | (3) | (4) | (5) | (6) |
| VARIABLES | Tobin's Q | Tobin's Q | Tobin's Q | Tobin's Q | Tobin's Q | Tobin's Q |
| | Non-SOE | SOE | Non-SOE | SOE | Non-SOE | SOE |
| L.Tax | -0.149*** | -0.134*** | | | | |
| | (-5.24) | (-7.23) | | | | |
| L.AC | | | 0.162*** | 0.120*** | | |
| | | | (17.02) | (12.61) | | |
| L.AR | | | | | 0.176*** | 0.108*** |
| | | | | | (16.87) | (8.65) |
| L.Firm Size | -0.731*** | -0.659*** | -0.513*** | -0.525*** | -0.361*** | -0.476*** |
| | (-19.96) | (-19.54) | (-10.91) | (-12.85) | (-4.75) | (-6.49) |
| L.Leverage | 0.226*** | -0.177*** | -0.252*** | -0.502*** | -0.706*** | -0.631*** |
| | (3.73) | (-2.97) | (-3.41) | (-7.20) | (-7.23) | (-5.99) |
| L.PPE/TA | -0.630*** | -0.882*** | -0.323*** | -1.028*** | -0.555*** | -1.389*** |
| | (-7.30) | (-13.34) | (-3.38) | (-14.28) | (-4.43) | (-12.04) |
| L.CAPEX/TA | -0.939*** | 0.245 | -1.286*** | -0.125 | -1.812*** | 0.628 |
| | (-4.54) | (1.25) | (-6.00) | (-0.60) | (-6.04) | (1.58) |
| L.CF/TA | 2.054*** | 0.735*** | 2.667*** | 0.986*** | 2.984*** | 0.635** |
| | (12.75) | (4.76) | (14.64) | (5.58) | (11.47) | (2.22) |
| L.Cash Dividend | -0.612*** | -0.488*** | -0.384*** | -0.349*** | -0.139 | -0.310*** |
| | (-10.81) | (-9.52) | (-5.50) | (-5.76) | (-1.25) | (-2.92) |
| L.Ln (Board Size) | -0.131** | 0.055 | -0.234*** | -0.007 | -0.369*** | 0.187** |
| | (-2.10) | (1.10) | (-3.55) | (-0.14) | (-4.18) | (2.27) |
| L.IndependentDirectors% | 0.638*** | 0.360** | 0.155 | -0.075 | -0.281 | 0.338 |
| | (2.89) | (2.01) | (0.68) | (-0.40) | (-0.93) | (1.20) |
| L. Ln (1+Firm Age) | 0.195*** | 0.105*** | 0.149*** | 0.036 | 0.143*** | -0.088 |
| | (6.73) | (3.20) | (5.09) | (1.04) | (3.32) | (-1.48) |
| L. Financial Constraint | -5.031*** | -6.373*** | -1.824* | -4.247*** | 3.196* | -1.962 |
| | (-6.15) | (-8.59) | (-1.77) | (-4.84) | (1.89) | (-1.21) |
| L.Ln (CEO Age) | 0.119* | 0.196** | 0.189*** | 0.165* | 0.168* | 0.149 |
| | (1.79) | (2.52) | (2.68) | (1.95) | (1.87) | (1.08) |
| L.CEO Gender | -0.042 | -0.015 | -0.058 | 0.080* | -0.063 | -0.024 |
| | (-1.11) | (-0.33) | (-1.47) | (1.67) | (-1.25) | (-0.36) |
| L.Top 10 Shareholders | -0.008*** | 0.002*** | -0.005*** | 0.002*** | -0.001 | 0.004*** |

| | | | | | | |
|---|---|---|---|---|---|---|
| | (-12.47) | (3.95) | (-7.64) | (3.07) | (-1.12) | (4.73) |
| L.Firm Growth | 0.420*** | 0.486*** | 0.956*** | 0.740*** | 1.053*** | 0.371* |
| | (3.82) | (4.38) | (6.96) | (5.59) | (6.10) | (1.84) |
| Constant | 11.814*** | 8.124*** | 10.514*** | 7.930*** | 13.933*** | 10.308*** |
| | (31.33) | (22.53) | (24.37) | (19.43) | (24.52) | (15.32) |
| Observations | 17,826 | 11,518 | 13,384 | 8,292 | 9,425 | 4,138 |
| R-squared | 0.382 | 0.389 | 0.414 | 0.427 | 0.419 | 0.446 |
| Industry FE | YES | YES | YES | YES | YES | YES |
| Year FE | YES | YES | YES | YES | YES | YES |

# Appendix

**Table A1 Variables Definition**

| Variables | Definition |
|---|---|
| Tobin's Q | The market value of a firm divided by total assets of the firm |
| OFDI | A dummy variable equals 1 if a firm engages in greenfield OFDI in a year, and 0 otherwise. |
| Firm Size | Natural log of the total assets |
| Leverage | Total debt/Total assets |
| PPE/TA | Value of firm's plant, property, and equipment divided by total assets |
| CAPEX/TA | Firm's capital expenditure divided by total assets |
| CF/TA | Firm's operating cash flow divided by total assets |
| Cash Dividend | Takes value of 1 if firm pays cash dividends, 0 otherwise |
| Ln (Board Size) | Natural log of the number of directors |
| Independent Directors% | The percentage of the independent directors in the board |
| Ln (1+Firm Age) | Natural log of 1 plus firm age |
| Financial Constraint | The index of firm's financial constraints |
| Ln (CEO Age) | Natural log of CEO age |
| CEO Gender | Takes value of 1 if the CEO is male, 0 otherwise |
| Top 10 Shareholders | The percentage of total top 10 shareholders |
| Firm Growth | Firm's revenue growth |
| SOE | A dummy variable that takes value of 1 if the firm is state owned enterprise, and 0 otherwise |
| DVLP | A dummy variable that takes value of 1 if the host country is a developed country, and 0 otherwise |
| BRC | A dummy variable that takes value of 1 if the destination is classified as a Belt-Road country, and 0 otherwise |
| International school | Natural log of 1 plus the number of international schools in each province where a firm is headquartered |
| DIST | Natural log of the average distance of a firm's headquarter to two of its nearest international airports |
| Tax | The effective tax rate |
| AC | Natural log of the number of analysts following a firm |
| AR | Natural log of the numbers of upgraded recommendations |

## Table A2 Correlation Coefficient

| | Tobin's Q | OFDI | Firm Size | Leverage | PPE/TA | CAPEX/TA | CF/TA | Cash Dividend | Ln (Board Size) | Independent Directors% | Ln (1+Firm Age) | Financial Constraint | Ln (CEO Age) | CEO Gender | Top 10 Shareholders | Firm Growth |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tobin's Q | 1 | | | | | | | | | | | | | | | |
| OFDI | -0.008 | 1 | | | | | | | | | | | | | | |
| Firm Size | -0.327*** | 0.290*** | 1 | | | | | | | | | | | | | |
| Leverage | -0.217*** | 0.033*** | 0.429*** | 1 | | | | | | | | | | | | |
| PPE/TA | -0.142*** | -0.140*** | 0.072*** | 0.092*** | 1 | | | | | | | | | | | |
| CAPEX/TA | -0.063*** | -0.032*** | -0.030*** | -0.054*** | 0.325*** | 1 | | | | | | | | | | |
| CF/TA | 0.087*** | 0.010* | 0.039*** | -0.131*** | 0.272*** | 0.177*** | 1 | | | | | | | | | |
| Cash Dividend | -0.087*** | 0.118*** | 0.163*** | -0.221*** | -0.071*** | 0.099*** | 0.132*** | 1 | | | | | | | | |
| Ln (Board Size) | -0.150*** | -0.055*** | 0.211*** | 0.153*** | 0.188*** | 0.070*** | 0.058*** | 0.026*** | 1 | | | | | | | |
| Independent Directors% | 0.063*** | 0.091*** | 0.048*** | -0.021*** | -0.090*** | -0.028*** | -0.035*** | 0.006 | -0.482*** | 1 | | | | | | |
| Ln (1+Firm Age) | 0.090*** | 0.125*** | 0.225*** | 0.134*** | -0.071*** | -0.227*** | -0.007 | -0.051*** | -0.066*** | 0.053*** | 1 | | | | | |
| Financial Constraint | 0.230*** | -0.316*** | -0.810*** | -0.138*** | 0.009 | -0.012** | -0.188*** | -0.573*** | -0.125*** | -0.059*** | -0.203*** | 1 | | | | |
| Ln (CEO Age) | 0.000 | 0.060*** | 0.157*** | -0.007 | 0.023*** | -0.026*** | 0.048*** | 0.089*** | 0.020*** | 0.039*** | 0.169*** | -0.189*** | 1 | | | |
| CEO Gender | -0.016*** | 0.000 | 0.032*** | 0.018*** | 0.049*** | 0.017*** | -0.009* | -0.009 | 0.072*** | -0.052*** | -0.026*** | -0.019*** | 0.017*** | 1 | | |
| Top 10 Shareholders | -0.123*** | 0.027*** | 0.080*** | -0.132*** | -0.004 | 0.128*** | 0.078*** | 0.205*** | 0.016*** | 0.019*** | -0.236*** | -0.150*** | 0.012** | -0.025*** | 1 | |
| Firm Growth | 0.085*** | 0.000 | 0.092*** | 0.016*** | -0.067*** | 0.065*** | 0.199*** | 0.125*** | 0.023*** | -0.009* | -0.005 | -0.189*** | -0.005 | -0.014*** | 0.089*** | 1 |

*** p<0.01, ** p<0.05, * p<0.1

**Table A12 Robustness check for baseline regression**

This table provides the results robustness check for baseline regression of equation (1). *Nproject* is the number of foreign projects a firm undertakes in each year. *Ncountry* is and the number of foreign investment destination countries a firm invests in each year. Panel A investigates the relation between the number of foreign projects and firm performance by using the full sample controlling for multiple fixed effects. Panel B reports the regression between the number of foreign investment destination countries and firm performance using the full sample controlling for multiple fixed effects. The key independent variable and all control variables are lagged for one year. The definitions of all variables are presented in the Appendix Table A1. ***, **, and * indicate significance at the 1%, 5%, and 10% levels respectively.

Panel A: Robustness check by using *Nproject*

| | (1) | (2) |
|---|---|---|
| Variables | Tobin's Q | Tobin's Q |
| L.Nproject | 0.021*** | 0.012*** |
| | (8.04) | (2.97) |
| L.Firm Size | -0.797*** | -0.836*** |
| | (-28.60) | (-32.39) |
| L.Leverage | 0.142*** | 0.530*** |
| | (3.05) | (8.81) |
| L.PPE/TA | -0.748*** | -0.438*** |
| | (-12.65) | (-5.76) |
| L.CAPEX/TA | -0.558*** | -0.347** |
| | (-3.57) | (-2.21) |
| L.CF/TA | 1.563*** | 0.582*** |
| | (12.54) | (5.10) |
| L.Cash Dividend | -0.657*** | -0.212*** |
| | (-15.31) | (-5.71) |
| L.Ln (Board Size) | -0.061 | -0.109* |
| | (-1.36) | (-1.70) |
| L.Independent Directors% | 0.802*** | 0.394** |
| | (5.05) | (2.04) |
| L. Ln (1+Firm Age) | 0.177*** | 0.738*** |
| | (7.54) | (9.67) |
| L. Financial Constraint | -7.049*** | -3.496*** |
| | (-11.36) | (-6.90) |
| L.Ln (CEO Age) | 0.187*** | 0.163** |
| | (3.43) | (2.49) |
| L.CEO Gender | -0.008 | -0.046 |
| | (-0.27) | (-1.13) |
| L.Top 10 Shareholders | -0.004*** | -0.002*** |
| | (-9.04) | (-3.76) |
| L.Firm Growth | 0.296*** | 0.396*** |
| | (3.44) | (5.09) |
| Constant | 10.581*** | 13.440*** |

| | | |
|---|---|---|
| | (37.80) | (31.34) |
| Observations | 26,424 | 26,424 |
| R-squared | 0.386 | 0.650 |
| Industry FE | YES | NO |
| Firm FE | NO | YES |
| Year FE | YES | YES |

Panel B: Robustness check by using *Ncountry*

| | (1) | (2) |
|---|---|---|
| VARIABLES | Tobin's Q | Tobin's Q |
| L.Ncountry | 0.054*** | 0.015** |
| | (9.57) | (2.00) |
| L.Firm Size | -0.800*** | -0.834*** |
| | (-28.70) | (-32.32) |
| L.Leverage | 0.138*** | 0.532*** |
| | (2.97) | (8.84) |
| L.PPE/TA | -0.739*** | -0.438*** |
| | (-12.50) | (-5.76) |
| L.CAPEX/TA | -0.551*** | -0.344** |
| | (-3.53) | (-2.20) |
| L.CF/TA | 1.551*** | 0.584*** |
| | (12.44) | (5.12) |
| L.Cash Dividend | -0.652*** | -0.211*** |
| | (-15.18) | (-5.69) |
| L.Ln (Board Size) | -0.051 | -0.104 |
| | (-1.15) | (-1.62) |
| L.Independent Directors% | 0.807*** | 0.404** |
| | (5.09) | (2.10) |
| L. Ln (1+Firm Age) | 0.178*** | 0.736*** |
| | (7.59) | (9.65) |
| L. Financial Constraint | -6.941*** | -3.488*** |
| | (-11.19) | (-6.88) |
| L.Ln (CEO Age) | 0.193*** | 0.166** |
| | (3.54) | (2.54) |
| L.CEO Gender | -0.006 | -0.046 |
| | (-0.19) | (-1.13) |
| L.Top 10 Shareholders | -0.004*** | -0.002*** |
| | (-8.89) | (-3.75) |
| L.Firm Growth | 0.303*** | 0.398*** |
| | (3.54) | (5.10) |
| Constant | 10.680*** | 13.386*** |
| | (38.08) | (31.21) |
| Observations | 26,424 | 26,424 |
| R-squared | 0.387 | 0.650 |
| Industry FE | YES | NO |

| | | |
|---|---|---|
| Firm FE | NO | YES |
| Year FE | YES | YES |