Female Directors' Foreign Experience and Environmental and Sustainable Performance

Abstract

This study examines the impact of female directors' foreign experience on environmental and sustainable (ES) performance in Chinese listed firms from 2010 to 2016. We find that female directors' foreign experience especially working experience has a positive and significant impact on firm's environmental and sustainable performance. The results are robust when using the Heckman two-step model and propensity score matching (PSM) to address self-selection concern. Additionally, female directors' foreign experience has a more significant impact on ES performance when the female directors gain foreign experience from a developed country, a Scandinavian law country or a civil law country. The marginal benefit of having a female director with foreign experience diminishes over time. Our collective results imply that female directors with foreign experience are more likely to act as a channel of transmitting environmental and sustainability knowledge and practices to Chinese firms.

Keywords: Female directors' foreign experience, environmental and sustainable performance, knowledge transmission

JEL codes: G34; G38

1. Introduction

The existing empirical literature has documented the impact of board gender diversity on various financial and non-financial outcomes, such as firm performance (Liu et al., 2014), stock price informativeness (Gul et al., 2011), payout policy (Byoun et al., 2016), and corporate social and environmental performance (Glass et al., 2016; McGuinness et al., 2017) among others.

This paper focuses on the effect of gender diversity on firms' environmental and sustainable (ES) performance. Majority of the studies in relevance to ES performance only examine the presence/absence of gender diversity and overlook the human and relational capital of female directors in both developed and developing countries (Glass

et al.,2016; Li et al., 2017; McGuinness et al., 2017; Liao et al., 2018). One exception is from Elmagrhi et al. (2019), who argue that female directors' observable factors (age, education) can also bring diversity in terms of their expertise at board level which can play a significant role to link the firm with critical external resources. They also recommend that further studies should be conducted in the Chinese context, to investigate the relationship between special attributes (skills, experience, and expertise) of female directors and environmental performance. Therefore, this research focuses on one specific attribute of female directors, foreign experience, which is considered as one of the important attributes in the Chinese context (Giannetti et al., 2015; Yuan and Wen, 2018). We argue that firms with foreign experienced female directors can have better environmental and sustainable performance for the following reasons[1].

First, unlike developed markets, China as an emerging market is lagging behind in environmental and sustainability practices[2]. The industrial expansion strategy has significantly improved the economic growth, but being a major source of pollution, greenhouse gas emissions, and waste generation, it has constantly deepened pressure on China's environment. For example, since 2006, China is the world's largest emitter of CO_2 emissions. China's energy consumption per unit of GDP is among the highest as compared to OECD and BRICS countries[3]. Air and water pollution and soil degradation have reached an alarming level. To handle these issues, China has taken various steps (Environmental Protection Law, Paris Climate Change Agreement) and try to achieve better practice in environment and sustainable development.

Second, during this process, board members with foreign experience can work as a learning channel to help transmit environmental and sustainability related knowledge and practice from developed economics to China. Giannetti et al. (2015) show that board members with foreign experience can help transmit knowledge about management practices from developed economics to emerging markets. Iliev and Toth (2018) argue that transfer of knowledge through directors' foreign experience can play a significant role in countries having weak institutional, governance, and legal environment. Moreover, the empirical literature in the Chinese context claim that directors with foreign experience, through learning channel, could help in the

[1] We thank the anonymous referee for the great help sort the thoughts.
[2] https://www.coresponsibility.com/csr-china-follower-leader/
[3] https://www.oecd-ilibrary.org/environment/china-s-progress-towards-green-growth_76401a8c-en

transmission of knowledge and practices from developed economies to an emerging market like China which not only improve firm performance (Giannetti et al., 2015) but also corporate social (including environmental and sustainable) performance (Zhang et al., 2018).

Third, among directors with foreign experience, female directors may be more likely to act as a channel of transmitting environmental and sustainability practices to Chinese firms. The preceding literature shows that female directors pay more attention to environmental and sustainable practices than men. For example, Glass et al. (2016) collect the data of Fortune 500 and analyze the impact of women leaders (CEO, board of directors) on corporate environmental performance and strategy. Their findings suggest that a gender-diverse board is more effective in pursuing environment-friendly strategies. Post et al. (2011) find that female directors have a positive and significant impact on corporate environmental performance. By collecting the data from 329 largest companies in the United Kingdom, Liao et al. (2015) find that female directors significantly improve corporate propensity to disclose greenhouse gas information than males. Moreover, similar results regarding the association between female directors and firms' environmental and sustainable performance can be found in both developed and emerging markets (Jaffee and Hyde, 2000; Liao et al., 2018; McGuinness et al., 2017; Setó·Pamies, 2015; Wehrmeyer and McNeil, 2000).

Concluding from the above-mentioned reasons, we hypothesize that female directors with foreign experience, by acting as a transmitting channel, are more likely to enhance firm environmental and sustainable practices in emerging markets like China. As directors with foreign experience in developed or high-CSR (corporate social responsibility) countries are more likely to learn and transmit good environmental and sustainability practice, we further hypothesize that female directors with foreign experience from a developed or high-CSR country are likely to have a more positive effect than those from an emerging or a low CSR country. Finally, since China has changed from an environmental and sustainability practice follower to a leader, the marginal benefit of having a female director with foreign experience should diminish over time. Therefore, we expect the effect of female director with foreign experience on environmental and sustainability practice is stronger in the first-half of our sample

period (i.e., 2010-2013), while weaker in the second-half of our sample period (i.e., 2014-2016)[4].

We test the hypothesis using data of firms listed on Shenzhen and Shanghai stock exchanges from the year 2010 to 2016. The empirical findings of the study suggest that, overall, the foreign experience of female directors has a positive and significant relationship with firms' environmental and sustainable performance. In addition female directors with foreign experience from a developed country, a Scandinavian law country or civil law country (developed or high-CSR country) are found to have a more positive effect on corporate environmental and sustainability practices than female directors with foreign experience from an emerging country or a common law country(emerging or low CSR country). The marginal benefit of having a female director with foreign experience diminishes over time. And working experience is more important than study experience.

Consequently, this paper seeks to make the potential contributions to the literature in the following ways. First, we highlight the role of female directors' foreign experience as a channel of transmitting environmental and sustainability knowledge and practices from developed markets to emerging markets. Previous literature has shown that foreign experience can help in transferring management knowledge and practice to emerging markets (Giannetti et al.,2015; Iliev and Roth, 2018) . We extend this strand of literature by showing that female directors' foreign experience can be of specific importance in ES knowledge and practice transmission. Second, we complement Liang and Renneboog (2017) by showing that female directors with foreign experience is a channel through which good ES practices could spill over from high-CSR countries to low-CSR countries. In the paper, we provide further evidence that environmental and sustainability related knowledge can be better transmitted by female directors who gained foreign experience from developed/high CSR countries such as Scandinavian law countries or civil law countries. Third, we provide more supportive evidence to the resource dependence theory (Hillman et al., 2002; Pfeffer and Salancik, 1978). Resource dependence theory not only highlights the presence of female directors but also discusses the significance of their human and relational capital (knowledge, experience, and expertise), which plays a significant role in protecting stakeholders' interest by providing valuable resources (Hillman et al., 2002; Hillman

[4] We highly appreciate the referee's suggestions on these further analysis.

et al.,2007). Previous researchers highlight that female directors and their special attributes (e.g., age, independence, and education) bring a positive change in the protection of shareholders as well as social (environmental and sustainable) issues (Elmagrhi et al., 2019; Gull et al., 2018; Liu et al., 2014). We argue that beside other special attributes, foreign experience of female directors can also play a significant role by bringing specialized knowledge to the table due to their working experience in economies which tend to pay greater attention to environmental and social issues.

The rest of the study is divided as follows. The second section discusses the contextual setting. Section 3 outlines the research methodology. Section 4 discusses the empirical findings, whilst the final section provides conclusion and policy recommendations.

2. Contextual Background

China became the world's second largest economy and manufacturing leader by having a two-digit growth rate in the 21st century. The opening up of China to the international market and its focus on a massive production strategy have seriously deteriorated the environmental and climatic conditions (Du, 2015; Du et al., 2014; Shahab et al., 2018). Additionally, China has severely compromised on the environmental policies, rules, and regulations to achieve its economic targets. The country has laid emphasis on immense production by using environmentally fatal natural resources (e.g., coal) in the production processes (Elmagrhi et al., 2019; Shahab et al., 2018; Shahab et al., 2019). Consequently, the usage of such unfriendly environmental resources (e.g. coal) has lead China to be one of the largest carbon dioxide emitting and air pollutant countries in the world; this causes between 70 to 80 deaths out of 100,000 people per year.[5]

To deal with these drastic environmental impacts, the Chinese government and regulatory institutions under the presidency of Hu, Jintao took various steps by introducing the slogan of "harmonious society" and "greener GDP" (McGuinness et al., 2017; See, 2009). In particular, the Chinese government also implemented some laws and regulations (Environmental Protection Law, State Environmental Protection Administration, Global Reporting Initiative guidelines, Environmental Protection Tax Law, and Paris Climate Agreement), which can be seen as the country's serious efforts

[5] Data retrieved from WHO International site https://www.who.int/westernpacific/news/detail/02-05-2018-one-third-of-global-air-pollution-deaths-in-asia-pacific on 1st May, 2019.

towards restoring the environment and dealing with sustainable issues (Elmagrhi et al., 2019; Yang et al., 2015). As a result, in 2017, the graft-busting "Central Commission for Discipline Inspection" and the "Central Organization Department" punished some 18,000 polluting companies with fines totaling to more than 870 million yuan (US$132.2 million); this shows that China is putting more pressure on the companies to pursue environment friendly activities.[6] However, despite these steps, China still faces extreme environmental problems, such as bad air quality (Elmagrhi et al., 2019; McGuiness et al., 2017; Shahab et al., 2018). Therefore, due to these issues, the Chinese government still believes that green economy will be one of their core objectives in the coming years. Recently, President Xi ,Jinping, at "International Horticultural Exhibition 2019" in Beijing (themed "Live Green, Live Better"), stressed on the green economy by recommending that "Green development concept should be spread to every corner of the world."

On the other hand, the Chinese government also felt the importance of foreign qualified human capital while opening to the international markets. The Chinese leaders, especially Deng, Xiaoping, are of the view that Chinese economy will get stronger once their people go abroad and get ideas, knowledge, expertise, and skills from developed countries. The importance of his view can be seen from his famous quote, "When our thousands of Chinese students abroad return home, you will see how China will transform itself."[7] Thus, to bring this idea into a practical form, till 2007, the Chinese government and institutions (Ministry of Education of China and Chinese Academy of Sciences, etc.,) sent around 1.2 million students abroad. However, due to some incidents (the passing of a resolution about the *Chinese Student Protection Act* in 1992, in US) in the past, the inflow of these foreign experts to come and provide their expert opinion based on their knowledge, skills, and expertise on different issues was greatly affected (Cao, 2008). To attract this foreign qualified human capital, China further started various programs namely "One Hundred Talent Programme" in 1994, the "National Science Funds for Outstanding Young Scholars Programme" in 1994, the "Hundred, Thousand and Ten Thousand Talents Programme" in 1995, and the "Cheung Kong Scholar Programme" in 1998, but the returning ratio remained very low till 2007 (about one-quarter). In light of this huge deficiency of foreign experts, in 2008, the

[6] Data retrieved from SCMP news site https://www.scmp.com/news/china/policies-politics/article/2109342/top-level-china-pollution-inspections-wrapping on 20th April, 2019.
[7] *Forbes*, Vol. 176, Editions 7-13 (2005), p. 79.

Chinese government initiated another policy namely "Thousand Talents Plan" to attract Chinese foreign experts by providing more incentives, such as free schooling for their children, local awards, research grant, long-term residence permit, and jobs for their spouses, etc., (Giannetti et al., 2015; Yuan and Wen, 2018: Shahab et al., 2019). This program was very successful and increased the returning ratio of experts from 25% in 2008 to 61% in 2017.[8]

Accordingly, the current institutional background of China regarding firms' environmental and sustainable performance and board of directors, specifically female directors' foreign experience, make this study more precise and timely on determining the role of female directors with foreign experience in affecting firms' environmental and sustainable performance in China.

3. Research Methodology

3.1 Data

We collect the data from 2010 to 2016 of all A-share firms listed on Shenzhen and Shanghai stock exchanges. This sample period is selected because the data regarding the dependent variable (environmental and sustainable performance) is available from 2009 onwards, while the data on the independent variable is available from 2008 onwards. Following the previous researchers (Giannetti et al., 2015; McGuiness et al., 2017; Shahab et al., 2019; Yuan and Wen, 2018), two databases were used for the data collection. Firstly, the data on female directors' foreign experience and all other control variables is taken from China Stock Market and Accounting Research (CSMAR). Secondly, the data on firm environmental and sustainable performance regarding Rankins Ratings (RKS) is collected from "HEXUN" website. Moreover, following firms were deleted: (a) which do not report the data on the presence of overall female directors in a particular year (4427 firm year observations) and (b) financial firms (285 observations). Finally, 11,682 firm-year observations after matching the data from these two different databases were obtained. All continuous variables are winsorized at 1 percent.

3.2 Environmental and Sustainable Performance

RKS show separate rating scores for environmental and sustainable performance. Therefore, the approach of Elmagrhi et al. (2019) and Shahab et al. (2019) is followed,

[8]Source (National Bureau of Statistic various year surveys from 2008-2017).

and RKS scores for the proxies of the firm environmental *(ENV_P)* and sustainable *(SUST_P)* performance are used. The range of *ENV_P* and *SUST_P* ratings is from '0' to '100' where '0' indicates the lower involvement of a firm in environmental and sustainable activities and '100' represents the higher involvement.

3.3 Female Directors' Foreign Experience

We followed the methodology of Giannetti et al. (2015) and Yuan and Wen (2018)[9], and measure female directors' foreign experience by using two proxies. First, this paper measures female directors' experience by a dummy variable (*Fem_For_D*) equal to '1' if a firm has at least one female director having foreign experience and '0' otherwise. Second,we measure female director's foreign experience by the total number of female directors having foreign experience divided by the total number of female directors (*Fem_For_Per*).

3.4 Econometric Model

The following two econometric models are used to analyze the impact of female directors' foreign experience on firms' environmental and sustainable performance.

$$ENV\_P_{i,t+1}=b_0+\beta_1 Fem\_For\_D_{it}+\beta_2 Controls_{it}+\beta_3 Industry_i+\beta_4 Year_t+\varepsilon_{it} \quad (1)$$

$$SUST\_P_{i,t+1}=b_0+\beta_1 Fem\_For\_D_{it}+\beta_2 Controls_{it}+\beta_3 Industry_i+\beta_4 Year_t+\varepsilon_{it} \quad (2)$$

Based on the previous studies, this paper uses some control variables that are expected to affect firms' environmental and sustainable performance. These variables include state ownership (*SOE),* top one shareholder *(TOP1),* top five shareholders *(TOP5),* board size (*Boardsize*), board independence (*Boardind*), CEO duality (*CEO_Dual),* return on equity (*ROE),* debt to equity ratio (*Leverage),* firm size *(Ln_Size), firmage,* and market to book ratio *(MTB).* The detailed description about the measurement of these variables is provided in Appendix A.

4. Empirical Results

4.1 Descriptive Statistics

Table 1 Panel A presents the summary statistics of all variables considered in this study. In this table, total number of observations, mean, standard deviation, median,

[9]They used these proxies for overall foreign experience directors.

and minimum and maximum values have been reported. The average value of "*ENV_P*" score is 2.63 with a minimum 0 and maximum 30 rating score. The mean value of "*ENV_D"* shows that on average, 17% firms are involved regarding environmental activities. The average rating of "*SUST_P"* is 27.29 with a minimum of 1.08 and maximum of 76.43 score. While looking at the mean values of both environmental and sustainable performance, it can be seen that China is still far behind other developed countries in this regard. The mean values of environmental and sustainable performance in this study are consistent with the study in Chinese context (Shahab et al., 2019).

Additionally, Table 1 Panel A shows that on average, 8% out of total female directors have either work or study experience abroad. Moreover, on average, 14% of firms have at least one foreign-experienced female director (which is quite low). Studies (e.g., Cao et al., 2017; Giannetti et al., 2015) have argued that on average, between 40% to 50% of firms have at least one foreign-experienced director (including both male and female), which means that the average of foreign experience female directors is quite low as compared to their male counterparts. The mean value of rest of the control variables is consistent with the previous literature (Elmagrhi et al., 2019; Gul et al., 2010; Jin et al., 2016; McGuinness et al., 2017; Shahab et al., 2018). However, for brevity, they have not been discussed in detail here.

In Table 1 Panel B, to check the environmental performance, we compare the environmental and sustainability performance of the female versus male foreign-experience directors firms. *Foreign_experienced_ female_directors* is a dummy variable coded '1' if a firm has at least one female foreign-experienced director and '0' if a firm has at least one male foreign-experienced director[10]. The definition is simiar for *Foreign_experienced_ male_directors*. Here, only firms with at least one foreign-experienced directors were considered and the data of firms that do not have any foreign-experienced directors in their boards was dropped. In addition, for more robust findings, we also dropped such firms which contain both male and female foreign experienced directors in a particular year. The results indicate that mean values of environmental performance is greater and significant (at one percent) in female foreign-experienced directors as compared to male foreign-experienced directors' firms. Similarly, the female foreign-experienced directors and female directors without

[10] We are thankful to the anonymous reviewer for this suggestion.

foreign experience firms are compared. The results show that there is a positive and significant difference in environmental performance of such firms. Similar results are found for sustainable growth performance.

<Insert Table 1 Here>

Table 2 shows the variance inflation factor (*VIF*) and correlation among environmental performance, female directors' foreign experience, and other control variables. The *VIF* is estimated after regressing the independent and control variables on the dependent variable. The value of *VIF* is less than 10 (standard threshold); also, the correlation values are not so high, which means that this data has no issue of multicollinearity.

<Insert Table 2 Here>

4.2 Regression Results

Table 3 shows the regression results of the first hypothesis while including control variables, industry, and year fixed effects. The first two models show the relationship between female directors' foreign experience and firm environmental performance, while the third and fourth models indicate the results of the association between female directors foreign experience and sustainable performance. In model (1) and (2), the coefficients between both proxies for female director's foreign experience (*Fem_For_D* and *Fem_For_Per*) and environmental performance are statistically positive and significant (0.326 and 0.601). It shows that an increase in foreign-experienced female directors at board level leads to increase in the environmental performance of a firm. In addition, this research also found a positive and significant relationship, (0.877 and 1.649), between both proxies of female directors' foreign experience, (*Fem_For_D* and *Fem_For_Per*), and firm's sustainable performance. It depicts that foreign experience of female directors is also more likely to increase the sustainable performance.

The preceding literatures (Bennouri et al., 2018; Elmagrhi et al., 2019; Gull et al., 2018) also suggest that besides female directors' foreign experience, there are various other attributes of female directors that can affect different firm outcomes. Following their approach, this paper further uses some additional control variables to alleviate the omitted-variable concern. These variables include *Fem_Ind* (the proportion of female independent directors out of total female directors), *Fem_Fin* (the proportion of female

directors have financial background out of total female directors), and *Fem_Age* (the average of female directors age). The results of Table 3, columns 3 and 6, indicate that the female directors' foreign experience still has a positive and significant impact on firm environmental and sustainable performance.

The above-mentioned empirical findings strongly support our hypothesis. Thus, the economic significance of these findings could be such that one standard deviation increase or decrease in female directors' foreign experience is associated with 10 percent (.326*.349) increase or decrease in firms' environmental and 29 percent (.877*.349) increase or decrease in sustainable performance. The policy implication of these findings can be such that firms which have high proportion of foreign-experienced female directors are more likely to pursue environmental and sustainable policies that can ultimately lead to the improved firm environmental and sustainable performance. The findings of this study are consistent with the theoretical suggestions of resource dependence theory (Hillman et al., 2007; Pfeffer and Salancik's, 1978), which argue that special attributes (foreign experience) of female directors can play a significant role in the protection of stakeholder's interest.

<Insert Table 3 Here>

4.3 Self-selection Issues

Even though the independent variables of main model of this study are lagged one period, empirical analysis still suffer from self-selection issues. Therefore, the Heckman two-step model and PSM are used to further address the concern of self-selection.

4.3.1 Heckman Two-step Model

By following the approach of Giannetti et al. (2015), and Yuan and Wen (2018), the Heckman two-step model was used in two stages. In the first stage, logit regression was used by using the dummy variable proxy of female directors' foreign experience and regressing it on other variables, namely state ownership, top one shareholder, board size, board independence, return on equity, firm age, market-to-book ratio, firm size, and leverage.[11] The inverse mills ratio (*IMR*) calculated from the first stage was included in the second stage with independent variable (female director foreign

[11]For brevity, we have not reported the first stage results.

experience) and other control variables. The Heckman model's second stage findings show that female directors' foreign experience has a positive and significant relationship with firms' environmental and sustainable performance. Hence, this model further supports this paper's argument that female directors' foreign experience enhances the environmental and sustainable performance of a firm.

<Insert Table 4 Here>

4.3.2 Propensity Score Matching (PSM)

PSM is used to further minimize the issue of self-selection bias. We compare the firms having foreign-experienced female directors (treatment firms) to a sample of firms having no foreign-experienced female directors (control firms). We estimate the probit model for the identification of propensity-score match control sample. Here, in the probit model, we utilized all the baseline regression variables and considered female director's foreign experience as our dependent variable. After this step, we calculate propensity score and select control firms within caliper width of 0.1 for each treated firm.

To clarify satisfactory matching, Panel A of Table 5, indicates the covariate balance to check whether or not the mean of the covariate varies across matched treatment and control firm. Consistent with the findings of Yuan and Wen (2018), this panel shows that the two subsamples have similar characteristics after PSM. Moreover, in Panel B of Table 5, the PSM regression results show that female directors' foreign experience is significantly and positively associated with environmental performance while the impact of female director's foreign experience on sustainable performance is positive but insignificant.

<Insert Table 5 Here>

4.4 Further Analysis

4.4.1 Does Country Matter?

Giannetti et al. (2015) and Iliev and Roth (2018) claim that directors with foreign experience, as a learning channel, could help transmit knowledge and practice from developed markets to an emerging market like China. Based on this argument, to check the environmental and sustainable performance, we compare the firms having foreign experienced female directors from developed markets to that of emerging market. Here,

firstly, we followed the approach of Giannetti et al. (2015) and manually collected the director's bios from companies' annual reports and sina.com.cn website. Secondly, we further followed the United Nations (www.un.org) guidelines to see whether the directors have received their foreign education or work experience from developed or emerging markets. For robust findings, we dropped the firms (a) having no foreign experienced female directors (b) the director's bios was not available. To measure whether the foreign experienced female directors are from developed markets or emerging markets, we define *For_Female_D_Dev_Countries* as a dummy variable, which is coded '1' if a firm has at least one female foreign-experienced director from developed economies and '0' if a firm has at least one female foreign-experienced director from emerging markets. Similarly, *For_Female_D_Non_Dev_Countries* is coded "1" if a firm has at least one female foreign-experienced director from emerging economies and '0' otherwise. In Table 6 columns 1 and 2, the empirical findings suggest that the mean value of environmental and sustainable performance is higher and significant if a firm has foreign-experienced female directors from a developed market as compare to foreign-experience female directors from an emerging market.

We further check if directors with foreign experience in high-CSR countries are more likely to learn and transmit good ES practice. Liang and Renneboog (2017) find that firms from common law countries have lower CSR than companies from civil law countries, with Scandinavian civil law firms having the highest CSR ratings. Thus, we followed Liang and Renneboog (2017) and developed a dummy variable *For_Fem_D_Civil_Countries,* coded '1' if a firm has at least one foreign-experienced female director from civil or Scandinavian law countries in a particular year and '0' if a firm has at least one foreign-experienced female director from common law countries. The definition for *For_Fem_D_Common_Countries* is similar which is equal to one if a firm has at least one foreign-experienced female director from common law countries in a particular year. For robust findings, we followed the above-mentioned approach and dropped the firm-year observation if a firm has no foreign-experienced female director and director's bios was not available.In Table 6 columns 3 and 4, the empirical findings suggest that the mean value of environmental and sustainable performance is higher and significant if a firm has foreign-experienced female directors from civil and Scandinavian law countries (high CSR countries) as compare to foreign-experience female directors from common law countries (low CSR countries).

<Insert Table 6 Here>

4.4.2 Does Time Matter?

The concept of environmental and sustainable practices has changed dramatically over the last two decades in China. For example, in 2006, it was made mandatory for Chinese firms to publish their various CSR practices reports[12]. As a result, the number of CSR reports increased from 32 in 2006 to 1526 in 2014 and this mandatory requirement helped Chinese firms to move from lagging behind to a leading position on environmental and sustainable practices. As China has changed from an environmental and sustainable practice follower to a leader, the marginal benefit of having a female director with foreign experience should diminish over time. Therefore, we could test whether the effect of female directors with foreign experience on environmental and sustainable practice is stronger in the first half of the sample period (i.e., 2010-2013), while weaker in the second half of the sample period (i.e., 2014-2016). To test our argument, we develop a dummy variable coded '1' for the first half of the sample period and '0' for the second half of the sample period. In Table 7, the empirical findings suggest that the marginal effect of foreign-experienced female directors on the mean value of environmental and sustainable performance is higher and significant for the first half of our sample period as compared to the second half of sample period of the study.

<Insert Table 7 Here>

4.4.3 Does Female Director's Characteristic Matter?

Following the suggestion of Iliev and Roth, (2018), in model (1) and (2) of Table 8, this paper further segregated female directors' foreign experience into working experience (*Fem_For_W*, a dummy coded '1' if a firm has at least one female director who worked in a foreign country and '0' if vice versa) and study experience (*Fem_For_S*, a dummy coded '1' if a firm has at least one female director who studied in a foreign country and '0' if vice versa). The results indicate that *Fem_For_W* (model 1) has a positive and significant relationship with firm environmental and sustainable performance, while *Fem_For_S* (model 2) has an insignificant relationship with firm environmental performance.

[12] https://www.coresponsibility.com/csr-china-follower-leader/

Additionally, on one hand, the literature of Harris and Shimizu (2004) and McDonald et al. (2008) suggest that firms might have more incentives to retain directors in order to enhance their functions and other productive abilities. However, on the other hand, it is argued that longer tenure is more likely to result in less effective monitoring (Vafeas, 2003). Specificxpally, for female directors, it is stated that longer tenure of female directors is associated with low firm performance (Bennouri et al., 2018) and high earning management (Gull et al., 2018). Therefore, the impact of female directors' foreign experience tenure (*Fem_For_Tenure*, the average number of years spent by foreign-experienced women as directors) on firm environmental performance was checked. The empirical findings (Model 3) show that the tenure of foreign-experienced female directors has a negative but insignificant impact on firms' environmental performance.

Moreover, the preceding literatures (Gull et al., 2018; Liu et al., 2014; Palvia et al., 2015) argue that chairwomen of the board are more likely to influence various corporate outcomes (earning management, firm performance, and risk) due to their power and status. Therefore, their argument was followed, and it was checked whether or not chairwomen with foreign experience (*Fem_For_Chair*, a dummy coded '1' if chairwomen of the board also have foreign experience and '0' if vice versa) also affect the corporate environmental and sustainable performance. However, it was noticed that the mean value of chairwomen with foreign experience is very less (.002). Moreover, the empirical findings (Model 4) suggest that chairwomen with foreign experience have a positive but insignificant relationship with corporate environmental and sustainable performance.

<Insert Table 8 Here>

4.4.4 Robustness Checks Using Different Variable Definitions

This paper further used an additional proxy for environmental performance *ENV_D*, a dummy variable equal to '1' if a firm has disclosed environmental performance in a given year and '0' otherwise, to provide more robust results. The models (1) and (2), in Table 9, show that the impact of both measures of female directors' foreign experience on firms' environmental performance is positive and significant. In addition, this paper tried to further extend the study of Elmagrhi et al. (2019) and used two additional special attributes of female directors, namely proportion of female director out of total female directors having finance background (*Fem_Fin_Per*) and the proportion of

female independent directors out of total female directors (*Fem_Ind_Per*). The results in models (3) and (4) of Table 9 show that both special attributes of female directors, (*Fem_Fin_Per* and *Fem_Fin_Per*), have a positive and significant impact on firms' environmental performance. In addition, using the same variables and analyzing its impact on sustainable performance, the results of models (5) and (6) show that only female directors' finance background impact on sustainable performance is positive and significant, while female directors' independence has no impact on firms' sustainable performance.

<Insert Table 9 Here>

5. Conclusions

The purpose of this study is to explore whether or not the presence of foreign-experienced female directors (which is believed to bring specialized knowledge, experience, and expertise due to their working experience in developed economies) helps in improving environmental and sustainable issues in Chinese listed firms. The empirical findings of this study suggest that female directors' foreign experience help in enhancing environmental and sustainable performance. Female directors' foreign experience has a more significant impact on ES performance when the female directors gain foreign experience from a developed country, a Scandinavian law country or a civil law country. The marginal benefit of having a female director with foreign experience diminishes over time. Further analysis shows that oversea working experience rather than oversea study experience matters for female directors. Our results show that female directors with foreign experience are more likely to act as a channel of transmitting ES knowledge and practices to China.

Hence, based on these findings, this study offers some policy recommendations to Chinese regulators and policy-makers. It is recommend that Chinese firms should be encouraged to offer proper attention to gender diversity at the board level. In particular, priority should be given to hiring female directors with foreign working experience in developed countries or in high-CSR countries because such directors tend to have a comprehensive background of working experience in international markets and are often more aware of social and ethical issues.

There are a number of limitations that need to be addressed by future studies. First, besides female directors' foreign experience, there are other special attributes of female

directors, such as political connections, nationality, busyness, and tenure, which can be analyzed in terms of their links with environmental and sustainable performance. Secondly, future studies may offer new insights by integrating different theoretical perspectives, such as social categorization and social identity theories.

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Appendix A. Measurement of variables

Variables	Definition
Dependent variables	
ENV_P	The *HEXUN RKS-ratings score* on environmental performance which ranges from '0' to '100,' where '0' represents lower environmental ratings score of a firm in a given year and so on.
ENV_D	Dummy variable equal to '1' if a firm has disclosed environmental performance in a given year and '0' otherwise.
SUST_P	The *HEXUN RKS-ratings score* on firm sustainable performance which ranges from '0' to '100,' where '0' shows lower sustainable ratings score of firm in a given year and so on.
Independent variables	
Fem_For_Per	The number of female directors having foreign experience divided by total number of female directors.
Fem_For_D	Dummy variable equal to '1' if a firm at least one foreign qualified (who study or work abroad) female director in a given year and '0' otherwise.
Fem_For_W	Dummy variable coded '1' if a firm has at least one female director who has worked in a foreign country.
Fem_For_S	Dummy variable coded '1' if a firm has at least one female director who has studied in a foreign country.
Fem_For_Tenure	The average number of years spent by foreign-experienced women as directors
Fem_For_Chair	Dummy coded '1' if chairwomen of the board also have foreign experience and '0' if vice versa.
Other Variables	
SOE	Dummy variable equal to '1' if a firm is owned by state and '0' otherwise.
TOP1	The proportion of shares held by the largest shareholder of the firm.

TOP5	The proportion of shares held by the top 5 five largest shareholders of the firm.
Boardsize	The total number of board of directors in a firm.
Boardind	The percentage of independent directors in the firm.
CEO_Dual	Dummy variable equal to '1' if CEO is also chairman of the board and '0' otherwise.
ROE	The income before extraordinary items divided by the book value of equity.
Leverage	Total debt divided by total assets.
Ln_Size	Natural logarithm of firm's total employees.
Firmage	The number of year a firm is listed on stock exchange.
M/B	Market to book ratio.
Fem_Ind	The proportion of female independent directors out of total female directors.
Fem_Fin	The proportion of female directors have financial background out of total female directors.
Fem_Age	The average of female directors' age.
Fem_Fin_Per	The total number of female directors having finance background divided by total number of female directors.
Fem_Ind_Per	The total number of female independent directors divided by total number of female directors.

Table 1. Summary Statistics

Panel A. Sample Statistics

This panel depicts the descriptive statistics for the key variables in the sample of 11,682 firm-year observations. Please see Appendix A for descriptions of variables.

Variable	*N*	*Mean*	*SD*	*P50*	*Min*	*Max*
ENV_P_t	11,682	2.626	5.754	0	0	30
ENV_D_t	11,682	0.173	0.378	0	0	1
$SUST\_P_t$	11,682	27.29	17.48	22.47	1.08	76.43
$Fem\_For\_Per_t$	11,682	0.082	0.228	0	0	1
$Fem\_For\_D_t$	11,682	0.142	0.349	0	0	1
SOE_t	11,682	0.362	0.48	0	0	1
$TOP1_t$	11,682	0.354	0.149	0.337	0.086	0.755
$TOP5_t$	11,674	0.537	0.159	0.543	0.180	0.877
$Boardsize_t$	11,661	8.809	1.731	9	5	15
$Boardind_t$	11,660	0.371	0.053	0.333	0.333	0.571
CEO_Dual_t	11,554	0.265	0.441	0	0	1
ROE_t	11,682	0.075	0.083	0.07	-0.265	0.361
$Leverage_t$	11,682	0.429	0.220	0.410	0.042	0.940
Ln_Size_t	11,670	7.507	1.272	7.479	3.912	10.806
$Firmage_t$	11,682	16.369	5.004	16	6	30
MTB_t	11,682	0.486	0.247	0.454	0.068	1.08

Panel B. Univariate Analysis

This panel reports univariate analysis of environmental performance based on female versus male foreign directors and female with versus directors without foreign experiences. Please see Appendix A for descriptions of variables. *, **, and *** indicate significance at the 0.10, 0.05 and 0.01 levels (two-tailed).

	(1) *Foreign_experienced_ male_directors*		(2) *Foreign_experienced_ female_directors*		(3) *Non-foreign_experienced_ female _directors*		*Differences*	
	Observations	*Mean*	*Observations*	*Mean*	*Observations*	*Mean*		*T-value*
ENV_P$_t$	5611	2.624	647	2.755			(2)-(1)	3.657***
ENV_P$_t$			1667	2.662	10015	2.616	(2)-(3)	1.693*
SUST_P	5611	28.706	647	28.872			(2)-(1)	1.715*
SUST_P			1667	28.199	10015	27.175	(2)-(3)	2.20**

Table 2. VIF and Correlation Matrix

This table contains the VIF and correlation matrix for dependent, independent, and control variables of the study.

Variables	VIF	1	2	3	4	5	6	7	8	9	10	11	12	13
1.ENV_P	-	1												
2.Fem_For_D	1.01	0.01*	1											
3.SOE	1.36	0.18*	-0.09*	1										
4.TOP1	1.26	0.05*	0.01	0.17*	1									
5.TOP5	1.25	0.06*	0.03*	-0.26*	-0.35*	1								
6.Boardsize	1.43	0.13*	0.02*	0.27*	0.02	-0.01*	1							
7.Boardind	1.24	-0.01	-0.01*	-0.07*	0.04*	-0.06	-0.42*	1						
8.CEO_Dual	1.10	-0.08*	0.01	-0.27*	-0.01	0.08*	-0.17*	0.09*	1					
9.ROE	1.00	-0.04	-0.00	-0.01	-0.00	0.01	-0.01	0.00	0.01	1				
10.Leverage	1.17	0.05*	-0.02*	0.21*	-0.02*	-0.15*	0.12*	-0.01*	-0.11*	0.01*	1			
11.Ln_Size	1.27	0.26*	0.03*	0.24*	0.15*	-0.08*	0.27*	-0.03*	-0.11*	-0.02*	0.13*	1		
12.Firmage	1.10	-0.01	-0.01	0.13*	-0.16*	-0.10*	0.03*	-0.02*	-0.11*	0.08	0.18*	0.04*	1	
13.MTB	1.40	0.20*	-0.03*	0.34*	0.11*	-0.19*	0.24*	-0.05*	-0.17*	-0.02*	0.26*	0.40*	0.07*	1

Note: *Significant at 10% level.

Table 3. Impact of Female Directors' Foreign Experience on Firms' Environmental and Sustainable Performance.

This table presents the regression results of the impact of female directors' foreign experience on firms' environmental and sustainable performance. A detailed description of the variables has been provided in Appendix A. Industry and year effects have been controlled in the analysis and R^2 value has been reported; p-values are reported in brackets. ***, ** and * denotes 1%, 5% and 10% significance levels respectively.

Variables	(1) ENV_P_{t+1}	(2) ENV_P_{t+1}	(3) ENV_P_{t+1}	(4) $SUST\_P_{t+1}$	(5) $SUST\_P_{t+1}$	(6) $SUST\_P_{t+1}$
$Fem\_For\_D_t$	0.326**		0.307*	0.877*		0.951*
	[0.046]		[0.060]	[0.072]		[0.051]
$Fem\_For\_Per_t$		0.601**			1.649**	
		[0.024]			[0.032]	
SOE_t	1.198***	1.198***	1.139***	1.376***	1.379***	1.244**
	[0.000]	[0.000]	[0.000]	[0.004]	[0.004]	[0.010]
$TOP1_t$	-0.718	-0.721	-0.710	-2.657	-2.666	-2.384
	[0.239]	[0.237]	[0.244]	[0.149]	[0.148]	[0.195]
$TOP5_t$	0.604	0.594	0.631	9.038***	9.010***	8.737***
	[0.318]	[0.326]	[0.297]	[0.000]	[0.000]	[0.000]
$Boardsize_t$	0.148***	0.149***	0.150***	0.573***	0.576***	0.564***
	[0.001]	[0.001]	[0.001]	[0.000]	[0.000]	[0.000]
$Boardind_t$	3.275**	3.266**	3.026**	9.069**	9.045**	8.713**
	[0.010]	[0.010]	[0.018]	[0.017]	[0.018]	[0.023]
CEO_Dual_t	-0.294**	-0.289**	-0.276**	-0.540	-0.527	-0.493
	[0.021]	[0.024]	[0.031]	[0.158]	[0.168]	[0.198]
ROE_t	0.001	0.001	0.003	0.539**	0.539**	0.542**
	[0.994]	[0.993]	[0.974]	[0.030]	[0.030]	[0.030]
$Leverage_t$	-0.046	-0.045	-0.053	-5.560***	-5.557***	-5.549***
	[0.770]	[0.775]	[0.739]	[0.001]	[0.001]	[0.001]
Ln_Size_t	0.970***	0.970***	0.954***	4.157***	4.157***	4.097***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
$Firmage_t$	-0.015	-0.015	-0.014	-0.023	-0.023	-0.022
	[0.215]	[0.212]	[0.241]	[0.523]	[0.519]	[0.542]
MTB_t	0.721**	0.708*	0.707*	-2.360**	-2.394**	-2.401**
	[0.047]	[0.051]	[0.052]	[0.040]	[0.037]	[0.036]
Fem_Ind_t			0.196			-0.459
			[0.214]			[0.317]
Fem_Fin_t			0.388			1.761**
			[0.113]			[0.016]
Fem_Age_t			0.923**			4.575***
			[0.022]			[0.000]
Constant	-7.471***	-7.458***	-11.001***	-14.683***	-14.645***	-31.749***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Industry fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	8,531	8,531	8,531	8,531	8,531	8,531
R-squared	0.137	0.137	0.138	0.170	0.171	0.172

Table 4. Heckman result.

This table presents the regression results of Heckman model for the effect of female directors' foreign experience on firms' environmental and sustainable performance. A detailed description of the variables has been provided in Appendix A. Industry and year effects have been controlled in the analysis, and R^2 value has been reported; p-values are reported in brackets. ***, ** and * denotes 1%, 5% and 10% significance levels respectively.

	Heckman two-step (Second stage)	
Variables	ENV_P_{t+1}	$SUST\_P_{t+1}$
$Fem\_For\_D_t$	0.343**	0.859*
	[0.037]	[0.079]
SOE_t	0.896***	1.623*
	[0.001]	[0.057]
$TOP1_t$	-0.548	-2.679
	[0.382]	[0.156]
$TOP5_t$	0.650	8.786***
	[0.283]	[0.000]
$Boardsize_t$	0.179***	0.542***
	[0.000]	[0.000]
$Boardind_t$	3.193**	9.224**
	[0.014]	[0.016]
CEO_Dual_t	-0.297**	-0.552
	[0.020]	[0.150]
ROE_t	0.002	0.535**
	[0.980]	[0.031]
$Leverage_t$	-0.095	-5.562***
	[0.559]	[0.002]
Ln_Size_t	1.017***	4.117***
	[0.000]	[0.000]
$Firmage_t$	-0.014	-0.021
	[0.246]	[0.553]
MTB_t	0.633*	-2.196*
	[0.088]	[0.060]
IMR	0.924	-0.945
	[0.194]	[0.673]
Constant	-9.402***	-12.695**
	[0.000]	[0.020]
Industry fixed effect	Yes	Yes
Year fixed effect	Yes	Yes
Observations	8,500	8,500
R-squared	0.137	0.168

Table 5. PSM results.

This table presents the regression results using PSM for the effect of female directors' foreign experience on firm environmental and sustainable performance. Panel A shows the results of the covariate balance check on the mean difference in the covariates used in the probit model between the treatment firms and control firms. A detailed description of the variables is provided in Appendix A. Industry and year effects have been controlled in the analysis and R^2 value has been reported; p-values are reported in brackets. ***, ** and * denotes 1%, 5% and 10% significance levels respectively.

Panel A: Results of covariate balance checks

Variables	Mean		P-values
	Firms having foreign experienced female directors	*Firms having no foreign experienced female directors*	
SOE	0.253	0.242	0.602
Top1	0.365	0.366	0.962
$Boardsize_{t-1}$	9.014	9.008	0.998
$Boardind_{t-1}$	0.367	0.367	0.902
ROE_{t-1}	0.084	0.075	0.689
$Leverage_{t-1}$	0.402	0.412	0.460
Ln_Size_{t-1}	7.580	7.569	0.840
$Firmage_{t-1}$	15.619	15.595	0.906
MTB_{t-1}	0.478	0.477	0.947

Panel B: Regression results using the PSM method.

	PSM	
Variables	ENV_P_{t+1}	$SUST\_P_{t+1}$
$Fem\_For\_D_t$	0.341*	0.690
	(0.083)	(0.239)
SOE_t	1.167***	1.519***
	(0.000)	(0.004)
$TOP1_t$	-0.752	3.344**
	(0.164)	(0.037)
$TOP5_t$	-7.446	18.358
	(0.192)	(0.279)
$Boardsize_t$	0.168***	0.647***
	(0.001)	(0.000)
$Boardind_t$	3.807**	10.681**
	(0.012)	(0.018)
CEO_Dual_t	-0.346**	-0.579
	(0.044)	(0.255)
ROE_t	-0.010	0.483*
	(0.913)	(0.072)
$Leverage_t$	-0.350	-12.833***
	(0.385)	(0.000)
Ln_Size_t	1.007***	4.805***
	(0.000)	(0.000)
$Firmage_t$	-0.017	-0.015
	(0.252)	(0.734)
MTB_t	0.291	-2.601**
	(0.476)	(0.032)
Constant	-6.760***	-13.297***
	(0.000)	(0.000)
Industry fixed effect	Yes	Yes
Year fixed effect	Yes	Yes
Observations	6103	6103
R-squared	0.1334	0.1801

Table 6. Further Analysis:Does Country Matter?

This table reports univariate analysis of environmental and sustainable performance based on female directors foreign experience from developed countries versus female directors foreign experience from developing countries and female directors foreign experience form civil law countries versus female directors foreign experience form common law countries. *, **, and *** indicate significance at the 0.10, 0.05 and 0.01 levels (two-tailed).

	(1) *For_Female_D_Dev_Countries*		(2) *For_Female_D_Non_Dev_Countries*		(3) *For_Fem_D_Civil_Countries*		(4) *For_Fem_D_Common_Countries*		*Differences*	
	Observations	*Mean*	*Observations*	*Mean*	*Observarions*	*Mean*	*Observations*	*Mean*		*T-value*
ENV_P	1415	2.537	170	2.370					(1)-(2)	-1.818*
ENV_P					301	2.794	1284	2.464	(3)-(4)	-4.588***
SUST_P	1415	29.618	170	27.882					(1)-(2)	-3.235***
SUST_P					301	30.926	1284	29.145	(3)-(4)	-4.238***

Table 7. Further Analysis:Does Time Matter?

This table reports univariate analysis of environmental and sustainable performance based on female directors foreign experience between two subsample periods. *, **, and *** indicate significance at the 0.10, 0.05 and 0.01 levels (two-tailed).

	(1) *Foreign_experienced_ female_directors_Pre period*		(2) *foreign_experienced_ female _directors_Post period*		*Differences*	
	Observations	*Mean*	*Observations*	*Mean*		*T-value*
ENV_P$_t$	4407	3.062	7275	2.185	(1)-(2)	-8.479***
SUST_P	4407	28.971	7275	26.321	(1)-(2)	-7.910***

Table 8. Additional Analysis of female directors experience

This table presents the regression results for the impact of female directors' foreign working and study experience, foreign-experienced female directors' tenure, foreign-experienced chairwomen on firms' environmental performance. A detailed description of the variables has been provided in Appendix A. Industry and year effects have been controlled in the analysis, and R^2 value has been reported; p-values are reported in brackets. ***, ** and * denotes 1%, 5% and 10% significance levels respectively.

	(1)	(2)	(3)	(4)
Variables	ENV_P_{t+1}	ENV_P_{t+1}	ENV_P_{t+1}	ENV_P_{t+1}
$Fem\_For\_W_t$	0.280*			
	[0.095]			
$Fem\_For\_S_t$		0.219		
		[0.275]		
$Fem\_For\_Tenure_t$			-0.195	
			[0.146]	
$Fem\_For\_Chair_t$				0.694
				[0.359]
SOE_t	1.186***	1.184***	2.109***	1.168***
	[0.000]	[0.000]	[0.000]	[0.000]
$TOP1_t$	-0.693	-0.704	2.677*	-0.711
	[0.256]	[0.249]	[0.075]	[0.244]
$TOP5_t$	0.593	0.587	-2.883*	0.603
	[0.327]	[0.332]	[0.057]	[0.318]
$Boardsize_t$	0.150***	0.151***	0.271**	0.153***
	[0.001]	[0.001]	[0.021]	[0.001]
$Boardind_t$	3.270**	3.256**	0.673	3.265**
	[0.010]	[0.011]	[0.852]	[0.010]
CEO_Dual_t	-0.295**	-0.296**	-0.793***	-0.301**
	[0.021]	[0.021]	[0.007]	[0.019]
ROE_t	0.000	0.002	0.185	0.002
	[0.997]	[0.984]	[0.723]	[0.987]
$Leverage_t$	-0.045	-0.046	-1.208	-0.044
	[0.775]	[0.768]	[0.115]	[0.778]
Ln_Size_t	0.971***	0.972***	1.394***	0.975***
	[0.000]	[0.000]	[0.000]	[0.000]
$Firmage_t$	-0.014	-0.015	0.013	-0.015
	[0.217]	[0.187]	[0.641]	[0.195]
MTB_t	0.719**	0.713*	-1.631*	0.710*
	[0.048]	[0.050]	[0.089]	[0.051]
Constant	-7.484***	-7.467***	-7.927***	-7.505***
	[0.000]	[0.000]	[0.005]	[0.000]
Industry fixed effect	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes
Observations	8,531	8,531	1,288	8,531
R-squared	0.137	0.136	0.241	0.136

Table 9. Robustness Check

This table presents the regression results for the impact of female directors' foreign experience and more additional variables on firms' environmental and sustainable performance. A detailed description of the variables has been provided in Appendix A. Industry and year effects have been controlled in the analysis and R^2 value has been reported; p-values are reported in brackets. ***, ** and * denotes 1%, 5% and 10% significance levels respectively.

Variables	(1) ENV_D_{t+1}	(2) ENV_D_{t+1}	(3) ENV_P_{t+1}	(4) ENV_P_{t+1}	(5) $SUST\_P_{t+1}$	(6) $SUST\_P_{t+1}$
$Fem\_For\_D_t$	0.021*					
	[0.058]					
$Fem\_For\_Per_t$		0.041**				
		[0.015]				
$Fem\_Fin\_Per_t$			0.421*		1.743**	
			[0.075]		[0.013]	
$Fem\_Ind\_Per_t$				0.308**		0.037
				[0.038]		[0.932]
SOE_t	0.062***	0.062***	1.174***	1.137***	1.321***	1.295***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.002]	[0.003]
$TOP1_t$	-0.036	-0.036	-0.688	-0.754	-2.555	-2.619
	[0.359]	[0.355]	[0.251]	[0.208]	[0.150]	[0.141]
$TOP5_t$	0.000	-0.000	0.580	0.701	8.937***	9.054***
	[0.990]	[0.995]	[0.313]	[0.224]	[0.000]	[0.000]
$Boardsize_t$	0.014***	0.014***	0.152***	0.156***	0.584***	0.586***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
$Boardind_t$	0.312***	0.311***	3.234***	3.076**	8.920**	9.009**
	[0.000]	[0.000]	[0.009]	[0.013]	[0.015]	[0.014]
CEO_Dual_t	-0.022**	-0.022**	-0.297**	-0.286**	-0.551	-0.540
	[0.017]	[0.019]	[0.036]	[0.043]	[0.188]	[0.198]
ROE_t	0.003	0.003	0.001	0.003	0.538**	0.542**
	[0.634]	[0.633]	[0.994]	[0.969]	[0.041]	[0.039]
$Leverage_t$	-0.013	-0.013	-0.060	-0.053	-5.622***	-5.557***
	[0.349]	[0.351]	[0.783]	[0.810]	[0.000]	[0.000]
Ln_Size_t	0.072***	0.072***	0.972***	0.970***	4.157***	4.167***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
$Firmage_t$	0.000	0.000	-0.016	-0.014	-0.026	-0.024
	[0.692]	[0.694]	[0.229]	[0.264]	[0.494]	[0.522]
MTB_t	0.003	0.002	0.698**	0.706**	-2.439**	-2.391**
	[0.886]	[0.916]	[0.033]	[0.032]	[0.012]	[0.014]
Constant	-0.518***	-0.517***	-7.507***	-7.591***	-14.785***	-14.781***
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Industry fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	8,531	8,531	8,531	8,531	8,531	8,531
R-squared	0.141	0.141	0.137	0.137	0.171	0.170