The Impact of Overseas M&A on Performance Sensitivity of CEO Turnover: Evidence From Chinese Listed Companies

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Abstract

In recent years, with China's growing economic strength driven by the reform of market economic system and the implementation of "going out" strategy, overseas M&A has become an important channel for many Chinese listed companies to optimize the resource allocation and realize the leap of global value chain. Overseas M&A not only garners the advanced technology from overseas companies, but also improves the corporate governance of the parent company. With the data of Chinese listed companies from 2003 to 2019, this paper empirically examines how overseas M&A of listed companies influences the performance sensitivity of CEO turnover, and the PSM method and placebo tests are adopted to discuss the endogeneity. Finally, we proceed the heterogeneity tests by the nature of property rights, CEO power and the market competitiveness of product, respectively. The empirical results show that overseas M&A of Chinese listed companies will significantly improve the performance sensitivity of CEO turnover, and the phenomenon is more significant in SOEs and companies with lower management shareholding ratio, older CEO age, longer tenure of CEO, and lower product market competition. The conclusion of this paper not only offers a unique theoretical perspective for China's listed companies to improve their governance efficiency through overseas M&A, but also provides policy references for improving China's overseas M&A behavior in practice.

Keywords: overseas merger and acquisition, corporate governance, executive turnover, performance sensitivity

1. Introduction

After the Belt and Road initiative ("The Silk Road Economic Belt and the 21st-Century Maritime Silk Road") was put forward in 2013, China's enterprises accelerated the pace of "going out". Overseas M&A can help enterprises improve the optimal allocation of resources, realize the effect of scale economy, and enable enterprises to achieve diversified development at lower costs. With the substantial growing scale of overseas M&A by Chinese listed companies, an increasing number of studies focus on the achievements after overseas M&A, such as the impact on their corporate performance and governance. Sokolyk (2015) believes that CEOs with strong managerial power can make decisions not beneficial for firm value without being punished, because governance provisions restrict shareholders' ability to change managers. According to Defond and Hung (2004) [2], the ability to identify and terminate CEOs of poor performances is a necessary component of effective corporate governance, so CEO turnover is regarded as the most extreme constraint on executives, which has profound influences. Therefore, the impact of overseas M&A on the corporate governance of the parent company has become an important topic for scholars all over the world.

With the overseas M&A data of Chinese listed companies from 2003 to 2019, we empirically analyze the impact of overseas M&A on the corporate governance of Chinese listed companies, by adopting the performance sensitivity of CEO turnover as the measurement of corporate governance. We also carry out the heterogeneity tests in three aspects: the nature of property rights, CEO power and product market competition. Therefore, this paper not only offers China's evidence for the corporate governance effect of overseas M&A, as well as empirical evidence of overseas M&A for the theory of CEO power, but also provides policy references for Chinese enterprises on how to "going out" globally in practice.

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2. Literature Review

2.1 Literature Review of Overseas M&A

Based on the business practice of "going out" in globalization background, Ping et al. (2020) argue that Chinese enterprises can take advantage of the "Belt and Road Initiative" and government resources to promote overseas M&A. However, relevant policy guidelines do not mean blind expansion. Some scholars point out it is necessary to carry out strategic planning research to improve the success rate of overseas M&A cases, otherwise leading to subsequent risks and incalculable losses. Khan et al. (2021) suggest that distributed leadership increases the success opportunity for cross-border M&As of the emerging economies through the mediating role of socialization integration mechanisms.

The traditional international investment theory classifies the motivation of enterprises' overseas investment into three aspects of resources, technology, and market, mostly based on cases that the acquirer is a developed economy. Yang and Hyland (2012) document that the imitation of emerging economies will affect the cross-border M&As and imitation behavior of multinational corporations, and the link between imitation and isomorphism (the force of mimetic isomorphism) is strengthened by environmental instability. Campi et al. (2019) point out that the cross-border M&A decisions are also influenced by the process of strengthening and coordinating intellectual property rights globally. Besides, there are other factors affecting the M&A tendency of a company. After studying a large number of overseas M&A cases, Yu et al. (2018) confirm that the organizational characteristics, such as firm size, ownership structure, and etc., have different impacts on the M&A tendency; the top-level management characteristics, for example CEO tenure and international career experience, as well as the governance characteristics such as board size and the number of independent directors, have mixed effects on the incidence of cross-border M&A. Cheng and Yang (2017) explore the relationship between the firm characteristics and the M&A performance of companies, and find that the performance of M&A can be improved by strengthening the acquiring firm's technological innovation capability due to business relationship, while the interaction between cultural distance and technological innovation capability will reduce the performance of cross-border M&As. By analyzing the large panel data of EMF cross-border M&As in nine emerging economies from 2000 to 2012, they also conclude that the possibility of cross-border M&A not only increases because of more convenient to obtain important resources, but also is affected by the government.

2.2 Literature Review of Executive Turnover

There are abundant research results on the relationship between corporate performance and executive turnover. Most literature focuses on two aspects: one is whether the bad performance of the company will lead to the turnover of senior executives; the other is the impact of executive turnover on the company's performance. Hillier et al. (2005) find that high rate of forced CEO turnover is associated with poor performances of companies. Meanwhile, equity offerings increase the likelihood of a new CEO being appointed from outside the current management team. After studying the relationship between CEO turnover and performance of Chinese listed companies from many cases, Chang and Wong (2009) find a negative relationship between the level of pre-turnover profitability and CEO turnover. The profitability will increase after CEO turnover, while such relationship no longer exists when firms are making profits. Some scholars point out that the increase of executive turnover may lead the company's performance to a downward trend in some degree.

Corporate governance also has impact on the turnover of executives. Fisman et al. (2014) believe that corporate governance of different intensities affects firm value through firing or retaining CEO. A thorough governance provisions within the firm will restrict shareholders' ability to change managers, so that managers will be less likely to be replaced (Sokolyk, 2015). CEO power arises from different national cultures, which also influence a firm's governance. CEOs are less likely to be dismissed for bad performance in countries with strict governance (Urban, 2019). Fan et al. (2007) deem that CEO turnovers should be classified into voluntary and involuntary cases, considering the maturity of market mechanism. They argue that exceptionally good performance is marginally associated with voluntary CEO turnover, while some governance variables are related to voluntary but not but not involuntary cases.

2.3 Literature Review of Executive Power

Nowadays, in companies where ownership and management rights are separated from each other, there may be inconsistencies of interests between shareholders and executives. The executives have control over the company and affect its decision-making, leading to influences of the company's performance. Brahmana et al. (2020) believe that greater CEO power changes that retrenchment effect into increased performance. Khani et al. (2019) claim that the

CEOs will gather much experience during his past experiences and current service period, which would improve the management effectiveness and the understanding of the financial report process, ultimately leading to a better performance of the company.

When the CEO gets enough power, the board of directors is unlikely to participate in the decision-making of the company's strategy. Therefore, CEOs are given sufficient decision-making power, which may improve the efficiency of corporate governance. Chiu et al. (2021) believe that CEO power reflects the ability of the CEO to influence the firm's decision-making, and CEO duality reflects a clear division of internal company power and responsibilities, which makes the firm's decision-making more efficient.

However, the influence of CEO power varies among different companies, different periods, and different cultures. Dowell et al. (2011) put forward different conclusions under different environments. They believe that the survival and development of a firm will be affected by its governance factors, which are mainly determined by the characteristics of the firm and its environment. When a firm is facing financial crisis, the more powerful the CEO is, the more likely the firm is to overcome difficulties. However, the impact is not so significant in extreme cases, which emphasizes the different efficiency of corporate governance mechanism in different cases.

3. Hypotheses

Since the implementation of the "going out" strategy, Chinese government has begun to encourage enterprises to invest abroad, and more Chinese enterprises have embarked on the road of transnational operation. Most members of the "One Belt One Road" club are emerging economies and developing countries with abundant natural resources, market resources and economic resources. Through investments (especially overseas M&As) in these economies, Chinese enterprises can combine their own strengths with these members' existing resources and competitive advantages in new markets, to realize scale economy or scope economy, or even make effective use of redundant production capacity to create extra market value for enterprises. Moreover, when the corporate governance level of the country or region to which a firm belongs is lower than that of the place of acquisition, a firm can improve its governance by acquiring overseas companies (Chae et al., 2018). The turnover probability of enterprises with high corporate governance will greatly increase when the enterprises perform poorly or worse, no matter the management replacement is voluntary or involuntary. On the contrary, if the turnover of executives is not sensitive to performance, we can simply understand that the company's governance ability is poor. In particular, as an emerging economy, China's listed companies can achieve sustainable development at a low cost through overseas M&As, and it is easy to penetrate the impact of M&A into corporate governance, so as to improve their governance ability. Therefore, we put forward hypothesis H1.

Hypothesis 1: Overseas M&As of Chinese listed companies will improve their corporate governance.

Like other developing countries, the business activities of Chinese enterprises will be interfered by the government. Firstly, with the rapid economic growth and growing demand for resources and energy, China have efforts to seek external natural resources, which has greatly promoted the overseas M&A activities of Chinese enterprises. Secondly, to obtain advanced technology and governance experience, the Chinese government has the motivation to support overseas M&As of Chinese enterprises, which is very beneficial to the long-term development of Chinese enterprises (Wang et al., 2012). Driven by various motives such as implementing the national development strategy, promoting local economic development, and fulfilling political responsibilities, state-owned enterprises (SOEs) have a strong desire for overseas M&As. Thirdly, SOEs are more capable of obtaining resources and institutional guarantee. Especially, state-owned enterprises can obtain many strategic resources, the allocation of which is greatly affected by government policies (Morck, Yeung, and Zhao, 2008). Moreover, compared with non-SOEs, the synergic effects of the interests between SOEs and their CEOs are more obvious, due to the relatively high ownership concentration of SOEs. The experience and technology obtained through overseas M&As can more effectively act on the enterprise itself, and the governance level will be significantly improved. In this regard, we propose hypothesis H2.

Hypothesis 2: Compared with those of non-SOEs, overseas M&As of state-owned enterprises play a more significant role in improving governance ability.

As two important roles in the company, the integration of CEO and chairman of the board (COB) is an important type of corporate structure. A CEO dually serving as the COB has more power, especially for affairs related to the company's performance. There is evidence for positive impact of CEO duality on corporate performance when unified leadership is needed (Finkelstein and Hambrick, 1996). Therefore, compared with the separation of the two positions, the duality of CEO and COB can improve the governance efficiency by strengthening the leadership authority of the management. Based on the above analysis, we propose hypothesis H3.

Hypothesis 3: Compared with the case of CEO not serving as COB dually, overseas M&As have a more significant effect on the improvement of governance ability in the duality case.

According to the principal-agent theory, the shareholder is the owner of an enterprise, and the CEO, as an operator, replaces the shareholder to maintain the normal production and operation of the company. As a common phenomenon for enterprises in China, managerial ownership is an incentive mechanism in modern corporate governance, whose successful implementation will help to improve corporate performance. According to literature, CEO turnover is more sensitive to performance in companies with high management shareholding ratio. Management will also impose on shareholders, which may weaken the supervision and governance of the board of directors in the future. For example, Zajac and Westphal (1996) discover that the directors appointed by a more powerful CEO will be more friendly to the management, and Fracassi and Tate (2012) explore that a more powerful CEO is more likely to add cronies to the board of directors. The high management shareholding ratio indicates that the management can participate in the formulation of the company's rules like shareholders, hence the management is probably to bypass the due punishment for poor performance and prevent the CEO replacement in other ways. It can be seen that the governance mechanism of companies with high management shareholding is not completely effective, possibly resulting in reduced governance due to "bureaucrats shield one another". Therefore, hypothesis H4 is proposed in this paper.

Hypothesis 4: Compared with those of enterprises with high management shareholding, overseas M&As of enterprises with lower management shareholding play a more significant role in improving their own governance ability.

In recent years, more companies have changed their COBs and CEOs. Abundant research shows that the frequent changes of senior executives will have a significant impact on the company's operation and development. The longer tenure of CEOs means better continuity of corporate governance. Companies with shorter tenure of internal senior executives will constantly adjust governance skills and decisions, which will affect the company's long-term deployment and reduce the effectiveness of governance. The age of the CEOs reflects the characteristics of their social resources and psychological state. According to the agency theory, CEOs may make major strategic decisions out of their own risk aversion. The company with a younger CEO has a lower ability to deal with risks, leading to relatively lower corporate governance. Meanwhile, the older CEO with more management experience is easier to realize the diversified and stable development of the company. Therefore, this paper proposes hypothesis H5.

Hypothesis 5: Compared with those of enterprises with younger CEO and shorter tenure, overseas M&As of enterprises with older CEO and longer tenure play a more significant role in improving their governance ability.

The competitive product market can be treated as different external governance of enterprises, which requires corresponding internal-governance mechanisms of enterprises. On one hand, fierce competition in the product market indicates low product differentiation and consequently low entry threshold of potential enterprises. Enterprises in the market often lack the incentives to improve their own business strength and governance ability. On the other hand, high competition intensity brings greater risks (low-operating loss), so enterprises cannot effectively garner good resources through overseas M&As to improve their own governance ability. However, in the environment of low product market competition, the enterprises have great heterogeneity in products, culture, sales, and governance, which directly determines future interests and development of their own. Hence these enterprises are more likely to have resources and technology to improve their governance and the performance sensitivity of CEO replacement. Therefore, this paper puts forward the following hypothesis H6.

Hypothesis 6: Compared with enterprises with high product market competition, overseas M&As of enterprises with low product market competition play a more significant role in improving their governance ability.

4. Data and Variable Definitions

4.1 Data

This paper discusses the impact of overseas M&As on corporate governance for listed companies, by focusing on the performance sensitivity of CEO turnover. We also do the heterogeneity tests on the ownership nature of enterprises, CEO and COB duality, management shareholding ratio, CEO tenure, CEO age and product market competitiveness. The sample data in this paper are selected from RESSET and CSMAR databases during 2003 to 2019. After excluding samples of the financial industry, ST and *ST companies and the samples severely missing information, 34,252 observations are finally obtained. The regression models (4-1) and (4-2) are run in Stata:

 $\begin{aligned} & Probit \big(Turnover_{i,t} \big) = \alpha_0 + \beta_1 Deltaroa_{i,t} + \beta_2 Foreignma_{i,t} + \beta_3 Deltaroa \times Foreignma_{i,t} + \beta_4 Size_{i,t} + \\ & \beta_5 First_{i,t} + \beta_6 Mb_{i,t} + \beta_7 Leverage_{i,t} + \beta_8 Indirector_{i,t} + \sum Year + \sum Industy + \varepsilon_{i,t} \end{aligned} \tag{4-1} \\ & Probit \big(Turnover_{i,t} \big) = \alpha_0 + \beta_1 Ret_{i,t} + \beta_2 Foreignma_{i,t} + \beta_3 Ret \times Foreignma_{i,t} + \beta_4 Size_{i,t} + \beta_5 First_{i,t} + \\ & \beta_6 Mb_{i,t} + \beta_7 Leverage_{i,t} + \beta_8 Indirector_{i,t} + \sum Year + \sum Industy + \varepsilon_{i,t} \end{aligned} \tag{4-2}$

Considering the impact of China's macro policies in different years and the heterogeneity of overseas investment in different industries, we control the year- and industry-fixed effects. See Table 1 for specific definitions of variables in the models.

Table 1. Definitions of Variables

Variables Type	Variables Symbol	Variable Name	Variables Definition	
Dependent Variable	Turnover	Executive Turnover	Take 1 if there is executive turnover in this year, otherwise 0. Here, we consider the executive turnover as the changes of either CEO or COB.	
	Deltaroa	Changes of return on assets	The value change of a company's return on assets in one year relative to the previous year.	
Independent Variables	Ret	Market performance of the company	Annual stock return of listed companies.	
	Foreignma	Overseas M&As	If the listed company has overseas M&As in this year, takes 1, otherwise 0.	
	Size	Firm size	Natural logarithm of a company's total assets.	
	First	The shareholding ratio of the largest shareholder	The number of shares held by the largest shareholder / total number of shares	
	Mb	Book to market ratio	Book value / market value	
Control	Leverage	Asset liability ratio	Total liabilities / total assets	
Variables	Indirector	The proportion of independent directors	The number of independent directors / total number of directors	
	Year	Year dummy variable	Annual dummy variable from 2003 to 2019	
	Industy	Industry dummy variable	Industry dummy variables are defined according to the industry classification of CSRC	

4.2 Descriptive Statistics of Variables

Table 2 shows the statistical description of each variable, including the mean values, quartile values and standard deviations. The mean value of the dependent variable *Turnover* is 0.2800, that is, the average possibility of executive turnover is 28.00%, indicating that the replacement of executives is not common in China. The mean values of the independent variables *Foreignma* and *Deltaroa* × *Foreignma* are 0.3850 and -0.6890 respectively. In the 34,252 observations we study, 38.50% of Chinese listed companies have implemented overseas M&As, and 68.90% of these companies have shown performance sensitivity to executive turnover. Therefore, overseas M&As had an impact on the performance sensitivity of executive turnover, which preliminarily verified the hypothesis H1.

Table 2. Descriptive Statistical Results of Variables

Variables	Mean	P25	P50	P75	Standard Variance	Observations
Turnover	0.2800	0.0000	0.0000	1.0000	0.4490	34,252
Deltaroa	-0.7550	-0.0180	-0.0020	0.0110	127.8410	34,252
Ret	0.0040	-0.0040	0.0020	0.0090	0.0230	34,252
Foreignma	0.3850	0.0000	0.0000	1.0000	0.4870	34,252
Size	21.9390	21.0090	21.7780	22.6790	1.3570	34,252
First	0.3550	0.2350	0.3320	0.4610	0.1540	34,252
Mb	0.6400	0.4490	0.6530	0.8400	0.2520	34,252
Leverage	0.5210	0.2940	0.4580	0.6160	4.9010	34,252
Indirector	0.3690	0.3330	0.3330	0.4000	0.0560	34,114

5. Empirical Results

5.1 Baseline Regression Results

Firm performances can be measured by accounting performance (Deltaroa) and market performance (Ret), so we have run Regression Models (4-1) & (4-2) for these two measurements in baseline regressions, respectively. The empirical results for the accounting performance measurement are shown in Column 1 of Table 3. The coefficient of $Deltaroa \times Foreignma$ is -0.0130, and the corresponding z value is -2.92, which has passed the significance test at 1%. It is shown that if the performance of an enterprise is declining after overseas M&A, the company's senior executives are more likely to be replaced, hence overseas M&As can indeed improve the performance sensitivity of senior executives turnover. When there are overseas M&As of listed companies, the possibility of CEO replacement will increase by 1.30% for every 1% decrease in accounting performance (Roa), which is of great economic significance. Therefore, the first research hypothesis (H1) of this paper holds. For the control variables in the model, the regression coefficient of First is -0.1130 and the z value is -2.21 at the significance level of 5%, indicating that the higher the shareholding ratio of the first largest shareholder, the lower the possibility of improving corporate governance.

Table 3. Empirical Results for the Impact of Overseas M&As on the Performance Sensitivity of Executive Turnover

	Turnover			
	Accounting Performance	Market Performance		
Constant	-0.4460**	-0.4450**		
Constant	(-2.51)	(-2.50)		
Deltaroa	0.0130***			
Dellaroa	(2.89)			
Ret		-0.2690***		
Kei		(-2.70)		
Foreignma	0.0039	0.0080		
Toreignma	(0.24)	(0.46)		
Doltanoa*Foncianus	-0.0130***			
Deltaroa*Foreignma	(-2.92)			

Dot*Foucious		-0.4310**
Ret*Foreignma		(-2.44)
Size	0.0067	0.0070
Size	(0.85)	(0.84)
First	-0.1130**	-0.1070**
rtrst	(-2.21)	(-2.09)
Mb	-0.0029	-0.0090
MD	(-0.07)	(-0.20)
Laurana	0.0303***	0.0010
Leverage	(2.75)	(0.55)
Indirector	-0.1003	-0.0960
matrector	(-0.74)	(-0.71)
Year Fixed Effect	Yes	Yes
Industry Fixed Effect	Yes	Yes
Wald chi2	552.77	496.24
Prob > chi2	0	0
Pseudo R2	0.0128	0.0124
Observations	34,103	34,103

This paper uses price changes of stock (*Ret*) as proxy of market performance when measuring company performance, and the regression results of Regression Model (4-2) are reported in Column 2 of Table 3. The coefficient of *Ret* × *Foreignma* is -0.4310 with the corresponding z value as -2.44, passing the test of significance at 5%. It can be concluded that if the market performance of an enterprise decreases after overseas M&A, the CEO of the enterprise is more likely to be replaced, proving that overseas M&A can indeed improve the performance sensitivity of senior management turnover. When market performance *Ret* of listed companies implementing overseas M&As decreases by 1%, the possibility of CEO turnover will increase by 43.10%, providing stronger economic significance. Hence, we get further empirical support for the first research hypothesis of this paper (H1). For the control variables in the model, the regression coefficient of *First* is -0.1070, and the corresponding z value is -2.09 at significance of 5%. Accordingly, same conclusion can be drawn as the case of accounting performance, that is, the higher the shareholding ratio of the first largest shareholder, the lower the possibility of improving the level of corporate governance.

5.2 Endogeneity Tests

5.2.1 PSM Method

There may exist endogeneity between overseas M&As and corporate governance. To further examine the hypotheses in Section 3, the sample set is divided into experimental group (Overseas M&A) and the control group (no overseas M&A). PSM method is applied then. By establishing Probit model and controlling variables such as company size, shareholding ratio of the largest shareholder, book to market ratio, asset liability ratio and proportion of independent directors, as well as year and industry fixed effect, we obtain the fitted values for the propensity matching scores of sample. After excluding the matching observations that the difference of propensity score is greater than 0.05, the matching results are presented in Table 4a.

Table 4a. Control Variable Matching Results

	Umatched	M	lean	Red	luct%	t-	test	
Variables	Matched	Treated	Control	bias%	bias	t	P>t	V(T)/V(c)
C:- o	U	22.3800	21.6640	53.80		49.05	0.0000	1.28*
Size	M	22.3740	22.3950	-1.60	97.00	-1.20	0.2310	0.89*
First	U	0.3371	0.3665	-19.20		-17.16	0.0000	0.92*
r trst	M	0.3372	0.3418	-3.00	84.30	-2.47	0.0140	0.96*
Mb	U	0.6452	0.6372	3.20		2.86	0.0040	1.04*
WID	M	0.6448	0.6369	3.10	1.70	2.50	0.0120	0.99
Lauranger	U	0.5082	0.5289	-0.50		-0.38	0.7050	0.05*
Leverage	M	0.5079	0.5463	-0.90	-85.20	-0.56	0.5730	0.03*
Indirector	U	0.3732	0.3659	13.10		11.76	0.0000	1.05*
mairector	M	0.3732	0.3725	1.30	90.30	1.02	0.3070	1.02

There are significant differences in the mean values of variables before matching, while no significant differences in these control variables after matching, and most sample mean values have passed the 10% significance test. Hence, the matching is effective from the empirical results in Table 4a.

Table 4b. PSM Test Results

	Turno	over	
	Coefficient	z	
Constant	-0.4854***	-2.72	
Deltaroa	0.0131***	2.90	
Foreignma	0.0038	0.23	
Deltaroa imes Foreignma	-0.0131***	-2.93	
Size	0.0088	1.10	
First	-0.1144**	-2.23	
MB	-0.0062	-0.14	
Leverage	0.0304***	2.76	
Indirector	-0.1030	-0.76	
Year Fixed Effect	Yes		
Industry Fixed Effect	Yes		
Wald chi2	537.58		
Prob > chi2	0.0000		
Pseudo R2	0.0125		
Observations	34,011		

Note: *, * *, * * * correspond to 10%, 5% and 1% significance levels respectively.

Table 4b shows the results of PSM regression based on the previous matched samples. The regression coefficient of the cross-multiplication term $Deltaroa \times Foreignma$ is negative and has passed the 1% significance test. Here a greater correlation shows that the performance sensitivity of executive turnover for the listed companies after overseas M&As is significantly higher than that of the listed companies without overseas M&As. Therefore, after

controlling the firm characteristics, year and industry fixed effects, the governance of listed companies is significantly improved. The main conclusions of this paper are empirically supported.

5.2.2 Placebo Tests

Although this paper controls the year and industry fixed effects, there may still exist other unmeasurable variables affecting the relationship between independent variables and dependent variables. Therefore, we use placebo tests for further endogeneity discussions (Chetty et al., 2009). No matter whether the enterprises are engaged in overseas M&As, we randomly allocate the overseas M&As among the sample companies. If overseas M&As do have an impact on performance sensitivity of CEO turnover, this impact will disappear after random allocation.

In this paper, the regression coefficient $\bar{\beta}$ is obtained according to the following formula:

$$\overline{\overline{\beta}} = \beta + \lambda \frac{Cov(DummyDFII_{i,t}, \varepsilon_{i,t} \mid W)}{Var(DummyDFII_{i,t} \mid W)}$$
(5-1)

Here, W includes control variables, year and industry fixed effects of the company. β reflects the influence of unobservable factors on the dependent variable overseas M&As. If the error term $\varepsilon_{i,t}$ is random, then β =0; if the error term has a significant impact on the dependent variable, that is, there is an error in Regression Model (5-1), then β ≠0.

After randomly allocating the enterprises, no matter whether they are engaged in overseas M&As, among the sample companies, we obtain the false regression coefficient $\hat{\beta}$. After 1,000 runs, 1,000 $\hat{\beta}$ observations are obtained. The results are shown in Table 4c and Figure 1. Table 4c gives results of the Shapiro-wilk W test on whether $\hat{\beta}$ follows the normal distribution, and Figure 1 describes the random distribution of $\hat{\beta}$. As you can see, the probability of z value corresponding to the $\hat{\beta}$ sample is 0.9460, which accepts the null hypothesis of normal distribution, that is, the distribution of coefficient $\hat{\beta}$ is close to 0, obeying the null hypothesis of normal distribution. Consistent with the expected Placebo test results, it shows that the change of performance sensitivity of CEO turnover in the sample of listed companies is caused by overseas M&A, rather than other omitted variables.

Table 4c. Placebo Test Results

Shapiro-wilk W Test for Normal Data						
Variable	Observations	W	V	Z	prob>z	
tvalue	1,000	0.9976	0.5040	-1.6080	0.9460	

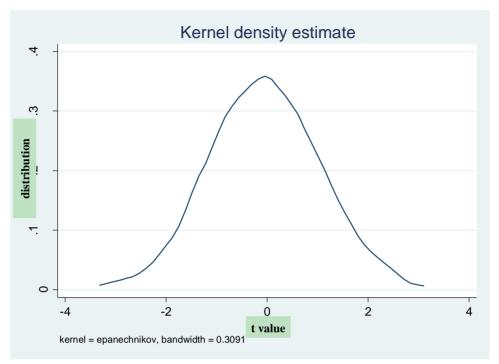


Figure 1. Placebo Results

5.3 Heterogeneity Tests

5.3.1 The Influence of Firm Ownership Nature

According to the research hypothesis H2, state-owned enterprises have more advantages in improving the governance level than non-state-owned enterprises, as SOEs can easily obtain supports from the government. Therefore, in this case, the overseas M&As of SOEs do not have policy barriers that non-SOEs may face, so they are more convenient to get overseas high-quality resources and more stable institutional guarantee, which help to improve their corporate governance. Relatively speaking, non-SOEs face more hindrances to overseas M&As, resulting in insufficient tendency to improve corporate governance through overseas M&As.

Table 5a analyzes the influence of overseas M&As on corporate governance of listed companies with different ownership nature. If the actual controllers of the listed companies are SASAC (State-owned Assets Supervision and Administration Commission of the State Council) of all levels, these companies are SOEs; otherwise, non-SOEs. Hence, our sample is divided into two sub-samples of state-owned and non-state-owned listed companies, which are respectively substituted into Regression Model (4-1). The empirical results are shown in Table 5a. For SOEs subsample, the regression coefficient of the independent variable $Deltaroa \times Foreignma$ is -0.0528, and the corresponding z value is -2.22, which passes the 5% significance level test; and the regression coefficient of the independent variable $Deltaroa \times Foreignma$ in non-SOEs subsample is -0.0077 with the corresponding z value as -2.45 at 5% significance level. Therefore, compared with those of non-SOEs, overseas M&As of SOEs have a more significant influence on the corporate governance. Therefore, the research hypothesis H2 is empirically supported.

Table 5a. The Influence of Firm Ownership Nature

			Turnover		
_	SEC	SEOs		-SOEs	
	Coefficient	z	Coefficient	z	
Constant	-0.0776	-0.32	0.7562**	2.58	
Deltaroa	0.0060	0.07	0.0077**	2.40	
Foreignma	-0.0068	-0.28	0.0595**	2.65	
Deltaroa imes Foreignma	-0.0528**	-2.22	-0.0077**	-2.45	
Size	-0.0260**	-2.23	-0.0406***	-3.35	
First	0.1198	1.61	-0.5727***	-7.51	
Mb	-0.0247	-0.39	0.0417	0.66	
Leverage	0.1594***	3.45	0.0168**	2.14	
Indirector	0.1426	0.73	-0.1279	-0.66	
Year Fixed Effect	Y	es	•	Yes	
Industry Fixed Effect	Y	es	•	Yes	
Wald chi2	273	3.50	466.19		
Prob > chi2	0.0000		0.0000		
Pseudo R2	0.0148		0.0218		
Observations	15,	489	18,602		

5.3.2 The Influence of CEO Power

Corporate governance and corporate decisions are under CEO internal management, so the power of the CEO within the company will affect corporate governance. An important content of corporate governance is the formulation and implementation of corporate decisions, and the implementation of overseas M&As is a major decision of a company. In this paper, four indicators are selected to measure the CEO power of a company: concurrently serving as COB and CEO, the shareholding ratio of the management, CEO tenure and the age of CEO. The empirical results are shown in Columns 2&3 of Table 5b.

Table 5b. The Influence of CEO Power

	Turnover							
	O Concurrently	Serving as	Ianagement Sl	nareholding	Age		Tenur	'e
	COB		Ratio)	7160		Tenure	
	Yes	No	Low	High	Young	Old	Short	Long
Constant	0.2835	-0.4187*	-0.3794	0.3300	-0.750**	0.036	-0.4013	-0.5842**
Constant	(0.55)	(-1.95)	(-1.61)	(0.94)	(-2.82)	(0.14)	(-1.32)	(-2.14)
Deltaroa	0.0461***	-0.0082	0.0078**	-0.1011	0.025	0.012**	0.0003	0.0395**
Dellaroa	(2.67)	(-0.47)	(2.10)	(-0.78)	(0.31)	(2.29)	(0.01)	(2.15)
Farrianma	0.0335	-0.0085	-0.0254	-0.0085	-0.001	0.008	0.0941***	-0.0405**
Foreignma	(0.89)	(-0.45)	(-1.12)	(0.64)	(-0.04)	(0.37)	(3.12)	(-2.04)
Deltaroa	-0.1557***	0.0082	-0.0078**	0.1142	-0.262	-0.212**	-0.0003	-0.0448**
imes Foreignma	(-3.34)	(0.47)	(-2.14)	(0.88)	(-1.30)	(-2.32)	(-0.01)	(-2.08)
Size	-0.0303	0.0011	0.0023	-0.0286*	0.015	-0.014	0.0017	0.0183*

	(-1.57)	(0.11)	(0.21)	(-1.87)	(1.32)	(-1.18)	(0.12)	(1.82)
E:	-0.5511***	-0.0131	-0.0473	-0.4165***	-0.063	-0.131	-0.1438	-0.0898
First	(-4.39)	(-0.22)	(-0.69)	(-4.80)	(-0.85)	(-1.82)	(-1.58)	(-1.37)
Mb	0.2183**	-0.0611	-0.0835	0.1588**	0.055	-0.047	-0.1304	0.0387
MD	(2.06)	(-1.21)	(-1.39)	(2.21)	(0.90)	(-0.72)	(-1.64)	(0.71)
7	0.1594***	0.0203*	0.0168*	0.2175**	0.165**	0.028**	0.0118	0.0953**
Leverage	(2.62)	(1.79)	(1.86)	(2.16)	(2.52)	(2.13)	(1.35)	(2.12)
Indirector	-0.4652	0.1357	0.0468	-0.4685**	-0.160	-0.086	0.3092	-0.3317*
танесто	(-1.53)	(0.82)	(0.25)	(-2.17)	(-0.81)	(-0.45)	(1.23)	(-1.94)
Year Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Wald chi2	273.50	382.76	231.03	295.96	395.07	364.88	252.05	430.91
Prob > chi2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Pseudo R2	0.0148	0.0112	0.0101	0.0206	0.0219	0.0143	0.0146	0.0176
Obs	15489	24257	17309	15325	16295	17723	16995	17021

5.3.2.1 The Influence of CEO Duality

According to whether CEO concurrently serves as COB, this paper sets two sub samples of duality and non-duality. And the sample data are substituted into Regression Model (4-1). In Table 5b, the regression coefficient of the cross-multiplication term $Deltaroa \times Foreignma$ is -0.1557, and the corresponding z value is -3.34 in duality subsample, which has passed the test at 1% significance level; for non-duality subsample, the regression coefficient and its corresponding z value of the independent variable $Deltaroa \times Foreignma$ are 0.0082 and 0.47, failing in the significance test. Therefore, compared with those of companies without CEO duality feature, overseas M&As of enterprises with duality feature will effectively improve corporate governance and enhance the performance sensitivity of CEO turnover, which is consistent with our conclusion (i.e., hypothesis H3).

5.3.2.2 The Influence of Management Shareholding Ratio

Along with its rapid development, the management shareholding plays an increasingly important role in the corporate governance structure. The subsamples of high and low management shareholding ratio are divided by the sample median of the management shareholding ratio, then the data of two subsamples are substituted into Regression Model (4-1) respectively. The results are obtained in Columns 4&5 of Table 5b. It can be seen that in companies with low management shareholding ratio, the independent variable *Deltaroa* × *Foreignma* shows a significant negative correlation with CEO turnover as -0.0078 with the corresponding z value of -2.14, passing the 5% significance level test. In companies with high management shareholding ratio, the correlation coefficient between *Deltaroa* × *Foreignma* and CEO turnover is positive, indicating that overseas M&As do not improve the corporate governance. Compared with those of companies with high management shareholding ratio, overseas M&As of companies with low management shareholding ratio has impact on corporate governance, and H4 is preliminarily supported.

5.3.2.3 The Influence of CEO Age

CEOs' age and tenure may represent their accumulations of corporate governance experience and social resources, indicating their corporate governance ability and level. This paper takes the average age of COBs and CEOs as the CEO age during one's tenure. When the CEO age is less than the median of the sample, dummyage = 0, otherwise dummyage = 1. The data of young-CEO- and old-CEO- subsamples is substituted into Regression Model (4-1) respectively. The empirical results are shown in Columns 6&7 of Table 5b. In the subsample of young CEOs, the regression coefficient of the cross-multiplication term $Deltaroa \times Foreignma$ is -0.2620, and the corresponding z value is equal to -1.30, which fails to pass the significance test; while in the subsample of old CEOs, the regression coefficient of $Deltaroa \times Foreignma$ is equal to -0.2120, and the corresponding z value is -2.32, which passes the 5% significance level test. Therefore, when the CEO is older, overseas M&As can significantly increase the performance sensitivity of the company's CEO turnover, hence the assumption H5 is empirically supported.

5.3.2.4 The Influence of CEO Tenure

This paper takes the average tenure of COBs and CEOs as the CEO tenure. When the CEO tenure is less than the

median of the sample, dummytenure = 0; otherwise, dummytenure = 1. After the sample data being substituted into Regression Model (4-1), Columns 8&9 of Table 5b show the impact of overseas M&As on the performance sensitivity of CEO turnover under the cases of long or short CEO tenure. In companies with long CEO tenure, the Deltaroa × Foreignma shows a significant negative correlation with CEO turnover with the coefficient as -0.0448 and the corresponding z value as -2.08, passing the 5% significance level test; in the company with short CEO tenure, the Deltaroa × Foreignma also shows a negative correlation with CEO turnover, that is, the coefficient is -0.0003 and the corresponding z value is -0.01, but it did not pass the significance test. The long tenure of CEO will indeed improve the governance level of companies after overseas M&As, hence increase the performance sensitivity of the CEO turnover. Compared with those of companies with short CEO tenure, overseas M&As of companies with long CEO tenure have a significant impact on the improvement of corporate governance. The assumption H5 is further supported.

5.3.3 The Influence of Competition in Product Market

As the external environment of enterprises, product market competition is a part of external corporate governance. This paper uses HHI to measure the competitiveness of product market, by the formula of

$$HHI = \sum \left(\frac{Sale_{i,t}}{\sum Sale_{i,t}}\right)^{2}$$

 $HHI = \sum \left(\frac{Sale_{i,t}}{\sum Sale_{i,t}}\right)^2.$ The larger the HHI, the higher degree of market concentration, indicating the higher market competition is not a completely good case. With the increasing intensity of product competition, the risks faced by the company will also increase relatively. Here, we divide the companies into high and low competition subsamples by the product market competitiveness of the industries which the companies belong to, and then conduct regression analysis on the two samples according to Regression Model (4-1). The regression results are shown in Table 5c.

In Table 5c, the correlation coefficient between *Deltaroa* × *Foreignma* and CEO turnover in low competitiveness subsample is -0.0091, and the corresponding Z value is -2.53, which is significant at the significance level of 5%. In the regression results of high market competition subsample, the coefficient of Deltaroa × Foreignma and CEO turnover is 0.0932, and the corresponding Z value is 1.35, which does not pass the significance test. This is consistent with our expected results. Overseas M&A of enterprises with low market competition will significantly improve their governance level and the performance sensitivity of CEO turnover. However, in enterprises with high market competition, such relationship cannot be verified. H6 is further confirmed.

Table 5c. The results of the impact of product market competition

	Turnover				
	Low level of	competition	High level o	f competition	
	Coefficient	z	Coefficient	z	
Constant	-0.6195***	-2.65	-0.3344	-0.84	
Deltaroa	0.0090**	2.49	-0.0932	-1.37	
Foreignma	-0.0024	-0.11	0.0121	0.51	
Deltaroa imes Foreignma	-0.0091**	-2.53	0.0932	1.35	
Size	0.0180*	1.68	-0.0100	-0.82	
First	-0.2036***	1.68	0.0081	0.11	
Mb	-0.0169	-0.28	0.0148	0.22	
Leverage	0.0200**	2.26	0.1206***	3.85	
Indirector	-0.0349	-0.18	-0.2142	-1.10	
Year Fixed Effect	Year Fixed Effect Yes		Yes		
Industry Fixed Effect	ndustry Fixed Effect Yes		Yes		

Wald chi2	407.78	219.67
Prob > chi2	0.0000	0.0000
Pseudo R2	0.0167	0.0125
Observations	17050	16954

6. Conclusion

After the implementation of the "going out" strategy, the cross-border M&A of Chinese enterprises has become more active, and the topic of overseas M&As has gradually become the focus of academic research. Previous studies explore that cross-border M&As play an increasingly important role in the innovation and development strategy of enterprises. Many scholars focus on the influencing factors of overseas M&As and the performance after M&As, but there is rare literature on whether cross-border M&As improve the corporate governance level in China. Therefore, based the evidence of performance sensitivity of CEO turnover, this paper investigates the impact of overseas M&As for Chinese listed Companies from the perspective of corporate governance. With the sample data of all A-share listed companies in China from 2003 to 2019, this paper studies the impact of overseas M&As on performance sensitivity of CEO turnover. We also analyze the heterogeneity of this impact from the aspects of different ownership type, CEO power and product market competition. The empirical results show that overseas M&As of Chinese listed Companies can significantly improve the performance sensitivity of CEO turnover. Compared with non-SOEs, overseas M&As of SOE enterprises can significantly improve the performance sensitivity of CEO turnover. The greater the CEO's power, the more significantly the overseas M&As of China's listed companies can improve the performance sensitivity of CEO turnover. Lastly, compared with those with high product market competition, enterprises with low market competition have a more significant impact on overseas M&A to improve corporate governance.

This paper still needs to further study the influence mechanism of overseas M&A on performance sensitive of CEO turnover. Whether overseas M&A impact on performance sensitivity of CEO turnover by improving the level of corporate governance or the transparency of corporate information, it leave this research to clarify this impact mechanism in the future.

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