

INDEPENDENT DIRECTORS AND FIRM VALUE: NEW EVIDENCE FROM THE 2023 REGULATORY REFORM IN CHINA

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Abstract

This paper explores the "Measures for the Management of Independent Directors of Listed Companies" announced on August 4, 2023, for Chinese listed firms. We find that firms failing to meet the criteria in the Measures suffer losses in the stock market. The 2023 Measures exogenously increase the demand for qualified independent directors and incur high search costs for firms facing more labour market constraints.

Keywords: Regulatory Shock, Corporate Governance, Independent Directors, Firm Value

1. Introduction

On August 4, 2023, the China Securities Regulatory Commission (CSRC) officially released the "Measures for the Management of Independent Directors of Listed Companies" (hereinafter referred to as the Measures), which will be implemented on September 4, with a one-year transition period from the implementation¹. This regulatory reform attracted enormous attention from financial market participants and occupied the headlines of most Chinese financial social media. The Measures aim to promote the formation of a more scientific and reasonable independent director system, which consists of six chapters and 48 articles, clarifying the qualifications and appointment and removal procedures of independent directors, the duties and performance methods of independent directors, performance guarantees, legal responsibilities, and transitional arrangements.

We compare the 2023 new Measures with the 2022 Rules (Rules for the Independent Directors of Listed Companies, effective from January 5, 2022)². The major accessible changes in independent director requirement and corporate board structure that we can track using the current disclosed data include that (1) independent directors are required to have work experience related to either laws, accounting, or economics for at least five years; (2) independent directors can adjunctly serve

¹ <http://english.sse.com.cn/news/newsrelease/c/5725012.shtml>

² We show the evolution of the independent director system in Appendix Table 3

no more than three companies; (3) corporate boards are required to implement cumulative voting when there are two and more independent directors³.

The Board of Directors, at the apex of internal control systems, is charged with advising and monitoring management and has the responsibility to hire, fire, and compensate the senior management team (Jensen, 1993). International studies for countries such as the UK, Korea, and India consistently show a positive correlation between board independence and firm performance (e.g., Black and Khana, 2007; Choi et al., 2007; Dahya & McConnell, 2007; Dahya et al., 2008; Aggarwal et al., 2009; Bruno & Claessens, 2010; Black & Kim, 2012). In a study of Chinese listed firms, Liu et al. (2015) exploit the issuance of "The Guideline for Introducing Independent Directors to the Board of Directors of Listed Companies", which was introduced in 2001 by the CSRC. They find that independent directors have an overall positive effect on firm operating performance in China.

This paper investigates whether the 2023 Measures have an effect on firm value. We conduct an event study on the stock market reaction around the day of the announcement of the Measures. We use the pre-announcement cross-sectional variation in board structure to compare the difference in the stock price reaction for firms with a more versus less scientific and reasonable independent director system according to the Measures.

Our empirical analysis focuses on 4,431 Chinese listed firms by the end of 2022. We extracted information on the corporate board of directors from CSMAR. For each firm in our sample, we identify whether it has independent directors who adjunctly serve more than three firms; whether it has independent directors without an economics, accounting, or law background; whether it has two or more independent directors and no cumulative voting. We then construct a count variable, Total, which aggregates the three indicators above, with a higher value indicating a less scientifically independent board system. On the days after the announcement of the Measures, we find that the cumulative abnormal stock return for firms failing to meet more criteria suffer more losses. In terms of economic magnitude, firms' 6-day cumulative abnormal returns (CAR [0, +5]) decrease by 15.3 basis points, when firms fail to meet an additional criterion in the 2023 Measures using the industry and province fixed effects. The results are robust using different event windows and fixed effects combinations⁴.

We next examine the individual effect of each criterion on firm value. We conjecture that independent directors are scarce human capital, and the Measures can impose high costs and constraints on searching for qualified independent directors. We find that firms having independent directors without an economics, accounting, or law background have the most negative cumulative abnormal returns. Failing to meet the other two criteria does not significantly affect the stock price. The results are intuitive because ensuring all independent directors have an economics, accounting, or law background tends to be more costly than satisfying the other criteria.

We further examine the underlying mechanisms through which the Measures affect firm value. Prior studies on the costs of labour adjustment in the labour economics literature argue that when a firm adjusts its labour demand, it incurs the costs of firing, search, selection, hiring, and training, especially for highly skilled labour (Ghaly et al., 2017). We conjecture that independent directors are valuable and scarce human capital from the following aspects.

First, several academic studies document that qualified independent directors are highly skilled labour and scarce human resources to firms. For example, Li et al. (2022) show that academy fellow independent directors are scarce innovative human capital for Chinese firms. Cheng and Sun (2019)

³ Though there are several additional regulations and policies in the new Measures that affect the independent director system for Chinese listed firms, we only focus on the above three significant changes in this study, because they allow us to identify firms that meet and do not meet these requirements before the reform.

⁴ We report the results of robustness checks in Appendix Table 2.

show that government official independent directors are scarcer to Chinese firms. Du et al. (2018) study the market for auditors and found that signing auditors who are statutorily required to have a certain level of education and professional experience are a relatively scarce form of human capital in the Chinese audit market. Their findings also suggest that highly skilled labour with auditing experience can be scarce and valuable in the Chinese independent director market.

Second, we also argue that certain levels of education or professional experiences themselves do not make a qualified director, as the skills necessary to effectively communicate with the management team in a timely manner and obtain information to advise and monitor the managers are equally or more important. The general skill sets of performing director duties reduce the potential pool of director candidates. Consistent with this argument, Minghua Gao, the director of Research Centre for Corporate Governance and Enterprise Development (CGED), said that human resources for independent directors who are capable and faithfully perform their duties are still relatively scarce in China.⁵

Third, the insufficient coverage of liability insurance for independent directors can prevent qualified candidates from actually becoming independent directors. According to an article posted on the Chinese government website, since directors' liability insurance was introduced into the securities market in 2002, more than 500 listed companies have purchased directors' liability insurance, with an average annual insurance coverage rate of only 2%.⁶

Lastly, by the end of August 2023, the independent director information database displays the basic information of only 11,000 current independent directors across the entire market.⁷ The pool is small given that there are around 5,000 listed firms in China. Taken together, we argue that it is likely that qualified independent directors are scarce human capital to firms in the Chinese financial market.

Since we conjectured that the Measures impose a greater constraint and higher costs for firms to meet the mandated board structure requirements, by replacing unqualified independent directors with qualified ones, firms with lower searching costs and higher propensities to attract qualified independent directors are expected to be less affected by the Measures. Consistent with our conjecture, we find that the effect of Measures on stock market reactions becomes stronger when firms face higher competition in the labour market for independent directors, weaker when firms possess greater market shares within industries, and weaker when firms are supported by more institutional investors.

This paper adds to the labour economics literature on the costs of labour adjustment. When a firm adjusts its labour demand, it incurs the costs of firing, search, selection, hiring, and training, which are economically significant and increase with the skill level of the labour force (e.g., Shapiro, 1986; Ghaly et al., 2017). Furthermore, searching for, hiring, and training new employees is more costly for jobs that require workers with advanced skills who are usually in shorter supply (e.g., Dolfin 2006). In this paper, we study a type of highly skilled labour, independent directors, by exploiting a regulatory reform imposing exogenous high costs of labour adjustment. Our findings contribute to the existing literature by focusing on the market for independent directors. Our results show that firms facing greater labour market competition and more constraints in searching for independent directors bear more losses in shareholder value.

This paper also contributes to the literature on independent boards. Theoretically, independent directors have duties to perform their monitoring and advising functions, which have important value

⁵ <https://www.nbd.com.cn/articles/2023-04-14/2761011.html>

⁶ https://www.gov.cn/zhengce/2023-04/15/content_5751630.htm#:~:text=%E8%87%AA2002%E5%B9%B4%E8%91%A3%E4%BA%8B,%E4%BF%9D%E6%AF%94%E4%BE%8B%E4%BB%85%E4%B8%BA2%25%E3%80%82

⁷ <https://m.huanqiu.com/article/4EG0GgiTrTQ>

implications for firms. (e.g., Danielson and Karpoff, 1998; Masulis and Mobbs, 2011; Liu et al., 2015). Expertise of independent directors affects board monitoring effectiveness and firm performance (e.g., Wang et al., 2015; Giannetti et al., 2015). The stock market reacts negatively to the death of independent directors due to a reduction in board independence and the loss of individual skills and competence (Nguyen & Nielsen, 2010). Using a newly introduced regulatory reform on independent directors in China, we find that firms suffer negative stock market reactions when they are mandated to replace unqualified independent directors. We provide new evidence that having unqualified independent directors can destroy firm value.

2. Data

Our sample includes all Chinese listed firms by the end of 2022. We use the Fama-French three factors model to calculate firms' cumulative abnormal returns. We apply an estimation window [-110, -10] and remove observations with less than 70 days in the estimation period. Our event day is August 4, 2023, the date when the Measures were first released by the CSRC.

We collect information about the firms' independent directors from CSMAR and organise the information in the following ways. First, we extract the occupational backgrounds of independent directors and filter those that lack economic, accounting, and law related experience. Second, we search for firms that do not establish audit committees. Third, we extract information about the cumulative voting system from each firm's working system for independent directors. We construct Adjunct Directors (dummy), which equals one if any independent directors in a firm adjunctly serve more than three firms; No EAL Background (dummy), which equals one if any independent director in a firm has no economic, accounting, or law related experience; No Cumulative Voting (dummy), which equals one if a firm does not have a cumulative voting system when it has at least two independent directors.

We compare the 2023 Measures with the 2022 Rules and find that most changes are new items, which uniformly affect all Chinese listed firms. Moreover, we also document that some changes are unmeasurable using the currently available data, which is a limitation of our paper⁸. To mitigate the concern, we examine the effect of each of the three measurable changes on CARs separately, as it is unlikely that the unmeasurable changes are highly correlated with each of the three measurable changes.

We combine firm-level cumulative abnormal returns with information on independent directors. We also collect firm characteristics from CSMAR as control variables. We follow Zhu et al. (2016) to include Firm Size, Book Leverage, ROA, Book to Market, Capital Expenditure, Board Size, Independent Board, Board Ownership, and SOE. Our final sample contains 4,431 non-financial firms. Table 1 shows summary statistics for our sample. The variable definitions are illustrated in Appendix Table 1. We find that 25.6%, 72.2%, and 89.3% of the firms in our sample do not meet the new requirements on adjunct directors, EAL background, and cumulative voting, respectively.

⁸ Due to constraints related to data disclosure, some changes are difficult to quantify. For example, new regulations stipulate that independent directors cannot provide third-party services to controlling shareholders, and members of the audit committee must be non-executive directors.

Table 1: Summary Statistics

Variable	N	Mean	SD	P50	Max	Min
Total	4431	1.871	0.714	2	3	0
Adjunct Directors (dummy)	4431	0.256	0.436	0	1	0
No EAL Background (dummy)	4431	0.722	0.448	1	1	0
No Cumulative Voting (dummy)	4431	0.893	0.309	1	1	0
Number of Firms by City	4431	3.932	1.573	4.078	5.956	0.693
Number of Firms by Industry	4431	4.878	1.088	5.017	6.258	0.693
Market Share in Industry	4428	0.0150	0.0590	0.002	1	0
Institutional Ownership	4430	41.80	25.15	41.61	231.8	0
Firm Size	4431	9.669	0.577	9.579	12.43	8.004
ROA	4431	0.0320	0.0670	0.0360	0.220	-0.217
Book Leverage	4431	0.398	0.203	0.386	0.897	0.051
Capital Expenditure	4431	0.0500	0.0470	0.0360	0.221	0
Book-to-market	4431	0.669	0.248	0.678	1.246	0.141
Board Size	4431	8.213	1.564	9	18	4
Independent Board	4431	3.065	0.526	3	8	1
Board Ownership	4431	5.716	3.067	7.240	9.605	0
SOE	4425	0.269	0.444	0	1	0

Note: This table presents summary statistics of the sample.

3. Empirical results

3.1 Stock market reactions of firms to the announcement of the 2023 Measures

We investigate firms' stock market reactions after the 2023 Measures. We calculate the CAR using the Fama-French three factor model (Fama & French, 1993) and examine whether the stock market reacts differently for firms facing different levels of constraints to meet the criteria. We compute a 6-day window CAR from the event day to five days after (CAR [0, +5]) for our main analysis. We chose this window because it covers an entire week after the regulatory reform, which allows us to observe the weekly stock market reactions of Chinese listed firms. We use both the univariate analysis and regression with fixed effects. Specifically, we estimate the following model:

$$CARs_i = \alpha + \beta_1 Total_i + \beta_2 X_i + FEs + \varepsilon_i, \quad (1)$$

where CARs is a firm's CAR after the announcement of the Measures. Total is the count of criteria in the Measure that a firm fails to meet. X is a list of firm controls, and FEs can be various combinations of fixed effects. Standard errors are clustered at the provincial level.

Panel A of Table 2 reports the univariate analysis comparing the mean CAR with zero, grouped by the number of criteria a firm fails to meet. We show an average CAR for firms meeting all criteria

before the regulatory reform of 0.895 percent, which is not statistically significant. The average CARs [0, +5] for firms that fail to meet one, two, and three criteria are -0.266, -0.425, and -0.744, respectively, all significantly smaller than zero. The findings of the univariate analysis suggest that firms that would be more severely affected by the Measure experienced more losses in the days after the announcement.

Panel B of Table 2 reports the regression analysis. Column (1) does not use fixed effects. Columns (2) – (5) apply province fixed effects, industry fixed effects, province fixed effects and industry fixed effects, and province-industry fixed effects, respectively. Including province and industry fixed effects helps address the concern that province and industry heterogeneity may drive the results. We show that the estimate coefficients on Total are -0.266, -0.280, -0.193, -0.207, and -0.202 in Columns (1) – (5), respectively, all negative and statistically significant. These results are also economically sound. When a firm fails to meet one additional criterion mandated in the Measure, it is estimated to suffer average losses of 19.3 – 28.0 basis points in the five days after the announcement. In tests reported in the appendix, we use alternative event windows for robustness checks, and the results are similar.

Table 2: Baseline Results

Panel A. Univariate Analysis				
	Total = 0	Total = 1	Total = 2	Total = 3
Mean (%)	0.895	-0.266*	-0.425***	-0.744***
	(0.856)	(-1.931)	(-3.164)	(-5.419)
Observations	117	1101	2449	764

Panel B. Regression Analysis					
	CARs [0, +5]				
	(1)	(2)	(3)	(4)	(5)
Total	-0.261**	-0.283***	-0.198**	-0.208**	-0.204*
	(-2.739)	(-2.854)	(-2.049)	(-2.140)	(-1.947)
Firm Size	-0.950***	-1.101***	-1.200***	-1.241***	-1.223***
	(-4.854)	(-6.550)	(-7.936)	(-8.856)	(-7.906)
ROA	-2.229*	-2.980**	0.181	0.218	-0.548
	(-1.786)	(-2.400)	(0.158)	(0.201)	(-0.526)
Book Leverage	-1.317***	-1.921***	0.035	0.062	-0.105
	(-3.266)	(-4.282)	(0.075)	(0.121)	(-0.192)
Capital Expenditure	-5.863***	-7.413***	-4.772**	-4.598**	-4.610*
	(-2.806)	(-3.511)	(-2.371)	(-2.252)	(-1.941)
Book-to-market	0.675*	0.122	0.945***	1.006***	0.890**
	(1.920)	(0.400)	(3.099)	(3.349)	(2.555)
Board Size	-0.059	-0.079	-0.076	-0.062	0.001

	(-1.074)	(-1.486)	(-1.390)	(-1.119)	(0.013)
Independent Board	0.481***	0.538***	0.482**	0.437**	0.311
	(2.781)	(2.883)	(2.460)	(2.284)	(1.574)
Board Ownership	0.064**	0.083**	0.052**	0.052**	0.046
	(2.063)	(2.694)	(2.225)	(2.211)	(1.495)
SOE	0.616**	0.507*	0.421*	0.328	0.228
	(2.535)	(1.784)	(1.798)	(1.361)	(0.817)
Constant	8.328***	10.309***	9.899***	10.293***	10.205***
	(4.830)	(6.331)	(6.915)	(7.599)	(6.707)
Province FE	No	Yes	No	Yes	No
Industry FE	No	No	Yes	Yes	No
Province-Industry FE	No	No	No	No	Yes
Observations	4425	4425	4423	4423	4028
Adjusted R ²	0.023	0.050	0.169	0.172	0.162

Note: This table demonstrates the baseline results examining the impact of failing to meet criteria on the stock market. Panel A provides the results of univariate tests by the number of criteria firms fail to meet. Panel B presents the results of regression analysis, where the independent variable is the number of criteria that firms do not meet and the dependent variable is firms' CARs [0, +5]. Column (1) includes firm controls but not fixed effects; column (2) adds province fixed effects; column (3) adds industry fixed effects; column (4) uses both industry and province fixed effects; column (5) uses province-industry fixed effects. See the Appendix for detailed variable definitions. Heteroskedasticity-robust standard errors are adjusted for clustering at province level. The t-statistics are shown in parentheses. ***, ** and * denote significance at the 1%, 5% and 10% levels, respectively.

3.2 Individual effect of each criterion on stock market reaction

In this section, we examine the individual effect of each criterion mandated by the Measures to identify the criteria affecting the stock market reactions most. We include each of the three dummy variables, Adjunct Directors (dummy), No EAL Background (dummy), and No Cumulative Voting (dummy) in the regression model separately.

Table 3 shows that the estimated coefficient on No EAL Background (dummy) is -0.419, which is significantly negative. The estimate coefficients on Adjunct Directors (dummy) and No Cumulative Voting (dummy) are statistically insignificant. In column (4), we include all dummies in the regression and find similar results. Ensuring all independent directors have an economic, accounting, or law background is expected to impose greater constraints and higher costs in searching for qualified independent directors. Moreover, the insignificant coefficient on No Cumulative Voting (dummy) is also consistent with the prior studies on the Chinese listed firms, which document the no effect of cumulative voting on firm performance in China (e.g., Xi and Chen, 2014; Chen et al., 2015). These findings also have policy implications for the effectiveness of the 2023 Measures. It highlights the areas that the financial market reacts most among the regulatory changes in the Measures.

Table 3: Individual Effect of Each Criterion on Stock Market Reaction

	CARs [0, +5]			
	(1)	(2)	(3)	(4)
Adjunct Directors (dummy)	-0.017 (-0.089)			-0.012 (-0.061)
No EAL Background (dummy)		-0.419*** (-3.429)		-0.418*** (-3.426)
No Cumulative Voting (dummy)			-0.171 (-0.659)	-0.165 (-0.636)
Firm Controls	Yes	Yes	Yes	Yes
Province FE	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Observations	4423	4423	4423	4423
Adjusted R ²	0.169	0.171	0.169	0.172

Note: This table provides the regression results examining the relation between each criterion and stock market reactions. The dependent variable is CARs [0, +5]. The independent variables are Adjunct Directors (dummy), No EAL Background (dummy), and No Cumulative Voting (dummy) in columns (1) – (3), respectively. In column (4), we include all criteria in the regression. Industry fixed effects and province fixed effects are added to all regressions. See the Appendix for detailed variable definitions. Heteroskedasticity-robust standard errors are adjusted for clustering at province level. The t-statistics are shown in parentheses. ***, ** and * denote significance at the 1%, 5% and 10% levels, respectively.

3.3 Mechanism - Labor Market Constraints

We investigate the economic mechanisms of the impact of the Measures on firm value. As mentioned earlier, the Measures exogenously push up the demand for qualified independent directors. Thus, we expect that stock market reactions are more pronounced when a firm faces greater labour market competition for independent directors. We measure a firm's labour market competition in several ways. First, we calculate the total number of listed firms in a firm's headquarter city and industry as proxies for the demand for independent directors in the headquarter city and industry, respectively. We expect that the competition for qualified directors in high-demand cities and industries will be more intense. Second, we calculate a firm's market share within the industry as large firms attract and retain more-capable workers (Idson & Oi, 1999). We argue that a firm's competitiveness can provide advantages in attracting qualified independent directors, and the industry leaders would be least affected by the Measures. Third, we calculate the total institutional ownership of a firm. Institutional investors can provide helping hands and share connections with their portfolio firms (Jiao, 2022). We argue that firms with high institutional ownership would get easier access to qualified independent directors and be least affected by the regulatory reform. We interact Total with these moderators and estimate the following model:

$$CARs_i = \alpha + \beta_1 Total_i \times Moderator + \beta_2 Total_i + \beta_3 Moderator + \beta_4 X_i + FEs + \varepsilon_i, \tag{2}$$

where CARs is a firm's CAR after the announcement of the Measures. Total is the count of criteria in the Measure that a firm fails to meet. Moderator can be Number of Firms by City, Number of Firms by Industry, Market Share in Industry, or Institutional Ownership.

Table 4 reports the cross-sectional analysis results. The coefficients on Total × Number of Firms by City (log) and Total × Number of Firms by Industry (log) are significantly negative, which suggests that being in a more competitive labour market for independent directors amplifies the effect of Measures on firm value. The coefficients on Total × Market Share in Industry and Total × Institutional Ownership are significantly positive, suggesting that industry leaders and firms with institutional support could reduce the cost and constraint of searching for qualified independent directors. The findings provide supporting evidence for the labour market constraints hypothesis.

Table 4: Cross-sectional Analyses

	CARs [0, +5]				
	(1)	(2)	(3)	(4)	(5)
Total	0.493** (2.120)	0.477** (2.057)	-0.240** (-2.207)	-0.561* (-1.972)	0.164 (0.477)
Total × Number of Firms by City (log)	-0.174*** (-3.258)				-0.176*** (-2.935)
Total × Number of Firms by Industry (log)		-0.140*** (-3.249)			-0.107* (-1.970)
Total × Market Share in Industry			3.522*** (3.957)		0.117* (1.736)
Total × Institutional Ownership				0.009* (1.723)	0.009* (1.759)
Firm Controls	Yes	Yes	Yes	Yes	Yes
Province FE	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes
Observations	4423	4423	4420	4422	4419
Adjusted R ²	0.172	0.171	0.172	0.173	0.178

Note: This table provides the results of a series of cross-sectional analyses. The dependent variable is CARs [0, +5]. The moderator variable in column (1) is the number of listed firms within each city in this sample; the moderator variable in column (2) is the number of listed firms in each industry in this sample; the moderator variable in column (3) is the market share of a firm in the industry where the firm operates; and the moderator variable in column (4) is the percentage of the firm's shareholding by institutional investors. In column (5), we include all interaction terms⁹. All regressions control for province and industry fixed effects. See the Appendix for detailed variable definitions. Heteroskedasticity-robust standard errors are adjusted for clustering at province level. The t-statistics are shown in parentheses. ***, ** and * denote significance at the 1%, 5% and 10% levels, respectively.

⁹ Since *Number of Firms by Industry (log)* and *Market Share in Industry* are highly correlated, there is a multicollinearity issue. To address the issue, we orthogonalize *Market Share in Industry* with respect to *Number of Firms by Industry (log)* based on a modified Gram-Schmidt procedure, and include the orthogonalized *Market Share in Industry* in column (5).

4. Conclusion

In this paper, we exploit the stock market reaction to a 2023 regulatory reform on independent directors in China. We find robust evidence that firms meeting fewer criteria in the Measures suffer greater losses in the stock market. Among the criteria, establishing the audit committee and mandating all directors to have an economic, accounting, or law background affect the stock price most. We also show that firms facing more intense labor market competition are more affected and firms that are leaders in their industry and have more institutional support are less affected. These findings suggest that the 2023 Measures exogenously increase firms' demand for qualified independent directors and firms facing more labour market constraints are more adversely affected by the reform.

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Appendix

Appendix Table 1: Variable Definitions

Variable	Definition	Source
Adjunct Directors (dummy)	Dummy variable that takes the value of one if there is at least one independent director of the company who is also a director of more than three listed companies, and zero otherwise.	CSMAR
No EAL Background (dummy)	Dummy variable that takes the value of one if there is at least one independent director of the company who does not satisfy a professional background related to economics, finance, or law, and zero otherwise.	CSMAR
No Cumulative Voting (dummy)	Dummy variable that takes the value of one if the company has two or more independent directors and does not have a cumulative voting system, and zero otherwise.	CSMAR
Total Number of Firms by City (log)	Number of violations of the above five criteria by the company. The logarithm of total number of firms in each city in this sample.	CSMAR CSMAR
Number of Firms by Industry (log)	The logarithm of total number of firms in each industry in this sample.	CSMAR
Market Share in Industry	Operating income of a firm divided by the total operating income of all firms in the same industry.	CSMAR
Institutional Ownership	Percentage of shares held by institutional investors in each company.	CSMAR
Firm Size	Natural logarithm of corporate total assets.	CSMAR
ROA	Net profit of the enterprise divided by total assets.	CSMAR
Book Leverage	Total debt divided by total assets.	CSMAR
Capital Expenditure	Capital expenditure divided by total assets.	CSMAR
Book-to-market	Book value of total assets divided by the market value of total assets.	CSMAR
Board Size	Number of corporate boards of directors.	CSMAR
Independent Board	Number of corporate independent directors.	CSMAR
Board Ownership	Logarithm of the total number of shares held by the board.	CSMAR
SOE	Dummy variable that takes the value of one if the firm is a state-owned enterprise and zero otherwise.	CSMAR

Appendix Table 2: Robustness Checks

Panel A. Baseline Results – Estimation Window [-110, -10]						
	CARs					
	[0, +1]	[0, +2]	[0, +3]	[0, +7]	[-5, +5]	
No FE (N=4424)	-0.180** (-2.73)	-0.232*** (-3.47)	-0.261*** (-3.23)	-0.308** (-2.71)	-0.301*** (-2.90)	
Province FE (N=4424)	-0.186** (-2.72)	-0.236*** (-3.51)	-0.266*** (-3.31)	-0.334*** (-2.94)	-0.302*** (-2.88)	
Industry FE (N=4422)	-0.148*** (-3.22)	-0.170*** (-3.12)	-0.203** (-2.72)	-0.255** (-2.13)	-0.226* (-2.02)	
Province and Industry FE (N=4422)	-0.149*** (-3.23)	-0.170*** (-3.11)	-0.209*** (-2.82)	-0.279** (-2.33)	-0.226* (-1.99)	
Province - Industry FE (N=4027)	-0.137** (-2.73)	-0.154*** (-3.00)	-0.192** (-2.61)	-0.226 (-1.59)	-0.241* (-1.90)	
Panel B. Individual Effect – Estimation Window [-110, -10]						
	CARs					
	[0, +1]	[0, +2]	[0, +3]	[0, +7]	[-5, +5]	
Adjunct Directors (dummy)	-0.065 (-0.615)	-0.07 (-0.473)	-0.08 (-0.499)	-0.127 (-0.582)	0.006 -0.037	
No EAL Background (dummy)	-0.172* (-1.923)	-0.237*** (-2.812)	-0.374*** (-4.103)	-0.597*** (-4.069)	-0.557*** (-3.023)	
No Cumulative Voting (dummy)	-0.288 (-1.385)	-0.285 (-1.558)	-0.253 (-1.431)	-0.217 (-0.664)	-0.103 (-0.289)	
Firm Controls	Yes	Yes	Yes	Yes	Yes	

INDEPENDENT DIRECTORS AND FIRM VALUE

Province and Industry FE	Yes	Yes	Yes	Yes	Yes
Observations	4423	4423	4423	4423	4423

Panel C. Baseline Results – Estimation Window [-265, -10]

	CARs				
	[0, +1]	[0, +2]	[0, +3]	[0, +7]	[-5, +5]
No FE (N=4424)	-0.163** (-2.55)	-0.218*** (-3.34)	-0.236*** (-2.99)	-0.305*** (-2.83)	-0.279** (-2.69)
Province FE (N=4424)	-0.169** (-2.57)	-0.222*** (-3.39)	-0.241*** (-3.07)	-0.332*** (-3.04)	-0.281** (-2.63)
Industry FE (N=4422)	-0.140*** (-3.05)	-0.163*** (-3.03)	-0.190** (-2.61)	-0.250** (-2.24)	-0.214* (-1.94)
Province and Industry FE (N=4422)	-0.141*** (-3.05)	-0.164*** (-3.02)	-0.197** (-2.72)	-0.275** (-2.44)	-0.216* (-1.91)
Province - Industry FE (N=4027)	-0.133** (-2.68)	-0.151*** (-2.94)	-0.184** (-2.54)	-0.209 (-1.53)	-0.231* (-1.81)

Panel D. Individual Effect – Estimation Window [-265, -10]

	CARs				
	[0, +1]	[0, +2]	[0, +3]	[0, +7]	[-5, +5]
Adjunct Directors (dummy)	-0.059 (-0.560)	-0.065 (-0.435)	-0.075 (-0.475)	-0.156 (-0.744)	0.007 -0.043
No EAL Background (dummy)	-0.167* (-1.787)	-0.237*** (-2.819)	-0.362*** (-4.016)	-0.562*** (-3.807)	-0.541*** (-2.919)
No Cumulative Voting (dummy)	-0.267 (-1.318)	-0.258 (-1.438)	-0.214 (-1.192)	-0.178 (-0.558)	-0.066 (-0.192)

Firm Controls	Yes	Yes	Yes	Yes	Yes
Province and Industry FE	Yes	Yes	Yes	Yes	Yes
Observations	4423	4423	4423	4423	4423

Note: This table presents the results of OLS regressions using alternative event windows, alternative estimation windows, and alternative fixed effects. Alternative event windows include [0, +1], [0, +2], [0, +3], [0, +7], and [-5, +5]. Panel A shows the robustness results for the baseline regressions using [-110, -10] estimation window. Panel B shows the robustness results for the tests examining the individual effect of each criterion using [-110, -10] estimation window. Panel C shows the robustness results for the baseline regressions using [-265, -10] estimation window. Panel D shows the robustness results for the individual effect using [-265, -10] estimation window.

Appendix Table 3: The Evolution of the Independent Director System

Date of Publication	The Name of the Regulation	Key Points
March,26,1999	《Opinions on Further Promoting the Standard Operation and Deepening Reform of Overseas Listed Companies》	Requirements for Overseas Listing
April,16,2001	CSRS 《Guiding Opinions on Establishing an Independent Director System in Listed Companies》	Requirements for Establishing Independent Directors
December,7,2004	CSRS 《Several Regulations on Strengthening the Protection of Rights and Interests of Public Shareholders in Listed Companies》	Improving the Independent Director System
January,1,2006	《The Company Law of the People's Republic of China (Revised in 2005)》	Legal Requirement for the Establishment of Independent Directors Clarified for the First Time
January,5,2022	CSRC 《Rules on Independent Directors of Listed Companies》	Non-substantive Modification, Unification, Integration, Absorption
April,14,2023	State Council General Office 《Opinions on Reforming the Independent Director System of Listed Companies》	Clarify Reform Tasks
August,4,2023	CSRS 《Regulations on the Management of Independent Directors in Listed Companies》	Implement Reform Opinions, Elaborate on System Requirements