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The Effects of Equity Incentives on Corporate Performance in China

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Abstract

For modern companies, equity incentives are used as a tool to address agency problems. This study examines the long-term impact of equity incentives on corporate performance using data from A-share listed companies in China from 2010 to 2022. The findings suggest that equity incentives can enhance corporate performance for four years after implementation, with the strongest effect observed in the second year. Additionally, there is no significant difference in the impact of equity incentives on corporate performance between state-owned enterprises (SOEs) and non-state-owned enterprises (NSOEs) in China.

Keyword: equity incentives, corporate performance

1. Introduction

The separation of management and control in modern companies leads to agency problems (Jensen & Meckling, 1976). Equity incentive schemes, which grant a certain percentage of equity to executives and key employees, and align shareholders' interests with equity

incentive recipients, alleviate agency problems and thus promote corporate performance (Qiao et al., 2023).

The implementation of equity incentives in China started in 2006, with the official issuance of the legal document named "Administrative Measures for Equity Incentives of Listed Companies (Trial)". According to the latest legal document "Equity Incentive Measures for the Administration of Listed Companies" which was issued by the China Securities Regulatory Commission in 2016 and revised in 2018, equity incentives are long-term incentives offered by a listed company to its directors, senior management and other employees in return for shares of the company. For Chinese listed companies, there are two types of commonly used equity incentives which are restricted stock and stock options, and this study only discusses the impacts of implementing restricted stock and stock options on corporate performance.

Using panel data of Chinese A-share listed companies from 2010 to 2022, this study examines the long-term effect of equity incentives on corporate performance and also considers the differences among state-owned enterprises (SOEs) and non-state-owned enterprises (NSOEs). We find that the implementation of equity incentives has a significant and positive effect on corporate performance, and the positive effect lasted for four years. Besides, there is no difference in the motivation effect of equity incentives among SOEs and NSOEs.

This study makes the following contributions. First, this study examines the impact of equity incentives on corporate performance for five years after implementation, which enriches the relevant research on equity incentive effect. Second, considering the special characteristics of Chinese SOEs, this study also investigates whether there is a significant difference between SOEs and NSOEs in improving firm performance by using equity incentives. It enriches the examination of the effect of equity incentives on corporate performance in China.

2. Literature Review and Hypotheses Development

2.1 Equity Incentives and Corporate Performance

Agency theory provides a theoretical background for the research on the relationship between equity incentives and corporate performance. Berle and Means (1932) define the agency problem as the separation of ownership and control, which results in conflicts between owners (principals) and managers (agents). Jensen and Meckling (1976) describe agency costs as the sum of the residual loss that occurs when managers make decisions in self-interest and the costs incurred by monitoring and bonding managerial behavior.

Existing researches, which are related to the relationship between equity incentives and corporate performance, indicate that there are two types of opinions between shareholders and management: the optimal contract approach and the managerial power approach (Chen, 2017; Qiao et al., 2023; Li, 2023).

According to the optimal contract approach, firms can create reasonable compensation packages for managers that will align managers' interests with shareholders, reducing agency costs and enhancing corporate performance. This approach considers equity incentives as an effective way of resolving the agency problem. (Jensen & Murphy, 1990; Lovett et al., 2022). Thus, there would be a positive correlation between equity incentives and company performance. Fang et al. (2015) investigate the implementation of equity incentives by companies in China and the United States, and they found that implementing equity incentives can improve corporate performance. Dai (2022) indicates that equity incentives can significantly improve firm performance which is measured by earnings per share, and the relationship is stronger in firms with low financing constraints and management performance. Xia (2023) finds that equity incentives for both executives and employees have a positive impact on firm performance. By granting equity incentives to managers and key employees, it enables them to share the surplus value of the firm, reduce agency costs, and work towards companies' long-term development.

The managerial power approach argues that shareholders or boards of directors do not have full control over the process of setting equity incentive contracts, and that managers have the ability to influence, or even manipulate, equity incentive contracts and use their power to seek rents, thereby creating new agency problems that can undermine the performance and value of the firm (Bebchuk & Fried, 2003). Based on the managerial power approach, the implementation of equity incentives would be negatively related to corporate performance (Qiao et al., 2023). In addition, there are researches indicate a non-linear relationship between the implementation of equity incentives and corporate performance (Griffith, 1999; Zhou & Yuan, 2024).

Through the granting of options or shares, equity incentive schemes grant managers and other key employees the firm's residual claim right, transform the shareholder's supervision over employees into the employees' self-restraint, and motivate them to pay more attention to long-term development. In addition, equity incentives can alleviate managers' risk aversion (Shue & Townsend, 2017). Compared with other compensation mechanisms, equity incentives can improve the compensation structure of incentive recipients, which can effectively respond to the marginal contribution of the agent and make the corresponding compensation, and therefore can improve the level of risk-taking and choose more risky investment projects, thus promoting corporate performance. Based on the discussion above, the following hypothesis is proposed:

H1: Equity Incentives have a significant positive long-term effect on corporate performance.

2.2 Different Motivation Effects of Equity Incentives among SOEs and NSOEs

In China, state-owned enterprises (SOEs) serve as extensions of the government, and the selection, assessment, and compensation of SOEs managers are significantly impacted by the government (Xin et al., 2019). Managers of SOEs operate in an internal labor market that is

generally closed but competitive due to China's political ranking system (Chen et al., 2018). Managers with higher administrative levels have greater administrative power and interests. Chen et al. (2018) also point out that SOEs managers who have higher administrative ranks are more likely to be strictly monitored by the government. In such a situation, managers of SOEs are more risk-averse when making business decisions.

The implementation of equity incentive schemes by SOEs requires the approval of the State-owned Assets Supervision and Administration Commission (SASAC), Ministry of Finance (MOF) and China Securities Regulatory Commission (CSRC) in China, and the stringent approval procedure restricts the timeliness and effectiveness of the implementation of the incentive schemes, while NSOEs can implement the plan with the approval of the CSRC, and the timeliness of the approval ensures the effectiveness of the implementation to the greatest extent possible (Wang & Huang, 2020).

Besides, executives of SOEs are appointed by the government and enjoy the same administrative treatment as government officials, which is determined by their administrative rank, will result in the managers of SOEs pursuing political rather than economic benefits first and foremost (Tang & Zhang, 2017).

Furthermore, the property rights of NSOEs are not as complicated as SOEs, which can motivate the actual controller to implement the equity incentive schemes and monitor its outcomes (Wang & Huang, 2020). Wang and Huang (2020) point out that the effect of implementing equity incentives is related to the ownership of equity, and the effect of implementing equity incentives in NSOEs is better than that in SOEs in China. By using sample data of Chinese A-share listed companies from 2014 to 2018, Yang (2022) states that NSOEs which implement equity incentives perform better than SOEs.

Compared with NSOEs, SOEs have more favorable resource allocation and policy subsidies, but SOEs managers are strictly monitored by the government and more risk-averse. It leads to the dilemma that equity incentives are not as effective as those of NOSEs. Therefore, this study expects that differences in the ownership of firms will influence the motivation effect of equity incentives on corporate performance. Hence, it leads to the following hypothesis.

H2: Compared with state-owned enterprises, the motivation effect of equity incentives is stronger in non-state-owned enterprises.

3. Research Methodology

3.1 Sample Selection and Data Source

This study uses the data of Chinese A-share listed companies from 2010 to 2022. The secondary data is collected from CSMAR Guotai 'an Database.

The initial sample consists of the entire population of Shanghai and Shenzhen A-share listed companies from 2010 to 2022, and deleting some data according to the following

requirements: 1) delete sample companies labelled with *ST and ST; 2) delete the sample companies in financial industries; 3) screening out sample data which relevant data are not disclosed.

Finally, a balanced panel data of 31,919 were selected. The descriptive statistical analysis, correlation analysis and regression analysis are carried out by using Stata 17.0 software. All continuous variables are winsorized at the 1st and 99th percentile levels to avoid the influence of extreme values.

3.2 Variable Measurement

This study uses return on assets (ROA) as the dependent variable to measure corporate performance, following the literature (Chen, 2017; Zhou & Yuan, 2024(Zhao & Lu, 2024)). And we will use return on equity (ROE) and Tobin's Q (TobinQ) for robustness checks. For the independent variable, we use a dummy variable to indicate the implementation of equity incentive schemes (EI); it takes the value of one if a firm adopts an equity incentive and zero otherwise. The moderating variable is the type of ownership (Type), it equals 1 if the firm equals to one if the firm belongs to non-state-owned enterprises (NSOEs), and equals zero if the firm belongs to state-owned enterprises (SOEs).

Control variables include CEO duality (Dual), growth rate of operating revenue (Growth), operating cash flow (CF), top one shareholding (Top1) and leverage ratio (Lev). In addition, we control for year-fixed and industry-fixed effects, and all the variables are summarized and defined in Table 1.

Table 1. Definition and description of variables

Type	Acronym	Variable Name	Measurement
Dependent Variable	ROA	Return on assets	Net profit/ Average total assets
Independent Variable	EI	Implementation of equity incentives	Dummy variable: takes 1 if the firm implements equity incentives and 0 otherwise
Moderating Variable	Type	Type of ownership	Dummy variable: takes 1 if the firm belongs to non-state-owned enterprises (NSOEs), takes 0 if the firm belongs to state-owned enterprises (SOEs)
Control Variables	Dual	CEO Duality	Dummy variable: takes 1 if the CEO and the chairman of the board positions are combined, and 0 otherwise
	Growth	Growth of operating revenue	(Current period operating revenue – Prior period operating revenue)/ Prior period operating revenue
	CF	Operating Cash Flow	Net operating cash flow/ Average total assets
	Top1	Top One Shareholding	Top one shareholding/ Total shares outstanding
	Lev	Leverage Ratio	Total liability/ Total asset

3.3 Model Specification

This study uses fixed effects model (FEM) to conduct the regression. Equation (1) is formulated to test hypotheses (1) and (2) respectively. For testing hypothesis (1), we use the full sample data to run the regression. For hypothesis (2), in order to examine the different effects of equity incentives among state-owned enterprises (SOEs) and non-state-owned enterprises (NSOEs), we separate sample data into two groups which are SOEs and NSOEs, and run regressions by using two subsamples respectively.

$$ROA_{it_r} = \alpha_0 + \alpha_1 EI_{it} + \alpha_2 Dual_{it} + \alpha_3 Growth_{it} + \alpha_4 CF_{it} + \alpha_5 Top1_{it} + \alpha_6 Lev_{it} + \alpha_7 Year_{it} + \alpha_8 Industry_{it} + \varepsilon_{it} \quad (1)$$

where

ROA_{it} denotes the return on asset ratio of listed company *i* at time t_r, r equals to 0, 1, 2, 3, 4 and represents ROA of each year from *t* to *t+4*. EI_{it} represents whether the company *i* implement the equity incentive scheme at time *t*. $Dual_{it}$ denotes whether the company *i* shows CEO duality at time *t*. $Growth_{it}$ is the growth rate of operating revenue in the company *i* at time *t*. CF_{it} represents the net operating cash flow in company *i* at time *t*. $Top1_{it}$ is the percentage of top one shareholding in the firm *i* at time *t*. Lev_{it} represents the leverage ratio in company *i* at time *t*. $Year_{it}$ and $Industry_{it}$ are year fixed effect and industry fixed effect respectively. α_0 is the intercept of the equation, and α_1 to α_8 denote the coefficients of set of independent and control variables, ε_{it} is the error term.

4. Analysis and Results

4.1 Descriptive Statistics

Table 2 shows descriptive statistics for each variable. The average of return on assets (ROA) is 0.057 with a standard deviation of 0.055, which shows that listed companies are profitable on average; the minimum value is -0.270 and the maximum value is 0.252, there is a significant gap between different listed companies in China. The mean value of implementing equity incentives (EI) is 0.115, indicating that 11.5% of sample firms chosen to implement equity incentives. For the moderating variable, the average value of the type of ownership (Type) is 0.672, which means that 67.2% of sample firms are NSOES.

For control variables, the mean value of the CEO duality (Dual) is 0.305, which means 30.5%

of listed companies combine the positions of CEO and the chairman of the board. The average value of the growth rate of operating revenue is 0.201, which indicates that most listed companies have steady growth. The mean value of top one shareholding is 35.199% with a standard deviation of 14.999, showing that for most Chinese listed companies, the percentage of top one shareholding is higher than 30%, and there is a wide gap among different companies. For other control variables, all of them are within a reasonable range.

Table 2. Descriptive Statistics

Variable	N	Mean	Median	SD	Min	Max
ROA	31,919	0.057	0.050	0.055	-0.270	0.252
EI	31,919	0.115	0	0.319	0	1
Type	31,919	0.672	1	0.470	0	1
Dual	31,919	0.305	0	0.461	0	1
Growth	31,919	0.201	0.129	0.400	-0.580	2.771
CF	31,919	0.057	0.056	0.081	-1.057	1.172
Top1	31,919	35.199	33.160	14.999	8.420	90.370
Lev	31,919	0.398	0.386	0.201	0.053	0.961

4.2 Correlation Analysis

In order to check the collinearity between the variables and reduce the multicollinearity problem, this study conducts the variance inflation factor (VIF) for Equation (1), and the results are reported in Table 3. It is generally believed that there is no multicollinearity when the value of VIF is less than 10. According to the results, the VIF value of each variable is less than 4, and thus there is no multicollinearity problem in this study.

Table 3. Variance Inflation Factor (VIF)

Variables	VIF	1/VIF
Top 1	3.90	0.2561
Lev	3.35	0.2987
CF	1.46	0.6842
Dual	1.35	0.7391
Growth	1.26	0.7938
EI	1.13	0.8842
Mean VIF	2.08	

4.3 Regression Results and Analysis

Table 4 reports the effect of implementing equity incentives on corporate performance for listed companies in China from 2010 to 2022. The first column shows the results of the effects of implementing equity incentives in the current year, and columns (2) to (5) represent the results for the following 1 to 4 years after the implementation respectively.

The first column represents the effect of equity incentives on corporate performance in current year. The coefficient of EI is 0.0115 and significant at 1% level, which means 1% increase in the implementation of equity incentives leads to 0.0115% increase in ROA. It indicates that the implementation of equity incentives has a positive effect on corporate performance in current year. This finding is consistent with agency theory that equity incentives align the interests of management with those of shareholders by granting shares or options, motivating managers to act in the best interest of the company, and thus enhancing corporate performance.

The second column shows the regression results of one year after the implementation of equity incentives. The coefficient of EI is positive and significant at 1% level, and the coefficient of EI in the second column (0.0117) is larger than the coefficient in the first column (0.0115). The results show that one year after the implementation of equity incentives has a stronger effect on the improvement of corporate performance than that of the current year. The noticeable peak in performance in the second year suggests that equity incentive recipients respond most strongly to equity incentives once they have had time to assimilate the benefits and align their efforts with the company's performance goals. Therefore, managers should consider reinforcing these equity incentives or introducing complementary motivation strategies to sustain high performance in subsequent years.

For the third and fourth columns, the coefficients of EI are both positive and significant at 1 percent level, but the value is decreasing. And the last column shows the regression results of the effect of implementing equity incentives on corporate performance after 4 years of implementation, the coefficient is still positive, but not significant.

To sum up, the implementation of equity incentives has a positive effect on corporate performance, and the positive motivating effect lasted for consecutive four years. Notably, the positive effect of equity incentives on corporate performance is most pronounced in the year after the implementation of equity incentives. Hence, hypothesis (1) is supported. This study indicates the dynamics of the positive relationship between the implementation of equity incentives and corporate performance, showing a sustained positive effect over the continuous four years. These findings underscore the critical role of equity incentives in fostering corporate performance for listed companies in China.

Table 4. Regression Results of Full Sample

	(1)	(2)	(3)	(4)	(5)
VARIABLES	ROA_t	ROA_{t+1}	ROA_{t+2}	ROA_{t+3}	ROA_{t+4}
EI	0.0115***	0.0117***	0.00952***	0.00467***	0.00224
	(0.000691)	(0.000729)	(0.000949)	(0.00144)	(0.00176)
Dual	0.00237**	0.000543	-0.000491	-0.000883	-0.00237
	(0.00110)	(0.00149)	(0.00179)	(0.00197)	(0.00210)
Growth	0.0274***	0.0162***	0.00838***	-0.000155	-0.000475
	(0.00231)	(0.00150)	(0.00138)	(0.00145)	(0.00138)
CF	0.246***	0.227***	0.194***	0.175***	0.150***
	(0.0185)	(0.0177)	(0.0181)	(0.0175)	(0.0157)
Top1	0.000372***	0.000315***	0.000291***	0.000277***	0.000267***
	(3.33e-05)	(2.89e-05)	(2.99e-05)	(3.18e-05)	(3.35e-05)
Lev	-0.0931***	-0.0659***	-0.0578***	-0.0489***	-0.0421***
	(0.00242)	(0.00229)	(0.00284)	(0.00274)	(0.00280)
Constant	0.0599***	0.0513***	0.0500***	0.0483***	0.0469***
	(0.00171)	(0.00186)	(0.00209)	(0.00205)	(0.00194)
Observations	31,918	25,132	21,278	18,125	15,355
R-squared	0.358	0.261	0.196	0.157	0.137

Robust standard errors in parentheses

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

Table 5 and Table 6 present the regression results of non-state-owned enterprises (NSOEs) and state-owned enterprises (SOEs) respectively. As can be seen in Table 5, the coefficients of EI are positive and significant in columns 1 to 4, with the highest coefficient appearing in the second column. These results indicate that the implementation of equity incentives has a consistently positive effect on corporate performance over a four-year period for NSOEs. The most prominent positive impact is observed in the second year, suggesting that the benefits of equity incentives are most substantial in the year immediately following the implementation. The findings show that for NSOEs, equity incentives can effectively align the interests of equity incentive recipients and shareholders, and sustained corporate growth.

The regression results for SOEs are shown in Table 6. From the first year to the fourth year, the coefficients of EI are positive and significant, which means the implementation of equity incentives has a positive effect on corporate performance and lasts for four years for SOEs.

However, when we compare the coefficients of EI in Table 5 and Table 6 from year *t* to *t+3*, the coefficients of EI in Table 5 are not always larger than the coefficients of EI in Table 6 for each year. Indicating that compared with SOEs, the positive motivation effect of equity incentives is not always stronger in NSOEs when considering the long-term effect. Therefore, hypothesis (2) is rejected.

Table 5. Regression Results of NSOEs

	(1)	(2)	(3)	(4)	(5)
VARIABLES	ROA_t	ROA_{t+1}	ROA_{t+2}	ROA_{t+3}	ROA_{t+4}
EI	0.0107***	0.0119***	0.00944***	0.00394***	0.00308
	(0.000975)	(0.00102)	(0.00125)	(0.00141)	(0.00192)
Dual	0.00135	-0.000213	-0.000593	-0.000722	-0.00212
	(0.00130)	(0.00165)	(0.00190)	(0.00198)	(0.00226)
Growth	0.0318***	0.0177***	0.00991***	-0.00154	-0.00120
	(0.00261)	(0.00154)	(0.00173)	(0.00201)	(0.00169)
CF	0.255***	0.234***	0.205***	0.191***	0.161***
	(0.0165)	(0.0157)	(0.0171)	(0.0173)	(0.0164)
Top1	0.000488***	0.000403***	0.000361***	0.000324***	0.000311***
	(3.27e-05)	(3.06e-05)	(3.45e-05)	(3.89e-05)	(4.67e-05)
Lev	-0.0950***	-0.0644***	-0.0571***	-0.0457***	-0.0384***
	(0.00308)	(0.00316)	(0.00354)	(0.00348)	(0.00395)
Constant	0.0570***	0.0482***	0.0470***	0.0457***	0.0442***
	(0.00163)	(0.00226)	(0.00274)	(0.00267)	(0.00263)
Observations	21,434	16,844	14,059	11,757	9,801
R-squared	0.357	0.247	0.183	0.146	0.128

Robust standard errors in parentheses

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

Table 6. Regression Results of SOEs

	(1)	(2)	(3)	(4)	(5)
VARIABLES	ROA_t	ROA_{t+1}	ROA_{t+2}	ROA_{t+3}	ROA_{t+4}
EI	0.0111***	0.0101***	0.00920**	0.0153***	0.00310
	(0.00225)	(0.00202)	(0.00365)	(0.00467)	(0.00364)
Dual	0.000356	0.00255	0.000538	0.000274	-0.00148
	(0.00192)	(0.00238)	(0.00343)	(0.00324)	(0.00314)
Growth	0.0169***	0.0123***	0.00508***	0.00214	0.000868
	(0.00228)	(0.00210)	(0.00137)	(0.00147)	(0.00178)
CF	0.214***	0.201***	0.168***	0.147***	0.132***
	(0.0272)	(0.0277)	(0.0247)	(0.0229)	(0.0208)
Top1	0.000200***	0.000182***	0.000183***	0.000195***	0.000196***
	(3.70e-05)	(3.81e-05)	(4.51e-05)	(4.97e-05)	(5.97e-05)
Lev	-0.0826***	-0.0640***	-0.0545***	-0.0486***	-0.0432***
	(0.00471)	(0.00492)	(0.00547)	(0.00489)	(0.00502)
Constant	0.0630***	0.0563***	0.0535***	0.0511***	0.0498***
	(0.00267)	(0.00299)	(0.00331)	(0.00347)	(0.00384)
Observations	10,484	8,283	7,217	6,366	5,553
R-squared	0.362	0.319	0.273	0.252	0.233

Robust standard errors in parentheses

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

4.4 Robustness Tests

In order to ensure the consistency and accuracy of the above results and findings, this study uses both accounting indicator and market indicator, which are return on equity (ROE) and Tobin's Q (TobinQ), to substitute the dependent variable ROA.

Table 7 presents regression results by using ROE as an alternative measurement of the dependent variable. The coefficients of EI are positive and significant from the first to fourth year, and the value of the coefficient is the largest in the second column. These results indicate that the implementation of equity incentives has a long-term positive effect on

corporate performance, and the motivation effect is the strongest in the year after implementation. Table 8 shows regression results by using Tobin's Q as an alternative measurement of ROA, and the results are consistent with previous findings.

Overall, the results of the robustness checks are consistent with the regression results presented in Table 4, and hypothesis (1) is verified.

Table 7. Regression results of substitution-dependent variable by using ROE

	(1)	(2)	(3)	(4)	(5)
VARIABLES	ROE_t	ROE_{t+1}	ROE_{t+2}	ROE_{t+3}	ROE_{t+4}
EI	0.0183***	0.0203***	0.0163***	0.00692**	0.00291
	(0.00155)	(0.00118)	(0.00174)	(0.00298)	(0.00334)
Dual	0.00342*	0.000863	-0.000609	-0.000894	-0.00381
	(0.00190)	(0.00252)	(0.00300)	(0.00309)	(0.00382)
Growth	0.0522***	0.0286***	0.0154***	-0.000397	-0.00219
	(0.00346)	(0.00221)	(0.00232)	(0.00264)	(0.00274)
CF	0.396***	0.355***	0.290***	0.257***	0.230***
	(0.0278)	(0.0254)	(0.0275)	(0.0277)	(0.0240)
Top1	0.000718***	0.000576***	0.000524***	0.000495***	0.000476***
	(6.76e-05)	(5.26e-05)	(5.85e-05)	(5.46e-05)	(5.12e-05)
Lev	-0.0236***	0.0227***	0.0147**	0.0149**	0.0147**
	(0.00611)	(0.00534)	(0.00669)	(0.00583)	(0.00644)
Constant	0.0427***	0.0322***	0.0404***	0.0449***	0.0472***
	(0.00312)	(0.00300)	(0.00366)	(0.00335)	(0.00345)
Observations	31,878	25,126	21,276	18,123	15,349
R-squared	0.218	0.154	0.102	0.078	0.075

Robust standard errors in parentheses

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

Table 8. Regression results of substitution-dependent variable by using Tobin's Q

	(1)	(2)	(3)	(4)	(5)
VARIABLES	$TobinQ_t$	$TobinQ_{t+1}$	$TobinQ_{t+2}$	$TobinQ_{t+3}$	$TobinQ_{t+4}$
EI	0.182***	0.187***	0.169***	0.0746*	0.0304
	(0.0399)	(0.0401)	(0.0490)	(0.0433)	(0.0381)
Dual	0.0253	0.0859***	0.130***	0.170***	0.167***
	(0.0285)	(0.0308)	(0.0315)	(0.0408)	(0.0562)
Growth	0.342***	0.291***	0.177***	0.153***	0.0106
	(0.0416)	(0.0441)	(0.0326)	(0.0408)	(0.0281)
CF	1.889***	1.982***	1.768***	1.789***	1.602***
	(0.300)	(0.294)	(0.295)	(0.354)	(0.400)
Top1	-0.00794***	-0.00503***	-0.00227*	0.000474	0.000954
	(0.000745)	(0.000958)	(0.00115)	(0.00128)	(0.00131)
Lev	-1.064***	-1.454***	-1.629***	-1.931***	-1.815***
	(0.108)	(0.119)	(0.117)	(0.133)	(0.138)
Constant	2.705***	2.739***	2.792***	2.882***	2.853***
	(0.0599)	(0.0605)	(0.0613)	(0.0656)	(0.0645)
Observations	31,230	24,805	20,990	17,860	15,132
R-squared	0.229	0.265	0.264	0.279	0.273

Robust standard errors in parentheses

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

5. Conclusion and Discussion

Based on the panel data of A-share listed companies in China from 2010 to 2022, this study examines the long-term impact of implementing equity incentives on corporate performance. The study finds that (1) the implementation of equity incentives has a positive effect on corporate performance and lasts for four years, and the motivation effect is the strongest in one year after implementation. (2) there is no significant difference in the motivation effect of equity incentives on corporate performance among non-state-owned enterprises (NSOEs) and state-owned enterprises (SOEs) in China.

Compared with most capital markets in developed countries, the development of the Chinese capital market is relatively late, as well as the implementation of equity incentives in listed companies in China. Based on the results and findings of this study, we suggest that the implementation of equity incentives is beneficial to promote corporate performance, and it shows a durable motivation effect. Listed companies could include equity incentives as a component of compensation packages when designing compensation packages for managers and key employees. Moreover, the relevant governmental departments should improve the relevant policies of equity incentives, encourage and monitor the implementation of equity incentives by listed companies, and improve the effectiveness of equity incentives.

In future research, we can further examine the effect of equity incentive contract characteristics on corporate performance, such as equity incentive modes, equity incentive intensity, and the range of equity incentive recipients. And also analyze the path mechanism between equity incentives and corporate performance.

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The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical

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