

Deng, Bofu; Liu, Jiawei; Ji, Li

Article

Corporate awards and executive compensation: Empirical evidence from Chinese A-Share listed companies

China Journal of Accounting Studies (CJAS)

Provided in Cooperation with:

Accounting Society of China (ASC), Beijing

Suggested Citation: Deng, Bofu; Liu, Jiawei; Ji, Li (2020) : Corporate awards and executive compensation: Empirical evidence from Chinese A-Share listed companies, China Journal of Accounting Studies (CJAS), ISSN 2169-7221, Taylor & Francis, Abingdon, Vol. 8, Iss. 1, pp. 66-96, <https://doi.org/10.1080/21697213.2020.1813968>

This Version is available at:

<https://hdl.handle.net/10419/338420>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



<https://creativecommons.org/licenses/by/4.0/>



Corporate awards and executive compensation: empirical evidence from Chinese A-Share listed companies

Bofu Deng, Jiawei Liu & Li Ji

To cite this article: Bofu Deng, Jiawei Liu & Li Ji (2020) Corporate awards and executive compensation: empirical evidence from Chinese A-Share listed companies, China Journal of Accounting Studies, 8:1, 66-96, DOI: [10.1080/21697213.2020.1813968](https://doi.org/10.1080/21697213.2020.1813968)

To link to this article: <https://doi.org/10.1080/21697213.2020.1813968>



© 2020 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.



Published online: 27 Sep 2020.



Submit your article to this journal [↗](#)



Article views: 1469



View related articles [↗](#)



View Crossmark data [↗](#)

Corporate awards and executive compensation: empirical evidence from Chinese A-Share listed companies

Bofu Deng^a, Jiawei Liu^b and Li Ji^a

^aSchool of Accounting, Southwestern University of Finance and Economics, Chengdu, China; ^bDongwu Business School, Soochow University, Suzhou, China

ABSTRACT

From the perspective of non-financial performance, this study investigates the effect of corporate awards on executive compensation. We find that as a measure of non-financial performance, corporate awards help increase executive compensation by demonstrating the company's status in the industry through the efforts of executives. In addition, corporate awards play an important role in supplementing the financial performance of a firm to improve executives' pay-performance sensitivity. Our empirical evidence also reveals that corporate awards are included as a subjective indicator to evaluate the non-financial performance of state-owned enterprises (SOEs) in China: the increase in compensation and the stickiness of this compensation for financial performance based on corporate awards in SOEs are both stronger than in non-SOEs. Moreover, when managers cannot fully obtain other forms of incentives (such as perk consumption or equity incentives), the effect of corporate awards on managers' monetary remuneration is more significant.

KEYWORDS

Corporate awards; non-financial performance; executive compensation; pay-performance sensitivity

1. Introduction

In the *Theory of Moral Sentiments*, it is illustrated that social recognition is a basic human motivation based on the definition that 'bettering our condition is to be observed, to be attended to, to be taken notice of with sympathy and approbation'. Accordingly, different types of awards have been created by people to recognise outstanding contributions or excellent work from specific individuals or groups, such as the Academy Awards for the film industry, the Nobel Prize in science and literature or Olympic Medals for sport. Previous studies on the motivational effect of awards show that based on the artificial scarcity of an award, the nature of the award is a type of evidence of an individual's achievement in terms of status competition and a type of non-material and non-pecuniary incentive, which can motivate people to do their jobs better by promoting social recognition (B.S. Frey, 2005, 2006, 2007; B.S. Frey & Gallus, 2017; B.S. Frey & Neckermann, 2008; B.S. Frey & Oberholzer-Gee, 1997; Kosfeld & Neckermann, 2011).

Although an increasing number of studies have begun to understand the importance of the motivational effect of awards, they mainly focus on the awards given by one group to

individuals, overlooking those given by one group to another group (Ager et al., 2016; Angrist & Lavy, 2009; Ashraf et al., 2014; Chan et al., 2014). It is difficult to ignore the fact that in China, listed firms take their awards very seriously and always disclose those earned last year in their annual reports. These awards are generally granted by groups to groups. Limited by previous research, we cannot understand and interpret the motivation of executives to report their awards in their annual reports. Therefore, we collect information on awards from the annual reports of Chinese A-Share listed firms between 2008 and 2016.

According to basic facts about the disclosure of information on awards in China, corporate awards play an important role in annual reports as a concentrated presentation of business performance. Therefore, we analyse and investigate the association between corporate awards and executive compensation. Our empirical evidence reveals that as a measure of past non-financial performance, corporate awards help increase executive compensation by demonstrating a firm's position and status in the industry due to the efforts and abilities of its executives. In addition, corporate awards play a key role in supplementing the financial performance of firms to improve executives' pay-performance sensitivity. Our empirical evidence also shows that corporate awards are included as a subjective indicator to evaluate the non-financial performance of state-owned enterprises (SOEs) in China: the increase in compensation and the stickiness of this compensation for financial performance based on corporate awards in SOEs are both stronger than in non-SOEs. Moreover, when managers cannot benefit from other forms of incentives (such as perk consumption, equity incentives), the effect of corporate awards on managers' monetary remuneration is more significant. These results inform us that the disclosure of information on awards by executives in their annual reports supplements the financial information relating to executive compensation.

This study makes three contributions to the literature. First, the literature on awards mainly focuses on the effect of awards on individual behaviour, considering awards as non-pecuniary rewards and exploring their economic effects, such as increasing the level of individual effort and stimulating work efficiency (Ager et al., 2016; Ashraf et al., 2014; Gallus & Frey, 2016). Therefore, our study extends the literature and theory related to the economic consequences of awards from the individual level to the firm level, which is an important addition to the literature.

Second, we propose and prove that corporate awards are significantly associated with executive compensation as an important indicator of firm performance in the industry status competition. Thus, our study provides a better understanding of how Chinese companies display their performance and the behavioural logic behind the performance requirements of business management. Moreover, this can help us better understand the agency problem from the perspective of non-financial performance (Ibrahim & Lloyd, 2011; Jensen & Meckling, 1976; Jensen & Murphy, 1990).

Third, unlike the Western world, China emphasises collectivism. As a result, awards are more often given by groups to groups rather than to individuals. However, our empirical evidence reveals that the artificial design of collective awards can lead to more benefits for top executives. As China's corporate governance institution comes from the Western world but with Chinese characteristics like collectivism, these results can help us better understand the nature of collectivism in China.

2. Research background and hypothesis development

2.1. Basic facts about the disclosure of information on awards

Our empirical analysis reveals some interesting basic facts about awards. Before our analysis, we classified awards by physical rank as follows: national awards such as the National Quality Engineering Award, National Advanced Enterprises, National Civilised Units and National Innovative Enterprises; local awards such as the Top 500 Enterprises in Guangdong Province, Top 100 Enterprises in Yunnan Province, Excellent Enterprises in Sichuan Province and Innovation Award and Contribution Award of Beijing Economic and Technological Development Zone; and industry awards such as the Top Ten Brand Culture of China Textile, Gold Cup Award for Physical Quality of Metallurgical Products and Top 100 Electronic Components Enterprises in China. We find that over time, more firms have disclosed information on awards in their annual reports. The proportion of listed Chinese companies that have won awards has increased year by year.

Second, most firms disclose their award information in their annual reports alongside their financial information in the 'Report of the Board of Directors' section. For example, in Figure 1, the right side is a screenshot of the 'Report of the Board of Directors' section of the 2017 annual report of China Petrochemical Corporation (Sinopec Group). The dotted box indicates the discussion part of the financial performance section and the solid box is the award discussion part, which translates as follows: 'we won eight national awards for technological innovation and five national awards for science and technology during the last fiscal year'. The left side of Figure 1 is a screenshot of the 'Report of the Board of



Figure 1. Disclosure of award information from two well-known listed companies in China.

Directors' section of the 2017 annual report of China Wuliangye Corporation, which is the leading corporation in the liquor and spirits industry in China. Similar to Sinopec, the dotted box is the discussion part of the financial performance section and the solid box is the award discussion part, which translates as follows: 'During the reporting period, the company won numerous awards, such as the 2016 Top 150 Golden Bull Investment Value Award, the Top 100 Listed Companies on the Main Board of China Award, the Top 10 Management Teams of Listed Companies on the Main Board of China Award, the 2017 Best Shareholder Return Award of Listed Companies in China, the China Top 100 Enterprise Award, the Golden Round Table Award, the Best Board Award, the 2017 Most Respected Listed Companies by Investors, etc.'

2.2. Previous literature

The literature has already proved that there is a significant association between financial performance and executive compensation. In executive compensation contracts, the most commonly used accounting indicator is the financial performance of the firm, more specifically ROE (return on equity) or ROA (return on assets), both derived from accounting net profit, because accounting profit is an intuitive and comprehensive indicator, which can reflect the value created by executives for shareholders. The first efficiency compensation empirical test was based on research on the US capital market. The empirical results show that executive compensation in listed US companies is indeed strongly positively related to accounting profit, which verifies the efficient contract hypothesis of executive compensation contracts (Jensen & Meckling, 1976; Jensen & Murphy, 1990). In fact, financial performance measures have been strongly criticised and questioned since their introduction into executive compensation contracts. Indeed, compensation contracts based on financial performance overemphasise short-term interests, but overlook the long-term value of companies. Therefore, in recent years, to resolve a series of derivative problems related to the use of financial performance measures in compensation contracts, non-financial indicators have been gradually introduced into executive compensation contracts to reconcile the contradiction between short-term financial performance and long-term value (Ibrahim & Lloyd, 2011). However, due to the lack of observances in the evaluation of non-financial performance, it is very difficult to find a good way to measure the non-financial performance of executives.

2.3. Corporate awards under agency theory

As most firms disclose information on awards in their annual reports alongside their financial performance in the 'Report of the Board of Directors' section, it is clear that executives are motivated to fully and comprehensively disclose their achievements to reduce information asymmetry with external investors (Deng et al., 2019). Moreover, corporate awards can provide rich information, which can often represent the position and status of executives in industry competition. The above theories and facts show that corporate awards play an important role as a supplement to financial performance. As a result, we propose that similar to financial performance, corporate awards are important evidence of the non-financial performance of executives. The literature on awards is generally based on the status competition theory (Besley & Ghatak, 2008; Cohn et al.,

2014; Huberman et al., 2004; Moldovanu et al., 2007). It is believed that the existence of an intangible award earned by an award winner in terms of status competition can improve the social recognition of this individual (B.S. Frey, 2005, 2006, 2007; B.S. Frey & Neckermann, 2008; B.S. Frey & Oberholzer-Gee, 1997; Kosfeld & Neckermann, 2011; Nalebuff & Stiglitz, 1983). It is not difficult to understand that pecuniary and non-pecuniary rewards are used to motivate people to work hard (Benabou & Tirole, 2003; Nalebuff & Stiglitz, 1983). By granting awards to individuals, an organisation can effectively demonstrate the achievements of these individuals in the internal competition for position and status of the organisation, thereby motivating them to do their jobs better by improving their social identity (Besley & Ghatak, 2008; B.S. Frey & Oberholzer-Gee, 1997; B.S. Frey, 2005, 2006, 2007; B.S. Frey & Neckermann, 2008; Gallus & Frey, 2016; Moldovanu et al., 2007; Kosfeld & Neckermann, 2011).

According to agency theory, due to information asymmetry between the principal and the agent, compensation contracts are usually linked with the actual performance of executives to limit possible moral hazard and adverse selection problems (Jensen & Murphy, 1990). Unfortunately, the principal cannot collect and access all information on the operational activities of executives and the investment opportunities of the company. It is therefore difficult to establish perfect contracts to avoid the potential compromise between executives' self-interest and shareholders' interests (Jensen & Murphy, 1990). This leads to a discussion on how to effectively measure the ability and performance of executives to promote the incentives of compensation contracts. Some scholars argue that the reason for the invalidation of executive compensation contracts lies in the performance standards adopted by firms. Indeed, the current performance standards adopted by firms are generally determined within firms, without taking into account external factors. As a result, executives can effectively use their position and power to influence the process of formulating performance standards, to maximise their self-interest. In addition, it is difficult to effectively constrain and supervise the power of executives. This is called the managerial power hypothesis. However, there is another theory called the bonus maximisation hypothesis, which postulates that executives have the potential to manipulate financial earnings for their own benefits (Watts & Zimmerman, 1978, 1990). When executive compensation is significantly related to their financial performance, managers will be encouraged to manipulate their financial performance to maximise their own compensation (Murphy, 2001). Therefore, in the process of formulating and implementing performance standards, we should compare and evaluate the capacities and contributions of executives with those of their industry colleagues, and leverage the public media to keep pressure on executives (Alchian, 1950).

In China, the State-Owned Assets Supervision and Administration Commission of the State Council (SASAC) published 'Measures for the assessment of the business performance of persons in charge of central enterprises' in 2003, amended in 2006, to assess more comprehensively the contributions of executives in SOEs. In this document, non-financial performance measures are introduced and their corresponding awards are highlighted as proof of non-financial performance, such as the Special Award for Scientific and Technological Innovation, the Special Award for Management Progress, the Special Award for International Operation, the Special Award for Brand Building and the Special Award for Energy Conservation and Emission Reduction. SASAC believes that

the awards earned by a firm can also be used to determine whether executives perform their duties, to effectively allocate their compensation.

Moreover, Malmendier and Tate (2009) find that after winning personal awards, executives can demonstrate their competitive status and position among their peers, leading to the 'superstar effect' and effectively improving their future salaries. In China, although awards are usually given by groups to groups rather than to individuals, collective awards can prove the capacities and contributions of executives. Therefore, we propose Hypothesis 1:

H1: *Ceteris paribus*, corporate awards are positively related to executive compensation.

Previous research on the principal-agent problem usually aims to observe the link between financial performance and executive compensation contracts (Jensen & Meckling, 1976; Jensen & Murphy, 1990). If our hypothesis is confirmed, as an important supplement to financial performance, corporate awards can effectively highlight the capacities and contributions of executives and significantly affect their compensation. Previous studies test the effectiveness of executive compensation incentives using financial performance as an alternative variable of the actual efforts of executives. The results show that the sensitivity of executive compensation to financial performance reflects the effectiveness of executive compensation contracts. The higher the sensitivity, the more effective the executive compensation incentives (Jensen & Murphy, 1990), which can help alleviate the opportunistic behaviour of executives and reduce the agency problem (Francis et al., 2011; Gu et al., 2010). As evidence of non-financial performance, corporate awards constitute a supplement to the financial performance of the firm, reflecting the good performance of executives' fiduciary duties. Regarding the principal-agent theory, supplementing and strengthening non-financial performance can further improve the effectiveness of executive compensation contracts when performance is evaluated. Therefore, we propose Hypothesis 2:

H2: *Ceteris paribus*, corporate awards can increase executives' pay-performance sensitivity.

3. Research design

3.1. Data collection and sample composition

This study selects Chinese A-share companies listed on the Shanghai and Shenzhen stock exchanges between 2008 and 2016. We exclude all financial companies and ST (special treatment) companies. After excluding all observations with missing data in the continuous variables of interest, 17,150 firm-year observations are obtained. In addition, data on corporate awards are collected manually. The specific steps are as follows: first, we download the PDF files of all corporate annual reports, then use keywords related to corporate awards, such as 'Acquired', 'Issued', 'Won', 'Granted', 'Selected', 'Finalist', 'Progress Award', 'Honour' and 'Awarded', among others. Second, we use Python to capture the sentences before and after these keywords in annual reports in an Excel

table. Third, we manually compare the information in this Excel table with the annual reports in PDF format to determine whether it is related to corporate awards. If yes, we determine to which award category this information belongs (national awards, issued by the central government, such as the National Science and Technology Progress Award; local awards, issued by local governments, such as the Shanghai Mayor's Quality Award; and industry awards, issued by non-governmental industry associations, such as China's AAA Credit Enterprise in the plastics industry). The specific method is to enter the name of the award in the Baidu search engine, to obtain information about the award-issuing institution based on the news entry directly related to the award, and to determine the category based on the characteristics of the award-issuing institution. For example, the National Science and Technology Progress Award is given by the State Council of the People's Republic of China, so it is classified as a national award. As the key step in collecting and collating award data is manual verification and judgement, this can reduce noise in text analysis. The same award that appears several times in the same annual report of the same company is counted only once.

All data on executive compensation, corporate financial characteristics and corporate governance in this study are obtained from the China Stock Market & Accounting Research (CSMAR) database, and all continuous variables are winsorised at the 1% level in the empirical regression.

3.2. Empirical model and variable definitions

The multiple regression model (1) is designed to test Hypothesis 1. The variable of interest is executive compensation (EXEPAY, measured by the logarithm of the average level of compensation for directors, supervisors and executives). The explanatory variables in the model include Award (a dummy variable equal to 1 if the company reports any award, and otherwise 0), C_Award (a continuous variable, measured by the number of national awards), P_Award (a continuous variable, measured by the number of local awards) and I_Award (a continuous variable, measured by the number of industry awards).

$$EXEPAY_{i,t} = \alpha + \beta * X_{i,t} + \gamma * Controls + \varepsilon_{i,t} \quad (1)$$

If Hypothesis 1 is confirmed, after controlling for other influencing factors, corporate awards should be significantly positively correlated with executive compensation.

Hypothesis 2 seeks to verify the relationship between non-financial performance indicated by corporate awards and financial performance and its motivational effect on executive compensation. Therefore, referring to the studies of Fang (2009) and Wang et al. (2015), model (2) analyses this relationship from the perspective of executives' pay-performance sensitivity:

$$EXEPAY_{i,t} = \alpha + \beta_1 * X_{i,t} + \beta_2 * ROA_{i,t} + \beta_3 * ROA_{i,t} * X_{i,t} + \gamma * Controls + \varepsilon_{i,t} \quad (2)$$

To verify the hypotheses, other relevant factors are controlled, including firm size (Size, measured by the natural logarithm of the company's total assets at the end of the year), financial leverage (LEV, measured by the company's year-end asset-liability ratio), corporate financial performance (ROA, measured by the ratio of the company's net profit to total assets), a dummy variable of lower performance (D, which takes the value of 1 if the operating income of the year is lower than the previous year's, and otherwise 0),

Table 1. Descriptive statistics.

Variables	Observations	M	SD	P25	P50	P75	Min	Max
EXEPAY	17,150	12.12	0.690	11.69	12.12	12.57	10.35	13.94
Award	17,150	0.506	0.500	0	1	1	0	1
C_Award	17,150	1.379	2.524	0	0	2	0	14
P_Award	17,150	0.845	2.215	0	0	0	0	14
I_Award	17,150	0.994	2.544	0	0	0	0	15
Size	17,150	21.99	1.258	21.07	21.80	22.70	19.75	25.91
LEV	17,150	0.434	0.211	0.265	0.432	0.602	0.046	0.880
ROA	17,150	0.046	0.053	0.016	0.040	0.073	-0.133	0.215
D	17,150	0.307	0.461	0	0	1	0	1
Growth	17,150	0.211	0.372	0.0230	0.111	0.253	-0.243	2.245
DUAL	17,150	0.235	0.424	0	0	0	0	1
DR	17,150	0.371	0.053	0.333	0.333	0.400	0.308	0.571
SHRCR1	17,150	35.93	15.19	23.72	34.11	46.70	8.927	75.42
SHRZ	17,150	12.17	21.24	1.911	4.316	12.08	1.004	135.8
State	17,150	0.433	0.496	0	0	1	0	1

development capacity (Growth, measured by the growth rate of the company's total assets), CEO duality (DUAL, which takes the value of 1 if the CEO and the chairman of the company are the same person, and otherwise 0), the proportion of independent directors (DR, measured by the ratio of the number of independent directors to the total number of directors), the number of shares of the major shareholder (SHRCR1, measured by the number of shares of the largest shareholder of the company), equity balance (SHRZ, measured by the ratio of the number of shares of the largest shareholder to that of the second largest shareholder of the company), the area where the company is located (Area, divided according to the place of registration of the company in the eastern, central and western regions of China)¹ and the nature of property rights (State, SOEs are assigned the value of 1, and otherwise 0). In addition, this study controls for year and industry factors.

3.3. Summary statistics

The descriptive statistics of the relevant variables are presented in Table 1. We can see that there are some differences in the level of executive compensation in the sample. Based on the mean value of the corporate award variables, 50.5% of the companies in the sample won awards. On average, each listed company won approximately 1.351 national awards, 0.838 local awards and 0.973 industry awards. The standard deviation also shows that the distribution of corporate awards in the sample is quite different.

4. Empirical results

4.1. Corporate awards and executive compensation

In Table 2, we report the results of the regression of model (1). The results show that executive compensation has a significant positive relationship with corporate awards at the 1% level. Regarding the types of corporate awards, the higher the number of national, local

¹We use the specific provinces included in the eastern, central and western regions of Wang and Fan (2004) and Fang (2009).

Table 2. Multinomial regression results of model (1): H1 test.

	(1)	(2)	(3)	(4)
Award	EXEPAY 0.07029*** (7.12)	EXEPAY	EXEPAY	EXEPAY
C_Award		0.01097*** (6.06)		
P_Award			0.00359* (1.89)	
I_Award				0.01001*** (5.91)
Size	0.26126*** (59.41)	0.25920*** (58.00)	0.26448*** (60.39)	0.26117*** (59.16)
ROA	3.05744*** (32.06)	3.03787*** (31.81)	3.06338*** (32.08)	3.04061*** (31.84)
LEV	-0.12434*** (-4.51)	-0.13114*** (-4.76)	-0.13071*** (-4.74)	-0.13096*** (-4.75)
D	-0.02036** (-2.17)	-0.01926** (-2.05)	-0.02047** (-2.18)	-0.02047** (-2.18)
Growth	-0.09980*** (-8.42)	-0.09921*** (-8.36)	-0.10175*** (-8.57)	-0.09933*** (-8.37)
DUAL	-0.02045** (-2.00)	-0.02006** (-1.97)	-0.01967* (-1.93)	-0.02027** (-1.99)
DR	0.45730*** (5.79)	0.45055*** (5.70)	0.44482*** (5.62)	0.44930*** (5.69)
SHRCR1	-0.00413*** (-13.11)	-0.00404*** (-12.79)	-0.00411*** (-13.02)	-0.00412*** (-13.06)
SHRZ	-0.00131*** (-5.95)	-0.00135*** (-6.13)	-0.00136*** (-6.18)	-0.00134*** (-6.08)
State	-0.04474*** (-4.49)	-0.04536*** (-4.54)	-0.04390*** (-4.39)	-0.04535*** (-4.54)
Constant	5.89442*** (61.62)	5.94719*** (61.18)	5.83775*** (61.16)	5.90494*** (61.44)
Area	YES	YES	YES	YES
Industry	YES	YES	YES	YES
Year	YES	YES	YES	YES
N	17,150	17,150	17,150	17,150
adj. R ²	0.403	0.402	0.401	0.402
F	283.17	282.61	281.25	282.53

***Indicates significance at the 1% level (two-tailed).

**Indicates significance at the 5% level (two-tailed).

*Indicates significance at the 10% level (two-tailed).

or industry awards a company receives, the higher the increase in executive compensation, which effectively verifies Hypothesis 1. In addition, it shows that using corporate awards to represent the non-financial performance of a company effectively reflects the good performance of executives' fiduciary duties and the improvement of the company's status in the industry, which is conducive to improving the level of compensation of internal managers.

4.2. Corporate awards and pay-performance sensitivity

Previous research on financial performance mainly focuses on testing the principal-agent theory by observing the level of managerial effort through financial performance, then linking it with compensation contracts (Jensen & Meckling, 1976; Jensen & Murphy, 1990). The previous analysis verifies that corporate awards as an indicator of non-financial

Table 3. Multinomial regression results of model (2): H2 test.

	(1)	(2)	(3)	(4)
Award	EXEPAY 0.03750*** (3.08)	EXEPAY	EXEPAY	EXEPAY
ROA* Award	0.71764*** (4.60)			
C_Award		0.00376 (1.50)		
ROA* C_Award		0.14351*** (4.17)		
P_Award			-0.00168 (-0.64)	
ROA* P_Award			0.11124*** (2.95)	
I_Award				0.00501** (2.16)
ROA* I_Award				0.09868*** (3.13)
ROA	2.69811*** (21.89)	2.86269*** (27.45)	2.97934*** (29.90)	2.94166*** (29.25)
Size	0.26133*** (59.46)	0.25944*** (58.07)	0.26457*** (60.43)	0.26119*** (59.18)
LEV	-0.12362*** (-4.49)	-0.13182*** (-4.79)	-0.13001*** (-4.71)	-0.13255*** (-4.81)
D	-0.01997** (-2.13)	-0.01858** (-1.98)	-0.02026** (-2.16)	-0.02051** (-2.19)
Growth	-0.09994*** (-8.43)	-0.09785*** (-8.25)	-0.10170*** (-8.57)	-0.09820*** (-8.27)
DUAL	-0.02065** (-2.02)	-0.02060** (-2.02)	-0.02038** (-1.99)	-0.01994* (-1.95)
DR	0.45688*** (5.79)	0.45743*** (5.79)	0.44622*** (5.64)	0.44668*** (5.65)
SHRCR1	-0.00414*** (-13.14)	-0.00405*** (-12.83)	-0.00412*** (-13.05)	-0.00412*** (-13.06)
SHRZ	-0.00130*** (-5.92)	-0.00135*** (-6.14)	-0.00136*** (-6.15)	-0.00134*** (-6.10)
State	-0.04327*** (-4.34)	-0.04463*** (-4.47)	-0.04338*** (-4.34)	-0.04486*** (-4.49)
Constant	5.90368*** (61.74)	5.94369*** (61.17)	5.83683*** (61.16)	5.90983*** (61.50)
Area	YES	YES	YES	YES
Industry	YES	YES	YES	YES
Year	YES	YES	YES	YES
N	17,150	17,150	17,150	17,150
adj. R ²	0.404	0.403	0.401	0.403
F	277.26	276.56	274.89	276.18

***Indicates significance at the 1% level (two-tailed).

**Indicates significance at the 5% level (two-tailed).

*Indicates significance at the 10% level (two-tailed).

performance can effectively reflect the good performance of managers' entrusted responsibilities and significantly affect the level of executive compensation. As a result, we further examine how corporate awards affect the effectiveness of executive compensation contracts from the perspective of pay-performance sensitivity. Table 3 shows that corporate awards have a significant positive effect on executives' pay-performance sensitivity, which means that corporate awards as an indicator of non-financial performance enhance executives' pay-performance sensitivity. Based on financial performance, corporate awards can demonstrate the efforts of management, which effectively improves the effectiveness of executive compensation incentives.

5. Additional tests

5.1. *Additional test based on the nature of property rights*

In China's economic transition process, SOEs bear more policy burdens than private firms, such as strategic investments in specific fields, and social policy burdens, such as redundant staff and worker welfare (Lin & Li, 2004). Therefore, there is a certain complexity in the evaluation of the management effort in SOEs compared with non-SOEs. It is difficult to fully reflect the various business objectives of SOEs and to fully and comprehensively reflect the real efforts and achievements of managers by relying only on financial performance (Deng et al., 2019). Currently, SASAC clearly defines the measures used to assess the business performance of the heads of central firms. It stipulates that the Outstanding Performance Enterprise Award, the Special Award for Scientific and Technological Innovation, the Special Award for Management Progress, the Special Award for International Operation, the Special Award for Brand Building and the Special Award for Energy Conservation and Emission Reduction should be used compared with private firms. Therefore, the main managers of SOEs cannot effectively reflect their level of operation and management through a simple inspection of their financial performance indicators. It is of great importance for SOE managers to obtain their corresponding leadership advantages in terms of social comparison and social evaluation. This does not mean that the awarded SOEs receive more social attention and recognition in the corresponding award-winning fields, leading to a demonstration effect and a benchmarking effect, which are important indicators for the country to carry out and promote relevant industry policies and achieve socio-economic development objectives, to effectively highlight that corporate awards are linked with the performance of managers in SOEs and have a more direct effect on their compensation. Therefore, the empirical results reported in Table 4 are obtained after further regressions on the nature of business property rights for the SOE and non-SOE subsamples. The different results between the two groups show that corporate awards have different degrees of effect on managers' incentives with different property rights, and that the effect of SOEs on the effectiveness of executive compensation and incentives is significantly higher than that of non-SOEs.

5.2. *Corporate awards and executives' pay stickiness*

The above results confirm that corporate awards as an indicator of non-financial performance highlight the efforts and capacities of managers, the good performance of managers' fiduciary duties and significantly improve the effectiveness of compensation and incentives. In addition, this study examines whether there is a difference in the effect of corporate awards on executive compensation levels under different financial performance conditions. The results in Table 5 show that corporate awards increase executives' pay stickiness. In short, better financial performance ($D = 0$) significantly improves executives' pay-performance sensitivity, and corporate awards reduce the extent to which executive compensation decreases as financial performance decreases ($D = 1$).

Table 4. Corporate awards and executive compensation under different property rights.

	(1) SOE	(1) Non-SOE	(1) SOE	(1) Non-SOE
	EXEPAY	EXEPAY	EXEPAY	EXEPAY
Award	0.11346*** (7.05)	0.04413*** (3.50)	0.07800*** (4.31)	0.01096 (0.66)
ROA	3.45315*** (22.80)	2.60259*** (21.42)	2.97297*** (15.80)	2.27073*** (13.97)
ROA* Award			1.05005*** (4.29)	0.62632*** (3.07)
Size	0.22305*** (37.29)	0.31903*** (47.52)	0.22282*** (37.29)	0.31923*** (47.57)
LEV	-0.15629*** (-3.73)	-0.17158*** (-4.65)	-0.15432*** (-3.68)	-0.17072*** (-4.63)
D	0.00328 (0.23)	-0.01951 (-1.57)	0.00355 (0.25)	-0.01880 (-1.51)
Growth	0.02439 (0.92)	-0.12877*** (-9.61)	0.02319 (0.88)	-0.12868*** (-9.61)
DUAL	0.02134 (1.02)	-0.02978** (-2.56)	0.02011 (0.96)	-0.02973** (-2.55)
DR	0.38889*** (3.23)	0.75198*** (7.23)	0.38865*** (3.23)	0.75209*** (7.24)
SHRCR1	-0.00497*** (-10.30)	-0.00244*** (-5.80)	-0.00494*** (-10.24)	-0.00246*** (-5.85)
SHRZ	-0.00096*** (-3.69)	-0.00226*** (-5.43)	-0.00096*** (-3.67)	-0.00224*** (-5.39)
Constant	6.67132*** (51.83)	4.58850*** (30.90)	6.68542*** (51.99)	4.59691*** (30.96)
Area	YES	YES	YES	YES
Industry	YES	YES	YES	YES
Year	YES	YES	YES	YES
	Coefficient difference test			
		(1)-(2)		(3)-(4)
Chi square		11.13***		5.45*
P value		0.0009		0.0196
N	7,430	9,720	7,430	9,720
adj. R ²	0.450	0.394	0.451	0.394
F	156.65	158.83	153.55	155.32

***Indicates significance at the 1% level (two-tailed).

**Indicates significance at the 5% level (two-tailed).

*Indicates significance at the 10% level (two-tailed).

5.3. Further test on other forms of executive compensation

In addition to monetary compensation, managerial remuneration includes perk consumption and equity incentives and there is a certain complementarity between different incentive methods (Chen et al., 2005; Xu & Tan, 2014). Therefore, we further analyse the effect of other forms of compensation on executive compensation after winning awards. This study collates and calculates data on equity incentives and perk consumption among managers from the Chinese Research Data Services Platform (CNRDS) following Chen et al. (2005), to analyse business travel expenses, business hospitality expenses and office expenses in the total financial statements of listed companies. After calculating the amount of perk consumption for each of the relevant items, the logarithm is used to measure the amount of perk consumption of a manager, and the level of perk consumption is determined by calculating the median perk consumption in the industry in the same year. If this level is higher than the median annual perk consumption in the industry,

Table 5. Corporate awards and executives' pay stickiness.

	(1)	(2)	(3)	(4)
Award	EXEPAY 0.00054 (0.04)	EXEPAY	EXEPAY	EXEPAY
Award*ROA	1.18725*** (6.56)			
Award*D	0.08040*** (3.95)			
Award*ROA*D	-1.09665*** (-4.65)			
C_Award		-0.00099 (-0.32)		
C_Award*ROA		0.20885*** (5.16)		
C_Award*D		0.01181** (2.55)		
C_Award*ROA*D		-0.19629*** (-2.84)		
P_Award			-0.00481 (-1.38)	
P_Award*ROA			0.16683*** (3.52)	
P_Award*D			0.00615 (1.22)	
P_Award*ROA*D			-0.15635** (-2.06)	
I_Award				0.00151 (0.51)
I_Award*ROA				0.14386*** (3.76)
I_Award*D				0.00825* (1.84)
I_Award*ROA*D				-0.12198* (-1.90)
ROA	2.64852*** (21.30)	2.85482*** (27.22)	2.97847*** (29.80)	2.93522*** (29.11)
D	-0.03937*** (-2.99)	-0.02417** (-2.28)	-0.02029** (-2.02)	-0.02375** (-2.37)
Size	0.26088*** (59.38)	0.25934*** (58.05)	0.26451*** (60.41)	0.26112*** (59.16)
LEV	-0.12388*** (-4.50)	-0.13229*** (-4.80)	-0.12974*** (-4.71)	-0.13211*** (-4.80)
Growth	-0.09384*** (-7.87)	-0.09544*** (-8.03)	-0.10059*** (-8.47)	-0.09701*** (-8.16)
DUAL	-0.02047** (-2.01)	-0.02086** (-2.04)	-0.02057** (-2.01)	-0.01963* (-1.92)
DR	0.45298*** (5.74)	0.45659*** (5.78)	0.44595*** (5.64)	0.44611*** (5.65)
SHRCR1	-0.00414*** (-13.15)	-0.00405*** (-12.86)	-0.00412*** (-13.05)	-0.00412*** (-13.07)
SHRZ	-0.00130*** (-5.93)	-0.00135*** (-6.12)	-0.00135*** (-6.13)	-0.00134*** (-6.11)
State	-0.04267*** (-4.28)	-0.04433*** (-4.44)	-0.04317*** (-4.32)	-0.04479*** (-4.49)
Constant	5.92288*** (61.85)	5.94852*** (61.17)	5.83769*** (61.15)	5.91282*** (61.51)
N	17,150	17,150	17,150	17,150
adj. R ²	0.404	0.403	0.402	0.403
F	265.62	270.47	262.52	263.76

***Indicates significance at the 1% level (two-tailed).

**Indicates significance at the 5% level (two-tailed).

*Indicates significance at the 10% level (two-tailed).

the perk consumption level of the company is considered to be higher, and vice versa. In addition, if a company does not have incentive targets for restricted stocks, stock options or stock appreciation rights in the year, it is considered that there is no equity incentive for managers. The respective empirical results are reported in [Tables 6 and 7](#). It is easy to see that when managers' perk consumption is relatively low and the company has no equity incentive, the increase in the monetary compensation of managers after winning awards is more obvious. This indicates that corporate awards as an indicator of non-financial performance have a higher effect on monetary compensation when other forms of wage incentives are insufficient.

5.4. Further test on the mechanism

To effectively verify the mechanism by which corporate awards affect managers' incentives, we use data on the online search index of listed companies from CNRDS and use the logarithm to indicate the social attention received by the company. The results show that winning an award significantly increases the number of online searches for a company (SVI_ALL), thereby increasing the social attention it receives. Based on the Dechow and Dichev model (DD model; 2002), the absolute value of discretionary accruals calculated with the DD model is used to measure the level of earnings management. The results are consistent with those of Deng et al. (2019), that is, the level of earnings management (DA_ABS) of companies after winning awards significantly decreases, while the quality of information disclosed improves. Following Chen et al. (2005), we analyse business travel expenses, business hospitality expenses, office expenses and eight other related items involved in the total financial statements of listed companies and obtain the logarithm after obtaining the amount of perk consumption. The regression results in [Table 8](#) show that after winning awards, managers' perk consumption (PERK) decreases significantly, indicating that the agency problem of managers is alleviated.

Comprehensive analysis shows that corporate awards increase corporate social attention, significantly improve the quality of information disclosure and effectively mitigate the agency problem of managers based on opportunistic motives.

6. Robustness tests

6.1. Self-selection bias

As the award-winning firms used in this study are not randomly selected (Jin & Zheng, 2015; Malmendier & Tate, 2009), companies may stand out through the social comparison and evaluation process because of their good financial performance. This leads to a higher level of executive compensation, so the problem studied here may be subject to self-selection bias. Following Malmendier and Tate (2009), the propensity score matching (PSM) method is used to resolve this sample selection bias. We select award-winning companies based on their general characteristics, including firm size, solvency, profitability, development capabilities and corporate governance, which can affect whether the company wins an award. Then, we use 1:1 nearest neighbour matching to find a paired sample with no significant difference from the award-winning company with these characteristics and conduct the regression using these matched samples.



Table 6. Further test under different levels of managerial perk consumption.

	High level of managerial perk consumption				Low level of managerial perk consumption			
	EXEPAY	EXEPAY	EXEPAY	EXEPAY	EXEPAY	EXEPAY	EXEPAY	EXEPAY
Award	-0.02512 (-1.10)				0.07548*** (6.99)			
C_Award		0.00260 (0.90)				0.00639*** (2.69)		
P_Award			-0.00007 (-0.02)				0.00570*** (2.62)	
I_Award				0.00165 (0.54)				0.01234*** (6.18)
Income	0.25246*** (24.12)	0.25032*** (23.60)	0.25191*** (24.08)	0.25140*** (23.94)	0.26473*** (50.19)	0.26630*** (49.67)	0.26845*** (51.12)	0.26432*** (49.90)
ROA	3.00094*** (13.44)	2.98677*** (13.37)	2.99285*** (13.40)	2.98423*** (13.33)	2.75399*** (26.09)	2.74742*** (25.98)	2.75111*** (26.02)	2.73551*** (25.89)
LEV	-0.12670* (-1.84)	-0.12580* (-1.83)	-0.12674* (-1.84)	-0.12676* (-1.84)	-0.12654*** (-4.24)	-0.12596*** (-4.55)	-0.13589*** (-4.55)	-0.13584*** (-4.55)
D	0.01207 (0.56)	0.01251 (0.58)	0.01214 (0.56)	0.01195 (0.55)	-0.00739 (-0.73)	-0.00669 (-0.66)	-0.00699 (-0.69)	-0.00683 (-0.67)
Growth	-0.14166*** (-4.73)	-0.13836*** (-4.61)	-0.14028*** (-4.68)	-0.13917*** (-4.64)	-0.09998*** (-7.89)	-0.10136*** (-7.98)	-0.10184*** (-8.03)	-0.09976*** (-7.87)
DUAL	0.03182 (1.41)	0.03064 (1.35)	0.03126 (1.38)	0.03156 (1.39)	-0.05116*** (-4.57)	-0.05011*** (-4.47)	-0.05069*** (-4.52)	-0.05216*** (-4.65)
DR	0.41432** (2.44)	0.42531** (2.51)	0.42123** (2.48)	0.42410** (2.50)	0.40735*** (4.62)	0.39847*** (4.51)	0.39592*** (4.48)	0.39599*** (4.49)
SHRCR1	-0.00300*** (-4.57)	-0.00311*** (-4.75)	-0.00307*** (-4.71)	-0.00310*** (-4.74)	-0.00351*** (-9.79)	-0.00348*** (-9.68)	-0.00351*** (-9.77)	-0.00349*** (-9.72)
SHRZ	-0.00167*** (-3.20)	-0.00159*** (-3.06)	-0.00162*** (-3.11)	-0.00161*** (-3.08)	-0.00086*** (-3.57)	-0.00091*** (-3.78)	-0.00090*** (-3.74)	-0.00088*** (-3.65)
State	-0.07672*** (-3.54)	-0.07918*** (-3.65)	-0.07786*** (-3.60)	-0.07861*** (-3.63)	-0.02773** (-2.44)	-0.02675** (-2.35)	-0.02702** (-2.38)	-0.02859** (-2.52)
Constant	5.63707*** (21.60)	5.67516*** (21.54)	5.64229*** (21.62)	5.65459*** (21.59)	5.82674*** (45.34)	5.81026*** (44.60)	5.76484*** (44.91)	5.84754*** (45.31)
Area	YES	YES	YES	YES	YES	YES	YES	YES
Year	YES	YES	YES	YES	YES	YES	YES	YES
Industry	YES	YES	YES	YES	YES	YES	YES	YES
N	3,624	3,624	3,624	3,624	13,526	13,526	13,526	13,526
adj. R ²	0.401	0.400	0.400	0.400	0.387	0.385	0.385	0.386
F	27.31	27.31	27.29	27.30	90.75	90.03	90.03	90.57

***Indicates significance at the 1% level (two-tailed).

**Indicates significance at the 5% level (two-tailed).

*Indicates significance at the 10% level (two-tailed).

Table 7. Further test on equity incentives.

	With managerial equity incentives			Without managerial equity incentives		
	EXEPAY	EXEPAY	EXEPAY	EXEPAY	EXEPAY	EXEPAY
Award	0.03782 (1.53)			0.03903*** (3.37)		
C_Award	0.00341 (0.86)			0.01011*** (4.65)		
P_Award			-0.00343 (-0.73)			0.00232 (1.05)
L_Award						0.00802*** (3.98)
Size	0.29515*** (25.65)	0.29534*** (24.99)	0.29869*** (26.31)	0.24611*** (57.29)	0.24397*** (56.15)	0.24547*** (57.01)
LEV	-0.45147*** (-5.83)	-0.45264*** (-5.84)	-0.45334*** (-5.85)	-0.55091*** (-19.36)	-0.55315*** (-19.47)	-0.55646*** (-19.58)
D	0.01447 (0.50)	0.01517 (0.53)	0.01588 (0.55)	-0.04162*** (-4.03)	-0.04050*** (-3.92)	-0.04178*** (-4.04)
Growth	-0.03662 (-1.30)	-0.03776 (-1.34)	-0.03925 (-1.39)	0.06197*** (4.62)	0.06198*** (4.62)	0.06215*** (4.64)
DUAL	0.03880* (1.70)	0.03865* (1.69)	0.04010* (1.76)	-0.03633*** (-2.99)	-0.03547*** (-2.92)	-0.03647*** (-3.00)
DR	-0.18970 (-0.99)	-0.19203 (-1.00)	-0.19950 (-1.04)	-0.20859** (-2.26)	-0.21281** (-2.31)	-0.21138** (-2.29)
SHRCR1	-0.00125 (-1.40)	-0.00125 (-1.40)	-0.00128 (-1.43)	-0.00325*** (-9.01)	-0.00318*** (-8.82)	-0.00326*** (-9.03)
SHRZ	-0.00340*** (-2.93)	-0.00334*** (-2.88)	-0.00332*** (-2.87)	-0.00154*** (-6.44)	-0.00155*** (-6.50)	-0.00155*** (-6.48)
State	0.10175*** (2.74)	0.10381*** (2.80)	0.10272*** (2.77)	-0.03879*** (-3.44)	-0.04074*** (-3.61)	-0.03972*** (-3.52)
Constant	7.15643*** (27.71)	7.15854*** (27.10)	7.09544*** (27.71)	7.82841*** (82.42)	7.87677*** (82.42)	7.84530*** (82.33)
Area	YES	YES	YES	YES	YES	YES
Year	YES	YES	YES	YES	YES	YES
Industry	YES	YES	YES	YES	YES	YES
N	2,628	2,628	2,628	14,519	14,519	14,519
adj. R ²	0.364	0.364	0.364	0.328	0.328	0.329
F	40.58	40.52	40.51	178.44	178.82	178.61

***Indicates significance at the 1% level (two-tailed).

**Indicates significance at the 5% level (two-tailed).

*Indicates significance at the 10% level (two-tailed).

Table 8. Further test on the mechanism.

	(1)	(2)	(3)
	SVL_ALL	DA_ABS	PERK
Award	0.04771*** (4.31)	-0.00207** (-2.24)	-0.00130*** (-2.88)
Size	0.30577*** (63.00)	-0.00335*** (-8.29)	-0.00282*** (-14.19)
ROA	0.66676*** (6.18)	0.02606*** (2.90)	-0.00441 (-1.00)
LEV	-0.16227*** (-5.38)	0.01686*** (6.70)	-0.01304*** (-10.56)
D	0.01183 (1.15)	0.00230*** (2.69)	0.00118*** (2.79)
Growth	-0.16934*** (-10.12)	0.02080*** (14.91)	0.00010 (0.14)
DUAL	0.01169 (1.05)	-0.00225** (-2.43)	0.00047 (1.04)
DR	0.32005*** (3.68)	0.01545** (2.13)	0.00308 (0.86)
SHRCR1	-0.00910*** (-25.42)	0.00004 (1.50)	-0.00007*** (-4.93)
SHRZ	0.00368*** (13.44)	0.00000 (0.20)	-0.00002 (-1.39)
State	0.05657*** (5.14)	-0.00056 (-0.61)	-0.00417*** (-9.24)
Negative	0.18415*** (7.11)	0.00680*** (3.15)	-0.00077 (-0.72)
Constant	6.40068*** (59.70)	0.09819*** (10.99)	0.07768*** (17.70)
Area	YES	YES	YES
Year	YES	YES	YES
Industry	YES	YES	YES
N	9,788	9,788	9,788
adj. R ²	0.519	0.055	0.184
F	302.49	17.13	63.92

***Indicates significance at the 1% level (two-tailed).

**Indicates significance at the 5% level (two-tailed).

Table 9. Sample treatment effect.

	Sample	Treatment	Control	Difference	T-stat
EXEPAY	Full sample	12.1855	12.0595	0.1260	12.01***
	Matched samples	12.1854	12.1040	0.0814	5.75***

***Indicates significance at the 1% level (two-tailed).

By analysing the treatment effect of the samples before and after PSM, [Table 9](#) shows that the average treatment effect of executive compensation is positively significant at 1%, indicating that after controlling for key firm characteristics, there is a significant positive correlation between executive compensation and corporate awards.

Using PSM, we can determine whether the difference in the relevant firm characteristics in the matched samples is effectively controlled. [Table 10](#) shows the specific matching effect. Using the p value, it reports the results for different control variables. The difference between award-winning companies and companies without awards in the matched samples is not significant, which confirms the reliability of the results of subsequent empirical tests.

Table 10. The nearest neighbour matching effect.

□	Unmatched	Mean		□	%reduct	t-test		□
Variable	Matched	Treatment	Control	%bias	bias	t	p> t	V(T)/V(C)
Size	U	22.0008	21.969	3.1		2.01	0.045	0.88*
	M	22.008	22.009	-0.1	96.9	-0.06	0.950	0.82*
ROA	U	0.04775	0.04448	6.2		4.05	0.000	0.98
	M	0.04776	0.04891	-2.2	64.7	-1.43	0.152	0.96
LEV	U	0.41223	0.45667	-21.1		-13.84	0.000	0.84*
	M	0.41218	0.40783	2.1	90.2	1.38	0.168	0.88*
GROWTH	U	0.29197	0.59275	-23.7		-15.57	0.000	0.35*
	M	0.29091	0.31038	-1.5	93.5	-1.40	0.162	0.95*
SHRCR1	U	35.552	36.32	-5.1		-3.31	0.001	0.85*
	M	35.55	35.55	-0.0	100.0	0.000	0.999	0.88*
SHRZ	U	10.601	13.773	-15.0		-9.81	0.000	0.61*
	M	10.586	10.154	2.0	86.4	1.63	0.103	1.25*
DUAL	U	0.26167	0.20836	12.6		8.24	0.000	.
	M	0.2617	0.24568	3.8	70.0	2.43	0.015	.
DR	U	0.37048	0.3711	-1.2		-0.77	0.440	0.93*
	M	0.37048	0.36967	1.5	-30.3	1.02	0.306	0.97

*If variance ratio outside [0.96; 1.04] for U and [0.96; 1.04] for M

The regression results are presented in Table 11. After controlling for a series of related factors, corporate awards significantly increase executive compensation. Corporate awards as an indicator of non-financial performance highlight the efforts of management and effectively improve executive compensation and the effectiveness of compensation contracts. The result of Panel A in Table 11 shows that executive compensation has a significant positive relationship with corporate awards. Regarding the types of corporate awards, the higher the number of national, local or industry awards a company receives, the higher the increase in executive compensation. And the result of Panel B shows that corporate awards have a significant positive effect on executives' pay-performance sensitivity.

6.2. Causality test

(1) Changing the model

To eliminate the causality problem caused by a company's award history and its long-term success, we also conduct a robustness test by changing the model. The respective results are presented in Tables 12 and 13. In Table 13, we replace ROA with pre-tax profit (EBIT) and current net profit (NETP). The results show that current corporate awards increase executive compensation and pay-performance sensitivity. As an effective supplement to financial performance, corporate awards highlight the efforts and capacities of managers and further strengthen the effectiveness of compensation contracts.

(2) Executive compensation in the next period

As the data on corporate awards are compiled from financial annual reports, it is unclear whether corporate awards can explain the change in executive compensation in the current period. In addition, corporate awards may affect executive compensation in the next period. Therefore, we examine the relationship between corporate awards and executives' future compensation. The empirical results in Tables 14 and 15 show that

Table 11. Multinomial regression results of model (1) and model (2): Robustness tests.

	(1)	(2)	(3)	(4)
Panel A				
Award	0.0682*** (5.12)			
C_Award		0.0094*** (3.91)		
P_Award			0.0009 (0.39)	
I_Award				0.0111*** (5.21)
Size	0.2600*** (40.44)	0.2485*** (36.41)	0.2443*** (32.58)	0.2568*** (33.90)
ROA	2.8146*** (21.00)	2.9362*** (21.00)	2.9254*** (18.45)	3.1703*** (19.13)
LEV	-0.1697*** (-4.39)	-0.1681*** (-4.29)	-0.1093** (-2.42)	-0.0965** (-2.07)
D	-0.0126 (-0.97)	-0.0247* (-1.89)	-0.0287* (-1.95)	-0.0045 (-0.29)
Growth	-0.0304*** (-4.43)	-0.0225*** (-2.75)	-0.0271*** (-2.65)	-0.0252*** (-2.69)
DUAL	-0.0259* (-1.87)	-0.0284** (-2.07)	-0.0499*** (-3.27)	-0.0491*** (-3.00)
DR	0.6374*** (5.88)	0.5531*** (5.05)	0.3883*** (3.15)	0.6766*** (5.12)
SHRCR1	-0.0038*** (-8.66)	-0.0034*** (-7.72)	-0.0029*** (-5.74)	-0.0037*** (-7.29)
SHRZ	-0.0016*** (-4.90)	-0.0010*** (-2.68)	-0.0014*** (-3.48)	-0.0017*** (-3.95)
State	-0.0197 (-1.40)	-0.0329** (-2.34)	-0.0227 (-1.45)	-0.0497*** (-2.97)
Constant	5.8431*** (41.25)	6.1189*** (40.11)	6.2056*** (36.12)	5.9021*** (34.05)
N	9,160	8,816	6,782	6,660
adj. R ²	0.398	0.390	0.378	0.392
F	146.96	137.03	100.50	105.80
Panel B				
Award	0.0290* (1.71)			
Award*ROA	0.8413*** (3.76)			
C_Award		0.0005 (0.15)		
C_Award*ROA		0.1755*** (3.70)		
P_Award			-0.0044 (-1.43)	
P_Award*ROA			0.1130** (2.37)	
I_Award				0.0090*** (3.02)
I_Award*ROA				0.0438 (1.07)
ROA	2.4076*** (14.33)	2.6984*** (17.10)	2.7384*** (15.49)	3.0789*** (16.24)
Size	0.2598*** (40.42)	0.2483*** (36.38)	0.2441*** (32.57)	0.2568*** (33.90)
LEV	-0.1645*** (-4.25)	-0.1649*** (-4.21)	-0.1068** (-2.37)	-0.0980** (-2.10)
D	-0.0117 (-0.90)	-0.0236* (-1.81)	-0.0284* (-1.94)	-0.0044 (-0.29)
Growth	-0.0308*** (-4.47)	-0.0223*** (-2.72)	-0.0273*** (-2.67)	-0.0252*** (-2.69)

(Continued)

Table 11. (Continued).

	(1)	(2)	(3)	(4)
DUAL	-0.0256* (-1.85)	-0.0284** (-2.07)	-0.0510*** (-3.34)	-0.0486*** (-2.97)
DR	0.6413*** (5.91)	0.5598*** (5.12)	0.3901*** (3.17)	0.6752*** (5.11)
SHRCR1	-0.0038*** (-8.73)	-0.0034*** (-7.76)	-0.0029*** (-5.76)	-0.0037*** (-7.30)
SHRZ	-0.0015*** (-4.73)	-0.0009*** (-2.59)	-0.0014*** (-3.43)	-0.0017*** (-3.94)
State	-0.0177 (-1.26)	-0.0319** (-2.26)	-0.0219 (-1.40)	-0.0495*** (-2.95)
Constant	5.8577*** (41.37)	6.1246*** (40.14)	6.2129*** (36.16)	5.9090*** (34.08)
N	9,160	8,816	6,782	6,660
adj. R^2	0.399	0.391	0.378	0.392
F	143.94	134.71	98.26	103.58

***Indicates significance at the 1% level (two-tailed).

**Indicates significance at the 5% level (two-tailed).

*Indicates significance at the 10% level (two-tailed).

Table 12. Multinomial regression results of model (1): Robustness test of H1.

	(1)	(2)	(3)	(4)
	Δ EXEPAY	Δ EXEPAY	Δ EXEPAY	Δ EXEPAY
Δ Award	0.00119** (2.29)			
Δ C_Award		0.00323** (2.24)		
Δ P_Award			0.00251** (2.19)	
Δ I_Award				0.00129 (1.27)
Δ ROA	0.75466*** (13.83)	0.75473*** (13.84)	0.75569*** (13.85)	0.75564*** (13.85)
Size	-0.00287 (-1.23)	-0.00293 (-1.25)	-0.00267 (-1.14)	-0.00271 (-1.16)
LEV	0.01061 (0.78)	0.01076 (0.79)	0.01047 (0.77)	0.01084 (0.80)
Growth	0.09363*** (12.17)	0.09312*** (12.11)	0.09374*** (12.18)	0.09352*** (12.16)
DUAL	0.00090 (0.16)	0.00081 (0.15)	0.00093 (0.17)	0.00084 (0.15)
DR	0.07177* (1.68)	0.07094* (1.66)	0.07145* (1.67)	0.07120* (1.67)
SHRCR1	0.00027 (1.57)	0.00028 (1.61)	0.00027 (1.59)	0.00027 (1.57)
SHRZ	-0.00013 (-1.10)	-0.00013 (-1.11)	-0.00013 (-1.12)	-0.00013 (-1.10)
State	-0.02751*** (-5.09)	-0.02749*** (-5.09)	-0.02746*** (-5.08)	-0.02731*** (-5.05)
Constant	0.13372*** (2.59)	0.13534*** (2.62)	0.12937** (2.51)	0.13049** (2.53)
N	14,954	14,954	14,954	14,954
adj. R^2	0.043	0.043	0.043	0.043
F	18.35	18.35	18.34	18.26

***Indicates significance at the 1% level (two-tailed).

**Indicates significance at the 5% level (two-tailed).

*Indicates significance at the 10% level (two-tailed).

corporate awards as an indicator of non-financial performance increase executive compensation in the next period and the effectiveness of compensation contracts.

Table 13. Multinomial regression results of model (2): Robustness test of H2.

	(1)	(2)	(3)
	ΔEXEPAY	ΔEXEPAY	ΔEXEPAY
ΔROA	0.74295*** (13.54)		
ΔROA *ΔAward	0.02746** (1.98)		
ΔEBIT		0.00130*** (6.49)	
ΔEBIT *ΔAward		0.00010** (2.19)	
ΔNETP			0.00115*** (6.10)
ΔNETP*ΔAward			0.00008* (1.90)
ΔAward	0.00126** (2.42)	0.00123** (2.36)	0.00120** (2.30)
Size	-0.00284 (-1.21)	-0.00366 (-1.55)	-0.00361 (-1.53)
LEV	0.01028 (0.75)	0.01694 (1.24)	0.01718 (1.25)
Growth	0.09375*** (12.19)	0.09853*** (12.75)	0.09900*** (12.82)
DUAL	0.00090 (0.16)	-0.00020 (-0.04)	-0.00010 (-0.02)
DR	0.07161* (1.68)	0.06834 (1.59)	0.06783 (1.58)
SHRCR1	0.00027 (1.56)	0.00022 (1.29)	0.00022 (1.28)
SHRZ	-0.00013 (-1.08)	-0.00011 (-0.90)	-0.00011 (-0.87)
State	-0.02758*** (-5.10)	-0.02510*** (-4.62)	-0.02514*** (-4.63)
Constant	0.13342*** (2.58)	0.15196*** (2.93)	0.15069*** (2.90)
N	14,954	14,954	14,954
adj. R ²	0.044	0.034	0.034
F	18.45	14.66	14.48

***Indicates significance at the 1% level (two-tailed).

**Indicates significance at the 5% level (two-tailed).

*Indicates significance at the 10% level (two-tailed).

6.3. Excluding the effect of financial performance

To eliminate the endogenous effect of financial performance on corporate awards, a regression model of corporate awards on financial performance is developed by controlling the regional, industry and annual dummy variables to obtain the residual ε , indicating the existence of corporate awards that make a real difference to financial performance. The variable of interest, Awards, specifically refers to the number of national awards (C_Award), local awards (P_Award) and industry awards (I_Award) received by a firm, using model (3). The regression residuals are used to indicate the actual number of national awards (CR_Award), local awards (PR_Award) and industry awards (IR_Award) after excluding the effect of financial performance. The regression results are reported in Tables 16 and 17.

$$Awards_{it} = \alpha + \beta_1 * ROA_{it} + \beta_2 * Area + \beta_3 * Industry + \beta_4 * Year + \varepsilon \quad (3)$$

Table 14. Multinomial regression results of model (1): Robustness test of H1.

	(1)	(2)	(3)	(4)
Award	F_EXEPAY 0.06564*** (6.65)	F_EXEPAY	F_EXEPAY	F_EXEPAY
C_Award		0.01056*** (5.84)		
P_Award			0.00229 (1.21)	
I_Award				0.00940*** (5.56)
Size	0.25188*** (57.35)	0.24976*** (55.95)	0.25499*** (58.30)	0.25176*** (57.09)
ROA	2.97128*** (31.17)	2.95226*** (30.93)	2.97815*** (31.21)	2.95611*** (30.97)
LEV	-0.09685*** (-3.52)	-0.10310*** (-3.75)	-0.10267*** (-3.73)	-0.10285*** (-3.74)
D	-0.04117*** (-4.40)	-0.04011*** (-4.28)	-0.04123*** (-4.40)	-0.04128*** (-4.41)
Growth	-0.03145*** (-2.65)	-0.03088*** (-2.60)	-0.03355*** (-2.83)	-0.03109*** (-2.62)
DUAL	-0.01485 (-1.46)	-0.01451 (-1.42)	-0.01409 (-1.38)	-0.01466 (-1.44)
DR	0.27918*** (3.54)	0.27278*** (3.45)	0.26688*** (3.38)	0.27164*** (3.44)
SHRCR1	-0.00383*** (-12.16)	-0.00374*** (-11.86)	-0.00381*** (-12.07)	-0.00382*** (-12.12)
SHRZ	-0.00139*** (-6.32)	-0.00143*** (-6.49)	-0.00144*** (-6.53)	-0.00142*** (-6.44)
State	-0.05953*** (-5.97)	-0.06017*** (-6.03)	-0.05856*** (-5.87)	-0.06008*** (-6.02)
Constant	6.22839*** (65.19)	6.28188*** (64.69)	6.17371*** (64.76)	6.23924*** (64.99)
N	17,110	17,110	17,110	17,110
adj. R ²	0.387	0.387	0.386	0.387
F	264.55	264.15	262.85	264.02

***Indicates significance at the 1% level (two-tailed).

It is easy to see that our main conclusion remains valid: corporate awards have a positive effect on executive compensation. As a positive supplement to financial performance, they improve the effectiveness of executive compensation incentives.

6.4. Measurement of executive compensation

When discussing the effect of corporate awards on executive compensation, we use the average level of compensation for directors, supervisors and executives. To avoid a deviation in the research conclusion due to the measurement of executive compensation, we use the compensation of the top three executives as the dependent variable and our conclusion is still robust. The respective results are shown in Table 18. The result of Panel A shows that executive compensation has a significant positive relationship with corporate awards. Regarding the types of corporate awards, the higher the number of national, local or industry awards a company receives, the higher the increase in executive

Table 15. Multinomial regression results of model (2): Robustness test of H2.

	(1)	(2)	(3)	(4)
Award	F_EXEPAY 0.03063** (2.52)	F_EXEPAY	F_EXEPAY	F_EXEPAY
Award*ROA	0.76641*** (4.92)			
C_Award		0.00240 (0.96)		
C_Award*ROA		0.16237*** (4.73)		
P_Award			-0.00267 (-1.03)	
P_Award*ROA			0.10492*** (2.79)	
I_Award				0.00365 (1.57)
I_Award*ROA				0.11377*** (3.61)
ROA	2.58755*** (21.01)	2.75367*** (26.42)	2.89857*** (29.10)	2.84210*** (28.28)
Size	0.25194*** (57.40)	0.25004*** (56.04)	0.25507*** (58.33)	0.25178*** (57.12)
LEV	-0.09606*** (-3.49)	-0.10389*** (-3.78)	-0.10203*** (-3.71)	-0.10468*** (-3.81)
D	-0.04076*** (-4.36)	-0.03934*** (-4.20)	-0.04104*** (-4.38)	-0.04133*** (-4.41)
Growth	-0.03158*** (-2.66)	-0.02932** (-2.47)	-0.03351*** (-2.82)	-0.02973*** (-2.50)
DUAL	-0.01508 (-1.48)	-0.01512 (-1.49)	-0.01476 (-1.45)	-0.01428 (-1.40)
DR	0.27876*** (3.53)	0.28051*** (3.55)	0.26816*** (3.39)	0.26867*** (3.40)
SHRCR1	-0.00384*** (-12.20)	-0.00375*** (-11.90)	-0.00382*** (-12.10)	-0.00382*** (-12.12)
SHRZ	-0.00138*** (-6.29)	-0.00143*** (-6.50)	-0.00143*** (-6.51)	-0.00142*** (-6.46)
State	-0.05797*** (-5.82)	-0.05936*** (-5.96)	-0.05807*** (-5.82)	-0.05949*** (-5.97)
Constant	6.23875*** (65.33)	6.27805*** (64.69)	6.17285*** (64.76)	6.24477*** (65.06)
N	17,110	17,110	17,110	17,110
adj. R ²	0.388	0.388	0.386	0.387
F	259.18	258.72	256.88	258.23

***Indicates significance at the 1% level (two-tailed).

**Indicates significance at the 5% level (two-tailed).

*Indicates significance at the 10% level (two-tailed).

compensation. And the result of Panel B in Table 18 shows that corporate awards as an indicator of non-financial performance enhance executives' pay-performance sensitivity.

6.5. Excluding the effect of 'star executives'

Malmendier and Tate (2009) find that the level of CEO compensation significantly increases after winning an award. As this study focuses on the effect of corporate awards on executive compensation, it is possible that the main results ignore the influence of the 'superstar effect' generated by the executives themselves on their salaries. Therefore, we manually collect the individual awards of executives from the main work experience of directors, supervisors and senior managers disclosed in the annual reports of companies

Table 16. Multinomial regression results of model (1): Robustness test of H1.

	(1)	(2)	(3)
	EXEPAY	EXEPAY	EXEPAY
CR_Award	0.01097*** (6.06)		
PR_Award		0.00359* (1.89)	
IR_Award			0.01001*** (5.91)
Size	0.25920*** (58.00)	0.26448*** (60.39)	0.26117*** (59.16)
ROA	3.05820*** (32.06)	3.06487*** (32.10)	3.05936*** (32.07)
LEV	-0.13114*** (-4.76)	-0.13071*** (-4.74)	-0.13096*** (-4.75)
D	-0.01926** (-2.05)	-0.02047** (-2.18)	-0.02047** (-2.18)
Growth	-0.09921*** (-8.36)	-0.10175*** (-8.57)	-0.09933*** (-8.37)
DUAL	-0.02006** (-1.97)	-0.01967* (-1.93)	-0.02027** (-1.99)
DR	0.45055*** (5.70)	0.44482*** (5.62)	0.44930*** (5.69)
SHRCR1	-0.00404*** (-12.79)	-0.00411*** (-13.02)	-0.00412*** (-13.06)
SHRZ	-0.00135*** (-6.13)	-0.00136*** (-6.18)	-0.00134*** (-6.08)
State	-0.04536*** (-4.54)	-0.04390*** (-4.39)	-0.04535*** (-4.54)
Constant	5.94570*** (61.19)	5.83827*** (61.16)	5.90754*** (61.43)
N	17,150	17,150	17,150
adj. R ²	0.402	0.401	0.402
F	282.61	281.25	282.53

***Indicates significance at the 1% level (two-tailed).

**Indicates significance at the 5% level (two-tailed).

*Indicates significance at the 10% level (two-tailed).

to generate the dummy variable EXE_Award. If there are 'star executives' in the management team, EXE_Award takes the value of 1, and otherwise 0. Then, we add EXE_Award to model (1) and EXE_Award and EXE_Award*ROA to model (2) for the regression. The result of Panel A in Table 19 shows that executive compensation has a significant positive relationship with corporate awards. Regarding the types of corporate awards, the higher the number of national, local or industry awards a company receives, the higher the increase in executive compensation. And the result of Panel B shows that corporate awards as an indicator of non-financial performance enhance executives' pay-performance sensitivity. Consistent with the findings of Malmendier and Tate (2009), 'star executives' have a positive effect on their salaries, and after excluding the 'superstar effect', the main conclusion is still robust.

7. Conclusions

This study examines the economic consequences of corporate awards on executive compensation from the perspective of non-financial performance. It effectively proves that corporate awards represent an improvement in the company's competitiveness thanks to the efforts of management, contributing to an increase in executive

Table 17. Multinomial regression results of model (2): Robustness test of H2.

	(1)	(2)	(3)
	EXEPAY	EXEPAY	EXEPAY
CR_Award	0.00505** (1.96)		
CR_Award*ROA	0.11828*** (3.23)		
PR_Award		0.00026 (0.10)	
PR_Award*ROA		0.07026* (1.82)	
IR_Award			0.00557** (2.36)
PR_Award*ROA			0.08762*** (2.69)
ROA	3.08506*** (32.22)	3.07554*** (32.15)	3.06234*** (32.10)
Size	0.25914*** (58.00)	0.26452*** (60.41)	0.26108*** (59.14)
LEV	-0.13058*** (-4.74)	-0.13027*** (-4.72)	-0.13137*** (-4.77)
D	-0.01873** (-2.00)	-0.02039** (-2.17)	-0.02044** (-2.18)
Growth	-0.09777*** (-8.23)	-0.10173*** (-8.57)	-0.09822*** (-8.27)
DUAL	-0.02037** (-2.00)	-0.02011** (-1.97)	-0.01992* (-1.95)
DR	0.45722*** (5.79)	0.44584*** (5.64)	0.44780*** (5.67)
SHRCR1	-0.00405*** (-12.85)	-0.00411*** (-13.04)	-0.00412*** (-13.06)
SHRZ	-0.00135*** (-6.12)	-0.00136*** (-6.16)	-0.00134*** (-6.08)
State	-0.04511*** (-4.52)	-0.04372*** (-4.38)	-0.04507*** (-4.51)
Constant	5.94332*** (61.18)	5.83594*** (61.13)	5.91058*** (61.46)
N	17,150	17,150	17,150
adj. R ²	0.403	0.401	0.403
F	276.28	274.67	276.08

***Indicates significance at the 1% level (two-tailed).

**Indicates significance at the 5% level (two-tailed).

*Indicates significance at the 10% level (two-tailed).

compensation. As a non-financial performance indicator, corporate awards highlight the efforts of management and strengthen the effectiveness of executive compensation contracts. As corporate awards are directly included in the scope of performance appraisal of managers in SOEs, the effect of corporate awards on executive compensation is even greater in SOEs. In addition, additional analyses show that when a company's financial performance is good, corporate awards do not play a significant role in executive compensation contracts. However, when financial performance is poor, corporate awards as an indicator of non-financial performance significantly compensate for poor performance and improve the effectiveness of executive compensation contracts. After considering managers' perk consumption and equity incentives, we show that there is a positive relationship between corporate awards and executive compensation in

Table 18. Multinomial regression results of model (1) and model (2): Robustness tests.

	(1)	(2)	(3)	(4)
Panel A				
Award	EXEPAY2 0.05081*** (4.92)	EXEPAY2	EXEPAY2	EXEPAY2
C_Award		0.00828*** (4.38)		
P_Award			0.00067 (0.34)	
I_Award				0.00973*** (5.51)
Size	0.25680*** (55.80)	0.25509*** (54.56)	0.25927*** (56.59)	0.25581*** (55.41)
ROA	3.09239*** (31.88)	3.07897*** (31.71)	3.09598*** (31.90)	3.07606*** (31.70)
D	-0.11641*** (-4.04)	-0.12104*** (-4.20)	-0.12088*** (-4.19)	-0.12105*** (-4.20)
LEV	-0.01455 (-1.48)	-0.01378 (-1.40)	-0.01466 (-1.49)	-0.01467 (-1.50)
Growth	-0.02056*** (-5.65)	-0.02110*** (-5.80)	-0.02116*** (-5.82)	-0.02081*** (-5.73)
DUAL	0.06535*** (6.14)	0.06564*** (6.17)	0.06586*** (6.18)	0.06537*** (6.14)
DR	-0.14093* (-1.71)	-0.14550* (-1.76)	-0.15051* (-1.82)	-0.14526* (-1.76)
SHRCR1	-0.00349*** (-10.60)	-0.00342*** (-10.37)	-0.00347*** (-10.53)	-0.00349*** (-10.58)
SHRZ	-0.00115*** (-4.99)	-0.00118*** (-5.12)	-0.00118*** (-5.15)	-0.00116*** (-5.06)
State	0.05005*** (4.83)	0.04949*** (4.78)	0.05114*** (4.93)	0.04901*** (4.73)
Constant	7.04170*** (70.16)	7.08493*** (69.48)	6.99847*** (69.90)	7.06852*** (70.14)
Area	YES	YES	YES	YES
Industry	YES	YES	YES	YES
Year	YES	YES	YES	YES
N	17,150	17,150	17,150	17,150
adj. R ²	0.376	0.376	0.375	0.376
F	252.93	252.73	251.98	253.16
Panel B				
Award	EXEPAY2 0.00356 (0.28)	EXEPAY2	EXEPAY2	EXEPAY2
ROA* Award	1.03391*** (6.34)			
C_Award		-0.00257 (-0.99)		
ROA* C_Award		0.21583*** (6.01)		
P_Award			-0.00670** (-2.46)	
ROA* P_Award			0.15575*** (3.95)	
I_Award				0.00243 (1.00)
ROA* I_Award				0.14424*** (4.38)
ROA	2.57442*** (20.32)	2.81907*** (26.55)	2.97853*** (29.35)	2.93456*** (28.71)
Size	0.25691*** (55.89)	0.25552*** (54.70)	0.25938*** (56.64)	0.25587*** (55.45)
LEV	-0.11535*** (-4.00)	-0.12205*** (-4.24)	-0.11986*** (-4.16)	-0.12326*** (-4.28)
D	-0.01400	-0.01268	-0.01438	-0.01470

(Continued)

Table 18. (Continued).

	(1)	(2)	(3)	(4)
Growth	(-1.43) -0.02063***	(-1.29) -0.02085***	(-1.47) -0.02124***	(-1.50) -0.02080***
DUAL	(-5.68) 0.06505***	(-5.74) 0.06494***	(-5.84) 0.06488***	(-5.73) 0.06593***
DR	(6.12) -0.14153*	(6.11) -0.13516	(6.09) -0.14854*	(6.20) -0.14904*
SHRCR1	(-1.72) -0.00350***	(-1.64) -0.00344***	(-1.80) -0.00348***	(-1.81) -0.00349***
SHRZ	(-10.65) -0.00114***	(-10.44) -0.00118***	(-10.57) -0.00118***	(-10.59) -0.00117***
State	(-4.95) 0.05220***	(-5.14) 0.05039***	(-5.12) 0.05186***	(-5.10) 0.04955***
Constant	(5.04) 7.05528***	(4.87) 7.07839***	(5.01) 6.99735***	(4.79) 7.07517***
Area	(70.36) YES	(69.49) YES	(69.92) YES	(70.23) YES
Industry	YES	YES	YES	YES
Year	YES	YES	YES	YES
N	17,150	17,150	17,150	17,150
adj. R ²	0.377	0.377	0.376	0.377
F	248.43	248.08	246.57	247.86

***Indicates significance at the 1% level (two-tailed).

**Indicates significance at the 5% level (two-tailed).

*Indicates significance at the 10% level (two-tailed).

Table 19. Multinomial regression results of model (1) and model (2): Robustness tests.

	(1)	(2)	(3)	(4)
Panel A				
Award	EXEPAY 0.06663*** (6.58)	EXEPAY	EXEPAY	EXEPAY
C_Award		0.01093*** (5.98)		
P_Award			0.00332* (1.74)	
I_Award				0.00988*** (5.79)
EXE_Award	0.02244* (1.94)	0.02938** (2.58)	0.03680*** (3.24)	0.03078*** (2.70)
Size	0.25760*** (58.42)	0.25519*** (56.97)	0.26030*** (59.23)	0.25719*** (58.10)
ROA	2.89224*** (31.13)	2.87375*** (30.90)	2.89383*** (31.11)	2.87596*** (30.93)
LEV	-0.12037*** (-4.36)	-0.12588*** (-4.56)	-0.12503*** (-4.52)	-0.12573*** (-4.55)
D	-0.02477*** (-2.64)	-0.02371** (-2.52)	-0.02493*** (-2.65)	-0.02488*** (-2.65)
Growth	-0.01999*** (-5.74)	-0.02064*** (-5.93)	-0.02063*** (-5.92)	-0.02037*** (-5.85)
DUAL	-0.02567** (-2.52)	-0.02535** (-2.49)	-0.02516** (-2.47)	-0.02557** (-2.51)
DR	0.45898*** (5.80)	0.45367*** (5.74)	0.44851*** (5.67)	0.45246*** (5.72)
SHRCR1	-0.00407*** (-12.91)	-0.00398*** (-12.61)	-0.00405*** (-12.83)	-0.00406*** (-12.88)
SHRZ	-0.00122*** (-5.52)	-0.00125*** (-5.68)	-0.00125*** (-5.69)	-0.00124*** (-5.62)
State	-0.03299***	-0.03319***	-0.03085***	-0.03304***

(Continued)

Table 19. (Continued).

	(1)	(2)	(3)	(4)
Constant	(-3.31) 5.97246*** (62.13)	(-3.33) 6.03137*** (61.75)	(-3.09) 5.92395*** (61.73)	(-3.31) 5.98817*** (62.01)
N	17,150	17,150	17,150	17,150
adj. R ²	0.402	0.401	0.400	0.401
F	275.07	274.77	273.47	274.68
Panel B				
	EXEPAY	EXEPAY	EXEPAY	EXEPAY
Award	0.03662*** (2.94)			
Award*ROA	0.66089*** (4.08)			
C_Award		0.00391 (1.54)		
C_Award*ROA		0.13972*** (4.00)		
P_Award			-0.00160 (-0.61)	
P_Award*ROA			0.10508*** (2.76)	
I_Award				0.00497** (2.11)
I_Award*ROA				0.09631*** (3.00)
ROA	2.52018*** (20.57)	2.64570*** (24.97)	2.74082*** (26.66)	2.72059*** (26.47)
EXE_Award	0.00857 (0.54)	0.01190 (0.75)	0.01508 (0.96)	0.01245 (0.79)
EXE_Award*ROA	0.23642 (1.10)	0.34341 (1.63)	0.42371** (2.02)	0.35058* (1.66)
Size	0.25775*** (58.48)	0.25555*** (57.08)	0.26048*** (59.29)	0.25734*** (58.15)
LEV	-0.12010*** (-4.35)	-0.12694*** (-4.60)	-0.12485*** (-4.52)	-0.12766*** (-4.62)
D	-0.02464*** (-2.62)	-0.02332** (-2.48)	-0.02513*** (-2.67)	-0.02523*** (-2.69)
Growth	-0.02005*** (-5.76)	-0.02049*** (-5.89)	-0.02069*** (-5.94)	-0.02037*** (-5.85)
DUAL	-0.02603*** (-2.55)	-0.02608** (-2.56)	-0.02616** (-2.56)	-0.02547*** (-2.50)
DR	0.45826*** (5.80)	0.46008*** (5.82)	0.44947*** (5.68)	0.44956*** (5.69)
SHRCR1	-0.00408*** (-12.93)	-0.00399*** (-12.63)	-0.00405*** (-12.84)	-0.00406*** (-12.86)
SHRZ	-0.00121*** (-5.51)	-0.00126*** (-5.71)	-0.00125*** (-5.69)	-0.00125*** (-5.66)
State	-0.03197*** (-3.21)	-0.03290*** (-3.30)	-0.03075*** (-3.08)	-0.03300*** (-3.31)
Constant	5.98116*** (62.24)	6.02756*** (61.74)	5.92367*** (61.75)	5.99257*** (62.07)
N	17,150	17,150	17,150	17,150
adj. R ²	0.402	0.402	0.401	0.402
F	263.36	263.07	261.50	262.70

***Indicates significance at the 1% level (two-tailed).

**Indicates significance at the 5% level (two-tailed).

*Indicates significance at the 10% level (two-tailed).

companies with a lower level of perk consumption and insufficient equity incentives, which highlights the complementary relationship between monetary compensation and other types of compensation incentives, such as perk consumption and equity incentives.

When managers benefit from a low level of perk consumption and equity incentives, corporate awards have a greater effect on their monetary compensation.

As information on corporate awards is voluntarily disclosed, companies use their financial annual reports to disclose this information to external stakeholders. However, fragmentation, duplication and confusion when disclosing award information in annual reports can easily lead to cognitive bias when investors receive relevant information. In addition, there is a phenomenon of award overflow, and certain awards are homogeneous and repetitive. Therefore, first, regulators of corporate information disclosure should formulate regulations on the disclosure of information on corporate awards. Guidance on reasonable and standardised disclosure is useful for disclosing more effective information to external stakeholders and facilitating their decision-making, thereby reducing information asymmetry between investors and the company. Second, government departments and private industry associations should strengthen the management of awards and improve the relevance and authority of these awards.

Disclosure statement

No potential conflict of interest was reported by the authors.

References

- Ager, P., Bursztyrn, L., & Voth, H. (2016). Killer incentives: Status competition and pilot performance during World War II. *National Bureau of Economic Research*. <https://www.nber.org/papers/w22992>
- Alchian, A.A. (1950). Uncertainty, evolution, and economic theory. *Journal of Political Economy*, 58(3), 211–221. <https://doi.org/10.1086/256940>
- Angrist, J., & Lavy, V. (2009). The effects of high stakes high school achievement awards: Evidence from a randomized trial. *American Economic Review*, 99(4), 1384–1414. <https://doi.org/10.1257/aer.99.4.1384>
- Ashraf, N., Bandiera, O., & Jack, B.K. (2014). No margin, no mission? A field experiment on incentives for public service delivery. *Journal of Public Economics*, 120, 1–17. <https://doi.org/10.1016/j.jpubeco.2014.06.014>
- Benabou, R., & Tirole, J. (2003). Intrinsic and extrinsic motivation. *The Review of Economic Studies*, 70(3), 489–520. <https://doi.org/10.1111/1467-937X.00253>
- Besley, T., & Ghatak, M. (2008). Status incentives. *American Economic Review*, 98(2), 206–211. <https://doi.org/10.1257/aer.98.2.206>
- Chan, H.F., Frey, B.S., Gallus, J., & Torgler, B. (2014). Academic honors and performance. *Labour Economics*, 31, 188–204. <https://doi.org/10.1016/j.labeco.2014.05.005>
- Chen, D.H., Chen, X.Y., & Wan, H.L. (2005). Regulation and non-pecuniary compensation in Chinese SOEs. *Economic Research Journal*, (2), 92–101. (in Chinese). doi:CNKI:SUN:JJYJ.0.2005-02-009
- Cohn, A., Fehr, E., Herrmann, B., & Schneider, F. (2014). Social comparison and effort provision: Evidence from a field experiment. *Journal of the European Economic Association*, 12(4), 877–898. <https://doi.org/10.1111/jeea.12079>
- Deng, B.F., Liu, J.W., & Ji, L. (2019). 'Chinese-style performance' and corporate demands for financial performance: Discovery and discussion of basic facts of the disclosure about enterprise awards of A-share listed companies. *Nankai Business Review*, (1), 42–54. doi:10.3969/j.issn.1008-3448.2019.01.005

- Fang, J.X. (2009). Is top management compensation of Chinese public companies sticky? *Economic Research Journal*, (3), 110–124.
- Francis, B.B., Hasan, I., & Sharma, Z. (2011). Incentives and innovation: Evidence from CEO compensation contracts. *Bank of Finland Research Discussion Paper*, pp. 17. <http://dx.doi.org/10.2139/ssrn.1953947>
- Frey, B.S. (2005). Knight fever: Towards an economics of awards. *IEW - Working Papers*, pp. 5. URL: http://www.econ.uzh.ch/static/wp_iew/iewwp239.pdf
- Frey, B.S. (2006). Giving and receiving awards. *Perspectives on Psychological Science*, 1(4), 377–388. <https://doi.org/10.1111/j.1745-6916.2006.00022.x>
- Frey, B.S. (2007). Awards as compensation. *European Management Review*, 4(1), 6–14. <https://doi.org/10.1057/palgrave.emr.1500068>
- Frey, B.S., & Gallus, J. (2017). Towards an economics of awards. *Journal of Economic Surveys*, 31(1), 190–200. <https://doi.org/10.1111/joes.12127>
- Frey, B.S., & Neckermann, S. (2008). Awards: A view from psychological economics. *Journal of Psychology*, 216(4), 198–208. <http://dx.doi.org/10.2139/ssrn.1087043>
- Frey, B.S., & Oberholzer-Gee, F. (1997). The cost of price incentives: An empirical analysis of motivation crowding-out. *The American Economic Review*, 87(4), 746–755. <http://links.jstor.org/sici?sici=0002-8282%2819970...O%3B2-L&origin=repec>
- Gallus, J., & Frey, B.S. (2016). Awards: A strategic management perspective. *Strategic Management Journal*, 37(8), 1699–1714. <https://doi.org/10.1002/smj.2415>
- Gu, Z., Wang, K., & Xiao, X. (2010). Government control and executive compensation: Evidence from China. *University of Minnesota Working Paper*.
- Huberman, B.A., Loch, C.H., & Öncüler, A. (2004). Status as a valued resource. *Social Psychology Quarterly*, 67(1), 103–114. <https://doi.org/10.1177/019027250406700109>
- Ibrahim, S., & Lloyd, C. (2011). The association between non-financial performance measures in executive compensation contracts and earnings management. *Journal of Accounting and Public Policy*, 30(3), 256–274. <https://doi.org/10.1016/j.jaccpubpol.2010.10.003>
- Jensen, M.C., & Meckling, W.H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305–360. [https://doi.org/10.1016/0304-405X\(76\)90026-X](https://doi.org/10.1016/0304-405X(76)90026-X)
- Jensen, M.C., & Murphy, K.J. (1990). Performance pay and top-management incentives. *Journal of Political Economy*, 98(2), 225–264. <https://doi.org/10.1086/261677>
- Jin, X.J., & Zheng, L.T. (2015). Who will be a star CEO: The source and influence of managerial reputation. *Economic Theory and Business Management*, 35(9), 86–100. doi:10.3969/j.issn.1000-596X.2015.09.007
- Kosfeld, M., & Neckermann, S. (2011). Getting more work for nothing? Symbolic awards and worker performance. *American Economic Journal: Microeconomics*, 3(3), 86–99.
- Lin, Y.F., & Li, Z.Y. (2004). Policy burden, moral hazard and soft budget constraint. *Economic Research Journal*, 2, 17–27. doi:CNKI:SUN:JJYJ.0.2004-02-002
- Malmendier, U., & Tate, G. (2009). Superstar CEOs. *The Quarterly Journal of Economics*, 124(4), 1593–1638. <https://doi.org/10.1162/qjec.2009.124.4.1593>
- Moldovanu, B., Sela, A., & Shi, X. (2007). Contests for status. *Journal of Political Economy*, 115(2), 338–363. <https://doi.org/10.1086/518010>
- Murphy, K. J. (2001). Performance Standards in Incentive Contracts [J]. *Journal of Accounting & Economics*, 30(3), 245–278. doi:10.1016/S0165-4101(01)00013-1
- Nalebuff, B.J., & Stiglitz, J.E. (1983). Information, competition, and markets. *The American Economic Review*, 73(2), 278–283. doi:10.2307/41237198
- Wang, X., Li, Y.L., & Li, F.S. (2015). Research on corporate social responsibility and the effectiveness of executive compensation incentive: Strategic motivation or shirking excuse. *Accounting Research*, (10), 51–58. doi:10.3969/j.issn.1003-2886.2015.10.007
- Wang, X. L., & Fan, G. (2004). Analysis on the regional disparity in China and the influential factors. *Economic Research Journal*, 39(1), 33–44. doi:CNKI:SUN:JJYJ.0.2004-01-003

- Watts, R. L., Zimmerman J. L. (1978). Towards A Positive Theory of Determination of Accounting Standards [J]. *The Accounting Review*, 53(1), 112–134. <https://www.jstor.org/stable/245729>
- Watts, R. L., Zimmerman J. L. (1990). Positive Accounting Theory: A Ten Year Perspective [J]. *Accounting Review*, 65(1), 131–156. doi:10.2307/247880
- Xu, X.X., & Tan, J. (2014). Managerial compensation contract, reference points effect and the efficiency of corporate governance: A theoretical and empirical study based on behavioral economics. *Nankai Business Review*, 17(4), 36–45. doi:10.3969/j.issn.1008-3448.2014.04.005