Research on the Influencing Factors of Executive Compensation in China's Listed Banks

-- Based on Empirical Evidence of China's Listed Banks from 2013 To 2017

Yiming Cai

San Domenico School, San Anselmo 94960, United States

jeremyincalm@gmail.com

Abstract. Based on principal-agent theory, managerialism theory and managerial power theory, relevant data of Shanghai and Shenzhen listed Banks from 2013 to 2017 are used to examine the influencing factors of bank executive compensation from the perspectives of bank scale, bank performance, bank governance and bank risk. The empirical study has found that there is a significant positive correlation between bank performance and executive compensation, and bank scale and independent director system fail to have a significant impact on executive compensation. Board diligence has a significant positive correlation with bank executive compensation, supporting the theory of managerial power. Bank risk is negatively correlated with executive compensation. The research conclusion shows that the banking industry should pay attention to the control of operating risk, improve the internal governance of the bank, and ensure the rationality of the compensation system.

Keywords: Commercial bank, Executive compensation, Bank risk, Random effect model.

1. Introduction

In recent years, the executive compensation of China's commercial Banks has grown too fast and the problem of sky-high compensation has been particularly serious, which has greatly affected the rationality of compensation design. Since 2010, the government has repeatedly raised the issue of "strictly regulating the management of executive compensation in financial institutions". The incentive problem of the sky-high compensation of bank executives has attracted extensive attention from domestic and foreign scholars and industry. Early studies mainly discussed the relationship between business performance and scale characteristics and executive compensation, but did not reach a consistent conclusion [1]. Some scholars found a positive relationship between business performance and bank executive compensation [2-3], while some found a weak sensitivity between the two [4]. After the introduction of corporate governance mechanism in the banking industry, scholars began to pay attention to the influence of internal governance structure on executive compensation. Yang yan (2013) studied the relationship between the shareholding structure of bank and executive compensation, and found that the decentralization of shareholding structure inhibits the growth of executive compensation [2]. Zhao haihua (2011) found that the scale and structure of the board of directors are not related to executive compensation, and the size of the board of supervisors fails to have an impact on executive compensation [5]. However, relevant literature seldom considers the governance effect of board governance efficiency on executive compensation, and rarely studies risk control in combination. In addition, previous studies were too old in the time period of sample selection and the sample size was too small, which did not fully consider the new changes in internal governance after the banking reform in recent years, and the panel data model was rarely adopted, thus affecting the final conclusion.

In view of this, this paper takes 16 listed Banks in China as the research object. Based on the consideration of bank governance and bank risk, this paper uses the panel data model to investigate the causes of sky-high executive compensation in banks, so as to provide theoretical basis and empirical evidence for the effective design and improvement of executive compensation system in banks. Different from the previous studies on the incentive factors of sky-high executive compensation from the perspective of performance or scale characteristics, this paper further

examines the bank governance and risk control, and then takes into account the influencing factors of executive compensation in a more comprehensive way, enriching the related research on financial executive compensation and commercial bank governance.

2. Theoretical Analysis and Research Hypothesis

2.1 Bank Performance

The agency theory emphasizes that the interests of the agent and the principal are not completely consistent due to the separation of ownership and control right, thus the problem of "adverse selection" and "moral hazard" is generated under the premise of information asymmetry. According to the principal-agent theory, in order to effectively prevent the agent from paying attention to its own interests and damaging the principal's interests, the principal often links the agent's compensation with the company's performance through the compensation-performance contract. Therefore, it effectively encourages the agent to work hard in order to constantly improve the company's performance and further promote the adjustment of remuneration by the principal. Based on this, this paper proposes the following hypothesis:

H1: bank performance is negatively correlated with bank executive compensation.

2.2 Bank Scale

Executive compensation also depends on non-performance indicators such as company size. Managerialism theory suggests that it is easier for executives to control the company scale than to improve business performance. The expansion of the company scale has led to more complex business activities. The more difficult the executive decision-making process is and the higher the requirements for its competence level are, the reasonableness of the executive's demands for higher compensation will be correspondingly enhanced. Scale represents a reasonable demand for higher compensation. On the other hand, the expansion of bank scale makes it easier to win the trust of customers and bring about greater performance, thus affecting executive compensation. The existing empirical results have also found a positive correlation between scale and compensation. Based on this, this paper proposes the following hypothesis:

H2: bank scale is positively correlated with bank executive compensation.

2.3 Bank Governance Level

The board of directors is one of the important mechanisms of corporate internal governance, acting as an agent for shareholders to supervise and motivate bank executives and greatly affecting the formulation of executive compensation policies. The principal-agent theory holds that in order to reduce the agency cost of shareholders and managers, investors in information disadvantage need to limit the self-serving behaviour of managers through board governance and the supervision of independent directors. One of the obvious indicators to measure the efficiency of board governance is the number of board meetings, which reflects the degree of diligence of the board. It is easier to achieve a higher level of governance by adjusting the number of board meetings than by changing the composition or ownership structure of the board. According to the principal-agent theory, the increased diligence of the board will enhance the ability of directors to perform their duties in line with the interests of shareholders, and allow for more rational consideration of compensation schemes, thereby reducing bank executive compensation. Based on this, this paper proposes the following hypothesis:

H3: board diligence is negatively correlated with bank executive compensation.

The independent director system is to protect the interests of shareholders by using the independence of external directors, which reflects the independence of the board of directors. Agency theory holds that the increase of independent directors will increase the supervision ability of the board of directors. Most of the independent directors in the board of directors are persons with professional talent or social prestige who are hired by the government. The higher the proportion of independent directors is, the stronger the willingness to supervise the rationality of the executive

compensation scheme will be. Board independence would limit the emergence of unusual high compensation for bank executives and curb the growth of executive compensation. Based on this, this paper proposes the following hypothesis:

H4: board independence is negatively correlated with bank executive compensation.

2.4 Bank Risk

Previous research paid less attention to the impact of risk on bank executive compensation. Commercial banks have operational risks. When banks are faced with high-level risks, especially when the current profits cannot make up for losses, the interests of creditors and shareholders will be damaged, leading to inefficient allocation of credit resources. In view of this, shareholders will link executive compensation with risk taking, thus increasing the allocation efficiency of bank assets. Hogan and Sigler (1998) believed that risks may be negatively correlated with executive compensation, considering that increased risks will damage the interests of shareholders and punish the executives with lower compensation [6]. In addition, the greater the risk banks face, the smaller the profit margins, which in turn reduces executive compensation. Based on this, this paper proposes the following hypothesis:

H5: bank risk is negatively correlated with executive compensation.

3. Research Design

3.1 Research Samples and Data Sources

Considering that the supervision and practice of executive compensation of Chinese banks are in constant changes, and in order to better compare with the research of other scholars, this paper takes 16 listed Banks in Shanghai and Shenzhen with A-share from 2013 to 2017 as the research sample. After eliminating the extreme value and incomplete value of data, 80 sample observed values are finally obtained. The data mainly come from the guo tai 'a database and the annual financial reports of listed banks released by juchao information network.

3.2 Definition of Variables

The explained variable. Bank executive compensation: the natural logarithm of the average compensation of the bank's top three executives.

The explaining variable. Bank performance (Eps): in order to eliminate the influence of fair value on the company's net assets, the practice of tax administration (2010) is used for reference [7], and the bank performance is measured by earnings per share, reflecting the after-tax net profit generated by the equity capital. Bank scale (Size): based on the research of Gu mengya (2014) [8], the bank scale is measured by the natural logarithm of total assets at the end of the year. Board diligence (Bmn) : according to the research of Hu guoliu and Li shaohua (2013) [9], the board diligence is measured by the number of board meetings. Board independence (Idp): the ratio of independent directors to the number of directors. Bank risk (Risk): based on the research of You zhilang et al. (2016) [10], the bank risk level is measured by the non-performing loan ratio. The specific definitions of related variables are shown in table 1.

3.3 Model Establishment

Based on the above theoretical analysis, this paper considers bank performance, bank scale, corporate governance and bank risk, and constructs the following model to test the relationship between executive compensation and various factors:

$$Salary_{i,t}=\beta_0+\beta_1Eps_{i,t}+\beta_2Size_{i,t}++\beta_3Bmn_{i,t}++\beta_4Idp_{i,t}++\beta_5Risk_{i,t}+\varepsilon_{i,t} \tag{1}$$

Table 1. Variable definition

Variable type	Variable name	Variable code	Variable definition
Explained variable	Executive compensation	Salary	The natural logarithm of the average compensation of the bank's top three executives
	Bank performance	Eps	Net profit/total equity capital
	Band scale	Size	The natural logarithm of total assets
Explaining variable	Board diligence	Bmn	Number of board meetings
	Board independence	Idp	Number of independent directors/total number of directors
	Corporate risk	Risk	Total non-performing loan /year-end total loan balance

4. Empirical Results and Analysis

4.1 Descriptive Statistical Analysis

Table 2 shows the descriptive statistics of related variables. The average value executive compensation is 14.659, with a standard deviation of 0.564. It can be seen that the executive compensation of listed commercial banks is at a high level, and there are differences between different banks. The average earnings per share of commercial banks is 1.177, the standard deviation is 0.604, and the maximum and minimum values are 2.52 and 0.36 respectively, indicating that commercial banks have significant differences in operating performance. The average value of the company scale is 28.872, the standard deviation is 1.139, the maximum value is 30.73 and the minimum value is 26.69, indicating that the asset scale of the listed banks is large and different. The average value of number of board meetings is 9.913, the minimum value is 2, the maximum value is 21, and the standard deviation is 3.829, indicating that the annual number of board meetings is about 10, and there is a large difference in board diligence between different banks. The minimum ratio of independent directors is 7.69, indicating that some banks' independent directors are set below the regulatory requirements. The average non-performing loan ratio is 1.014, the maximum is 2.39, the minimum is 0.38 and the standard deviation is 0.355. The risk level of different commercial banks varies greatly.

Table 2. descriptive statistics of major variables

Variable	Average value	Standard deivation	Minimum value	Maximum value	Observed value
Salary	14.659	0.564	13.40	15.83	80
Eps	1.177	0.604	0.36	2.52	80
Size	28.872	1.139	26.69	30.73	80
Bmn	9.913	3.829	2.000	21.00	80
Idp	25.972	11.166	7.69	50.00	80
Risk	1.014	0.355	0.38	2.39	80

4.2 Correlation Analysis

Table 3 shows the correlation analysis between variables. According to the data in the table, bank performance is significantly positively correlated with executive compensation, indicating that bank performance promotes executive compensation to some extent. Corporate risk has a significant negative correlation with executive compensation, which shows that bank risk has a constraint on executive compensation. Executive compensation is significantly negatively correlated with bank scale, and positively correlated with the number of board meetings and proportion of independent directors. The correlation analysis results show that there is a certain linear relationship between executive compensation and bank performance, bank scale, number of board meetings, board independence and corporate risk, and the specific causal relationship between variables needs to be further tested by regression analysis. In addition, the maximum absolute value of pairwise correlation coefficient between variables is 0.586, indicating that there is no serious multicollinearity problem between variables.

Table 3.Pearson correlation analysis

	Salary	Eps	Size	Dtimes	Duli	Risk
Salary	1					
Eps	0.586***	1				
Size	-0.363***	-0.432***	1			
Bmn	0.192*	-0.323***	0.254**	1		
Idp	0.338***	0.492***	-0.476***	-0.389***	1	
Risk	-0.223**	-0.089	0.561***	0.072	-0.448***	1

Note: n = 80; ***, ** and * represent the significance level of 1%, 5% and 10% respectively.

4.3 Analysis of Regression Results

Table 4.analysis of regression results

Variable	Salary	
	Coefficient	T value
Eps	0.057***	5.647
Size	-0.141	-1.111
Bmn	0.035***	4.225
Idp	0.003	0.324
Risk	-0.006**	-0.490
Constant	0.047***	6.967
N	80	
R^2	0.617	
Hausman test	13.173	
(p-value)	(0.068)	

Note: the regression method is the random effect model of Eviews7.0. ***, ** and * represent the significance level of 1%, 5% and 10% respectively.

In table 4, the Hausman test results cannot reject the original hypothesis at the 5% significance level, so the random effect model is more effective. Therefore, the random effect model is selected for regression analysis of equation (1). According to the regression results in table 4, there is a significant positive correlation between bank performance and executive compensation at the 1% level, and the regression coefficient is 0.057, indicating that there is a significant positive correlation between bank performance and executive compensation. It means that the better the bank performance, the higher the executive compensation. In other words, the executive compensation scheme considers the performance indicators. Consistent with other scholars' conclusions, hypothesis 1 is effectively supported. Bank scale is negatively correlated with executive compensation, but not significantly, contrary to the expected symbol, and hypothesis 2 does not pass the test. This is consistent with the results of Gu mengya (2014) and Wu chengsong (2016) [8] [11]. The possible reasons are firstly that the large state-owned holding banks are subject to the threshold compensation regulations of the regulatory department, and the compensation level is out of keeping with its scale. Secondly, large banks offer higher in-service welfare in addition to monetary compensation. The board diligence is significantly positively correlated with the executive compensation at the level of 1%, contrary to the expected symbol, possibly because the board of directors plays a good governance role in bank operation and supervision, optimizes the executive management work, and then promotes the improvement of its compensation level, supporting the theory of managerial power. The theory of managerial power holds that due to the defects of governance mechanism, the board of directors will be restricted by the over-powerful executives, who will use their own power to influence the decisions of the board of directors, thus having a strong ability of manipulation in the compensation design. Board independence is positively correlated with executive compensation, but it is not significant, indicating that independent directors do not maintain their independence sufficiently and become a "rubber stamp". At the same time, the proportion of independent directors in banks is low. Bank risk is significantly negatively correlated with executive compensation at the level of 5%, indicating that the higher the bank's risk level (non-performing loan ratio) is, the lower the executive compensation is, and the compensation incentive function is associated with risk control. Hypothesis 5 is verified. In addition, R^2 of model (1) is 0.617, indicating that the model has a good fitting effect on the sample and that the explaining variable has a good explanatory effect on the explained variable.

4.4 Rbustness Test

In order to ensure the reliability of the research results, the robustness test is carried out. Drawing on the practice of You zhilang et al. (2016) [10], the natural logarithm of the average compensation of directors, supervisors and senior managers is used as an alternative variable of the bank executive compensation, and the regression is made again. The robustness test shows that the regression results are basically consistent with foregoing and confirm the rationality of the conclusion. The regression results are not shown due to space limitations.

5. Conclusion and Recommendation

Based on principal-agent theory, managerialism theory and managerial power theory, this paper uses the data of China's listed commercial banks from 2013 to 2017 to examine the influencing factors of bank executive compensation from the perspectives of bank scale, bank performance, corporate governance and corporate risk. Empirical research shows that there is a significant positive correlation between bank performance and executive compensation, and executive compensation is consistent with business performance. The bank scale and the independent director system fails to have a significant impact on the executive compensation, that is, the monetary compensation design does not take into account the asset scale of the bank, and the independent director system does not play the expected role. The board diligence is positively correlated with bank executive compensation which further indicates that the corporate governance has not played the role of restraining the growth of bank executive compensation. The status of the board of directors in the banking industry of China is more consistent with the managerial power theory. Bank risk has a significant negative correlation

with executive compensation, and the quality of executive risk control has become the focus of compensation contract.

The research conclusion of this paper shows that when the executive compensation incentive scheme of commercial banks focuses on business performance, the control effect of credit risk should be fully considered to improve the role of risk control in compensation incentive. In particular, it encourages executives to expand the scale of bank assets while anticipating and preventing possible damage to shareholders' interests from bad assets. On the basis of reasonable design of executive compensation incentive, it is necessary to further improve the efficiency of board governance, improve the proportion of independent directors, and give play to their supervisory role on bank executive compensation.

References

[1]. [Zhang dong, Yang xingquan. Executive compensation, internal gap and commercial bank performance [J]. Journal of central university of finance and economics, 2015, (3): 62.

[2]. Yang yan. Research on the relationship between executive compensation and business performance of listed commercial banks -- based on the panel data of 9 listed commercial Banks from 2008 to 2012 [J]. Contemporary economic science, 2013,35 (6): 62-66.

[3]. Zhao huawei, Liu aolong. Business performance, governance mechanism and executive compensation incentive [J]. Research on financial issues, 2015, (7): 114-121.

[4]. Tan xingmin, Song zengji, Yang tianfu. Empirical analysis of shareholding structure and operating performance of China's listed Banks [J]. Financial research, 2010, (11): 144-154.

[5]. Zhao haihua. Empirical analysis of the influencing factors on executive compensation of listed Banks in China -- based on data from 2001 to 2008 [J]. Jianghuai BBS, 2011,246 (2): 34-38.

[6]. Hogan S, Sigler k. The CEO pay -- performance relationship: pooled vs. industry models[J]. Managerial Finance, 1998,24 (2): 59-77.

[7]. Guan zheng. Analysis of the influencing factors on executive compensation of urban commercial Banks in China under the transition economy [J]. Financial theory and practice, 2010, (7): 46-48.

[8]. Gu mengya. Analysis of influencing factors on executive compensation of listed joint-stock commercial Banks in China [J]. Journal of insurance vocational college, 2014,28 (4): 20-26.

[9]. Hu guoliu, Li shaohua. Diligence of the board of directors, overconfidence of managers and over-investment in enterprises [J]. Scientific decision-making, 2013, (1): 1-18.

[10]. Yu zhilang, Yu yaodong, Han xiaoming, et al. Research on power incentives and risk consequences of bank executive compensation [J]. Foreign economy and management, 2017,39 (4): 41-51.

[11]. Wu chengsong, Wang haoran and Zhang peng. Does bank executive compensation have risk sensitivity? -- empirical evidence from China's listed Banks [J]. Audit and economic research, 2016, (1): 119-128.