Impact of Executive Compensation on the Comprehensive Performance of Commercial Banks

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Keywords: Social Responsibility; Performance; Executive Compensation

Abstract: In recent years, the growth rate of the banking industry's earnings has declined, and the social real economy is not strong. With this background, the managerial ability of bank managers was been questioned by people. The relationship between executive compensation and bank performance start becoming a social concern. Studying the performance of executive compensation on bank performance is helpful to judge whether Executive can help bank stakeholders realize their demands. This paper conducted a panel model empirical study on the report data of 16 listed commercial banks in China from 2014 to 2018, and found that executive compensation is positively correlated with the comprehensive performance of banks. Therefore, effective compensation incentive policies are conducive to executives 'selection of long-term strategies that can promote banks' sustainable development. Meanwhile, qualified executives will help the bank fulfill its social mission.

Introduction

The financial industry represented by banks plays an important role in the development of a country's economy. Since the out of control of the world financial crisis in 2008, financial regulators have begun to restrict the operating behavior of banks. Among them, one of the concerns of the regulators is the compensation of commercial bank executives: even at the depression time, bank executives still enjoyed high salaries. Discovering this, US President Barack Obama first issued instructions to restrict bank executive pay. The "wage limit order" caused a stir on Wall Street. Later, Britain, France and other countries followed suit. In order to further regulate the order of the banking industry, China has also introduced a series of laws such as the "Guidelines for the Robust Pay Supervision of Commercial Banks" since 2009, which attempts to enable bank executives to have a stable income model by optimizing internal management and employee incentives. With the advent of the "strong supervision" era of China's banking industry in 2017, bank executives, as planners for the development of banks, must not only consider banks' profitability, but also ensure stakeholders like investors, employees, and the public can get their interests. However, facing the impact of competitors such as third-party payments, reduced profit margins, and the demands of different stakeholders, the business philosophy of executives has been challenged. The performance of executive compensation can effectively reflect the personal ethics of executives, and it can also reflect whether the value demands of banks are realized. In view of this, this paper uses the panel data of 16 listed bank studies to find if the executive compensation can affect the comprehensive performance of the bank.

Literature Review

After the relevant departments launched the "salary restriction order" and a series of bills to restrict the executive compensation of commercial banks, scholars at home and abroad began to carry out extensive discussions and researches on the relationship between executive compensation and financial performance of banks. There are two main results of the study, one is that Yichang

Liu(2013), Yutong Jiang (2016) and other scholars think that excessive executive compensation, as an input of human cost, will reduce the financial performance of the bank; Lei Wang and Xiaoli Zhao (2015) found that the executive compensation of the bank is negatively related to the bank's return on capital through empirical research. They thought banks should adjust the executive compensation level and grasp the control of bank risk. The other idea is that executive compensation has a positive incentive effect on bank performance. For example, Jiaxian Shu and Zhengdong Zuo (2019) combed the financial mechanism of how executive compensation affect bank, finding that executive compensation is positively related to bank performance and effective compensation mechanism can improve the performance of bank. Lu Wang (2019) verified the promotion of executive compensation on bank performance according to agency theory the author thinks that the bank's salary system is improving, and the policy of restricting the bank's salary has a negative impact on the bank's performance. In addition, many scholars have studied the sensitivity of executive compensation to bank performance. Huawei Zhao (2015) found that the sensitivity between executive compensation and bank performance is not obvious by studying the interaction between executive compensation and bank profits.

In the past, most scholars focused on the relationship between compensation and financial performance of bank. With the development of the research on corporate social responsibility, some scholars begin to put corporate social responsibility into the scope of corporate performance. The bank's stakeholders are involved in a wide range of social responsibility. Making the output level of the bank's social responsibility as a test of bank's operating performance is one of the criteria for the sustainable development of social economy. Kartadjumena and Rodgers (2019) studied the impact of executive compensation on the sustainable development of banks and society. They found that giving higher compensation to bank executives would encourage bank managers to consider stakeholders more and focus on helping the development of the national real economy. However, if the management behavior of executives was only for egoism, the financial performance of banks will be reduced.

Through literature study, this paper will use a model to combine the financial performance and social performance of banks, and then use the comprehensive performance indicators to study the impact of executive compensation on bank performance.

Study Design and Sample Selection

Research ideas. Based on the principles of data availability, importance, objectivity, and authenticity, this paper selects the relevant financial data and non-financial data of 16 listed commercial banks in China from 2014 to 2018 for empirical research. All data are calculated and compiled from Guotai'an database and annual report data published by listed banks. By using the data analysis tools such as EXCEL and STATA to research and analyse the impact of executive compensation on the bank's comprehensive performance. First, the entropy method is used to calculate the weight of return on assets (ROE) and social performance. Second, calculating the comprehensive performance indicators. Finally, using panel data for multiple regressions.

Variable selection. According to the scholars' research on the construction of the bank's performance evaluation system and the study of social responsibility indicators, this paper designs the variable indicators as follows:

Table 1. Variable

Code	Variable composition
Roe	Return on equity
Csr	Social contribution value per share
Salary	Total top three executive compensation
Man	Operating expenses / operating income
Size	Asset size
Equity	Number of shares held by the top ten shareholders / total share capital

As shown in Table 1, Roe is the core index of DuPont's analysis system, which has strong financial comprehensiveness and reflects the enterprises' ability of using capital to obtain income. Social contribution value per share is also a comprehensive index to measure corporate social responsibility. Generally speaking, social contribution value per share = earnings per share + (total tax + employee expenses + interest expenditure + total donation - Society Cost) / total equity at the end of the period. In the process of collecting data, it is found that the items in the social responsibility reports disclosed by each bank are not uniform. Meanwhile, there are also inconsistencies and incomplete disclosures in the disclosed statements. In order to increase the comparability of the data, this paper simplifies the social contribution value per share, eliminates the social cost and donation index with small amount of incomplete data. Formulates per share Social contribution value = earnings per share + (total tax payment + employee expenses + interest expense) / total equity at the end of the period to calculate social performance. Executive compensation adopts the sum of the top three executive compensation, which is expressed by salary, and the control variables are business and management expense rate, asset size and equity concentration, with the codes of man, size and equity.

Using entropy method to calculate comprehensive performance. According to the principle of entropy method, the index entropy is calculated. When the P = 1 / N condition is established, the index entropy is maximized and the information content of the index is smaller. The entropy method model is shown in Eq.1, Eq.2:

$$E_j = -\mathrm{k}\sum_{i=1}^{G} P_{\mathrm{ij}} \ln p_{\mathrm{ij}} \tag{1}$$

$$P_{\mathrm{ij}} = X_{\mathrm{ij}} / \sum_{i=1}^{G} X_{ij} \quad . \tag{2}$$

In Eq.1, G represents the number of categories, and there are Q secondary indicators. From this, we can get the $\mathrm{R} = (\mathrm{X_{ij}})_{\mathrm{G*Q}}$. In the joint Eq.1, Eq.2, we can get the entropy value of indicators, and then we can get the weight of indicators according to Eq.3:

$$W_j = (1 - E_j) / \sum_{i=1}^{m} X_{ij}(1 - E_j) \tag{3}$$

Calculate comprehensive performance indicators of commercial banks according to Eq.4:

$$\mathrm{CP_i} = \sum_{\mathrm{j}=1}^{\mathrm{m}} \mathrm{W_j P_{ij}} \tag{4}$$

Finally, the entropy values are arranged into Table 2 and the weights are arranged into Table 3:

Table 2. The Entropy Values

Name	ROE	Csr
Entropy	0.952	0.920

Table 3. The Weights

Name	ROE	Csr
weight	0.3757	0.6243

Construction of panel empirical model. In order to prevent the occurrence of the fallacy panel regression results, the article selects Fisher-ADF, ISP, and LCC tests to perform unit root tests on the variables. The results are shown in the table 4:

Score, Salary, Size, and Equity's Fisher-ADF test, IPS test, and LLC test statistical averages are significant at the 1% level. So the data can be considered stable. Man's Fisher-ADF test statistics are significant at the 10% level. The IPS test is not significant, and the LLC test statistics are significant at the 1% level. Two tests pass, and the data can be considered stable.

Table 4. Unit Root Test

	Fisher-ADF Test	IPS Test	LLC Test

	Statistics	p	Statistics	p	Statistics	p
Score	-23.460***	0.000	-10.915***	0.000	-22.181***	0.000
Salary	-14.428***	0.000	-7.384***	0.000	-18.490***	0.000
Man	-1.450*	0.075	0.102	0.541	-10.120***	0.000
Size	-12.817***	0.000	-6.887***	0.000	-12.611***	0.000
Equity	-10.056***	0.000	-5.029***	0.000	-16.243***	0.000

On the basis of the unit root test, we also need to perform a Hausman test on the sample data to determine whether the random effect model estimation or the fixed effect model estimation should be selected.

The original hypothesis: H_0: Meet the basic conditions of the random effects model.

The test results of the Hausman model are: chi2(4) = (b-B)'[(V_b-V_B)^(-1)](b-B)=143.20 Prob>chi2 = 0.0000. Therefore, the null hypothesis is rejected, and fixed effects should be used for regression estimation to ensure more accurate research results.

Analysis of empirical results of the model. Based on the panel model, the article conducts a stepwise panel regression on the variables to ensure the reliability, accuracy, and stability of the empirical research results so that can improve the research value of the article. The regression results are shown in Table 5:

Table 5. Empirical Results of the Model

	I Score	II Score	III Score	IV Score
Salary	0.154***	0.154***	0.082***	0.078***
	(5.713)	(6.261)	(3.324)	(3.322)
Man		-0.107	0.461	0.381
		(-0.135)	(0.814)	(0.640)
Size			-0.302***	-0.256***
			(-6.225)	(-5.707)
Equity				-0.199***
				(-2.607)
_cons	-1.986***	-1.966***	7.817***	6.691***
	(-4.673)	(-3.656)	(4.824)	(4.720)
N	80	80	80	80
R2	0.173	0.172	0.717	0.696

Note: The t statistic is in parentheses. *, **, and *** indicate significant levels at 10%, 5%, and 1%, respectively.

From the four regression results in Table 5, it can be found that the coefficient of Salary of executive compensation is significant at the level of 1%, indicating that executive compensation has a significant positive effect on the performance of commercial banks. It can be seen from the successive regression results of models 1 to 4 that the panel regression equation is relatively stable, and executive compensation has a stable positive relationship with the performance of commercial banks. For each unit of executive compensation, the comprehensive compensation increases by 0.154, 0.154, 0.082, 0.078 units. From this, it can be considered that reasonable compensation incentives can promote the realization of the value demands of commercial banks; scientific compensation arrangements can inhibit executives' adverse selection and moral hazard in bank operations. Also, effective compensation management can guide executives to consider the rights and interests of bank stakeholders. With executives' help, the bank can play the role of the bank in society and assume due social obligations. Since the current compensation system structure is not yet perfect; the impact is relatively small, although it is positively related. And because the article

does not consider indicators such as executive compensation structure and bank resistance to risk, the research remains to be improved.

Suggestions

To sum up, optimizing the executive compensation system is beneficial to improve the comprehensive performance of commercial banks. At present, the compensation evaluation system of commercial banks needs to be improved. Therefore, it is necessary to promote the executive compensation incentive system from cash incentive to diversified incentive, and establish a long-term compensation mechanism for sustainable development of the bank itself, such as the establishment of stock option plan, so that the executive can strive to create value for the enterprise for long-term profits. At the same time, strengthen the supervision and management of senior executives in the bank is necessary to improve the ethics of senior executives. Let them realize that fulfilling the social responsibility is the way for the bank to obtain social recognition and goodwill, as well as the internal needs of the sustainable development of the bank and even the society.

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