The relationship between executive incentives and corporate performance under the background of mixed reform

——Based on the empirical evidence of A-share listed companies from 2016 to 2018

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Abstract: Since 2013, China has been promoting the reform of mixed-ownership of state-owned enterprises, guiding the organic cooperation of non-public capital and public capital and continuously exerting its advantages. Executive incentives are the top priority for state-owned enterprises to improve performance. The settings are correct and scientific. Executive incentives can greatly enhance the performance of enterprises, and excessive or insufficient executive incentives will hinder the development of enterprises. The implementation of executive incentives in mixed reform of state-owned enterprises needs innovation and practicality. Therefore, this study selected 2016-2018 mixed-ownership reform enterprises as the research sample of this article. Based on the mixed-ownership reform, the empirical analysis of the currency compensation incentives and equity compensation incentives of the mixed reformed state-owned enterprises was conducted. Monetary salary incentives for executives are beneficial to the overall performance of the company; the equity incentives for senior management by mixed state-owned enterprises are also conducive to corporate performance, and effective suggestions for senior management incentives for mixed state-owned enterprises are made based on research results.

Key words: Mixed-ownership executive compensation incentives executive equity incentives corporate performance

Introduction: In recent years, with the continuous improvement of China's international status and the continuous development of the domestic capital market, local listed companies frequently experience surfeit compensation for executives. At the same time, mixed-ownership companies are deeply constructed as the combination of public and private capital, which needs to adapt to an effective executive incentive model. Whether the system of state-owned enterprise compensation incentives is appropriate has aroused attention and discussion among the academic circles. Because of the relatively mature capital market abroad, scholars started research on

executive compensation incentives earlier. The segregation of business management authority and the company ownership will cause agency problems. Many factors within the company will affect the level of executive compensation to a certain extent, such as enterprise size, return on assets, asset-liability ratio, etc. In order to make the incentive effect significant, scholars at home and abroad link executive incentives with corporate performance, and continue to in-depth study the relationship between executive incentives and corporate performance in mixed-reformed state-owned enterprises, a new model of corporate formation since the reform and opening up in China.

Therefore, based on the background of mixed-ownership reform, this research project focuses on the mixing degree of state-owned and private equity in enterprises and divides executive incentives into executive monetary compensation and executive equity incentives to more closely evaluate the inner relationship between executive compensation incentives and corporate performance. I conduct an empirical analysis on the relationship and explore the executive compensation incentive system suitable for the implementation of state-owned enterprises in mixed reform.

Data and Methods:

The research background of this article is China's mixed-ownership reform. In view of this, the 2016-2018 Shanghai and Shenzhen A-share listed mixed-ownership reforms of state-controlled state-owned enterprises are used as research samples. The data in this article comes from the CSMAR database, RESSET, WIND database, etc. Some missing or abnormal values are selected from the company's annual report. In order to better ensure the reliability of data analysis and the influence of special samples on the results of the final empirical analysis, this article rules out companies with ST or *ST (ST refers to special treatment)in the data selection and companies with incomplete financial data and critical non-financial data. I firstly take advantage of index in CSMAR database to identify whether the state capital is the actual controller of the selected enterprises, and then make good use of WIND database to obtain the ten largest shareholder information disclosed of selected enterprises and get rid of companies that are totally controlled by state capital to ensure the mixture of private capital and state capital as well as state capital take control of more than 50% of total equity. Finally, it is inevitable to

eliminate extreme abnormal values in the research sample. Ultimately, the selected effective sample size is 687.

Dependent Variable:

Based on the existing papers on corporate performance, it is common practice in academia to use financial indicators as the measurement indicators of corporate performance. Among them, the return on assets can link the efficiency of the company's integrated use of assets with the overall profitability of the company, and more accurately quantify the overall corporate governance level. This article uses this indicator as the dependent variable to measure corporate performance.

Independent Variables:

I choose to look into two perspectives(executive monetary compensation and equity incentives) separately to investigate the intrinsic relationship among variables.

- (1) Executive monetary compensation (LnPay): For the research of executive compensation, we need to focus on two aspects: executive monetary compensation and equity incentives. In order to ensure the representativeness and measurability of executive monetary compensation, refer to a number of empirical papers on corporate performance and executive incentives, and take into account the availability of data and the feasibility of the research. In the database (CSMAR), the total monetary compensation of the three top executives is selected. The natural logarithm of the total monetary compensation (LnPay) is used as an independent variable index, which is a method of effectively reducing the adverse effect of collinearity and extreme value on the research results for preciseness owing to the fact that there exist huge differences among their monetary compensation. And the data collected from the top three executives is superior to that is individually collected in that it averts the problem that companies pay more to one director rather than others unfairly, contributing to overestimate executive monetary compensation.
- (2) Executive Equity Incentives (Equic): From the perspective of executive equity incentives, the number of executives' shares is derived from the governance structure

section of the CSMAR database. The ratio of the number of shares to the total number of shares is used as a factor to measure executive equity incentives for empirical analysis. Using the proportion of the number of shares held by executives can fairly and comparably measure the extent of equity incentives in mixed-ownership companies rather than their absolute value that is hard to compare and analyze.

Controllable Variables:

Except for data collected regarding DV and IV, I also set a lot of controllable variables. My initial plan is to set 6 to 7 controllable variables to try best to exclude other factors to make the analysis more scientific.

- (1) Equity mix degree (OMD): The research background of this article is based on the reform of mixed-ownership. Domestic scholars started to study the degree of equity mixture late and did not form a consensus. Referring to Yan Hanmin's (2020) measurement rule, first, in the top ten shareholders' shareholding situation, state-owned capital and non-state-owned capital are distinguished according to the nature of shareholding. After screening data, I adopt the proportion of state-owned capital in the total capital of the enterprise (ES) and the proportion of non-state capital in total capital (EP), the smaller one is used as the numerator, and the larger one is used as the denominator. The closer the ratio is to one, the higher the index.
- (2) Asset-liability ratio (LEV): The debt-to-asset ratio is calculated as the percentage of total liabilities divided by total assets that company owned at the end of the period, which is one of the most important indicators for measuring the level of corporate debt and financial risks. The higher the assets and liabilities, the more assets the company acquires through debt, and the greater the risk level. The goal of good corporate governance is to maintain the asset-liability ratio in a healthy range. This indicator also reflects the degree of influence of executive incentives and management capabilities on corporate performance.
- (3) The actual controller's shareholding ratio (OC): The rights of the actual controller include the use of various resources such as investment and signing up contracts that can directly or indirectly influence the actual operation of the company. The actual controller may face agency problems with the management. In the process of analyzing

- executive incentives and corporate performance, it is necessary to consider the influence of the actual controller's power on executives' decisions. This research selects this indicator as one of the control variables to improve the establishment of the entire empirical model.
- (4) Net cash flow from operating activities to liabilities (OCFR): The operating cash flow ratio concretely reflects the ratio of a company's net operating flow to its liabilities. The analysis of the ratio has a guiding role in research topics as well as forming a deeper understanding of the company's operational capabilities and the cash sources needed for future development. Therefore, I choose this indicator to analyze the general operating conditions of the company.
- (5) Company size (LnRev): There are three main measurement indicators for the size of an enterprise: the size of total assets, the number of employees, and operating income. This article selects the main business income of the company to measure the scale of the company because the company with the higher main business income is superior to other companies in terms of business scale and diversification. The executive contribution of business income is relatively proportional to measure and quantify. In order to avoid the influence of extreme values on the overall analysis and research, I take the natural logarithm (LnRev) as the basis for regression analysis.
- (6) Shareholders' equity (LnEqu): Shareholders' equity is the amount after subtracting the total assets of the company and the total liabilities of the company, and describes the company's capital. Along with the increase in net assets, the higher the intrinsic value of the company, the faster the company develops. This controllable variable functions as analyzing and gauging the growth capability of enterprises so that it is appropriate to quantify the growth of state-owned enterprises in mixed reform. At the same time, the natural logarithm of shareholder equity is used for regression analysis.
- (7) Fixed-charge coverage ratio (FCC): The fixed charge coverage ratio is the ratio of the sum of pre-tax profit and fixed expenditure to fixed expenditure, which shows the proportion of business income and fixed cost. This indicator effectively evaluates the solvency and subsequent operations of the company from the perspective of operating profit.

Hypothesis:

Hypothesis 1: There is a positive correlation between executive monetary compensation in mixed-reformed state-owned enterprises and corporate performance.

Hypothesis 2: There is a positive correlation between executive equity incentives of mixed-reformed state-owned enterprises and corporate performance.

Model:

In order to verify the relationship between executive monetary compensation (LnPay), executive equity incentive (Equic) and return on total assets (ROA), a multiple linear regression model was established based on variable design and research assumptions:

 $ROA = \alpha_0 + \alpha_1 LnPay + \alpha_2 Equic + \alpha_3 OMD + \alpha_4 Lev + \alpha_5 OC + \alpha_6 OCFR + \alpha_7 LnRev + \alpha_8 LnEqu + \alpha_9 FCC + \epsilon$, where α_0 is constant, $\alpha_1 - \alpha_9$ are coefficients, ϵ is the residual.

Descriptive Analysis:

Table 1:

| | number | min | max | mean | std |
|-------|--------|--------|--------|--------|--------|
| ROA | 687 | -0.244 | 0.283 | 0.036 | 0.052 |
| LnPay | 687 | 12.038 | 15.478 | 13.580 | 0.649 |
| Equic | 687 | 0.000 | 0.132 | 0.004 | 0.013 |
| OMD | 687 | 0.006 | 0.995 | 0.292 | 0.262 |
| LEV | 687 | 0.035 | 1.034 | 0.497 | 0.202 |
| OC | 687 | 1.051 | 75.451 | 34.308 | 15.173 |
| LnRev | 687 | 14.377 | 24.274 | 20.536 | 1.341 |

| LnEqu | 687 | 17.687 | 25.539 | 22.006 | 1.191 |
|-------|-----|----------|---------|--------|--------|
| FCC | 687 | -196.237 | 569.838 | 4.596 | 26.547 |

Table 2:

| | number | 25% | 50% | 75% |
|-------|--------|--------|--------|---------|
| ROA | 687 | 0.012 | 0.029 | 0.058 |
| LnPay | 687 | 13.114 | 13.507 | 14.006 |
| Equic | 687 | 0.000 | 0.0003 | 0.00315 |
| OMD | 687 | 0.092 | 0.208 | 0.391 |
| LEV | 687 | 0.351 | 0.509 | 0.647 |
| OC | 687 | 22.830 | 33.310 | 45.693 |
| LnRev | 687 | 0.009 | 0.100 | 0.204 |
| LnEqu | 687 | 19.758 | 20.615 | 21.393 |
| FCC | 687 | 21.358 | 21.949 | 22.689 |

Table 1 shows the descriptive statistical results of the variables in the paper. It can be seen that although the minimum value of return on assets (ROA) is -0.244, its mean value is 0.036 and the standard deviation is 0.052, indicating that most of the mixed-ownership companies operate in a healthy condition. The minimum natural logarithm of executive currency compensation (LnPay) is 12.038, the value after restoration is 162754.791, the maximum value is 15.478, and the value after restoration is 5272419.904, indicating that even under the background of mixed-ownership reform, executive currency compensation different from each other greatly. The minimum value of the executive shareholding ratio is 0.000 and the maximum value is 0.132, indicating that the level of equity incentives for executives is low. The minimum value of OMD (OMD) is 0.006 and the maximum value is 0.995. It can be seen that the extreme values of the OMD of mixed-ownership enterprises are quite different. The minimum value of the actual controller's shareholding ratio (OC) is 1.051, the maximum value is 75.451 along with the standard deviation is 15.173 which is quite large. This reflects the fact that there still exists a single controller and a dominant family in mixed-ownership enterprises. Under that condition, executive incentives have the opposite effect.

Table 2 shows that the descriptive percentile of the variables. If we pay attention to the proportion of the number of executive shares in the total number of equity (Equic), in 25th percentile, it is nearly close to 0. Even in 75th percentile, the proportion is still very small as 0.00315, indicating that there still exists insufficient unoptimized equity incentive system among

mixed-ownership companies. The management team in the company possesses rare equity incentives compared with monetary compensation. Moreover, the actual controller's shareholding ratio (OC) increases from 22.83% (25th percentile) to 45.693% (75th percentile) rapidly, but still less than 50 percent, which indicates that the sample is representative of mixed reform ownership.

Correlation Analysis:

Table 3:

| | ROA | LnPay | Equic | OMD | LEV | OC | OCFR | LnRev | LnEqu | FCC |
|-------|-------------|--------------|----------|----------|---------|---------|---------|---------|---------|-----|
| ROA | 1 | | | | | | | | - | |
| | | | | | | | | | | |
| LnPay | 0.266** | 1 | | | | | | | | |
| | 0.000 | | | | | | | | | |
| Equic | 0.184** | 0.070^{**} | 1 | | | | | | | |
| | 0.000 | 0.068 | | | | | | | | |
| OMD | 0.087^{*} | 0.182** | 0.240** | 1 | | | | | | |
| | 0.023 | 0.000 | 0.000 | | | | | | | |
| LEV | -0.358** | 0.027 | -0.122** | -0.032 | 1 | | | | | |
| | 0.000 | 0.477 | 0.001 | 0.400 | | | | | | |
| OC | -0.112** | -0.131** | -0.094* | -0.350** | -0.093* | 1 | | | | |
| | 0.003 | 0.001 | 0.013 | 0.000 | 0.014 | | | | | |
| OCFR | 0.374^{*} | 0.020 | 0.135** | 0.035 | -0.276* | -0.021 | 1 | | | |
| | 0.000 | 0.592 | 0.000 | 0.366 | 0.000 | 0.576 | | | | |
| LnRev | 0.374** | 0.500^{**} | -0.049 | 0.094* | 0.219** | 0.055 | 0.132** | 1 | | |
| | 0.000 | 0.000 | 0.202 | 0.014 | 0.000 | 0.147 | 0.001 | | | |
| LnEqu | 0.197** | 0.476** | -0.107** | 0.035 | 0.065 | 0.135** | 0.013 | 0.784** | 1 | |
| | 0.000 | 0.000 | 0.005 | 0.355 | 0.089 | 0.000 | 0.728 | 0.000 | | |
| FCC | 0.217** | 0.164** | 0.067 | 0.058 | -0.023 | 0.017 | 0.060 | 0.141** | 0.130** | 1 |
| | 0.000 | 0.000 | 0.077 | 0.127 | 0.540 | 0.647 | 0.113 | 0.000 | 0.001 | |

Note: *,** represents correlation at the significance level of 10% and 1% respectively.

Table 4:

| | ROA | LnPay | Equic |
|-------|-------|-------|-------|
| ROA | 1 | 0.266 | 0.184 |
| LnPay | 0.266 | 1 | 0.070 |

| ъ. | 0.104 | 0.070 | 1 |
|-------|-------|-------|---|
| Equic | 0.184 | 0.070 | 1 |

After performing descriptive statistics, a correlation analysis was carried out for each research variable. It can be seen from the analysis results in Table 3 that the correlation coefficients between the research variables are all less than 0.5, indicating that the extent of collinearity between the variables is not serious, that is, the two dependent variables are positively correlated with each other. The correlation coefficient between executive monetary compensation (LnPay) and return on total assets (ROA) at a significance level of 0.01 is 0.266. The correlation coefficient between equity incentives (Equic) and return on total assets (ROA) at a significance level of 0.01 is 0.184. So the above hypothesis 1 can be verified preliminarily. Controllable variables such as shareholder equity (LnEqu) and enterprise size (LnRev) are positively correlated with the return on total assets (ROA) within the 99% confidence level, the asset-liability ratio (LEV) and the actual controller shareholding ratio (OC) are negatively correlated with the return on total assets (ROA).

As is shown in Table 4, when the dependent variable(LnPay) increases by one point, which means that on average the executive monetary compensation grow by one point, the return on assets will correspondingly go up by 0.266. When the dependent variable(Equic) increases by one point, which means that on average equity incentives grows by one point, the return on assets will correspondingly go up by 0.184. Apparently, these two independent variables are positively correlated with the dependent variable(ROA).

Regression Analysis:

Table 5:

| | Standardized coefficient | t | significance |
|----------|--------------------------|---------|--------------|
| Constant | _ | -5.762 | 0.000 |
| LnPay | 0.085 | 2.504 | 0.013 |
| Equic | 0.099 | 3.346 | 0.001 |
| OMD | -0.057 | -1.832 | 0.067 |
| LEV | -0.438 | -13.774 | 0.000 |
| OC | -0.062 | -1.996 | 0.046 |

| OCFR | 0.139 | 4.505 | 0.000 | | | | |
|----------------|--------|--------|-------|--|--|--|--|
| LnRev | 0.680 | 13.245 | 0.000 | | | | |
| LnEqu | -0.346 | -7.099 | 0.000 | | | | |
| FCC | 0.130 | 4.532 | 0.000 | | | | |
| \mathbb{R}^2 | | 0.471 | | | | | |
| F | | 66.472 | | | | | |
| Prob | | 0.000 | | | | | |

Table 5 illustrates the regression results of the selected model in this paper. The regression analysis of the variables shows that the coefficient of determination R² of the benchmark model is 0.471, indicating that the independent variables in the model explain the dependent variable up to 47.1%. This shows that the model selected in this project has a better fit.

The standardized coefficient of executive monetary compensation (LnPay) in the model is 0.085 at the significance level of 1% (t=2.504). The result shows that the return on assets (ROA) of listed companies participating in the mixed-ownership reform in China is significantly and positively correlated with monetary compensation (LnPay), which verifies hypothesis 1 put forward in this research project, that is, under the background of mixed-reform ownership, corporate performance optimizes with the increase of executive monetary compensation incentives.

At the same time, the standardized coefficient of equity incentives for executives (Equic) in the model is 0.099 at a significance level of 1% (t=3.346), indicating that the return on assets (ROA) of listed companies participating in the mixed-ownership reform in China is also significantly and positively correlated between equity incentives (Equic), which verifies the hypothesis 1 put forward in this article, that is, under the background of mixed reform, if companies can implement the appropriate equity incentives scheme, they can make executives' career goals and company plans consistent thus executives can continue to work hard to improve corporate performance.

In addition, net cash flow from operating activities to liabilities (OCFR), company size (LnRev), and fixed expense coverage ratio (FCC) are all positively correlated with return on assets (ROA) at a significant level of 1%. All of these factors are important as affecting the return on assets (ROA). The degree of equity mix (OMD), asset-liability ratio (LEV), actual

controller shareholding ratio (OC), and shareholder equity (LnEqu) are negatively correlated with return on total assets (ROA).

Model optimization—Substitution:

Regarding the original model, it hardly involves the ordinal variables so that it is not very appropriate to employ logit regression models which is a good fit for discrete variables instead of continuous variables. Additionally, the natural logarithm method I adopt effectively solves the problem of extreme values and huge gaps between different variables. But the controllable variables I select are to some extent subjective and not all-inclusive. So I decided to optimize my original model from the perspective of controllable variables.

With the intention of making the empirical model and results more credible, firstly I substitute the controllable variable--net cash flow from operating activities to liabilities (OCFR) with the ratio of net cash flow from operating activities to interest-bearing liabilities (CFDT) to identify if the existing model is robust. After alternation, the new model is:

 $ROA = \alpha_0 + \alpha_1 LnPay + \alpha_2 Equic + \alpha_3 OMD + \alpha_4 Lev + \alpha_5 OC + \alpha_6 CFDT + \alpha_7 LnRev + \alpha_8 LnEqu + \alpha_9 FCC + \epsilon$, where α_0 is constant, $\alpha_1 - \alpha_9$ are coefficients, ϵ is a the residual.

Regression Analysis:

Table 6:

| | Substitute | e OCFR wi | th CFDT | Without CFDT | | | |
|----------|--------------------------|----------------|---------|--------------------------|---------|--------------|--|
| | Standardized coefficient | t significance | | Standardized coefficient | t | significance | |
| Constant | | -5.014 | 0.000 | | -5.762 | 0.000 | |
| LnPay | 0.066 | 1.946 | 0.000 | 0.085 | 2.504 | 0.000 | |
| Equic | 0.109 | 3.711 | 0.000 | 0.099 | 3.346 | 0.001 | |
| OMD | -0.053 | -1.702 | 0.089 | -0.057 | -1.832 | 0.067 | |
| LEV | -0.514 | -17.346 | 0.000 | -0.438 | -13.774 | 0.000 | |
| OC | -0.068 | -2.219 | 0.027 | -0.062 | -1.996 | 0.046 | |
| OCFR | | | | 0.139 | 4.505 | 0.000 | |
| CFDT | -0.044 | -1.521 | 0.129 | | | | |
| LnRev | 0.766 | 15.209 | 0.000 | 0.680 | 13.245 | 0.000 | |
| LnEqu | -0.412 | -8.511 | 0.000 | -0.346 | -7.099 | 0.000 | |
| FCC | 0.134 | 4.702 | 0.000 | 0.130 | 4.532 | 0.000 | |

| \mathbb{R}^2 | 0.476 | 0.471 |
|----------------|--------|--------|
| F | 67.591 | 66.472 |
| Prob | 0.000 | 0.000 |

The regression results in Table 6 show that after replacing the controllable variable net cash flow from operating activities to liabilities (OCFR), the overall significance level of the model is 0.476, the F value is 67.591, and the P value is less than 0.001, compared to the average before the replacement of that OCFR variable. No major changes have occurred regarding the significance level while the model is slightly optimized that the new model explains up to 47.6% of the original samples. Observe that the standardized coefficient of executive monetary compensation (LnPay) after the introduction of the new controllable variable—the ratio of net cash flow from operating activities to interest-bearing liabilities (CFDT) is 0.066, the t value is 1.946, and the significance is less than 0.001 meanwhile the standardized coefficient of executive equity incentive (Equic) is 0.109, the t value is 3.711, and the significance is less than 0.001. These coefficients combinedly show that executive monetary compensation (LnPay) and executive equity incentives (Equic) are significantly and positively correlated with return on total assets (ROA).

Model Optimization—Introduction:

In the context of mixed-ownership reform, executives' decisions on company strategy and company operations have affected the consistency of executives' personal goals and corporate goals subjectively. To demonstrate their management skills, executives tend to make efforts to polish financial statements and maximize shareholders' dividends. What is worse is that for risk aversion and keeping the current management style, they are prone to reducing the company's diversified investment which is unhealthy for the company's long-term development and competing in new marketing opportunities. Therefore, I introduce capital expenditure (CE) as a variable to verify whether it has an impact on the existing analytical results. After alternation, the new model is:

 $ROA = \alpha_0 + \alpha_1 LnPay + \alpha_2 Equic + \alpha_3 OMD + \alpha_4 Lev + \alpha_5 OC + \alpha_6 OCFR + \alpha_7 LnRev + \alpha_8 LnEqu + \alpha_9 FCC + \alpha_{10} CE + \epsilon, where \alpha_0 is constant, \alpha_1 - \alpha_9 are coefficients, \epsilon is a the residual.$

Regression Analysis:

Table 7:

| | Ir | ntroduce CI | E | Without CE | | | |
|----------------|--------------------------|-------------|-------|--------------------------|---------|--------------|--|
| | Standardized coefficient | | | Standardized coefficient | t | significance | |
| Constant | | -5.887 | 0.000 | | -5.762 | 0.000 | |
| LnPay | 0.080 | 2.351 | 0.019 | 0.085 | 2.504 | 0.000 | |
| Equic | 0.098 | 3.317 | 0.001 | 0.099 | 3.346 | 0.001 | |
| OMD | -0.054 | -1.718 | 0.086 | -0.057 | -1.832 | 0.067 | |
| LEV | -0.431 | -13.407 | 0.000 | -0.438 | -13.774 | 0.000 | |
| OC | -0.060 | -1.932 | 0.054 | -0.062 | -1.996 | 0.046 | |
| OCFR | 0.139 | 4.511 | 0.000 | 0.139 | 4.505 | 0.000 | |
| LnRev | 0.707 | 13.136 | 0.000 | 0.680 | 13.245 | 0.000 | |
| LnEqu | -0.322 | -6.346 | 0.000 | -0.346 | -7.099 | 0.000 | |
| FCC | 0.128 | 4.471 | 0.000 | 0.130 | 4.532 | 0.000 | |
| CE | -0.067 | -1.654 | 0.099 | | | | |
| \mathbb{R}^2 | 0.479 | | | 0.471 | | | |
| F | 60.253 | | | 66.472 | | | |
| Prob | 0.000 | | | 0.000 | | | |

Table 8:

| | number | min | max | mean | std | 25% | 50% | 75% |
|-------|--------|--------|--------|--------|-------|--------|--------|---------|
| ROA | 687 | -0.244 | 0.283 | 0.036 | 0.052 | 0.012 | 0.029 | 0.058 |
| LnPay | 687 | 12.038 | 15.478 | 13.580 | 0.649 | 13.114 | 13.507 | 14.006 |
| Equic | 687 | 0.000 | 0.132 | 0.004 | 0.013 | 0.000 | 0.0003 | 0.00315 |
| CE | 687 | 13.418 | 23.571 | 18.877 | 1.833 | 17.732 | 19.097 | 20.132 |
| | | | | | | | | |

According to the regression results in Table 7, after introducing the new variable capital expenditure (CE), the coefficient of determination R² is 0.479 that indicates the dependent variable ROA can be explained by the independent variables up to 47.9% that is better than the first model, the F value is 60.253, and the P value is less than 0.001, indicating that there exist rare collinearity among all the variables. From the perspective of independent variables, after introducing the new

variables, the standardized coefficient of executive monetary compensation (LnPay) is 0.080, with the t value of 2.351 and P value is less than 0.001.

At the same time, the standardized coefficient of executive equity incentive (Equic) is 0.098, with the t value of 3.317, and P value is less than 0.001. In the original model, executive monetary compensation (LnPay), equity incentives (Equic) are positively correlated with ROA. After the introduction of the capital expenditure (CE) variable, the regression results of the model are still significant and moderately optimized, which indicates that the new model is highly reliable and robust.

Limitations:

However, there are several other factors directly or indirectly influencing my dataset which is hard to gather and quantify. Firstly, apart from monetary payoff and equity incentives, other ingredients would indirectly impact their working motivation. In reference to Maslow's Theory of Demand, people can be inspired by non-material incentives such as reputation, work accomplishment satisfaction and so on. These stimulations are pretty hard to quantify while they could mediately affect dependent variables.

What's more, companies in my research sample belong to listed state-owned enterprises, but non-state-owned enterprises also face the problem of optimizing mixed reforms. I hope I can expand the number of companies in the sample including non-state-owned enterprises while it's troublesome to collect more about non-listed companies because some of them don't disclose their financial information to the public.

Moreover, chances are that solely considering the executives' contribution to the company is not very simple. Even I establish a lot of controlling variables, sometimes corporate behaviors are obliquely combined with other internal or external pressure, which is truly quite difficult to quantify.

Conclusion and Expectation:

This project focuses on the principal-agent theory and analyzes the correlation between executive incentives (monetary compensation and equity incentives) and corporate performance.

Under the background of mixed-ownership reform, hypotheses are proposed based on analysis and research, and test models and optimized models are established. In this process, the hypothesis was verified from four aspects: descriptive statistics, correlation analysis and regression analysis, and the optimization of models. Finally come to the conclusion of this article:

The increase of executive monetary compensation will increase corporate performance in a corresponding proportion, which represents that executive monetary compensation is significantly positively correlated with corporate performance. In addition, there is also a positive correlation between executive equity incentives and corporate performance. In the process of developing mixed-ownership reform, the executive monetary compensation has gradually adjusted by the financial markets. Enterprises can effectively enhance their work enthusiasm by giving them moderate monetary compensation, thereby improving overall corporate performance. In addition, the implementation of equity incentives has further alleviated the principal-agent problem, indirectly allowing executives and shareholders to share risks and profits. Equity incentives can improve and modify the single monetary incentive system so that enterprises can continue to develop well and improve efficiency.

The executive incentive system in mixed-ownership companies cannot fully refer to that in private or state-owned enterprises. These companies should conduct in-depth research on diversified explicit and implicit incentives such as executive benefits and work accomplishment. Faced with the current situation of insufficient incentives for executives in mixed-ownership enterprises, companies should appropriately strengthen the degree of executive equity incentives, organically integrated with the monetary compensation of executives.

While formulating executive incentive policies, companies need to obtain the approval of shareholders. This level of supervision makes executive compensation less subjective. What's more, there is a complete information disclosure system. In order to effectively implement the executive incentive policy, mixed-ownership companies are supposed to implement a system of board supervision, client supervision and third-party independent audit agency supervision of executive compensation incentives to achieve fairness and efficiency. The internal supervision of the enterprise is also essential. Regular disclosure of the performance of the senior management and the publicity of the assessment results can allow subordinate employees to supervise them and implement effective senior management incentive policies in many aspects.

I decide to put forward this research topic more deeply into the design and optimization of the incentive systems in mixed-ownership companies which is a relatively brand new areas in China. After combining the monetary executive compensation with equity incentives, the new scheme will benefit the whole company in the long run.