Salary Incentives, Corporate Risk Exposure and Financial Investment
Based on the Empirical Data of China's A-share Listed Companies

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Abstract—This paper selects A-share listed companies (non-financial industries) from 2010 to 2017 as a sample, and uses multiple linear regression models to empirically analyze the relationship between management compensation incentives, corporate risk-taking and corporate financial investment, and the paper also analyzes the mediating effect of enterprise risk exposure when salary incentives and financial investment. The research results show that: management compensation incentives and corporate financial investment are positively related; management compensation incentives are significantly positively related to corporate risk exposure; risk exposure plays a partial intermediary role between management compensation incentives and corporate financial investment, namely, management, and the impact of compensation incentives on corporate financial investment is partly achieved through risk exposure.

Keywords—salary incentives; corporate risk; commitment financial investment

I. INTRODUCTION

The agency risk between shareholders and managers has always been one of the key concerns of enterprises. The senior managers of enterprises are often the important decision-making groups of enterprises. They profoundly influence the behavioral decision-making of enterprises, the thinking mode and risk preference of corporate executives. Such psychological cognition will directly affect corporate strategic choices and risk decisions. Among them, the choice of contract when executives are motivated plays a particularly important role.

Risk-taking is the question of how a company's managers choose an investment project with uncertain expected returns. Ye Hongyu, Wen Xinyu believes that enterprises should correctly understand risk-taking, and must actively invest in risky projects and control risks within a certain range. The high risk-taking level of enterprises means that investment opportunities are more fully utilized, innovation is more motivated, and strategic changes are more thorough. Conversely, companies with low risk-taking levels, even if they obtain relatively stable returns through low-risk, low-yield projects, will keep productivity low in the long run, seriously hindering technological progress and capacity upgrading, which is not only bad for the core competitiveness of enterprises. The improvement of its own value is not conducive to the country's social capital accumulation and economic growth. Therefore, the implementation of the management incentive system can effectively regulate the interests of the shareholders and managers of the company, which is conducive to reducing the agency costs caused by the risk management of the company.

Along with the decline in the return on investment of industrial and financial industries, entities invest in financial assets such as bank wealth management products, stocks, bonds, etc. or shareholdings in non-listed financial companies to conduct cash management or implement a diversification of industry and finance. Strategy, this has become an increasingly common phenomenon. According to Wind data, the number of listed companies purchasing bank wealth management products increased from 24 to 610 from 2012 to 2015. Chinese entities have reduced their industrial investment, increased the proportion of financial investment, and allocated more funds to the financial market to achieve profitability, which will help to increase short-term profits. However, due to the high risk characteristics of financial investment, how companies allocate financial assets depends on the degree of risk appetite of management. If the incentive plan of the executive is more linked to the short-term profit of the enterprise, it may promote the excessive financialization of the entity, which is not only not conducive to its transformation and upgrading, but also will increase the risk of economic operation. Conversely, if the executive incentive contract is biased towards the long-term value of the enterprise, it will significantly inhibit the financial asset allocation behavior of the entity and contribute to the smooth operation of the economy.

Based on the existing research, this paper further studies the interaction between management compensation incentives, enterprise risk commitment and corporate financial investment, and focuses on revealing the relationship between the two from the perspective of the intermediary role of risk-taking. Listed companies provide new ideas for rational financial investment.
II. THEORETICAL ANALYSIS AND RESEARCH HYPOTHESIS

A. Salary Incentives and Corporate Risk Exposure

The level of enterprise risk commitment reflects whether the company is willing to invest in high-risk but high-yield projects during the long-term operation period, which reflects the possibility of high-yield enterprises. The conflict of interest between the shareholders and the management of the company is not only reflected in the pursuit of their respective interests, but also in risk appetite. According to agency theory, corporate shareholders are risk-neutral. According to the risk portfolio theory, shareholders can diversify risks through diversified investments. The management is more risk averse. Information asymmetry leads to the problem of interest differentiation between shareholders and professional managers. Different agency contradictions also arise, which are manifested in the risk aversion of managers, inefficient investment, slacking and so on. Relative to shareholders, managers are more willing to abandon investment behaviors where the risk value is relatively high and NPV (net present value) is positive in order to avoid loss of personal property. Compared with low-risk projects, high-risk projects have stricter requirements on management risk management and decision analysis, which requires managers to spend more time and energy. Therefore, investing in high-risk projects not only inhibits the manager's motivation for the company's resources, but also contradicts the comfortable and comfortable working environment that managers pursue. High-risk projects can bring high expected returns to the company and increase the risk of bankruptcy. In the absence of the benefits of investing in high-risk projects, managers are more cautious in dealing with higher-risk investment projects.

Therefore, compensation incentives that are consistent with the optimal risk level of management and shareholders are widely used in practice. Ederer (2009) found that compensation incentives can effectively promote management to operate in accordance with the goal of maximizing corporate profits and actively invest in riskier projects. In terms of incentive effect comparison, the salary incentive system can better encourage management to take risks compared with the fixed compensation incentive mechanism. Su Kun (2015) found that the implementation of the salary incentive mechanism for the management of listed companies in China can increase the risk investment tendency of sharing with shareholders' interests and sharing risks, and alleviate the contradiction of agents. The salary incentives give the manager the residual claim to gradually converge the personal interests and the long-term development goals of the company, weaken the contradiction between the two, increase the risk tolerance of the management, and optimize the risk-taking level of the enterprise.

Based on the above analysis, this paper proposes hypothesis 1:

H1: Management compensation incentives are conducive to improving corporate risk taking.

B. Executive Compensation Incentives and Financial Investment

Financial investment can improve corporate performance, but financial investment has the characteristics of high liquidity, high risk, and high speculation. It promotes and restricts each other with industrial investment (Hu Junnan and He Yiqing, 2012). Since the monetary compensation of the management in the incentive contract is often positively related to the current operating profit of the enterprise, the salary-based opportunity encourages the enterprise manager to prefer the investment project with higher short-term income. In the real economy, compared with the profit growth rate of the main business of the enterprise, the investment returns of the pan-financial sector such as the financial industry and the real estate industry have been at a high level for a long time, which has caused a large number of entities to substantially allocate financial assets. Standing in the position of executives of physical enterprises, although the long-term return of industrial investment represented by R&D investment is high, its return period is long and the risk of uncertainty is high (Hall, 2002). In the short run, financial investment yields are higher than industrial investment yields, while executives' monetary compensation is more closely linked to the company's current performance. As a result, executives' motives for pay will encourage executives to reduce long-term investment in industrial and commercial investment (Tosi et al. 2000), and instead allocate more financial assets and increase short-term profits through financial arbitrage. Existing research on corporate finance and executive compensation shows that the increase in financial channel profitability has significantly increased executive compensation. Lin and Tomaskovic Devey (2013) based on the results of the US non-financial industry data from 1970 to 2008, showed that the increase in the profitability of non-financial corporate financial channels significantly increased the share of executive income. The increase in the correlation between financial channel profit and executive income will further encourage management to allocate financial assets and increase financial investment.

Based on the above analysis, this paper proposes hypothesis 2:

H2: Management compensation incentives promote corporate financial investment.

C. Research on the Mediating Effect of Risk Taking

As the direct decision-making body of corporate investment activities, management's risk-taking willingness is very important for enterprises, and the existence of agency problems makes modern enterprise managers unwilling to take higher risks. According to the principal-agent theory, the path of management compensation incentives affecting corporate financial investment is “management compensation incentives — manager behavior — enterprise financial investment”. Risk-taking is crucial to the sustainable development of enterprises and the social economy. Risk-taking helps to improve the efficiency of capital allocation, and the high capital allocation rate indicates that companies are more inclined to invest in projects with high returns. The higher the level of corporate
risk-taking, the stronger the acceptance and tolerance of management, and the more inclined it is to select projects that can realize value-added. The abandonment of projects with net present value greater than zero but higher risks will also be reduced. Capital allocation is optimized. At the same time, high-risk projects enable companies to obtain higher returns on capital, which can promote corporate capital accumulation and technological progress, thereby maintaining a higher level of production efficiency. Because of its high risk and high return, financial investment is a high-profit investment option for companies with high risk-taking levels in the short term. Enterprises with high risk-taking levels will allocate more enterprise resources in the field of financial investment.

After the implementation of salary incentives, the management will consider the financial investment projects where risks and benefits coexist more when conducting enterprise management and decision-making, so that the interests of shareholders and management interests will be converged, which will help to improve the tendency of agents to optimize risk-taking to a certain extent. The salary incentive mechanism helps to increase the high-risk commitment level of listed companies, and the improvement of the risk-taking level further promotes the allocation of corporate financial assets. That is, the impact of management compensation incentives on corporate financial investment can be realized through risk-taking.

Based on the above analysis, this paper proposes hypothesis 3:

H3: Risk taking a role in the impact of management compensation incentives on corporate financial investment.

III. RESEARCH DESIGN

A. Sample Selection and Data Source

This paper takes the financial data publicly disclosed by China's A-share listed manufacturing enterprises from 2010 to 2017 as the research sample. The selection criteria of the sample are as follows:

- Excluding sample companies with incomplete data and negative owner's equity;
- Excluding companies with unclear and missing property rights;
- Excluding companies with less than three years of listing time.

After the above processing, 10,063 listed company data samples were finally obtained. The financial data of this paper comes from CSMAR database and RESSET database, and the data processing and analysis adopts Stata14.0 software.

B. Variable Definition

1) Interpret variable: salary incentives: The salary incentive variable is expressed by the ratio of the total remuneration of the first three directors to the total annual remuneration.

2) Intermediary variables: corporate risk exposure: This paper uses the standard deviation of the annual stock return rate to measure the level of risk exposure of the company.

3) Interpreted variables: financial investment: Learning from the practices of scholars in the past, the researchers use financial assets to account for the proportion of total assets to measure the level of corporate financial assets. Financial assets include trading financial assets, held-to-maturity investments, available-for-sale financial assets, and derivative financial assets.

4) Control variables: In order to further ensure the accuracy of the regression results, this paper controls other variables that may affect the performance of the enterprise. Based on the existing research, this paper selects the enterprise scale, the capital structure of the enterprise, the growth of the enterprise, the proportion of the property rights, the nature of ownership, Fixed asset investment and operating cash flow are used as control variables.

The definition and calculation method of the variables are shown in "Table I".

<table>
<thead>
<tr>
<th>Variable type</th>
<th>Variable name</th>
<th>symbol</th>
<th>Variable definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explanatory variables</td>
<td>salary incentives</td>
<td>Msw</td>
<td>The total remuneration of the first three directors as a percentage of total annual remuneration</td>
</tr>
<tr>
<td>Mediator variable</td>
<td>Risk tolerance level</td>
<td>Risk</td>
<td>Standard deviation of annual stock returns</td>
</tr>
<tr>
<td>Explained variable</td>
<td>financial investment</td>
<td>Fin</td>
<td>Total financial assets / total assets</td>
</tr>
<tr>
<td></td>
<td>Business scale</td>
<td>Size</td>
<td>The natural logarithm of the total assets of the enterprise</td>
</tr>
<tr>
<td></td>
<td>Corporate capital structure</td>
<td>Lev</td>
<td>Total liabilities / total assets</td>
</tr>
<tr>
<td></td>
<td>Business growth ability</td>
<td>Growth</td>
<td>Operating income growth rate</td>
</tr>
<tr>
<td>Control variable</td>
<td>Proportion of property rights</td>
<td>Der</td>
<td>Total liabilities and total owner's equity</td>
</tr>
<tr>
<td></td>
<td>Nature of ownership</td>
<td>State</td>
<td>The final controller is 1 for the state-owned enterprise, otherwise the value is 0.</td>
</tr>
<tr>
<td></td>
<td>Fixed asset investment</td>
<td>Fix</td>
<td>Corporate fixed assets / total assets</td>
</tr>
<tr>
<td></td>
<td>Operating cash flow</td>
<td>CF</td>
<td>Operating net cash flow / total assets</td>
</tr>
</tbody>
</table>
C. Model Design

In this paper, multiple linear regression analysis is used to analyze the interaction mechanism between management compensation incentives, risk-taking and enterprise risk-taking, and the intermediary role of risk-taking in the following three models. i represents for listed companies, t stands for time.

First, it is to verify the impact of management compensation incentives on the allocation of financial assets, establish a model (1):

\[ \text{Fini,}_t = a_0 + a_1 \text{Mswi,}_t + a_2 \text{Sizei,}_t + a_3 \text{Levi,}_t + a_4 \text{Growthi,}_t + a_5 \text{Deri,}_t + a_6 \text{Statei,}_t + a_7 \text{Fixi,}_t + a_8 \text{Cfi,}_t + \epsilon \]

Second, it is the impact of management compensation incentives on corporate risk exposure. Risk indicates enterprise risk-taking. This paper uses the standard deviation of annual stock return rate to measure the level of risk-taking of enterprises. In order to verify the impact of management compensation and Liu on corporate risk-taking, a model is established (2).

\[ \text{Riski,}_t = b_0 + b_1 \text{Mswi,}_t + b_2 \text{Sizei,}_t + b_3 \text{Levi,}_t + b_4 \text{Growthi,}_t + b_5 \text{Deri,}_t + b_6 \text{Statei,}_t + b_7 \text{Fixi,}_t + b_8 \text{Cfi,}_t + \epsilon \]

Third, it is mediating effects of risk.

\[ \text{Fini,}_t = c_0 + c_1 \text{Mswi,}_t + d_1 \text{Sizei,}_t + c_3 \text{Levi,}_t + c_4 \text{Growthi,}_t + c_5 \text{Deri,}_t + c_6 \text{Statei,}_t + c_7 \text{Fixi,}_t + c_8 \text{Cfi,}_t + \epsilon \]

IV. Empirical Results Analysis and Model Checking

A. Descriptive Statistics

"Table II" shows the descriptive statistics of each variable. The average value of the salary incentive variable Msw is 0.372, which indicates that the management salary incentive is a common incentive for listed companies; and the difference between the best values is 0.95, indicating that the salary incentive ratio of each enterprise is more significant. The standard deviation of Risk is 0.028, which indicates that the level of venture capital investment among different companies in A-share listed companies is relatively concentrated, and there is little difference between them. The difference between the maximum and minimum values of Fin is 0.858, indicating that the proportion of financial investment in total assets among listed companies is significantly different.

According to the descriptive statistics of the control variables, the standard deviation of Size is 1.388, indicating that the size of A-share listed companies in China is relatively discrete and the difference is obvious. The growth rate of the main business of the enterprise is 0.2473. The maximum and minimum values are 367.53 and -1.900 respectively, indicating that the listed companies are developing at a good rate, but the enterprises are quite different. The average value of Lev is 0.4320, indicating that the overall listed company's sample debt ratio is moderate. The standard deviation of Fix is 0.2155, indicating that the difference in tangible assets of each company is small.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Obs</th>
<th>Mean</th>
<th>Std.Dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Msw</td>
<td>21445</td>
<td>0.3716</td>
<td>0.1247</td>
<td>0.0148</td>
<td>0.9682</td>
</tr>
<tr>
<td>Risk</td>
<td>21445</td>
<td>0.0303</td>
<td>0.0281</td>
<td>0.0001</td>
<td>2.353</td>
</tr>
<tr>
<td>Fin</td>
<td>21445</td>
<td>0.0163</td>
<td>0.0474</td>
<td>0.0001</td>
<td>0.858</td>
</tr>
<tr>
<td>Der</td>
<td>21445</td>
<td>153.20</td>
<td>1117.14</td>
<td>0.0130</td>
<td>0.920</td>
</tr>
<tr>
<td>Growth</td>
<td>21445</td>
<td>0.2473</td>
<td>3.0096</td>
<td>-1.000</td>
<td>367.53</td>
</tr>
<tr>
<td>Lev</td>
<td>21445</td>
<td>0.4320</td>
<td>0.4030</td>
<td>0.0071</td>
<td>2949.299</td>
</tr>
<tr>
<td>Fix</td>
<td>21445</td>
<td>0.2155</td>
<td>0.1677</td>
<td>0.0001</td>
<td>2.381</td>
</tr>
<tr>
<td>State</td>
<td>21445</td>
<td>0.2637</td>
<td>0.4406</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Cfi</td>
<td>21445</td>
<td>0.04735</td>
<td>0.1197</td>
<td>-11.056</td>
<td>2.457</td>
</tr>
</tbody>
</table>

B. Correlation Test

"Table III" shows the Spearman correlation coefficient matrix for each study variable. Most of the variables passed the correlation test. Among them, the correlation coefficient between management compensation incentives and financial investment is 0.139, and it is significantly correlated when the confidence level is 0.01; the correlation coefficient between management compensation incentives and risk-taking is 0.116, and it is significantly correlated when the confidence is 0.01, which also initially verified H1 and H2. The regression analysis below will further verify this.
It can be seen from "Table IV" that the Prob > F values in Model 1, Model 2, and Model 3 are both 0.000 and less than 0.05, so all three models pass the significance test, and the variables in the equation can be considered significant.

In Model 1, the regression coefficient of management compensation incentives and corporate financial investment is 0.017, and it is significantly correlated at the level of 0.01, indicating that the more compensation incentives the management has, the higher the proportion of financial investment, and that is, the management compensation incentives and financial investment. Both show a significant positive correlation. Therefore, H1 is verified. In Model 2, the regression coefficient of management compensation incentives and risk-taking is 0.009, and it is significantly correlated at the level of 0.05, indicating that the implementation of salary incentive mechanism for management helps to grasp the risk investment opportunities and significantly increase the number of venture capital projects. Therefore, H2 is verified. In terms of control variables, management's risk-taking tendency is directly proportional to the size of the company and the nature of the company's property rights. The regression coefficients of asset-liability ratio, asset tangibility and property rights ratio are all negative, indicating that the higher these variables, the lower the risk-taking level of management. In Model 3, the regression coefficient c1 was 0.017, d1 was 0.009, and the level of 0.01 was significantly correlated. From Model 1 and Model 2, the regression coefficients a1 and b1 were 0.017 and 0.009, respectively, and were significantly correlated at the levels of 0.01 and 0.05, respectively. A1 b1 c1 d1 are both significant and not 0. According to the principle of intermediary variables, risk taking is a partial mediator of management equity incentives and firm performance. Therefore, H3 is verified.

V. CONCLUSION

This paper finds that management compensation incentives can significantly affect the risk-taking of enterprises. Enterprise risk-taking is positively related to corporate financial investment. Risk-taking is the intermediary variable of management compensation incentives and corporate financial investment.

The effect of salary incentives is biased towards short-term effects. The design of corporate incentives needs to pay attention to the process of incentives and understand the path of incentives. Management incentives can affect corporate risk-taking, which in turn affects the allocation of corporate financial assets. The effect of incentives is not only affected by differences in incentives, but also by the risk-taking of enterprises. Therefore, in the management practice, the management incentives focus on the intermediate variables that influence the financial investment of the enterprise, and the incentives become more effective by affecting the intermediate variables.

In the practical sense, the research in this paper provides a reference for listed companies in controlling the risk level of enterprises, formulating strategies and rationally evaluating the effect of salary incentives.

First, companies should correctly understand risk-taking, and must actively invest in risky projects and control risks within a certain range. At the same time, in order to ensure the rationality of the management's risk-taking level, the company should strengthen the role of the board of directors in the supervision and management of enterprise risks. The Board of Directors assists the management to reasonably consider the internal and external environmental risks faced...
by the company and comprehensively analyze and predict the investment behavior that the company will make. The enterprise's risk-taking water is steadily and effectively increased, which can help it achieve higher profit targets.

Secondly, rationally optimize the proportion of corporate financial assets allocation, risk commitment plays a partial intermediary role between equity incentives and financial investment. Therefore, listed companies should not only consider the business results of the company when examining the incentive effect of the management, but also should take the risk of the enterprise. The level is included in the enterprise performance appraisal system and given a certain proportion. This will fully mobilize the management's work enthusiasm, maximize the incentive effect of the equity incentive system on management, and maximize corporate profits.

Finally, the company should improve the management's compensation system, optimize the internal equity governance structure, and appropriately grant equity to the management and the core technical personnel of the enterprise, which can significantly enhance the recognition of the management personnel and promote their personal interests and enterprises. Long-term development goals are combined to stimulate their enthusiasm and ability to work, and thus achieve the purpose of corporate value.

REFERENCES


