Research on the Operating Performance of Securities Companies Affected by the Background of Senior Managers

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Abstract: This paper starts with the age, gender and educational background of senior executives in listed securities companies, and comprehensively considers the background characteristics of senior executives in listed securities companies on the basis of high-level echelon theory, corporate governance theory and heterogeneity theory of senior executives. The relationship model between the background of top management team and business performance had been established, and some relevant hypotheses had been put forward. Then the data of listed securities companies has been used as empirical test. The results show that senior managers' gender, average age and average education level are related to the operating performance of securities companies. From the perspective of executive background, this paper discusses the relationship between executive background and business performance of securities companies, which will help securities companies focus on the selection of talents, and provide theoretical support for the formation of senior management team of securities companies and further improve the management level of senior management team of securities companies.

1. Introduction

As early as 1984, overseas scholars Hambrick and Mason [1] put forward the "top echelon theory", which has also opened the research on the relationship between the executive background and enterprise performance. In recent years, the research on the background characteristics of senior executives has been widely concerned by scholars at home and abroad. A large number of studies show that the differences of social background, age, gender, education and so on will affect their behavior or decision-making, and then affect the financial risk of the enterprise and the operating performance of the company. However, most of these studies focus on the relationship among the background characteristics of the top management team, the company's financial risk and the company's operating performance, but rarely involve the relationship among these three factors. The financial risk control of the enterprise is not the ultimate goal of the enterprise's operation, and its ultimate goal should be expressed through the company's operating performance.

2. Research Hypothesis and Variable Design

2.1. Research Hypothesis

2.1.1. Background Characteristics of Senior Managers and Operating Performance of Securities Companies

In terms of the basic characteristics of senior management team, this study will analyze from the following aspects and several corresponding hypotheses had been proposed.

1. Average age of senior management team

When the members of the top management team are younger, resources and capital are still in

the stage of accumulation, and are used to try new things, they are more flexible in management decision-making, more confident and full of risk-taking spirit; the older members of the top management team will be more cautious and meticulous in investment decision-making, and often rely on their own years of experience to make relatively conservative decisions and low-risk [2]. Therefore, this paper puts forward a hypothesis (H1a): The average age of senior management team is inversely correlated with the operating performance of securities companies.

2. Average educational level of senior management team

Through research, foreign scholar Smith [3] found that the higher the level of individual education, the stronger the ability of self-cultivation and tolerance. The values obtained in the process of education will also be widely spread in the top management team, which also helps to improve the company's performance. Tihanyi [4] also found in relevant research that senior executives with high education background have stronger ability in collecting information, analyzing problems, solving problems and controlling risks. Domestic scholars Jiang Fuxiu [5] and others believe that with the improvement of the average educational level of senior executives, the senior management team with higher educational level tends to make more reasonable decisions and reduce the occurrence of transitional investment behavior. Therefore, this paper puts forward a hypothesis (H1b): the average education level of senior management team is positively correlated with the operating performance of securities companies.

3. Proportion of women in senior management team

In recent years, many scholars have discussed the role of female executives in corporate governance, and more and more attention has been paid to female executives [6]. Compared with the team combined with female executives, senior management teams have obvious differences in risk perception due to gender differences, so they tend to be more cautious and choose some decisions with low risk and low return. However, decisions with high risk and high return can usually improve the operating performance of securities companies. As a result, this paper puts forward a hypothesis (H1c): the proportion of women in the senior management team is inversely correlated with the operating performance of securities companies.

2.2. Sample Selection and Data Sources

This paper selects 15 years' data of listed securities companies from 2005 to 2019, including more than 36 securities companies in China. Hongyuan securities and Shenyin Wanguo Securities were taken as two companies before the merger. By the end of 2019, the assets of listed securities companies account for more than 95% of the total assets of all securities companies, and the total capital accounts for more than 70% of the total capital of all securities companies. Therefore, these .7 securities companies can be used to represent the securities industry as samples. In this study, the data of these 37 listed securities companies from 2005 to 2019 are collected, and 1792 sample data are obtained except for outliers and vacancy values.

2.3. Variable Definition

2.3.1. Explained Variable

The operating performance of securities companies is defined as the explanatory variable in this study. In this paper, the combination of return on equity and Tobin's Q value are used to analyze the operating performance of securities companies. The index calculation method is as follows:

ROE= net profit / average net assets in the reporting period, in which average net assets = (net assets at the beginning of the period + net assets at the end of the period) / 2.

Tobin's q = (market value of equity + market value of net debt) / total assets at the end of the period. The market value of non-tradable equity can be replaced by the price of tradable shares.

2.3.2. Explanatory Variable

The background characteristics of executives has been chosen as explanatory variables in this study. The details are as follows:

(1) If the gender of the executive is female, the value is 1, otherwise it is 0. The average value of

the records of all the executives in the reporting period is the proportion of female members in the executive team.

(2) The average of the records of all the executives in the reporting period is the draw age of the members of the senior management team.

(3) The educational background of senior executives is assigned according to technical secondary school and below, junior college, undergraduate, master's degree, doctor's degree and above respectively, and the corresponding values are 1, 2, 3, 4, 5 and 6 respectively. The average value of this record is the average educational background of senior management team members.

2.3.4. Control Variable

In this paper, the net capital and equity multiplier are used as control variables. Previously, domestic scholars have pointed out that the larger the company is, the better it can resist market risk, which has a certain role in promoting the company's performance [7]. The net assets of securities companies are mainly composed of core assets and subsidiary net assets.

Core net capital = net assets - risk adjustment of asset items - risk adjustment of contingent liabilities - / + other adjustment items recognized or approved by CSRC

Subsidiary net capital = long term subordinated debt × prescribed ratio - / + other adjustment items recognized or approved by CSRC

2.4. Model Construction

ROE and tobinq are used as the dependent variables to measure the operating performance of securities companies. Net capital and equity multiplier are used as control variables to establish the following model:

$$\{ROE;Tobin'sQ\}=\alpha 1+\beta 11age+\beta 12edu+\beta 13female+\beta 14equitymultiplier+\beta 15netcapital+\varepsilon 1 \quad (1)$$

Where α1is constant,β1i~β1i(i=1~5) are regression coefficient of unknown explanatory variable,ε1 is a random error.

3. Empirical Analysis

The descriptive statistical results of all variables had been firstly analyzed in this section, and the correlation analysis had been conducted, and finally the regression analysis between the executive background and the operating performance of securities companies had been carried out.

3.1. Basic Statistics

3.1.1. Descriptive Statistical Analysis

Table 1. Descriptive statistics

Variable Name	Obs=1792				
	Mean	Median	Std.	Min.	Max.
Roe	10.23%	9.82%	3.69%	-57.89%	77.85%
Tobin'sQ	1.549	1.395	0.507	1.070	3.643
Female	0.1597	0.1578	0.079	0	0.375
Age	50.61	50.45	2.048	44.53	55.65
Edu	3.968	3.9688	0.2922	2.5	5.4
Netcapital	22.205	22.545	0.824	21.119	24.487
Equitymultiplier	3.496	3.347	0.685	2.042	5.401

It can be seen from Table 1 that in the overall sample data, the average return on equity is 0.102, and the median is 0.098. The average value of Tobin'q is 1.549, the median is 1.395, the standard deviation is 0.507, the minimum value is 1.070, and the maximum value is 3.643.

In the senior management team of listed securities companies, the average proportion of female members is 15.97%, and the median proportion of female members is 15.78%, the minimum value is 0, and the maximum value is 37.5%. In the index of senior executives' age, the average value is

50.61. According to the data, we can see that most senior executives of listed securities companies in China are about 50 years old. The average educational background is 3.96, the median is 3.9688, the minimum is 2.5, and the maximum is 5.4.

The natural logarithm average of net capital is 22.205, the median is 22.545, the standard deviation is 0.824, the minimum is 21.119, and the maximum is 24.487. It can be seen that there is a certain degree of difference in net capital among listed securities companies. In the index of equity multiplier, the average value is 3.496, the median is 3.347, the standard deviation is 0.685, the maximum value is 5.401, and the minimum value is 2.042.

3.1.2. Correlation Analysis

The result of the Pearson correlation coefficient test has been listed in Table2.

Table 2. Correlation analysis

		ROE	TobinQ	Female	Edu	Age	Netcapital	Equitymultiplier
ROE	Pearson correlation	1	.143*	-.120*	.157**	-.024	.185**	.428**
TobinQ	Pearson correlation	.143*	1	-.179**	-.113*	-.299**	-.539**	-.232**
Female	Pearson correlation	-.120*	-.179**	1	-.098	-.315**	-.111*	.003
Edu	Pearson correlation	.157**	.113*	-.098	1	.224**	.222**	.105
Age	Pearson correlation	-.024	-.299**	-.315**	.224**	1	.461**	.273**
Netcapital	Pearson correlation	.185**	-.539**	-.111*	.222**	.461**	1	.426**
Equitymultiplier	Pearson correlation	.428**	-.232**	.003	.105	.273**	.426**	1

*. There was significant correlation at 0.05 level (unilateral).
**. There was significant correlation at 0.01 level (unilateral).

According to the data in the Table 2, there is an inverse correlation between the average age of senior management team and Tobin'q, and it is significant at the 1% level. The average education level of senior management team is positively correlated with roe, and negatively correlated with Tobin'q, which is significant at the level of 1% and 5%, respectively. The proportion of women in the senior management team is negatively correlated with return on equity and Tobin'q, which is significant at the level of 5% and 1% respectively.

3.1.3. Multiple Regression Results

In this paper, it is found that the index selection is reasonable and effective through the correlation analysis, so the following section is focused on the multiple regression analysis for these three models to prove the significance of the study.

According to the regression results of model 1 in the Table 3, the coefficient of R2 for the model is 0.275, and the modified R2 coefficient is 0.259, indicating that the regression results can explain that the total editor's error is 25.9%, and the F value is 17.375. The average age coefficient of the top management team is -0.259, which is significant at the 1% level, and has a negative correlation with the operating performance of the securities company and H1a was verified. The average annual education coefficient of the senior management team is 0.134, which is significant at the 5% level, and is positively correlated with the operating performance of securities companies. The proportion of female executives in the senior management team is - 0.166, which is significant at the 5% level, indicating that the proportion of female executives is negatively correlated with the

operating performance of securities companies.

Table 3. Regression analysis

	Model coefficient t	Compatibility statistics	
		Tolerance	VIF
Constant	7.357*** 11.853		
Female	-0.166** 2.782	.844	1.186
Edu	0.134** 2.312	.898	1.113
Age	-0.259*** -3.853	.682	1.465
Netcapital	-0.514*** -8.034	.702	1.424
Equitymultiplier	0.484*** 7.734	.803	1.246
R^2	0.275		
Adjusted R^2	0.259		
F	17.375		

4. Conclusions

This paper conducts an empirical study on the background characteristics of the top management team and the impact of financial risk on the operating performance of securities companies. The main conclusions are summarized as follows:

(1) There is a negative correlation between the proportion of women in senior management team and return on equity (short-term performance), Tobin's Q value (long-term performance) and financial risk. The results show that in China's listed securities companies, the percentage of female members for the senior management team is generally low.

(2) The average age of senior management team is negatively affected by return on equity (short-term performance), Tobin's Q value and financial risk. The results show that the business performance of the younger average senior management team is better than that of the older average senior management team, and the financial risk of the younger average senior management team is lower than that of the older average senior management team.

(3) There exist a significant positive relationship between the average education level of senior management team and return on equity (short-term performance), Tobin's Q (long-term performance) and financial risk. It indicates that the educational background of senior management team members is an extremely critical and important factor when selecting senior executives in listed securities companies, whether it being internal selection or external public recruitment.

References

[1]. Hambrick D.C., Mason P. A. Upper Echelons: the Organization as a Reflection of Its Top Managers [J]. Academy of Management Review, 1984, 09(02): 193-206

[2]. Xu Jingchang, Wang Shenghai. Research on the relationship between the characteristics of core executives and corporate growth: An Empirical Study Based on the data of Listed Companies in

Shanghai and Shenzhen [J]. Economic theory and economic management, 2010, V (6):58-65.

[3]. Smith N., Smith V., Verner M.. Do Women in Top Management Affect Firm Performance: An Panel Study of 2500 Danish Firms[J]. International Journal of Productivity and Performance Management, 2006, 55(7): 569-593

[4]. Tihanyi L., Ellstrand A. E., Daily C.M., etc. Composition of the Top Management Team and Firm International Diversification[J]. Journal of Management, 2000, 26(06):1157-1177

[5]. Jiang Fu Xiu, Yi Zhi Hong, Su Fei. Background characteristics of managers and over investment behavior of enterprises[J].Managing the worl, 2009, NO.(1):130-139.

[6]. Croson R,Gneezy U.Gender Differences in preferences[J].journal of Economic Literature,2009,47(2):448-474

[7]. Tong Aiqin, Shao Xin, Du Dan. Research on the correlation between executive characteristics and corporate performance -- Based on the comparison between state-owned and non-state-owned listed companies [J]. Science and technology management. 2012(01).