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MANAGERIAL OVERCONFIDENCE, INTERNAL CONTROLS AND CORPORATE EFFECTIVE TAX RATE

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ABSTRACT

In this paper, we make use of the panel data of 2010-2015 Chinese listed companies from Shanghai and Shenzhen A-share markets to explore the impact of managerial overconfidence on the corporate effective tax rate. We identify that overconfident managers are inclined to pursue more authoritativeness and controlling force, so they need to establish the very correct perception through signal expression in accounting behavior—conducting more earnings management activities to display the performance in advance, which makes the effective tax rate increased. Further analyzation shows that a good internal control environment could inhibit the overconfident behavior and assess the group contributions more faithfully, so that the costs of signal expression increased, and the effective tax rate finally decreased. All these results suggest that internal control can exert positive influence on managers behaviors and enhance the corporate value.

KEYWORDS

Managerial Overconfidence, Internal Controls, Corporate Effective Tax Rate.

1. INTRODUCTION

Taxation is one of the most important factors affecting the value of the company. All scales of corporate's financial managers are expected to reduce their tax burden through tax planning. At the same time, as the main source of China's fiscal revenue, under the same tax law system, there is a significant difference in the actual tax burden between the same nominally taxed companies, and the academic community has conducted a large number of studies trying to explore the root causes of this difference.

The existing research on the factors that affect the actual taxation of enterprises can be divided into two aspects: internal and external. From the external view, taxation is the main source of state finance, and taxation of enterprises is fundamentally regulated by the the tax law. At the same time, as a lot of many scholars have proved it may also be interfered by such factors as regional policies, regional tax competition, local government officials works as well as corporate property rights. While the external influence factors of the actual tax burden of the company are gradually clear, domestic and foreign scholars have begun to shift from the external to the internal level of the enterprise to further study and analyze the impact of the actual tax burden. In addition to the universally recognized intrinsic factors, such as company size, capital structure, and industry characteristics. Recently, a number of scholars had found that companies are not passively using and accepting the tax incentives that the country has already introduced, but also actively seeking to reduce the actual taxation of the institutional arrangements, through different ways such as using personal influence to mobilize human and material resources, construct the internal market or the way of group operation. A group researchers proposed that the factors influencing the company's tax burden include not only the characteristics of the company, but also individual executives play an important role in the level of corporate tax avoidance [1]. It means that senior management can also play a key role in organizing tax burdens.

A large and growing numbers of evidence confirmed that most corporate executives have demonstrated overconfidence in their decisions and have influenced the company's investment and financing policies, dividend distribution policies, and compensation structure [2,3]. Overconfidence managers often holding "better than average" beliefs, tend to give higher weight to the information they possess, and are too optimistic about self-ability and judgment, often neglecting personally received or observed negative feedback [1,4].

This overconfidence impact on management behavior and further impact on corporate performance is the focus of current research. Short-term overconfidence managers tend to implement positive earnings management to increase profits, while long-term overconfident managers tend to negative profit management to smooth profits. Due to the self-interest of managers, managers are most likely to guide corporate policy toward self-interest. So, can over-confident managers influence the corporate tax burden intentionally or unintentionally? On the basis of previous studies, this article takes a sample of listed companies in China as an example to empirically test this issue.

2. THEORETICAL ANALYSIS AND HYPOTHESIS PROPOSED

2.1 Managerial Overconfidence and Corporate Effective Tax Rate

According to the above literature review, it is not difficult to find that corporate manager is a "high-risk group" of "overconfidence" mentality. They often overestimate the accuracy of their own decisions and judgments and the probability of their occurrence. Psychologist pointed out on the issue of how to correctly understand managers' overconfidence [5]. The nature of overconfidence stems from the difference in attention distribution. Overconfident people tend to allocate their attention to relative ease. The result of being motivated and away from the relatively difficult aspects is that they will continue to hold the overconfidence belief that they can perform well at work. Therefore, this paper regards

overconfidence as an embedded individual cognitive bias, which can guide individuals to exhibit a specific behavioral pattern.

That is, overconfidence managers are optimistic about the future earnings of the company, as well as internal information and the company itself. The ability to carry out higher assessments, for this reason, out of the pursuit of leadership authority and control, they choose to use signal expressions to establish their own very correct ideas, and the accounting behavior will be shown through more earnings management behavior. Come to show performance (profit) in advance, which will increase the actual tax burden of the company. As overconfidence managers tend to ignore effective feedback for improvement, surplus forecast bias persists [6,7]. Based on the above analysis, here we proposed the hypothesis 1: H1: The Managerial Overconfidence is positively related to the corporate effective tax rate. The higher the degree of overconfidence of the management, the higher the actual tax burden of the company.

2.2 Managerial Overconfidence, Internal Controls and Corporate Effective Tax Rate

In the above section, earnings management is used as a hub to sort out the possible relationship between over-confidence of managers and the actual tax burden of enterprises. Hypothesis 1 is proposed. On the other hand, corporate earnings management activities and executives' behavior are all subject to internal control mechanisms. High-quality internal controls can effectively suppress accounting choices in earnings management and real activity earnings management. A group researchers pointed out that improving corporate internal governance and information disclosure levels can inhibit managers' overconfidence [8]. In light of the above findings, we believe that good internal controls can constrain managers' overconfidence behavior, so that the cost of achieving control through the expression of profit signals is greatly increased, managerial earnings management behavior is inhibited, and collective evaluation can be more correctly evaluated. Based on this analysis, hypothesis 2: H2: Internal controls can significantly reduce the correlation between management overconfidence and actual corporate tax burden.

3. RESEARCH DESIGN

3.1 Data Sources and Sample Selection

This article selects A-share listed companies on the Shanghai and Shenzhen Stock Exchanges from 2010 to 2015 as the initial research sample, and excludes ST, PT listed companies, listed companies in the financial and insurance industry, listed companies with missing financial data, and listed companies with CEO changes during the year. The winsorize tailing process was performed on the 1% and 99% quintiles of the main continuous variable to eliminate the effects of extreme values.

3.2 Variable Definition and Design

As a psychological cognitive trait, overconfidence is a key to the empirical part of this article. Integrating previous studies, balancing the advantages and disadvantages of various measurement methods, and the availability of data, this article uses **management shareholding changes** and **corporate earnings forecast bias** as management variables for management overconfidence, respectively. According to portfolio theory, corporate management has reason to hold multiple stocks to reduce risk, if the management of a company increases holdings of the company's stocks in the same year and does not use equity incentives, share offerings, rights issues, etc., it is considered to be a sample of overconfidence. In addition, overconfidence management often overestimates the company's profitability and exceeds actual performance forecasts. Therefore, we take the sample of listed companies that have issued losses, renewal, slight increase, and pre-increase of optimistic performance forecast in all three quarters as overconfident samples. If there is a large positive difference between the performance of the forecast and its actual performance, then the management team is deemed excessive confident management. Based on research and empirical research in the China background, we assumed that the higher the company's management's salary is relative to the average employee, the more important it is in the company's position and the more likely to create managers overconfidence [9]. The details of other

variable's definitions are shown in Table 1.

Table 1: Variable Definition

Variable Name	Variable Symbol	Variable Definition
Corporate Effective Tax Rate	ETR1	Income tax expense / Pre-tax Profits
	ETR2 (Substitution variable)	Income tax expense / (Pre-tax Profits - Net non-operating income)
	ETR3 (Substitution variable)	(Income tax expense - Deferred income tax expense) / Pre-tax Profits
Managerial Overconfidence	Overcon1	Management's increase in shareholdings, if the company's management increases holdings of the company's stocks in the year, and is not due to equity incentives, share offerings, rights issues, etc., it is considered overconfidence sample with OverCon1 = 1, otherwise, OverCon1 = 0
	Overcon2	Earnings Discrepancies in the company's earnings: if the company fails to achieve the net profit disclosed in its third quarter earnings forecast at the end of the year, it will be regarded as an overconfidence sample with OverCon2 = 1; otherwise, OverCon2 = 0
	Overcon3	The proportion of management remuneration is expressed as 'the sum of the top three highest paid executive compensation and total management remuneration'
Company Size	Size	Total company assets take natural logarithms
Ultimate Owner	Controller	If the ultimate controller is state-owned, then Controller=1, otherwise 0
Financial Leverage	LEV	The end of the asset - liability ratio
Return on Total Assets	ROA	(Total Profits + Interest Exchange)/Total Assets
Dispersion of stock	Inventory	Inventory / Total Assets
Internal Control	ICI	The natural logarithm of the internal control evaluation index
Gross Profit Margin	Grossmargin	(Net sales revenue - cost of production) / Net sales revenue;
Ownership Concentration	FS	The company's largest shareholder's shareholding
Proportion of intangible assets	Intangible	Intangible Assets/Total Assets
YEAR	Year-dummy	Dummy Variable : If the sample belongs to a particular year this variable is 1, and 0 otherwise.
INDUSTRY	Ind-dummy	Dummy Variable : If the sample belongs to a particular industry this variable is 1, and 0 otherwise.

3.3 Model

We constructed the following model (1) to verify the hypothesis (1):

$$ETR_{it} = \alpha_0 + \alpha_1 Overcon_{it} + \alpha_2 Size_{it} + \alpha_3 Controller_{it} + \alpha_4 LEV_{it} + \alpha_5 ROA_{it} + \alpha_6 Inventory_{it} + \alpha_7 Grossmargin_{it} + \alpha_8 FS_{it} + \alpha_9 Intangible + Year-dummy + Ind-dummy + \epsilon$$
(1) And then we constructed the following model (2) to verify the

hypothesis (2):

$$ETR_{it} = \alpha_0 + \alpha_1 Overcon_{it} + \alpha_2 Overcon_{it} * ICI_{it} + \alpha_3 ICI_{it} + \alpha_4 Size_{it} + \alpha_5 Controller_{it} + \alpha_6 LEV_{it} + \alpha_7 ROA_{it} + \alpha_8 Inventory_{it} + \alpha_9 Grossmargin_{it} + \alpha_{10} FS_{it} + \alpha_{11} Intangible_{it} + Year-dummy + Ind-dummy + \varepsilon$$

(2)

4. ANALYSIS OF EMPIRICAL RESULTS

4.1 Descriptive Statistics and Correlation Analysis

Table 2: Descriptive Statistics

Variable	Sample Observed	Mean	Standard deviation	Minimum	Maximum
ETR1	8579	0.205	0.133	0.000	0.904
Overcon1	8579	0.215	0.411	0.000	1.000
Overcon2	3307	0.102	0.303	0.000	1.000
Size	8579	21.993	1.265	18.964	25.782
Controller	8579	0.470	0.499	0.000	1.000
LEV	8579	0.433	0.212	0.030	0.975
ROA	8579	2.010	3.492	-5.636	17.161
Inventory	8579	0.180	0.166	0.000	0.774
ICI	6294	6.540	0.115	6.033	6.839
Grossmargin	8579	27.615	16.117	0.086	78.277
FS	8579	37.608	15.552	9.086	75.996
Intangible	8579	0.048	0.057	0.000	0.369

Table 2 is showing that there is indeed a large difference in the actual tax burden level between different companies. The average value of Overcon1 is 0.215, which indicates that about 21% of the management has increased their shareholdings in the company's stock, they're showing overconfidence; the average value of Overcon2 was 0.102. This indicates that of all the companies that reported earnings announcements in the third quarter, about 10% of the companies did not achieve the net profit in the pre-notice, then this 10% of the company's management is likely to show the characteristics of overconfidence.

In the correlation analysis of the main variables, the two surrogate variables (Overcon1, Overcon2) of management overconfidence are significantly positively correlated with the ETR1 variable reflecting the actual tax burden of the company at the level of 1%. This confirms Hypothesis 1 of this paper. There is a significant positive correlation between Overcon1 and Overcon2, indicating that the two methods for measuring overconfidence in this paper have a good consistency.

The actual tax burden (ETR1) and company size (Size), the ultimate controller property (Controller), company financial leverage (Lev), return on total assets (ROA), inventory intensity (Inventory) is significantly positively correlated at the 1% level, and is significantly negatively correlated with Gross Margin at the 1% level. In addition, the correlation coefficients between the respective variables are less than 0.4, indicating that there is no autocorrelation between explanatory variables and will not have a serious impact on the results of multiple regression analysis.

4.2 Regression Analysis and Robustness Analysis

Shown as the multivariate regression results of model (1) in the left part of Table 3, after controlling for other related factors, the coefficient of overcon1 is significantly positive at the level of 1% in the multivariate regression in which management changes in holdings are used as

substitution variables of overconfidence. The coefficient of Overcon2 is also significantly positive at the level of 1% in the regression of performance forecast bias as a substitute for overconfidence. This is consistent with the results of the previous analysis of correlations, which further validates Hypothesis 1.

We further introduced the internal control quality as an influencing factor to test the hypothesis2. From the results in the right part of Table4, it can be seen that when the management shareholding change is used as the Overcon1 surrogate for overconfidence, the coefficient is significantly positive at the 1% level, and the ICI coefficient is significantly negative at the 1% level. The coefficient of Overcon1*ICI is significantly negative at the 1% level [10]. This shows that internal control relieves the positive correlation between management overconfidence and the actual tax burden of the company. Hypothesis 2 has been verified. The overcon2*ICI coefficient is also significantly negative. Therefore, the internal control quality has an impact on over-confidence of the management and the actual tax burden of the enterprise.

In the robustness analysis we use management salary ratio as a substitute for management overconfidence to perform robustness tests (see as Table 5). For the availability of data, we use Overcon3, which is the sum of the top three executives with the highest pay and total manager remuneration, to express the degree of overconfidence of management. Two commonly used actual tax burden definitions ETR2 and ETR3 are used to replace the measurement method of actual tax liabilities (see Table1). Using Overcon3 as an independent variable and ETR2 and ETR3 as dependent variables, we re-analyzed the model (1) and model (2) separately. From the results of regression analysis in Table 4, we can see that Hypothesis 1 and Hypothesis 2 are still verified, and the above findings have not changed substantially. Therefore, the conclusion of this study is more robust.

Table 3: Robustness Analysis

Variable	ETR2	ETR3	ETR2	ETR3
Model	Model (1)		Model (2)	
Overcon3	0.0291***	0.0267***	0.234**	0.0761***
	(5.94)	(5.9)	(2.04)	(3.96)
Overcon3* ICI			-0.0308**	-0.00337**
			(-2.89)	(-2.56)
ICI			-0.0807***	-0.0926*
			(-6.09)	(-1.73)
Size	0.00317***	0.00321***	0.000389	0.00293
	(5.67)	(5.6)	(0.67)	(0.52)
Controller	0.0352***	0.0171***	0.0267***	0.0218**
	(27.71)	(14.11)	(25.08)	(2.08)
LEV	0.106***	0.119***	0.0921***	0.0577*
	(30.43)	(36.09)	(30.73)	(1.94)
ROA	0.00108***	-0.00411***	0.00219***	0.00153
	(8.54)	(-35.84)	(18.19)	(1.14)
Inventory	0.0958***	0.109***	0.0910***	0.0800**
	(23.11)	(21.76)	(29.78)	(2.35)
Grossmargin	-0.000513***	-0.000180***	-0.000457***	-0.000548*
	(-15.79)	(-5.80)	(-17.57)	(-1.71)
FS	-0.000575***	-0.000167***	-0.000651***	-0.000397
	(-15.32)	(-4.39)	(-21.79)	(-1.26)
Intangible	0.0945***	0.128***	0.0642***	0.0843
	(10.09)	(11.99)	(8.75)	(0.9)
Observations	8579		2417	

* p<0.1, ** p<0.05, *** p<0.01

Note: T-Value in parentheses.

Table 4: Regression Analysis of Main Variables of Model (1) & Model (2)

Variable	Overcon1		Overcon2		Variable	Overcon1		Overcon2	
	Coefficients	T-Value	Coefficients	T-Value		Coefficients	T-Value	Coefficients	T-Value
Model	Model (1)				Model	Model (2)			
Overcon1	0.153***	13.44			Overcon1	0.161***	17.54		
					Overcon2			0.886***	7.41
Overcon2			0.0127***	5.53	Overcon1*ICI	-0.0149***	-5.7		
Size	0.00333***	8.26	0.00176***	4.97	Overcon2*ICI			-0.133***	-7.21
Controller	0.0289***	31.53	0.0236***	22.78	ICI	-0.0740***	-16.6	-0.0295***	-9.67
					Size	0.000124	0.27	0.00283***	8.58
LEV	0.0912***	39.16	0.0576***	24.3	Controller	0.128***	7.54	0.0288***	37.41
ROA	0.00256***	22.34	0.00322***	32.21	LEV	0.0883***	43.12	0.0676***	41.73
Inventory	0.0966***	34.16	0.0936***	31.62	ROA	0.00416***	40.15	0.00333***	29.63
Grossmargin	-0.000204***	-8.31	-0.000165***	-7.64	Inventory	0.0811***	29.43	0.0916***	35.6
FS	-0.000483***	-18.72	-0.000261***	-11.2	Grossmargin	0.00000974	0.44	0.00000149	0.07
Intangible	0.0783***	11.58	0.0646***	-0.52	FS	-0.000634***	-24.01	-0.000497***	-29.26
YEAR	control				Intangible	0.0553***	7.15	0.0274***	4.78
					YEAR	control			
INDUSTRY	control				INDUSTRY	control			
Observations	8579		3307		Observations	6294		2417	

5. CONCLUSION

The results of This paper show that there is a positive correlation between managers' overconfidence and the actual tax burden of enterprises. The higher the quality of internal control, the weaker the positive relationship. It enriches the existing research of the personal characteristics of the managers influence on the value of the company, and also expanded the research on the factors affecting the actual tax burden of enterprises.

First, managers are not "completely rational", and the cognitive bias caused by their personal personality traits will affect the decision-making process of the company and even hurt the company's value. Enterprises should pay more attention to such awareness bias, establish a sound corporate decision-making system to avoid the negative impact of such irrational factors on corporate value. Second, companies can proactively identify overconfident managers, some companies seeking innovation may prefer these kind of managers.

However, attention should be paid to the positive impact of overconfidence managers on the actual tax burden of enterprises, internal control should be improved to make up for the loss of corporate value caused by excessive self-confidence of managers. Third, in the context of agency issues, corporate managers are motivated to pursue their own private interests, while shareholder and other corporate equity holders prefer executives to act more as agents for their interests. This study finds that due to the overconfidence personality traits, even if managers hold the belief of maximizing the value of the company, they may still behave in ways that harm the value of the company. How to mitigate this kind of corporate governance deviation caused by personal characteristics of managers will be a worthwhile research direction.

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