The Management Rights and Accounting Conservatism -- Data Mining and Data Analysis of 4404 Listed Companies

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Abstract: With the deep integration of Internet and economy, big data mining has brought more convenience to accounting practice and accounting related academic research. Stable accounting information is the basic condition for listed companies to carry out activities in accordance with the real internal situation, and the management is the most direct and significant external force in the influencing factors of the company's accounting conservatism. In order to explore the relationship between the two, this paper used Python to climb the annual report data of A-share listed companies to construct the variable of management power. Taking Chinese A-share listed companies from 2017 to 2020 as samples, this paper studied the influence of management power of listed companies on accounting conservatism. The empirical study showed that listed companies with more management power have worse performance of accounting conservatism index. The research conclusion of this paper has certain enlightenment significance for listed companies to improve accounting conservatism.

Keywords: Component, Management Rights, Accounting Conservatism, Big Data Analytics.

1   INTRODUCTION

Accounting information, as the indicator of enterprise development, is extremely important for enterprises, the whole capital market and even the social resource market. Robust accounting information can reduce information asymmetry and improve investment efficiency. As the managers of listed companies, accounting information is one of the important criteria for evaluating their business results. Therefore, the management, shareholders and other economic stakeholders all pay close attention to accounting information, which is provided by the management and is bound to be directly affected by the management. Therefore, in order to improve the overall information quality level of the capital market and safeguard the interests of all stakeholders, it is necessary to analyze the role direction of the management on accounting conservatism, and conduct empirical analysis with the data of listed companies to explore the correlation between the two.

Therefore, based on the realistic background of our country, this paper studied the relationship between management power and accounting conservatism on the basis of relevant scholars, the contribution of this article is: to improve the research system of influencing factors of accounting conservatism. At present, there are many studies on management power and accounting conservatism by relevant scholars, but no conclusion has been reached. The research content of this paper provides a broader idea for the development of related research on accounting conservatism, which is helpful to improve the research system of influencing factors of accounting conservatism. This paper constructs the relevant model, synthesizes the management power with the indicators of the five aspects that affect the management power, selects appropriate samples to carry out empirical research, and provides guidance for listed companies to improve the accounting conservatism from the perspective of the management power allocation based on the empirical conclusion.

2   LITERATURE REVIEW AND HYPOTHESIS PRESENTED

In his research, Roll(1986) believed that the management is usually overconfident and will overestimate the accuracy and comprehensiveness of the information they own, their personal management ability and the future business conditions of the enterprise, and then make irrational investment behaviors, which will bring losses to the development of the enterprise [1]. After studying media reports, managerial control rights and accounting conservatism of listed companies, Besley et al. (2002) concluded that media attention and related reports on listed companies with high managerial power concentration were significantly higher than those with low managerial power concentration. The restriction of public opinion on management is conducive to ensuring accounting conservatism [2]. Zygiidopoulos et al. (2012) believe in their study that excessive concentration of power gives the management the ability to construct a compensation system conducive to its own interests, and at the same time, it will also help the management to implement earnings management, thereby damaging accounting conservatism [3]. Ahmed et al. (2012) found in their study that accounting conservatism would not be affected if the chairman and general manager of an enterprise were the same person, but this study could not prove that management power was unrelated to accounting conservatism, because the combination of the two positions was only one aspect of management power [4]. Cheng and Warfield(2015) pointed out in their paper that the ability of the board of directors to check and balance the general manager is inversely proportional to the concentration of the general manager's power. The more concentrated the general manager's power is, the more likely the company is to have internal transactions with its affiliated companies and reduce the accounting conservatism [5].

Zhao Yali and Gao Chengjing (2014) found that the management of listed companies would have an impact on the quality of accounting information. The stronger the management's ability to control the listed company's operation and management, investment decisions, compensation setting and the establishment of reward and punishment system, the lower the accounting conservatism. [6]. According to the research of Lin Jing and Guo Junhang (2020), an important reason for the overconfidence of the management is their excessive power, which will ultimately greatly reduce the conservatism of the accounting policies of listed companies [7]. According to Luo Min (2015), corporate supervision loopholes provide necessary conditions

for the management's rent-seeking power, and cases that eventually damage the overall interests of listed companies are common. The level of management's power determines the degree of rent-seeking power. Management means of power rent-seeking is usually human tampering with company profits, forge the good illusion, blinded by the supervisor of judgment, achieve the purpose of to raise their salary income, moreover may also directly formulate conducive to its own system, and by taking advantage of their office to unsound accounting policies, even random change of accounting policy, finally lead to accounting information disclosure sustainability is poor, Reduce the level of information robustness [8].

Management power as emerging theory at home and abroad, less research about the relation between management power and accounting conservatism, part of the study results show that the management of power have a negative effect on accounting conservatism, but there are still some scholars under the different perspective, it is concluded that the management power positive than the relationship between accounting conservatism and conclusion, Therefore, it is necessary to study them further.

The internal and external information asymmetry derived from the principal-agent relationship gives the management information advantage, provides the conditions for the management to use their power to control the quality of accounting information, and further provides convenient conditions for the management to seek personal interests. In addition, the excessive expansion of management power also provides conditions for management to reduce accounting conservatism. Therefore, the hypothesis is proposed as follows:

H1: The power of management is negatively correlated with accounting conservatism, that is, the greater the power of management, the lower the accounting conservatism of listed companies.

3 RESEARCH DESIGN

3.1 Data

The independent variable data of the empirical part of this paper comes from the annual reports of A-share listed companies that are crawled by Python software. The accounting conservatism of the dependent variable is downloaded from the CSMAR database. Excel2017 and Stata15.1 are used for sorting and empirical testing, and financial listed companies are excluded. After the above data processing, 4404 listed companies with a total of 11,349 samples from 2017 to 2020 were obtained for empirical research.

3.2 Variable Definitions

3.2.1 Accounting Conservatism

Because the paper mainly investigates the influence of management power on accounting conservatism, thus accounting conservatism is taken as the explained variable. Scholars at home and abroad have studied a variety of measurement methods of accounting conservatism. At present, scholars at home and abroad use Basu reverse regression model to measure

accounting conservatism. However, the application premise of Basu reverse regression model is that the capital market is completely effective, the development time of Chinese capital market is short, and it does not meet the basic application condition, so the model is not completely applicable to measure the accounting conservatism. Secondly, the accounting conservatism measured by Basu reverse regression model can only reflect the existence of accounting conservatism of listed companies, but cannot reflect the specific level of accounting conservatism. Therefore, this paper refers to the listed company robustness index calculated by ACF model.

TABLE I. THE INDEPENDENT VARIABLES

indicators	Relationship with management power	The values
Duality	When the management also serves as the chairman, the management has more power	1 if two jobs are in one, 0 otherwise
Bdnum	The larger the scale of the board of directors, the weaker the supervision and the greater the power of the management	If it's greater than the sample mean, it's 1, otherwise it's 0
Proportion of independent directors	The larger the proportion of independent directors in the board of directors, the less power the management has	1 less than the sample mean, 0 otherwise
Management shareholding ratio	The management rights increase with the increase of the shares held by the listed company	If it's greater than the sample mean, it's 1, otherwise it's 0
Balance of ownership	The more dispersed the ownership structure, the more power management has	When the ratio of the sum of shares held by the second to fifth largest shareholders to the shares of the largest shareholder is greater than 1, the value is 1; otherwise, the value is 0

3.2.2 Management Rights

For the measurement of management Power, refer to the research of Li Yingying (2019) [9] and other scholars, and the final paper simply adds the five indicators in the table below to synthesize the comprehensive indicator power of management power.

3.2.3 Control Variables

Referring to the research literature on accounting conservatism by domestic and foreign scholars such as Liu Xinmei (2016) and Jia Wanjun et al. (2017), the natural logarithm of total assets, asset-liability ratio, mark-to-book ratio and return on equity are taken as control variables [10-11]. According to the research of relevant scholars, the natural logarithm of total assets, asset-liability ratio and market-to-book ratio are selected as control variables. The variables are selected as shown in the following table.

TABLE II. VARIABLES

Variable types	Variable symbol	Variable name	Variable definitions
The dependent variable	ACF	Accounting conservatism	Accounting conser-vatism as measured by ACF model
The independent variables	Power	Right of management	Comprehensive indicators of management power
Control variables	Size	Size of listed company	Log of total assets at year-end
	Roa	Net profit margin on total assets	Net profit/total asset balance
	Roe	Return on equity	Net profit/shareholders' equity balance
	Lev	Asset liability ratio	Total assets/total liabilities
	Mtb	Market to book ratio	Ending market value to book value of total assets

3.3 Model

According to hypothesis 1, regression model 1 was constructed with management (Power) as explanatory variable.

$$\text{ACF}_{i,t} = \beta_0 + \beta_1 \text{Power}_{i,t} + \beta_2\ \text{Size}_{i,t} +$$
$$\beta_3 \text{Roa}_{i,t} + \beta_4\ \text{Roe}_{i,t} + \beta_5 \text{Lev}_{i,t} + \beta_6 \text{Mtb}_{i,t} + \xi_{i,t}$$

As for the model 1 concerned, if β1 significantly less than 0, it indicates that the power of management of listed company is bigger, the accounting conservatism of listed company is lower.

4 THE EMPIRICAL RESULTS

4.1 Descriptive Statistics

As shown in the following table, the mean value of accounting conservatism is -0.558, the minimum value is -3.592, and the maximum value is 3.946, indicating that there are great differences in accounting conservatism among listed companies, and the overall accounting conservatism level needs to be improved. The mean value of management rights is 2.187, the maximum value is 5, and the minimum value is 0, indicating that the overall fluctuation of management rights of listed companies is large. The mean value of company size is 22.371, the maximum value is 26.324, and the minimum value is 19.923, indicating that the difference of company size is small. The mean value of net profit margin of total assets is 0.034, and the difference between the minimum value and the maximum value is large, indicating that the utilization effect of total assets of Chinese listed companies is quite different. The general fluctuation of return on equity is relatively large; The mean value of the asset-liability ratio is 0.42, the maximum value is 0.994, and the minimum value is 0.008, indicating that the overall solvency of Chinese listed companies is good. Market to book ratio overall difference is large.

TABLE III.   DESCRIPTIVE STATISTICS

Variable	Observations	Mean	Std. dev.	Min	Max
ACF	11349	-0.558	0.990	-3.592	3.946
Power	11349	2.187	1.177	0.000	5
Size	11349	22.371	1.304	19.923	26.324
Roa	11349	0.034	0.094	-2.646	0.786
Roe	11349	0.016	1.010	-53.038	2.324
Lev	11349	0.420	1.196	0.008	0.994
Mtb	11349	1.796	1.855	0.038	33.232

4.2   Linear Regression Analysis

The results in the following table show that the partial regression coefficient between management Power (Power) and corporate accounting conservatism (ACF) is -0.014, which is significant at the 10% level, indicating that there is a significant negative correlation between them: the greater the management power, the higher the accounting conservatism of listed companies. Therefore, in the regression model, the correlation coefficient and significance level between management power and accounting conservatism are the main concerns, so hypothesis 1 passes the test.

TABLE IV.   LINEAR REGRESSION ANALYSIS

Variable	ACF
Power	-0.014*
	(-1.79)
Size	0.005
	(0.58)
ROA	0.565***
	(4.46)
ROE	-0.006
	(-0.60)
Lev	0.100*
	(1.65)
Mtb	-0.035***
	(-5.39)
Contant	-0.639***
	(-3.35)

t statistics in parentheses

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

5   CONCLUSIONS

Through the empirical study, the following conclusions are drawn: accounting conservatism decreases with the increase of management power in listed companies. As the principal, the management is also an individual with self-interest motive, so it is inevitable to play favoritism

and improve their own compensation by manipulating the company's income cost and other related information, thus causing adverse impact on the accounting conservatism of the company. The more power the management has, the more influence it has on enterprise operation and management, and the more likely it is to manipulate accounting information and reduce accounting conservatism.

Shortcomings of the paper: Management power is influenced by subjective and objective factors, not limited to the indicators selected in the paper. Factors such as the process of marketization, the level of knowledge and moral accomplishment of the management, the supervision of the media and the masses, and the institutional environment also have an impact on the power of the management. Therefore, the indicators selected in this paper may not be sufficient to comprehensively measure the power of the management. The results would be more convincing if they were further explored in subsequent studies taking other factors into account.

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