

The Application of the Accounting Method in the Internet Financial Business--Taking Listed Companies for Example

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Abstract: With the convenience of the accounting method in the Internet financial business, it becomes a significant way to analyze the financial index of the listed company. In order to improve the application of the accounting checking audit method on the Internet widely, the paper carries on the quality inspection to the listed companies the financial data of financial business from 2007 to 2016 , using Logistic regression method to fit and analyze the original data, and filtrate the suspicious financial data. This paper illustrates that most of the listed companies in our country have obtained effective, real and reliable data in the Internet financial business. In the meantime, What we also discuss is that the system of improving accounting checking in the internet business of the listed companies ,so as to improve the quality of accounting audit, which improves the asymmetry of information collected and provided by listed companies . The results show that if the listed companies adopt stricter audit system to control the reliability of accounting statements and increase the audit of financial information, they can effectively make the correct decisions through the financial statements.

1. Introduction

At present, the number of listed companies in China has exceeded thousands. Among these listed companies, according to the requirements of our country, each company needs to issue the financial reports of listed companies on time at a specific time., each financial report also contains a number of relevant financial indicators [7 / 8]. Our country operates according to the disclosure requirement of the financial index of the listed company, so all the public financial statements need to have the relevant CPA to audit and endorse the relevant opinions on the accounts and returns in order to be the public information of the listed company. Such a heavy workload will place a burden on the examination of accountants [9] . To give the basic accounting check method, combined with the data of the financial statements published by the listed companies in our country, it is necessary to form a good and effective system for the evaluation method of the relevant data and the index of testing quality in the financial business of the Internet, so that in the Internet financial model, the listed companies will choose the convenient Internet financial model to manage the accounts of the company. However, there will be higher requirements for accounting checking. This paper discusses the application of accounting checking in Internet financial business. Among them, the preliminary selection of financial data of listed companies is classified by Fisher discriminant method and Logistic discriminant method, respectively[10 ≤ 12], and its flow chart is shown in figure 1 below:

According to the below flow chart, firstly, according to the index screening in the financial statements of the listed company, the screened index is given a certain weight value, the data which is easy to cause the change of the decision change is screened, and secondly, According to the result of the first step, the category of the listed company is classified, and the abnormal data sample of the listed company is obtained for further discussion; and finally, the sample of the financial statements of the listed company is effectively evaluated and tested on the basis of the first two steps[13-16]. According to the difference of the financial statements of different listed companies, the listed companies with the load of the assets are simulated The financial quality of the listed company is obtained. In order to report the problems of the financial index reported by the listed company, the reasonable suggestion is put forward.

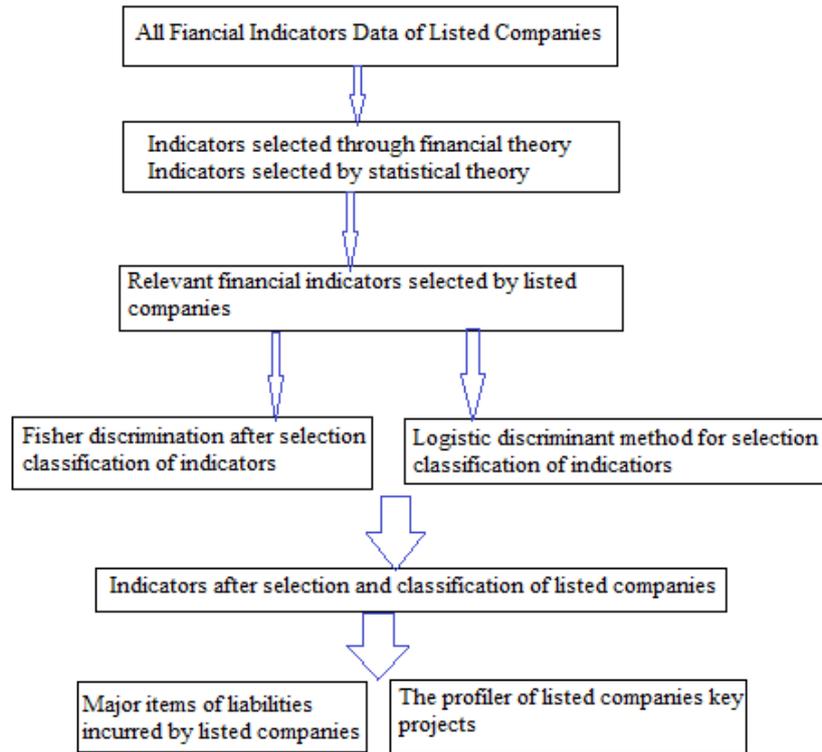


Figure 1. Flow chart of preliminary selection of financial data of listed companies

2. Basic Methods of Accounting Audit.

(1) Audit through accounting book information

According to the relevant legal requirements, the accounting examiner will check the accounting process step by step in the order of financial processing, each link reflects the reliability of the accounting manual audit, the use of this method of accounting can be used according to the order of financial statements processing order to choose sequestration or reverse checking [17 / 18]. The audit steps of the sequential and reverse checking methods are shown in Table 1:

Table 1 comparison of sequence and reverse steps

Accounting procedures	Shunzhu Method (Explanation)	Inverse Method (Explanation)
Step 1	Authenticity and Legality of the Original Data of Accounting Examination	Accountants Implement the Accuracy of Financial Statements
Step 2	Correctness of Accounting Review Vouchers	Integrity of Accounting Review Book Records
Step 3	Integrity of Accounting Review Book Records	The Correctness of Accounting Vouchers
Step 4	Accountants Implement the Accuracy of Financial Statements	Authenticity and Legitimacy of the Original Data of Accounting Review

(2) Optional accounting methods according to the scope of audit

According to the scope of audit, the accountant can choose the method (a) detailed check method, (b) spot check method, (c) check method. As an accountant, when carrying out the audit, we can take samples from some items of the standby audit, so as to draw the conclusion of the listed company according to the objective data.

(3) Through the analysis of economic activities

The economic activity of the listed company reflects the economic vitality of the listed company in one way, and can also predict the relevant accounts of the listed company. By comparing and

analyzing the financial activities in these accounts, the accounting of checking accounts can obtain some analytical data to analyze the economic benefits of listed enterprises, compare them, and find out the causes of the problems, so as to provide the managers of listed enterprises with an effective way to improve their management and improve the economic benefits of listed enterprises.

3. Logistic Regression Model to Screen Listed Companies with Abnormal Data

3.1 Construction of the Model.

(1) Modeling steps:

According to the financial data of listed companies in China as the initial data of model test, the financial statements of each listed company are taken as the sample of the study.

(2) calculating the correlation coefficient of the sample:

Sample auto-correlation coefficient:

$$\hat{\rho}_k = \frac{\sum_{t=1}^{n-k} (x_t - \bar{x})(x_{t+k} - \bar{x})}{\sum_{t=1}^n (x_t - \bar{x})^2} \quad (1)$$

Partial autocorrelation coefficient (sample):

$$\hat{\Phi}_{kk} = \frac{\hat{D}_k}{\hat{D}} \quad (2)$$

(3) Distribution of the coefficient:

Barlett:

$$\hat{\rho}_k \sim N\left(0, \frac{1}{n}\right), n \rightarrow \infty \quad (3)$$

Quenouille:

$$\hat{\Phi}_{kk} \sim N\left(0, \frac{1}{n}\right), n \rightarrow \infty \quad (4)$$

(4) The basis for the estimation of important parameters:

If the important parameters are $p + q + 2$ For example, the estimation methods that are often used for unknown parameters are: statistical moment estimation.

(5) Significance test of the model:

Objective: to test the effectiveness of the model (whether the extraction of information is sufficient)

Object of inspection: financial statements of listed companies

Decision principle: according to the estimated see, choose the appropriate residual value to determine the data that need to be discussed, on the contrary, it needs to be divided into cases.

Hypothetical conditions:

Original hypothesis: the financial statements data of listed companies are true and reliable.

$$H_0: \rho_1 = \rho_2 = \dots = \rho_m = 0, \forall m \geq 1 \quad (5)$$

Alternative assumption: the corresponding residual sequence is the data to be discussed.

$$H_1: \text{At least one } \rho_k \neq 0, \forall m \geq 1, k \leq m \quad (6)$$

Inspection statistics:

LB statistics

$$LB = n(n+2) \sum_{k=1}^m \left(\frac{\hat{\rho}_k^2}{n-k} \right) \sim \chi^2(m) \quad (7)$$

(6) Statistical significance test method:

Purpose of the test: to screen out non-significant parameters and delete those that are not significant:

$$H_0 : \beta_j = 0 \quad H_1 : \beta_j \neq 0 \quad (8)$$

(7) Model optimization:

The problem is put forward: here, we assume that for the selected significant data indicators, the corresponding results are obtained.

The purpose of optimization: to select the relative optimal model

(8) Sequence prediction:

Linear prediction function

$$x_t = \sum_{i=0}^{\infty} C_i x_{t-1-i} \quad (9)$$

Minimum principle of forecast variance.

$$\text{Var}_{\hat{x}_t(l)} [e_t(l)] = \min \{ \text{Var} [e_t(l)] \} \quad (10)$$

As a factor for the next model analysis.

First, we need to smooth the data, and then we set up the ARIMA (p, q) model to solve this process.

The use of model structure is differential stationary sequence fitting.
model structure

$$\begin{cases} \Phi(B) \nabla^d x_t = \Theta(B) \varepsilon_t \\ E(\varepsilon_t) = 0, \text{Var}(\varepsilon_t) = \sigma_\varepsilon^2, E(\varepsilon_t \varepsilon_s) = 0, s \neq t \\ E x_s \varepsilon_t = 0, \forall s < t \end{cases} \quad (11)$$

4. Empirical Analysis: A Case Study of Listed Companies

4.1 Data Sources.

In 2016, there are more than 50 financial audit reports issued by the accounting firm corresponding to the listed company through the accounting firm, with a total of 3281, with 82 copies of the audit report of the accounting firm with the emphasis of the listed company. Twenty-one of the accounting audit reports were retained and 2 of the comments on the audit report could not be endorsed. Compared with the previous years, the table below is the summary table of the audit opinions of the financial statements of the listed companies in China in 2016.

Table 2 Views on the audit of the annual reports of listed companies in 2016

Types of Financial Statements(Listed Companies)		Shanghai Main Board	Shenzhen Main Board	Small and Medium Plates	GEM	Total
Unreserved Foresight (Standard)		950	642	521	641	3281
modified audit opinion	Unqualified Statement with Emphasis Paragraphs	56	30	15	0	94
	Unqualified Opinion Statement with Other Matters Paragraphs	0	0	0	0	0
	Number of shares with reservations	3	4	5	0	12
	Number of negative opinions	5	1	2	1	9

	A report of opinions(no opinions)	3	1	0	0	4
	Total(non-standard statements)	45	21	61	2	129
	Total	995	663	582	643	4503
	Non-standard proportion of the total	3.66%	4.50%	1.40%	0.91%	5.41%

In the first quarter of 2016, there were 45 standard audit opinions in the statistical statements of listed companies, 56 in Shanghai motherboard and 3 negative opinion statements, the number and proportion of non-standard reports were lower than in previous years, and the proportion of listed companies in Shenzhen main board was 4.50% in the control audit report. Therefore, the summary table of audit opinions of listed companies in China for 2016 internal control audit report is shown in the following table:

Table 3 Classification of control audit opinions of listed companies (2016)

Types of Financial Statements(Listed Companies)		Shanghai Main Board	Shenzhen Main Board	Small and Medium Plates	GEM	Total
Unreserved Foresight(Standard)		630	304	21	8	1352
Non-standard audit opinions	Unqualified Opinion Statement	18	3	0	0	21
	Number of negative opinions	5	1	0	0	6
	A report of opinions (no opinions)	0	0	0	0	0
	Total (non-standard statements)	13	6	0	0	18
Total		643	310	21	8	1453
Non-standard proportion of the total		3.10%	1.21%	0.00%	0.00%	2.04%

4.2 Evaluation of Indicators.

Table 4 interpretation of inspection index items of listed companies

Variable	Basic definitions	Symbolic abbreviations	Symbols that achieve expectations
Privatization of State-owned Enterprises	The Reform Degree of Privatization of State-owned Assets and the Effective Governance Degree of Companies	X1	+
Effective Governance of Enterprises and Reorganization of Enterprises	The Effectiveness of the Restructuring and Governance Process of Companies in Transitional Economy	X2	+
Freedom Degree of Enterprise Price	The price to be implemented is subject to the management level of the enterprise	X3	+
Foreign Exchange and Freedom of Trade of Enterprises	Transparency of Enterprises' Access to Legal Foreign Exchange Channels and Import and Export Restrictions	X4	+
Freedom of Enterprise Competition	The Cubic Degree of Enterprise's Legal Competition and the Creative Degree of Legal Environmental Competition	X5	+
Banking Reform and the Degree of Interest Rate Liberalization	The state of reform of bank policies tends to standardize the degree of interest rate market in international liquidation	X6	+
The Impact of Current Stock Market and the Scale of Some Non-bank Financial Institutions	Whether China's domestic securities market, trust, fund and other businesses can meet the requirements	X7	+
The Degree of Infrastructure Reform in China	Operational Degree of Management Infrastructure	X8	+
The impact of per capita GDP	GDP divided by population	Pgdp	+
The impact of per capita GDP	Promote the activity of lenders by protecting the rights of borrowers and lenders through the Guarantee Products Act and related bankruptcy laws	Law	+
Share of stock trading in per	Record the total number of stock	Strade	+

capita GDP	transactions over a period of time divided by GDP per capita		
Internet access users	Record the number of people involved in the Internet for every 100 people	Internet	+

This paper mainly uses the accounting check method to the listed companies in the financial business of the Internet. The main basis for the choice of financial indexes of listed companies is as follows: the distortion of financial data is usually caused by some artificial or objective defects in the process of data collection and processing, which are contrary to the actual data, and the error data are produced in the process of actual (original) data and information collection, which are different according to the value conflict of the users of the financial statements. Let's look at the index content of different financial statements of listed companies. These include specific indicator analysis used by investors and bondholders, such as listing The index of the profitability of the company, the ability of the company to continue to operate, the ability to repay the relevant debt. However, for the screening of abnormal financial data, we need to be sure of the overall situation of listed companies, and based on the three principles of false data (minimum operational risk, maximization of data processing benefits; minimum responsibility of data processors).

The trade-offs between the data of the financial statements and the risks/ benefits in the economy are different, and sometimes the risk of data fraud is independent of each other, and the person who makes the counterfeiting does not need to bear the corresponding responsibility, which will make the use of the real and false of the data, and the analysis of some difficulties from the source. It is necessary to compare the actual results to screen out the abnormal data. At present, the listed company is generally accepted as the industry standard, mainly with the following items. Table 4 is a listed company's index evaluation project and description

4.3 Analysis of Results.

First of all, the total assets in the financial statements of listed companies are described and analyzed. in the process of Internet finance transactions, the utilization rate of online banking continues to increase from 2007 to 2016, in which the use of the Internet in financial business is also gradually increasing, in which the user size of online banking and the distribution of online banking usage are shown in the following figure:

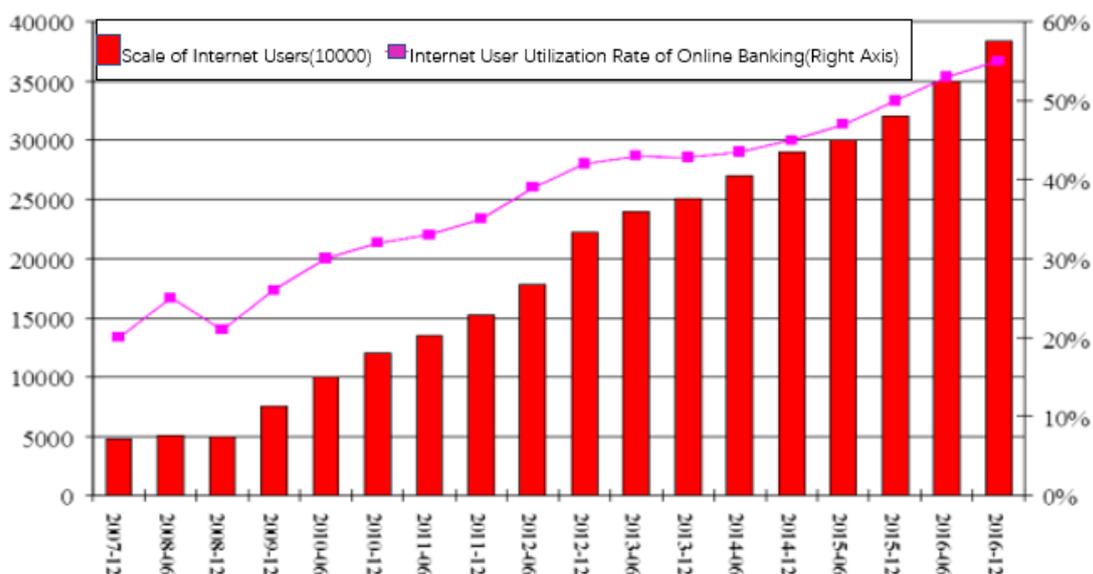


Figure 2. Scale of Internet financial development

5. Conclusion

Through the analysis of the Internet financial business of listed companies from 2007 to 2016, combined with the method of accounting checking, this paper uses the theory of statistics to distinguish and classify the data, and finally obtains a set of methods that combine the principles of

finance with statistics. Through the regression analysis of the data, the abnormal data of financial reporting of listed companies are investigated and dealt with, and the empirical results are highly persuasive by using discriminant classification analysis many times. This paper analyzes on the shortcomings of the application of accounting checking method in Internet financial business, and carries on the quality inspection to the financial data of listed companies and adopts the data fitting method to carry on the original data. Fitting analysis, screening incorrect data, studying some problems existing in Internet business of listed companies at present, the information of accounting check can comprehensively reflect the financial situation of a listed company in this year, the flow of funds and the results of operation. If there is a reliable and high-quality accounting checking method, the listed companies can supervise the market operation of the listed companies in the Internet financial business, and the changes of economic development also have certain guidance to the business changes of the listed companies.

Therefore, all the financial statements of the public are required to have relevant registered accountants to audit and endorse the accounts and receipts in order to be the information publicly available to the listed company. Such a large amount of work will have a burden on the accountant's review process. It is necessary to establish a well-ordered accounting and accounting method system for the quality inspection and evaluation of the data in the Internet financial activities of the listed company in combination with the financial data statement of the listed company in our country.

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