ERROR ACCOUNTABILITY SYSTEM AND MANAGEMENT EARNINGS FORECASTING ACCURACY

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Abstract: The accountability system for major errors in annual report information is an important corporate governance mechanism promoted by the China Securities Regulatory Commission, which has a significant impact on corporate information disclosure behavior. The expected consequences are less studied. The importance and flexibility of management's earnings forecast is a good scenario to study the strategic choice behavior of companies' information disclosure. Therefore, to study whether companies that establish error accountability systems strategically choose management's earnings It is of great theoretical and practical significance to better understand the unintended consequences of the error accountability system on corporate information disclosure. Taking China's A-share listed companies from 2006 to 2017 as samples, the double difference model is used to test the influence of the error accountability system on the accuracy of management earnings forecast and the incremental effect of the system characteristics, and a series of robustness tests are carried out to increase the research results. reliability. A cross-sectional test is carried out from three perspectives of corporate growth, executive gender and institutional shareholding to explore the mechanism of the error accountability system on the accuracy of management's earnings forecast. From the perspective of analysts' earnings forecasting behavior, this paper examines how the strategic choice of management's earnings forecasting accuracy caused by the accountability system for errors affects the company's information environment. The research results support that the error accountability system causes strategic choice behavior for corporate information disclosure, which deteriorates the corporate information environment and has unintended consequences; it enriches the research on corporate governance systems related to misstatements and the strategic choice of management earnings forecasting; Not only provides preliminary evidence for investors to understand the consequences of the error accountability system, but also has a certain reference value for the regulatory authorities to improve the system.

Keywords: Error accountability system; Unexpected consequences; Management earnings forecast accuracy; Analyst earnings forecast accuracy; Corporate information environment

1. INTRODUCTION

In order to improve the quality of information disclosure in the capital market, on December 29, 2009, the China Securities Regulatory Commission required listed companies to establish an accountability mechanism for major errors in annual report information disclosure (hereinafter referred to as the error accountability system). Since 2010, a large number of listed companies have followed the requirements of the China Securities Regulatory Commission to establish this system. According to the document, major errors in information disclosure in annual reports shall include major accounting errors in annual financial reports, major errors or omissions in information disclosure in other annual reports, major discrepancies in performance forecasts or flash reports, etc. The greater the punishment. As an important corporate governance system, its original intention is to increase accountability for information disclosure errors to encourage companies to improve the quality of information disclosure. The so-called "policy at the top, countermeasures at the bottom", due to the principal-agent relationship and risk aversion of the management, this system may cause the company to strategically choose to disclose information, resulting in unexpected consequences, which is the focus of this study.

The importance and flexibility of management's earnings forecast in corporate information disclosure [1], as well as management's discretion in the way of earnings forecasting [2-4], are good scenarios for studying strategic choices of corporate information disclosure [3]. Therefore, this study studies the unintended consequences of the error accountability system from the perspective of management earnings forecasting, specifically discusses the impact of the error accountability system on the accuracy of management earnings forecasts, and how it affects the company's information disclosure environment. The discussion on this issue can not only enrich the research on the strategic selection of management earnings forecast information and the corporate governance system related to misstatement, which has important theoretical significance; it can also further optimize the error liability for regulatory authorities and listed companies. Investigating system design provides experience reference and has important practical value.

2. RELEVANT RESEARCH REVIEW

2.1 Management's Earnings Forecast

Management earnings forecast is an important information disclosure mechanism. By disclosing company earnings information in advance, it not only alleviates information asymmetry, but also promotes corporate innovation [5], and has the function of macro forecasting [6]. Studies have found that management earnings forecasts are of great value and

can affect stock prices [7-9], analyst forecasts [10] and capital costs [11-12], and can also be used to infer corporate investment decisions [13], etc. Existing studies have shown that social relations [14], litigation risk [15], social trust [16], accounting flexibility [17], executive characteristics [18], social media [19], peer pressure [20], shareholder supervision [21-22] and political uncertainty [23] drive the disclosure of company management earnings forecasts.

The usefulness of management earnings forecast information is not only reflected in whether to choose to disclose the forecast, but also in the forecast characteristics, including forecast frequency, accuracy, precision and timeliness [1]. HIRST et al. [1] call for more attention to how management selects earnings forecast features and their consequences. Some studies believe that, on the one hand, management self-interest[24] and group company internal information asymmetry[25] negatively affect the accuracy, deviation, precision, or frequency of management's earnings forecast; on the other hand, the feedback effect of stock prices[26], the company's risk-based forecast and planning [27], the adoption of US 142 Financial Accounting Standards [28], margin financing and securities lending [29], institutional investors [22], employee quality, etc. can increase the quality of management's earnings forecast . Although exploring the motivation and forecast characteristics of management to disclose earnings forecasts plays an important role in better understanding corporate information disclosure, management has great discretion in the type (accuracy) of earnings forecasts disclosed. Therefore, ROGERS advocates that the academic community should conduct more research on the accuracy of earnings forecast, because the accuracy of earnings forecast can reflect the strategic choice of management information disclosure to a large extent. CHENG et al.[2] found that before insiders sell stocks, management tends to disclose high-precision forecasts, and before insiders buy stocks, they tend to disclose low-precision forecasts; LI et al.[3] found that Under short-selling pressure, the tube

Management tends to disclose low-precision earnings forecasts; Cheng Xiaoke believes that in order to alleviate the stock price pressure caused by institutional investors, the company lowered the accuracy of earnings forecasts after research by institutional investors. Although these studies can enrich the understanding of management's strategic selection of earnings forecast accuracy, their theoretical basis is that management is driven by stock price factors to strategically select earnings forecast accuracy, and few discuss the issue of management's earnings forecast accuracy selection from other perspectives. . Since forecast accuracy directly affects the probability of major misstatements in earnings forecast information disclosure, management may be concerned about major errors in earnings forecasts and make strategic choices for earnings forecast accuracy. The error accountability system provides a good research scenario for this study to investigate this issue. , can further expand the formation mechanism of management earnings forecast accuracy.

2.2 Accountability System for Misreporting

In recent years, in order to improve the quality of corporate information disclosure, some companies in the US capital market have voluntarily adopted Clawback clauses based on remuneration. The Clawback clause stipulates that once a company's misreporting of earnings is discovered, managers must return the extra compensation obtained due to the misreporting. Some studies believe that the Claw-back clause can improve the quality of financial reports and allow companies to obtain more preferential bank loans, but the unintended consequences it causes are increasingly arousing academic concern. For example, after a company adopted the Clawback clause, management turned to opportunistic disclosure of non-GAAP reports; this clause may not constrain management's opportunistic behavior, but only changed the way they hide bad news, increasing the risk of future stock price crashes.

The academic research on the governance system of misstatement accountability is still mainly limited to the Clawback clause, and there is a lack of discussion on corporate governance systems with similar functions in other countries and markets, such as the error accountability system in China's capital market. Different from the voluntary adoption of Clawback clauses in the United States, China's error accountability system is enforced, and there are significant differences in the determination of misstatement and the scope, form and intensity of punishment, but few studies have conducted academic discussions on it. In addition, for a corporate governance system, studying its possible unintended consequences has greater significance for improving the system. Therefore, this study focuses on the unintended consequences of the error accountability system.

3. INSTITUTIONAL BACKGROUND AND RESEARCH HYPOTHESES

3.1 System Background

3.1.1 China's error accountability system
The quality of information disclosure by China's listed companies is low, and major misstatements and omissions are common, seriously disrupting the order of the capital market. In order to protect the interests of investors and strengthen the responsibilities of governance and management in information disclosure, in 2009 the China Securities Regulatory Commission first required listed companies to establish a accountability system for major errors in information disclosure in annual reports. According to the regulations, if a listed company has corrections of major accounting errors, supplements of major omissions of information, revisions of earnings forecasts, etc. during the reporting period, it shall not only truthfully disclose the reasons and effects of the corrections, supplements or revisions item by item, but also disclose the board of directors' opinions on the related issues. Personnel accountability measures and outcomes. Since the China Securities Regulatory Commission issued the policy for the first time in 2009, the coverage has gradually expanded. From companies listed on the main board in 2009 to companies listed on the Growth Enterprise

Market in 2012, and then to companies listed on the New Third Board, they all require the establishment of an error accountability system. Moreover, the relevant provisions are very specific, especially the announcement issued by the Shenzhen Securities Regulatory Bureau to listed companies within its jurisdiction in 2010, which clearly stipulates the definition, type, scope, specific identification standards, responsibility identification procedures and punishment measures for major errors in annual report information disclosure and other system implementation details. For four consecutive years since 2009, the China Securities Regulatory Commission has issued announcements requiring listed companies to establish the system in strict accordance with regulations. According to the statistics of this study, the proportion of listed companies that have established this system is as high as 80%, and this system has been widely popularized.

Through a random review of the error accountability systems announced by some listed companies, this study found that the systems established by each company are similar, including the definition of major errors, the form of accountability, and the definition of relevant responsible persons. In compliance with the requirements of the regulatory authorities, the error accountability system established by listed companies targets major errors in the disclosure of annual reports. In China, the management's forecast of the company's earnings is an important part of the information disclosure of the annual report, which belongs to the category of error accountability. In addition, a small number of companies also specifically announced the amount or proportion of major errors, and defined the errors quantitatively. For misreporting, the punishment methods include internal criticism, warning, transfer from work, financial punishment and termination of labor contract, etc. The more serious the error, the heavier the punishment. According to the regulations, once a major error occurs in a company's information disclosure, the chairman, general manager, and chief financial officer should be held accountable in addition to those who directly caused the error.

The main differences between the error accountability system and the Clawback clause are as follows: ① China's error accountability system is mandatory; but so far, except for the financial industry, the Clawback clause is only for listed companies.

The company does it voluntarily. ②Clawback clauses are only aimed at financial reports, and the error accountability system also includes major deviations in management earnings forecasts. ③ The punishment involves different personnel and methods. The Clawback clause is generally aimed at the return of excessive payments due to misstatement by executives whose salary is linked to performance. The person responsible for the misstatement, the chairman, general manager and chief financial officer. In addition, since the compensation of executives of Chinese listed companies is generally not linked to performance, the penalty for misreporting is not to return the overpaid salary, but depending on the circumstances, there are criticisms, warnings, transfers from jobs, economic penalties and dismissal Labor contracts, etc. Therefore, from the perspective of the consequences of punishment, the accountability system for errors is more stringent.

3.1.2 China's management earnings forecast system

Unlike the voluntary disclosure of management earnings forecasts in the US capital market, China's management earnings forecasts are both mandatory and voluntary disclosures. As early as 1998, the China Securities Regulatory Commission began to require listed companies that may lose money to disclose performance information in a timely manner, which opened the prelude to the mandatory disclosure of earnings forecasts in the Chinese capital market; Companies that have increased or decreased their net profit by 50% or more disclosed their earnings forecasts; in 2006, the stock exchange included companies that were expected to turn losses into profits into the scope of mandatory disclosure of earnings forecasts; Listed companies disclose earnings forecasts. Except for the above-mentioned companies that are required to disclose earnings forecasts mandatory, other companies are voluntary. In addition, the regulatory authorities have also stipulated the mandatory disclosure of earnings forecast time, that is, no later than January 31 of the following year. The China Securities Regulatory Commission and the stock exchange have not made too many regulations on the types of earnings forecasts of listed companies. Listed companies have discretion over the types of earnings forecasts to a large extent. They can disclose qualitative forecasts or choose to disclose quantitative forecasts, including Point forecasts and interval forecasts, etc.

3.2 Research Hypothesis

The company's management can choose whether to disclose earnings forecasts and forecast characteristics based on their own interests and motivations, including forecast accuracy, frequency, timeliness, and precision [1] . For example, executives enhance their returns in stock trading through selective disclosure of good or bad news. As an important form of corporate information disclosure, management earnings forecast can reflect the ability of executives and affect their salary and career development. For career development considerations, management tends to disclose robust earnings forecasts. In addition to the ability of management to influence whether to disclose earnings forecasts and the accuracy of earnings forecasts, forecast accuracy is an important part of its strategic earnings forecast selection. Because the higher the accuracy of management earnings forecast, the greater the market reaction. CHENG et al. [2] found that management realizes its own interests by strategically choosing the accuracy of earnings forecasts. Before insiders sell (buy) stocks, management has a higher (lower) forecast of good news disclosure, while Less accurate (more accurate) disclosure of bad news

High) forecasts; LI et al.[3] also found that under short-selling pressure, companies tend to disclose earnings forecasts with low precision in order to maintain stock prices in response to bad news. In addition, the accuracy of management earnings forecast also affects the risk of litigation, because the higher the accuracy of the forecast, the greater the

probability of deviation after the event. Therefore, when the risk of litigation is greater, management tends to disclose more vague earnings forecasts. It can be seen that the management can make strategic choices on the accuracy of earnings forecast, and the accuracy of forecast also affects the accuracy of forecast after the event.

This study believes that the company's establishment of an error accountability system will reduce the accuracy of management's earnings forecast, because the system binds the quality of information disclosure with the interests of executives. The management's earnings forecast is covered by the error accountability system. According to the system, if there is a large difference between the management's forecasted performance and the actual performance, the company's executives may be reprimanded, fined, demoted, and terminated from the labor contract. Therefore, after the company establishes the error accountability system, the management will take additional risks in disclosing the earnings forecast. Out of the protection of its own interests, the management has a strong motivation to avoid major errors in the earnings forecast. It is mandatory for listed companies in China's capital market to disclose earnings forecasts, but there is still a lot of discretion in the form of management's earnings forecasts. Companies can disclose point forecasts, interval forecasts, or qualitative forecasts. After the company establishes the error accountability system, there are two ways for the management to avoid the penalty risk brought by the earnings forecast. One is to improve the accuracy of the earnings forecast, and the other is to disclose the forecast with lower accuracy, but this will reduce the information content of the earnings forecast. This study mainly discusses the unintended consequences of the error accountability system, so it focuses on the second approach. Due to the existence of a principal-agent relationship, the interests of the management and the shareholders of the company are not consistent, and the management also needs to avoid risks. Therefore, the error accountability system does not necessarily improve the quality of corporate earnings forecasts, but may prompt management to change earnings forecasting methods and disclose more ambiguous earnings forecasts. Because, by reducing the accuracy of earnings forecast, the probability of major errors in the management's earnings forecast after the event is reduced, thereby avoiding punishment. Based on the above analysis, this study proposes a hypothesis.

The error accountability system may not affect the accuracy of earnings forecast for at least two reasons: ① The establishment of the error accountability system is only a passive behavior of the company to comply with the requirements of the regulatory department, or it is a positive signal sent by the company to the outside world. A good social image has won the trust of investors, but it has not been truly implemented. ② The implementation error accountability system not only lacks effective external supervision, but also because the accountability objects include the chairman, general manager and chief financial officer, etc., and the board of directors is responsible for implementation, even if there is a major deviation in the management's earnings forecast, it is difficult to be held accountable. Therefore, whether the error accountability system can affect the accuracy of management's earnings forecast is a problem that needs to be tested using empirical data.

If the error accountability system can reduce the accuracy of management's earnings forecast, this study believes that this effect should be greater in companies that define the standard of misstatement. If there is no specific definition of material misstatement, the system will not be able to accurately judge whether the management's earnings forecast misstatement is material in the actual implementation process. Because, even if there is a large discrepancy between the predicted performance and the actual performance, the management still has room for interpretation, thinking that this is not a material misstatement, so as to shirk responsibility and avoid company penalties. Conversely, if the quantitative standard for misstatement is defined, it can be more clearly defined whether the misstatement of earnings forecast by the company's management is a material misstatement. Therefore, an error accountability system that defines the standard of misstatement gives management an incentive to disclose ambiguous earnings forecasts. Because, under the scenario of defining the quantitative standard of misstatement, the more ambiguous the management's earnings forecast, the harder it is to determine that there is a material misstatement afterwards. Based on the above analysis, this study proposes a hypothesis.

4. RESEARCH DESIGN

4.1 Sample Selection and Data Sources

Since 2006, China's capital market management earnings forecasting system has become more stable, so this study uses A-share listed companies in Shanghai and Shenzhen stock markets that disclosed management earnings forecasts from 2006 to 2017 as the initial sample, excluding companies in the financial industry and research firms. For firms with missing data for the variable, 14,919 firm-year observations were obtained for regression testing. The management earnings forecast data used in this research comes from Wonder database, and other data come from Guotaian database and Ruisi financial database. In order to reduce the impact of extreme values, all continuous variables are tailed at the upper and lower 1% quantiles, and the standard errors of all models are clustered at the company level.

In this study, companies that have established error accountability systems are set as the experimental group, with 13,001 sample observations; companies that have not established error accountability systems are set as the control group, with 1,918 sample observations. It shows that the vast majority of companies have complied with the regulatory requirements and established an error accountability system. Table 1 shows the industry distribution of the research samples. There are 10,183 sample observations from the manufacturing industry, accounting for the largest proportion.

The observation value from the education industry is the least, which is more consistent with the industry distribution of Chinese listed companies; in addition, the industry of the experimental group and the control group the distribution is relatively similar.

Table 2 shows the annual distribution of the research samples. Both the experimental group and the control group show an increasing trend year by year, indicating that the number of companies disclosing earnings forecasts is increasing year by year; the sample observations in 2012 and 2013 increased significantly, because In 2011, the Shenzhen Stock Exchange required companies listed on the ChiNext Board and small and medium-sized board companies to disclose management earnings forecasts.

4.2 Measurement of Management Earnings Forecasting Accuracy

There are four types of management earnings forecasts in China's capital market, namely point forecasts, closed interval forecasts, open interval forecasts and qualitative forecasts. The point forecast generally gives the specific value of the earnings forecast; the closed interval forecast is the range forecast of the earnings; the open interval forecast only gives the upper or lower limit of the company's earnings forecast; the qualitative forecast only indicates the direction of the forecasted earnings, and does not give a specific value . The information obtained by external information users from these four kinds of earnings forecasts decreases in turn, and the accuracy of earnings forecasts decreases. In the measurement of the accuracy of earnings forecasting, this study also included the above four types of earnings forecasting, assigning values of 3, 2, 1, and 0 to point forecasting, closed interval forecasting, open interval forecasting, and qualitative forecasting respectively. The larger the value, the higher the earnings forecast. The higher the accuracy. According to the measurement characteristics of the earnings forecast accuracy in this study, the ordinal Logit regression model will be used later to test the research hypothesis.

Table 1 Industry Distribution of Samples

Industrial Distribution	full sample		test group		control group	
	Sample observations	Proportion/%	Sample observations	Proportion/%	Sample observations	Proportion/%
Agriculture, forestry, animal husbandry and fishery	288	1.931	268	2.061	20	1.043
mining industry	323	2.165	272	2.092	51	2.659
manufacturing	10 183	68.255	8 943	68.787	1 240	64.651
Production and supply of electricity, heat, gas and water	415	2.782	285	2.192	130	6.778
construction industry	323	2.165	279	2.146	44	2.294
Transportation, warehousing and postal industry	675	4.525	582	4.477	93	4.849
Information transmission, software and information technology service industry	292	1.957	260	2.000	32	1.668
Wholesale and retail trade	60	0.402	60	0.461	0	0
Accommodation and Catering Industry	847	5.677	767	5.900	80	4.171
real estate	689	4.618	563	4.330	126	6.569
Leasing and Business Services	165	1.106	154	1.185	11	0.573
Scientific research and technical service industry	87	0.583	75	0.577	12	0.626
Water conservancy, environment and public facilities management industry	130	0.872	116	0.892	14	0.730
Residential services, repairs and other services	19	0.127	16	0.123	3	0.156
educate	6	0.040	2	0.015	4	0.209
health and social work	27	0.181	27	0.208	0	0
Culture, sports and entertainment	121	0.811	104	0.800	17	0.886
Public administration, social security and social organization	269	1.803	228	1.754	41	2.138
total	14 919	100	13 001	100	1 918	100

Table 2 Year Distribution of Samples

years	test group	control group	total	Proportion/%
2006	512	83	595	3.988
2007	570	101	671	4.498
2008	590	113	703	4.712
2009	752	126	878	5.885
2010	752	118	870	5.831
2011	844	127	971	6.508
2012	1 193	158	1 351	9.056
2013	1 374	161	1 535	10.289
2014	1 447	175	1 622	10.872
2015	1 581	204	1 785	11.965
2016	1 668	233	1 901	12.742
2017	1 718	319	2 037	13.654
total	13 001	1 918	14 919	100

Table 3 Definitions of Variables

variable name	variable symbol	Variable definitions
Accuracy of Management Earnings Forecast	Pre	The value of point prediction is 3, the value of closed interval prediction is 2, the value of open interval prediction is 1, and the value of qualitative prediction is 0
Whether to establish a system	Tre	If the company establishes an error accountability system during the sample period, the value is 1; otherwise, the value is 0
Before and after the establishment of the system	Pos	If the company is in the establishment of the error accountability system, the value is 1, otherwise the value is 0
Whether to define the standard of misreporting	Tre_A	If the error accountability system established by the company during the sample period defines the misstatement standard, the value is 1; otherwise, the value is 0
Whether the standard of misstatement is not defined	Tre_B	If the error accountability system established by the company during the sample period does not define the standard of misstatement, the value is 1; otherwise, the value is 0
Company Size	size	The natural logarithm of the company's total assets
Price-to-book ratio	Mtb	The ratio of the company's market capitalization to total assets
financial leverage	Lev	Ratio of total liabilities to total assets
Is it a loss	lost	If the net profit is less than 0, the value is 1, otherwise the value is 0
return on total assets	Roa	Ratio of net profit to total assets
earnings volatility	Vol.	The standard deviation of the company's return on total assets in the first three years
Institutional shareholding ratio	Org	The ratio of the number of shares held by institutions to the total number of shares
Management shareholding ratio	Msh	The ratio of the number of shares held by management to the total number of shares
Concentration of ownership	Top	Shareholding ratio of the top ten shareholders of the company
Analyst Tracking Quantity	Fol	Analyst Tracking Quantity
Management Forecast Horizon	Hor	Referring to the practice of CHOI et al.[48], add 178 to the number of days between the management earnings forecast and the balance sheet date and take the natural logarithm
Are Earnings Forecasts Mandatory?	man	According to the stock listing rules of Shanghai Stock Exchange and Shenzhen Stock Exchange, if the current net profit is negative, Loss to profit, net profit increased or decreased by more than 50% compared with the same period of the previous year, or the value is 1 for the small and medium-sized board and companies listed on the GEM after 2012, otherwise the value is 0

This study uses the difference-in-differences model to examine the impact of the error accountability system on the accuracy of management earnings forecasts, but the important premise of the difference-in-differences model is to satisfy the parallel trend assumption. Therefore, this study gives the trend of earnings forecast accuracy of the experimental group and the control group, as shown in Figure 1. It can be seen that before 2010, that is, before the establishment of the error accountability system, the earnings forecast accuracy of the experimental group was higher than that of the control group, but the trend of change was very similar, indicating that the double difference model used in this study basically conforms to the assumption of the same trend. After 2010, the experimental group gradually established an error accountability system, and the gap between the experimental group and the control group's earnings forecast accuracy gradually narrowed; after 2013, the experimental group's earnings forecast accuracy was lower than that of the control group. This preliminarily shows that the error accountability system reduces the accuracy of management's earnings forecast.

4.3 Test Results for H1

Table 6 presents the test results of the influence of the error accountability system on the accuracy of the management's earnings forecast.

As a result, the regression coefficient of Tre is 0.336, which is significant at the 10% level, indicating that before the establishment of the error accountability system, the management earnings forecasting accuracy of the experimental group is higher than that of the control group; the regression coefficient of Tre • Pos is - 0.378, which is significant at the 5% level. Significantly, it shows that compared with the control group, the accuracy of the management's earnings forecast is significantly reduced after the establishment of the error accountability system in the experimental group, that is, in order to avoid the risk of punishment for forecast misstatement, the management tends to disclose more ambiguous earnings forecasts. So H1 is validated.

From the regression results of the control variables, the regression coefficient of Los is significantly positive, indicating that loss-making companies tend to disclose forecasts with higher precision, which may be because investors of loss-making companies have greater demand for high-precision information; the regression coefficient of Roa Significantly positive, indicating that companies with better performance are willing to disclose forecasts with higher accuracy because they have confidence in the accuracy of earnings forecasts. In addition, the regression coefficient of Org is significantly positive, the regression coefficient of Msh is significantly negative, the regression coefficient of Fol is significantly negative, and the regression coefficient of Hor is significantly negative, indicating that the higher the shareholding ratio of institutional investors, the more inclined the company is to disclose For forecasts with higher accuracy, the higher the proportion of management shares, the more inclined companies are to disclose ambiguous earnings forecasts, and the more companies followed by analysts, the more likely they are to disclose ambiguous forecasts. The longer the forecast horizon, the lower the accuracy of earnings forecasts. No other control variables were found to be significant.

Table 4 Results for Descriptive Statistics

variable	average	standard deviation	75th percentile	median	25% quantile
Pre	1.948	0.659	2	2	2
Tre	0.871	0.335	1	1	1
Tre_A	0.224	0.417	0	0	0
Tre_B	0.648	0.478	0	1	1
size	21.779	1.231	20.952	21.678	22.488
Mtb	2.519	2.512	0.992	1.792	3.082
Lev	0.467	0.246	0.281	0.455	0.626
lost	0.155	0.362	0	0	0
Roa	0.027	0.074	0.007	0.029	0.060
Vol.	0.051	0.086	0.012	0.026	0.053
Org	0.236	0.223	0.050	0.160	0.380
Msh	0.116	0.187	0	0.001	0.192
Top	0.564	0.154	0.452	0.573	0.678
Fol	9.967	10.191	1	7	15
Hor	5.186	0.253	5.011	5.069	5.489
man	0.939	0.240	1	1	1

Note: The sample observations are 14 919.

<p align="center">**Table 5** Composition of Earnings Forecast Type</p>

Pre	full sample		test group		control group	
	Sample observations	Proportion/%	Sample observations	Proportion/%	Sample observations	Proportion/%
0	885	5.932	729	5.607	156	8.134
1	994	6.663	831	6.392	163	8.498
2	11 057	74.113	9 780	75.225	1 277	66.580
3	1 983	13.292	1 661	12.776	322	16.788
total	14 919	100	13 001	100	1 918	100

4.4 Test Results for H2

The regression coefficient of Tre_A • Pos is -1.182, which is significant at the 1% level; the regression coefficient of Tre_B • Pos is -0.134, which is not significant; but the difference between the two coefficients is significant at the 1% level. The above results show that the error accountability system with defined misstatement standards reduces the accuracy of management's earnings forecasts, while the error accountability system without defined misstatement standards does not affect the accuracy of management's earnings forecasts, which means that the error of implementing defined misstatement standards Freedom of judgment in the accountability system.

With less room for profit, management is more motivated to avoid the penalty risk brought by such a system, so it tends to disclose earnings forecasts with lower precision.

In conclusion, the results in Table 6 show that the error accountability system increases the risk of management being punished for misstatement, and has an unexpected impact on management's earnings forecasting behavior, which is manifested in the reduction of forecast accuracy and the definition of error liability for misstatement standards. The accountability system has a greater impact.

4.5 Robustness Check

4.5.1 Propensity score matching test
Although the error accountability system is required by the China Securities Regulatory Commission to be enforced by listed companies, the establishment of the company is staggered, and there are still some companies that have not yet established the system. Therefore, to a certain extent, there is self-selection in establishing an error accountability system. In addition, there may be large differences in the characteristics of the companies in the experimental group and the control group, and some missing company characteristics will affect the research results. In order to alleviate the above effects, this study uses the propensity score matching method to select the control group, that is, to match each experimental group company with a control group company with the most similar characteristics. In view of the characteristics of the staggered establishment of the error accountability system in the experimental group, this study uses the characteristics of the company in the year before the introduction of the error accountability system, including company size, price-to-book ratio, financial leverage, return on total assets, sales revenue growth rate, and earnings. There are 10 indicators including volatility degree, ownership concentration degree, institutional shareholding ratio, board size and independent director ratio, and each experimental group company is matched with a control group company with the closest propensity score. Due to the small number of samples in the control group, this study allowed Allow one control group company to match multiple experimental group companies.

Table 6 shows the univariate test results of the management earnings forecast accuracy before and after the establishment of the error accountability system for the successfully paired experimental group and the control group. significantly increased. Therefore, if the horizontal differences between samples are not considered, the timing factor will obscure the previous findings. In addition, this study found that the difference in the change in the accuracy of the management earnings forecast of the two groups of companies was -0.177, which was significant at the 1% level, indicating that after the establishment of the system, the increase in the accuracy of the earnings forecast of the experimental group was smaller than that of the control group, and the accountability for errors The system reduces the accuracy of management's earnings forecast.

<p align="center">**Table 6** Difference of Precision of Managerial Earnings Forecasts between Experimental Group and Control Group before and after the Implementation of the System</p>

variable	Pos = 0	Pos = 1	difference
	(1)	(2)	(2) - (1)

Tre = 1	1.717	2.029	0.312***
Tre = 0	1.622	2.111	0.489***
double difference			- 0.177***

Using the propensity score matching method to carry out the regression of the double difference model after sample selection, the result of the regression using formula (1) shows that the regression coefficient of Tre • Pos is - 0.512, which is significant at the 5% level. The result of regression using formula (2) shows that the regression coefficient of Tre_A • Pos is - 1.067, which is significant at the 1% level; the regression coefficient of Tre_B • Pos is - 0.352, which is not significant; and the difference between these two coefficients is still Significant at the 1% level. The above results show that after using the propensity score matching method to control the differences in company characteristics between the experimental group and the control group, the research results have no substantial change.

In order to control the impact of company characteristics that do not change over time, this study uses a fixed-effect model regression. Since the ordinal Logit regression model cannot control firm fixed effects, this study uses OLS regression. Using formula (1) to carry out OLS regression and control company fixed effects, the test results show that the regression coefficient of Tre • Pos is - 0.094, which is significant at the 10% level, indicating that after controlling company fixed effects, the company establishes error accountability system More likely to disclose earnings forecasts with low precision. Using formula (2) to carry out OLS regression and control company fixed effects, the test results show that the regression coefficient of Tre_A • Pos is - 0.271, which is significant at the 1% level; the regression coefficient of Tre_B • Pos is - 0.042, which is not significant; The coefficients differ significantly. It shows that after controlling the fixed effect of the company, the error accountability system that defines the standard of misstatement is more likely to make the company disclose the earnings forecast with low precision.

5. EXTENDED ANALYSIS

5.1 Cross-Sectional Analysis

In order to further strengthen the previous research results and better understand the mechanism of the error accountability system on the accuracy of management earnings forecasting, this study conducts a cross-sectional analysis of the main test from three levels: company growth, executive gender, and institutional shareholding .

For a company with high growth potential, it is difficult to predict earnings and it is easy to attract market attention. Therefore, the probability of major misstatement of earnings forecast by the management of such a company is high. Due to external market pressure, it is more likely that the management will be held accountable for major misstatement of earnings forecast after the establishment of an error accountability system. This study believes that the error accountability system increases the risk of punishment for management misreporting information, so management has more motivation to disclose ambiguous earnings forecasts. If the above point of view is true, when the company's earnings are difficult to predict and are more concerned by external investors, more ambiguous earnings forecasts will be disclosed in the context of the error accountability system. Therefore, the system of accountability for errors has a greater impact on the accuracy of earnings forecasts by the management of high-growth companies. In order to verify the above speculation, this study uses the company's revenue growth rate to measure the company's growth rate (Hgr). If the company's revenue growth rate is above the sample median, Hgr takes the value of 1, otherwise it takes the value of 0.

5.2 The Impact of the Error Accountability System on the Accuracy of Management's Earnings Forecast

This study believes that the error accountability system increases the risk of management misreporting accountability, so companies tend to disclose more ambiguous earnings forecasts. But overall, most of the earnings forecasts disclosed by the management of Chinese listed companies are closed interval forecasts, followed by point forecasts. After establishing the error accountability system, many companies still disclose closed interval forecasts with high accuracy, or even point forecasts. This is because after the establishment of the error accountability system, the management can choose to disclose more vague forecasts, and can also improve earnings forecasts. accuracy to reduce the risk of penalties. Therefore, companies that have established an error accountability system still choose disclosure point forecasts and closed interval forecasts, which should have higher earnings forecast accuracy. Among them, Biai,t is the accuracy of the management's earnings forecast, which is measured by the error of the management's earnings forecast. The smaller the Bia, the more accurate the management's earnings forecast; Boa is the size of the board of directors, and the logarithm is taken after adding 1 to the number of board members; Goo is good news , define the type of forecast as loss-making, slightly increasing, continuing profit and pre-increasing as good news and take the value 1, otherwise take the value 0; Sta is the nature of equity, if the company is state-owned, take the value 1, otherwise take the value 0; γ0 is the intercept item, γ1 ~ γ12 are the regression coefficients, and λi,t is the residual.

The results of regression using formula (3) show that the regression coefficient of Tre is significantly positive, indicating that before the establishment of the error accountability system, the experimental group has a larger error in forecasting earnings than the control group; the regression coefficient of Tre • Pos is at the 5% level is significantly

negative, indicating that compared with the control group, the error of the management's earnings forecast decreases significantly after the company establishes the error accountability system. The regression results are consistent with expectations, that is, the error accountability system increases the management's information disclosure responsibility, and companies that choose disclosure point forecasts and closed interval forecasts improve the accuracy of earnings forecasts in order to avoid being punished for misstatements.

5.3 The Impact of the Error Accountability System on the Company's Information Environment

The previous study found that after the company established the error accountability system, the accuracy of management's earnings forecast decreased. This study further explored whether the decrease in the accuracy of management's earnings forecast after the company established the error accountability system had a negative impact on the company's information environment. Analysts are important information intermediaries in the capital market. Their main function is to interpret the information disclosed by the company, deliver useful information to investors, and optimize the company's information environment. Existing studies have shown that management earnings forecasts affect analysts' forecasting behavior , and can even guide analysts' earnings forecasts. The more vague the management's earnings forecast, the less information it transmits, which makes it difficult for analysts to interpret its information content, negatively affects the quality of analysts' earnings forecasts, and deteriorates the company's information environment.

6. CONCLUSION

Due to the lack of a protection mechanism for the interests of investors, major misstatements of listed companies in China occur frequently. The China Securities Regulatory Commission requires listed companies to establish an error accountability system to hold accountable for major errors in corporate information disclosure. Management is risk-averse, and after establishing an error accountability system, it may make strategic choices for corporate information disclosure in order to avoid punishment caused by misstatements, resulting in unintended consequences. This study examines the impact of the error accountability system on the accuracy of management earnings forecasts, explores the incremental impact of the error accountability system heterogeneity, and conducts a cross-sectional analysis of the impact of the error accountability system on the accuracy of management earnings forecasts.

6.1 Research Results

① After the company establishes the error accountability system, the accuracy of management's earnings forecast is significantly reduced, and the error accountability system that defines the standard of misstatement has a greater impact on the accuracy of management's earnings forecast. This study conducts a series of robustness tests, including propensity score matching, placebo test, fixed effect model regression, controlling for major asset restructuring of companies, split share reform and financial crisis, including companies with undisclosed earnings forecasts, and retaining only point forecasts and closed interval forecasting companies, etc., the test results show that the results of this study are still valid. ② The impact of the error accountability system on the accuracy of management earnings forecasts is greater in high-growth companies, companies with male executives, and companies with a high proportion of institutional ownership. This result shows that the difficulty of earnings forecasting, management's risk perception and preference, and institutional investor supervision are important mechanisms for the error accountability system to affect the accuracy of management's earnings forecasts. ③ The decline in the accuracy of earnings forecasts by the management of companies that have established an error accountability system leads to an increase in analysts' earnings forecast errors and worsens the company's information environment.

6.2 Theoretical Contributions

① Although the listed company's annual report information disclosure
The research system is an important corporate governance mechanism promoted by the China Securities Regulatory Commission. Many listed companies have established this system, which has an important impact in the practical world, but little attention has been paid to it by the academic circle. Therefore, this study can provide preliminary evidence for understanding the impact of the error accountability system on corporate information disclosure. ②This study enriches the research on the accuracy of information disclosure of earnings forecasts in management's strategic choice. Existing studies have found that management strategically chooses the accuracy of earnings forecasts out of self-interest motives[2] and stock price pressure[3]. The predictive approach complements the research results in this field. ③ This research complements the research in the field of corporate governance system related to the accountability of misstatements. Existing research on the corporate governance mechanism of misstatement accountability mainly focuses on the Clawback clause in the US capital market. This study examines another corporate governance system related to misstatement accountability—accountability for major errors in annual report information disclosure of listed companies in China system, and found that the error accountability system led companies to strategically disclose management earnings forecasts, indicating that there are unintended consequences of corporate governance systems related to misstatement accountability, which enriches the research in this field and provides a basis for emerging

markets and transition markets. Provide reference for corporate governance reform practices to improve the quality of information disclosure.

6.3 Practical Enlightenment

① The error accountability system not only does not necessarily have the expected corporate governance effect, but also leads to blurred information disclosure by the company's management. Therefore, investors should correctly understand the error accountability system established by listed companies. ② Listed companies need to revise the error accountability system, such as reducing the discretion of the management in the process of information disclosure when setting terms, so as to reduce the negative impact of the error accountability system on information disclosure. ③ The so-called "policy above, and countermeasures below", this study found that the error accountability system led to unexpected consequences of corporate information disclosure, so the regulatory authorities need to further optimize the system.

6.4 Insufficient Research

First of all, the establishment of a corporate error accountability system may be selective. Although this study uses a variety of testing methods to reduce its impact, self-selection may still confuse the research results. Secondly, this study only finds that the establishment of the error accountability system in listed companies leads to a decrease in the accuracy of management's earnings forecast, which cannot be used to evaluate the cost-benefit of the error accountability system, because it may bring positive benefits to the company in other aspects of governance and information disclosure. Or negative impact, which is also an area that needs to be further explored in the future.

COMPETING INTERESTS

The authors have no relevant financial or non-financial interests to disclose.

REFERENCES

[1] Hirst DE, Kooncel, Venkataraman S. Management earnings forecasts: a review and framework. Accounting Horizons, 2008, 22(3): 315-338.
[2] Cheng Q, Luo T, Yue H. Managerial incentives and management forecast precision. The Accounting Review, 2013, 88(5): 1575- 1602.
[3] Li YH, Zhang LD. Short selling pressure, stock price behavior, and management forecast precision: evidence from a natural experiment. Journal of Accounting Research , 2015, 53(1): 79- 117.
[4] Hu Wenxiu, Fu Qiang, Wu Tingting. Stock option incentives and the manipulation behavior in management earnings forecasts discloses. Journal of Management Science , 2017, 30(6): 142- 158.
[5] Yang Daoguang, Wang Jiani, Chen Hanwen. Management earnings forecast: market pressure or corporate governance? Evidence from corporate innovation. Nankai Business Review, 2020, 23(4): 107- 119.
[6] Sun Jianqiang, Wu Hao, Cai Yumei. Do inflation expectations react to earnings surprises?. Economic Research Journal, 2018, 53(5): 161- 174.
[7] Anilowski C, Feng M, Skinner D J. Does earnings guidance affect market returns? The nature and information content of aggregate earnings guidance. Journal of Accounting and Economics, 2007, 44(1/2): 36-63.
[8] Luo Mei, Song Yunling. Are management earnings forecasts in China credible to the stock market? Journal of Financial Research, 2012(9): 168- 180.
[9] Fang Xianming, Gao Shuang. Market reaction of management′s disclosure strategy of the listed company. China Industrial Economics , 2018(2): 176- 192.
[10] Wang YT, Chen YS, Wang J X. Management earnings forecasts and analyst forecasts: evidence from mandatory disclosure system. China Journal of Accounting Research , 2015, 8(2): 133- 146.
[11] Cao Y, Myers LA, Tsang A. Management forecasts and the cost of equity capital: international evidence. Review of Accounting Studies, 2017, 22(2): 791-838.
[12] Dong Nanyan, Liang Qiaoni, Lin Qing. Forecast strategies and the implied cost of capital. Nankai Business Review, 2017, 20(2): 45-57.
[13] Roychowdhury S, Shroff N, Verdi RS. The effects of Financial reporting and disclosure on corporate investment: a review. Journal of Accounting and Economics, 2019, 68(2/3): 101246- 1- 101246-27.
[14] Yu Jianqiao, Luo Ting. Top executives′ school-tie connections and management forecast disclosure. Accounting Research, 2021(2): 72-85.
[15] Huang Y, Li NZ, Yu Y. The effect of managerial litigation risk on earnings warnings: evidence from a natural experiment. Journal of Accounting Research, 2020, 58(5): 1161- 1202.
[16] Guan YY, Lobo GJ, Tsang A. Societal trust and management earnings forecasts. The Accounting Review , 2020, 95(5): 149- 184.
[17] Kim J B. Accounting flexibility and managers′ forecast behavior prior to seasoned equity offerings. Review of Accounting Studies, 2016, 21(4): 1361- 1400.

[18] Hribar P, Yang H. CEO overconfidence and management forecasting. Contemporary Accounting Research h, 2016, 33(1): 204-227.

[19] Wang Dan, Sun Kunpeng, Gao Hao. The impact of "voting with your mouth"on management voluntary disclosure. Journal of Financial Research, 2020(11): 188-206.

[20] Lin YP, Mao Y, Wang Z. Institutional ownership, peer pressure, and voluntary disclosures. The Accounting Review, 2018, 93(4): 283-308.

[21] Kim JB, Shroff P, Vyas D. Credit default swaps and managers′ voluntary disclosure. Journal of Accounting Research, 2018, 56(3): 953-988.

[22] Tsang A, Xie F, Xin XG. Foreign institutional investors and corporate voluntary disclosure around the world. The Accounting Review, 2019, 94(5): 319-348.

[23] Zhou Kaitang, Jiang Shushu, Ma Zhiming. Political uncertainty and voluntary management earnings forecasts. Accounting Research, 2017(10): 65-70.

[24] Zhang Rao, Xue Hanyu, Zhao Jianhong. Managerial selfserving, supervision and management earnings forecasts bias. Accounting Research, 2017(1): 32-38.

[25] Chen C, Martin X, Roychowdhury S. Clarity begins at home: internal information asymmetry and external communication quality. The Accounting Review, 2018, 93(1): 71- 101.

[26] Zuo L. The informational feedback effect of stock prices on management forecasts. Journal of Accounting and Economics, 2016, 61(2/3): 391-413.

[27] Ittner CD, Michels J. Risk-based forecasting and planning and management earnings forecasts. Review of Accounting Studies, 2017, 22(3): 1005- 1047.

[28] Cheng Q, Cho YJ, Yang H. Financial reporting changes and The internal information environment: evidence from SFAS 142. Review of Accounting Studies, 2018, 23(1): 347-383.

[29] Li Zhisheng, Li Hao, Ma Weil i . Information governance effects of short selling and margin trading. Economic Research Journal, 2017, 52(11): 150- 164.