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Corporate financialization, internal control and financial fraud

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ABSTRACT

The article explores the moderating role of internal control in the impact of financialization on financial fraud. The study, based on non-financial listed companies, shows that as non-financial companies become more financialized, they are significantly more likely to engage in financial fraud. After classifying the assets of companies, the article finds that the facilitative effect of financialization on financial fraud mainly stems from medium and small enterprises. Further research shows that internal control plays a negative role in financial fraud promoted by corporate financialization.

1. Introduction

In the 1970s, the crisis of profitability led to a shift in investment towards the financial sector, which led to the concept of financialization becoming a topical issue. On the one hand, the rapid growth of the economy was a prerequisite for the financialization of companies: the rapid development of the market economy led to the further maturation of financial markets, which enabled companies to reap the benefits of financial investments of all kinds. The downward pressure on the economy has been exacerbated by the new epidemic since 2020. As a result of these factors, real companies have been motivated by the pursuit of profits to invest more in financial activities.

In recent years, there have also been cases of fraudulent use of financial assets. As changes in the fair value of available-for-sale financial assets are included in other comprehensive income, the difference will only reduce current owners' equity and will not affect current profit, so some enterprises use them to hide potential loss assets and include the accounts receivable in the available-for-sale financial assets account, thereby achieving the purpose of reducing losses falsely. As can be seen, financial assets provide an excellent opportunity for companies to commit fraud due to the subjective nature of their measurement and the complexity of auditing.

With the continuous improvement of financial markets and the change of Chinese economic development model, the problem of excessive financialization of real enterprises has become increasingly serious, and the use of financial assets by enterprises to commit fraud has become a common occurrence in the past and is likely to become more frequent in the future. Based on this, this paper attempts to examine the relationship between the financialization and the probability of financial fraud, and discusses the impact of internal management effectiveness on the relationship between financialization and fraud, in order to improve fraud prevention and control measures for listed companies and reduce the occurrence of fraud.

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2. Theoretical analysis and research hypothesis

2.1. Financialization

Since the inception of the concept of financialization, scholars have conducted comprehensive research on the causes and factors influencing financialization and have produced a wealth of research findings. Financial assets for risk management purposes could reduce firms' risk exposure and mitigate the volatility of capital flows. Krippner (2005) argues that rising labor costs and increasing international competitive pressures in the 1970s led to a decline in the rate of return on investment for real firms in the US, which in turn led to capital being drawn out of production and into financial markets, a view supported by empirical data and widely accepted by scholars (Crotty, 2005; Orhangazi, 2008). Based on the current situation of the Chinese capital market, there are more scholars who believe that the weakening of expected earnings of non-financial firms will strengthen their investment in financial assets. Lazonick and Sullivan (2002) suggest that a series of institutional changes in modern firms have made the concept of shareholder value maximization increasingly dominant in increasingly dominant in companies.

2.2. Corporate fraud

The influence of management characteristics on corporate fraud has long been a popular area of fraud research. The iceberg theory of fraud points out that irregularities in corporate governance structures and weak internal controls are only phenomena that may accompany corporate fraud, while subjective and personalized factors such as human emotions, attitudes and values are the deeper causes of fraud, and these factors directly related to fraud can often be hidden and difficult to be observed. The development of technologies such as artificial intelligence has greatly facilitated the interaction of information and reduced the cost of acquiring information, making it possible for scholars to conduct research using information on executive characteristics. In general, existing studies have found that corporate fraud risk is affected by management's gender, age, education, etc. Ren (2017) empirically demonstrated that firms with longer tenure in the top team had a lower risk of fraud. In addition, the literature also shows that political connection, employee treatment, and the employee cash profit sharing also significantly affect listed firms' fraud in China (Kong et al., 2019, 2022; Zhang et al., 2020)

2.3. Financialization and corporate fraud

A number of studies have shown that corporate fraud tends to occur in firms with poor financial health and high financial risk, and studies on the economic consequences of corporate financialization have also demonstrated that financialization increases financial risk and makes firms over-indebted. (Zhang et al., 2020) investigate the economic consequences of financialization based on the perspective of bank credit decisions and find that the higher the level of corporate financialization, the lower the number of new loans obtained, and further analysis finds that this is due to the fact that high levels of financialization increase the financial risk of firms.

Financialization can exacerbate the agency problems faced by firms, thereby contributing to fraud. As financial investment is characterized by high returns and short payback periods, it can serve to whitewash corporate performance and market performance in the short term (Hutton et al., 2009), and the compensation contracts of corporate managers are often linked to corporate performance, so management is likely to over-invest in financial assets for the purpose of meeting contractual requirements, and once the investment fails, management is likely to invest in financial assets through In case of investment failure, management is likely to hide the bad news through means such as earnings manipulation and fraud.

The relationship between corporate financialization and management is manifested in three ways: firstly, a high level of financialization indicates that a company may have more serious agency problems and a higher incidence of fraud. The principal-agent theory states that the inconsistency of interest goals leads to agency problems between shareholders and managers, and in order to ensure that shareholders' interests are maximized, managers' remuneration is usually linked to their performance. However, performance-based compensation systems may lead managers to focus too much on corporate performance and neglect other factors, such as risk and long-term development, when making decisions, and this problem may become more pronounced with increased financialization. In particular, financial investment has a higher rate of return and a shorter investment cycle than real investment, so managers can quickly improve corporate performance through financial investment in the short term. Therefore, the financialization of real enterprises means to a certain extent that managers choose the former in the trade-off between their own interests and the long-term development of the enterprise, which to a certain extent is a reflection of the narrow vision and selfishness of managers. Secondly, excessive investment in financial assets by managers also reflects the lack of supervision of managers by shareholders, which may lead to the risk of management overriding control and more opportunities for managers to commit fraud; finally, the financialization of enterprises may originate from the collusion between major shareholders and management. The majority shareholder and the management first improve the performance of the enterprise quickly through financial investment in the short term, and the rise in the value of the enterprise will lead to an increase in the price of the enterprise's shares. The majority shareholder, with the advantage of information, will reduce its shares at a high price in the secondary market, and then participate in a directed issue to buy back the shares at a low price, so as to achieve the purpose of encroaching on the interests of minority shareholders. At this point, the interests of shareholders are closely linked to the price of the company's shares, and the possibility of managers committing fraud in order to manipulate the share price is significantly increased. In summary, a higher level of financialization means that management has a greater risk of committing fraud.

Based on the above analysis, this paper argues that the financialization of the entity as a whole has a facilitating effect on corporate fraud, the higher the level of corporate financialization, the greater the likelihood of corporate fraud, and therefore this paper proposes the first hypothesis.

Hypothesis 1. The level of financialization is positively associated with fraud.

2.4. The impact of internal management

The excessive financialization of an entity reflects the speculative mentality of management to use financial assets to obtain short-term excess returns, which exacerbates the financial risks faced by the enterprise, whereas effective internal control tends to focus more on the long-term stability of the enterprise, and can restrain the power of management and reduce the speculative behavior of managers, thus reducing the risks and incentives for fraud faced by the enterprise. Furthermore, past cases of fraudulent use of financial assets have shown that uncertainty in the pricing of financial assets is an important cause of fraud, and effective internal controls necessarily regulate and standardize the pricing methods of the financial assets involved in an enterprise, thus limiting the scope for fraudulent use of financial assets. Considering the significant relationship between internal control on both financialization and management fraud, this paper uses it as a moderating variable and proposes the following hypothesis.

Hypothesis 2. Internal management has a disincentive effect on financial fraud caused by financialization.

3. Research design

3.1. Models setting

To examine the impact of corporate financialization on financial fraud, this paper constructs the following model (1):

$$Fraud_{i,t} = a_0 + a_1 Fin_{i,t} + \sum^{a_n} CV_{i,t} + u_i + \theta_t + \varepsilon_{i,t} \tag{1}$$

In the model (1), $Fraud_{i,t}$ is the financial fraud. The core explanatory variable $Fin_{i,t}$is the corporate financialization, its coefficient is the most important coefficient concerned in this paper. $CV_{i,t}$ is a control variable, u_i and θ_t refer to industry fixed effect and year fixed effect respectively, and $\varepsilon_{i,t}$ refers to the random error term.

Based on the model(1), this paper constructs a moderating effect model by introducing interaction terms to examine the moderating effect of internal management on the relationship between corporate financialization and financial fraud. The adjustment effect test model is as follows:

$$Fraud_{i,t} = \beta_0 + \beta_1 Fin_{i,t} + \beta_2 IC_{i,t} + \beta_3 Fin_{i,t} \times IC_{i,t} + \sum^{a_n} CV_{i,t} + u_i + \theta_t + \varepsilon_{i,t} \tag{2}$$

In Model (2), $RIC_{i,t}$ denotes internal control index, and larger $IC_{i,t}$ denotes higher degree of internal control. If internal control has a negative moderating effect on the relationship between corporate financialization and financial fraud, then the interaction coefficient β_3 is significantly negative.

3.2. Data source

The sample of fraudulent listed companies used in this research is derived from A-share listed companies from 2012 to 2020, and the following types of violations were selected: fictitious profit, fictitious listing of assets and share price manipulation. According to the needs of the study, the sample selection criteria are as follows: 1. exclude companies with relevant missing data and extreme data; 2. exclude companies in the financial and insurance industry. After screening the sample by the above criteria, 478 fraudulent companies were obtained.

3.3. Variable selection

(1) The explained variable: Financial fraud (*Fraud*)

In this paper, the financial fraud samples of listed companies are identified as “Fictitious profits”, “Fictitious assets”, “Delayed disclosure”, “False statements” and “Significant omissions”. The financial fraud (*Fraud*) is defined by constructing virtual variables. When a company commits one or more of the above five violations in a given year, at the same time by the Shanghai Stock Exchange, the Shenzhen Stock Exchange, the Securities Regulatory Commission or the Ministry of Finance and other departments as a violation of one or more, the virtual variable value of 1, otherwise, the value is 0.

In addition, this paper introduces the penalty degree index(*Fdeg*) to test the robustness. *Fdeg* is constructed as follows: according to the violation data of listed companies, if the company has not been punished for financial fraud in that year, the value is assigned to 0; if only senior executives have been punished but the company has not been punished or the company has been punished for the type of “Other”, it is assigned a value of 1, 2 if the company is punished for criticism or censure, and 3 if the company is punished for warning, fine, or confiscation of illegal gains. The most severe type of punishment shall be adopted for those who receive multiple punishments at the same time, and the most severe punishment shall be adopted for multiple punishments within a year.

(2) Explanatory variables: Financialization (*Fin*)

This paper measures financialization (*Fin*) by using the continuous variable of the proportion of financial assets to total assets. This paper divides financial assets into short-term financial assets and long-term financial assets, in which short-term financial assets = transaction financial assets + derivative financial assets + net short-term investment + other current assets, long-term financial assets = net available for sale financial assets + net holding to maturity investment + net long-term equity investment + net investment real estate. Overall, corporate financialization (*Fin*) = financial assets/total assets.

(3) Moderating variables: Internal control (*IC*)

This paper uses the internal control index (*IC*) to measure the effectiveness of internal control. The internal control score is the sum of the internal control goal scores, in which: Strategic goal score=(company revenue-industry average revenue)/standard deviation of industry revenue; Operating target score=net profit/total assets; Asset preservation goal score=1-impairment of assets/(impairment of assets + total assets at end of period); Financial reporting objective score=audit opinion score (standard opinion is 0, otherwise is −1)+financial reporting material defect disclosure score (with a score of −1, otherwise is 0)+accounting material error correction disclosure score (with a score of −1, otherwise is 0); Legal compliance goal score=0 for violations, otherwise is −1. The higher the internal control index is, the better the internal control goal is achieved, that is, the more effective the internal control is.

(4) Control variables

Based on the existing research results, this paper selects size of enterprise assets(*Size*), financial leverage(*Lev*) and return of asset (*Roa*) as control variables.

The descriptive statistics for the main variables are shown in Table 1. The mean of *Fin* is 0.313, indicating that the average proportion of financial assets to total assets in the study sample is more than 30%, and as non-financial enterprises, the sample enterprises have a high degree of financialization. The minimum value of the degree of financialization is 0 and the maximum value is as high as 0.992, indicating that the degree of financialization varies greatly between enterprises. The mean value of enterprise size (*Size*) is 20.328, indicating that there is little difference in size between the samples. In addition, the indicators of financial leverage (*Lev*) and profitability (*Roa*) were not abnormal.

4. Analysis of empirical results

4.1. Baseline regression results

Hypothesis (1) explores the impact of corporate financialization on financial fraud and the related regression results are shown in Table 2. The regression coefficient of corporate financialization(*Fin*) is significantly positive at the 1% level with or without the inclusion of control variables, and the regression coefficient of corporate financialization after the inclusion of control variables is 0.214. The above findings suggest that there is a positive relationship between the degree of financialization and the probability of management fraud, which is in line with the expected results of this paper. In addition, the regression coefficients of firm size (*Size*), financial leverage(*Lev*) and return of asset (*Roa*) are negative at the 1% level, positive at the 5% level and negative at the 1% level respectively, indicating that firms with larger financial leverage coefficients are more likely to commit fraud, while larger firms and more profitable firms are less likely to commit fraud. In summary, deeper financialization of firms does increase the likelihood of firms committing fraud and hypothesis 1 holds.

4.2. Robustness test

In order to make the conclusion more reliable, this paper uses the penalty degree index(*Fdeg*) instead of financial fraud (*Fraud*) to test the robustness of the model. The related regression results are shown in Table 3, the results are consistent with the conclusions of the basic model. At the same time, the sample was divided into large enterprises and medium and small enterprises according to their asset size. The results showed that the absolute values of the medium and small enterprises coefficients were basically larger than those of large enterprises, it suggests that the impact of financialization on financial fraud is more medium and small enterprises. These

Table 1
Descriptive statistics of variables.

Variable	Obs	Mean	Std. dev.	Min	Max
Fraud	4302	0.493	0.274	0.000	1.000
Fin	4302	0.313	0.198	0.000	0.992
IC	4302	0.912	0.829	−2.399	27.035
Size	4302	20.328	1.264	16.968	29.758
Lev	4302	0.474	0.234	0.059	0.971
Roa	4302	0.058	0.059	−0.013	0.204

Table 2
Baseline regression results.

	(1) *Fraud*	(2) *Fraud*	(3) *Fraud*
Fin	0.508***	0.334***	0.297***
	(0.98)	(0.92)	(0.76)
Size		−0.028**	−0.025***
		(−2.59)	(−1.99)
Lev		0.222***	0.207**
		(13.19)	(11.32)
Roa		−0.078***	−0.063***
		(−4.54)	(−4.37)
Constant	0.372***	0.816***	0.726***
	(3.81)	(4.12)	(5.13)
N	4302	4302	4302
R^2	0.074	0.162	0.214
u_i	NO	NO	YES
θ_t	NO	NO	YES

Table 3
Robustness test results.

	(1) *Fdeg*	Large (2) *Fraud*	Medium and small (3) *Fraud*
Fin	0.094***	0.129***	0.402***
	(0.36)	(0.79)	(0.93)
Controls	YES	YES	YES
Constant	0.299***	0.692***	0.852***
	(2.44)	(4.89)	(5.62)
N	4302	2151	2151
R^2	0.223	0.159	0.249
u_i	YES	YES	YES
θ_t	YES	YES	YES

results also confirm that the results of this study are robust.

4.3. Moderating effect analysis

In order to analyze the moderating effect of internal control on the relationship between financialization(*Fin*) and financial fraud (*IC*), this paper constructs a model (2) . Column (1) of Table 4 shows that the coefficient of $Fin \times IC$ for the interaction between corporate financialization(*Fin*) and financial fraud(*IC*) is −0.035 and passes the significance test of 1% , it shows that internal control has a negative moderating effect on financial fraud, hypothesis 2 is verified. Furthermore, this paper divides the sample into large-scale firms and small and medium enterprises firms according to their assets, and explore the heterogeneity of financial consequences moderated by internal controls in firms of different sizes. The results are shown in columns 2 and 3 of Table 4. The results show that the absolute values of the coefficients of large enterprises are generally larger than those of small and medium enterprises , it shows that the impact of corporate financialization on financial fraud and the moderating effect of internal controls on the economic consequences of corporate financialization are more small and medium enterprises.

5. Conclusions

This paper explores the relationship between corporate financialization and fraud, discusses the moderating effect of corporate internal control effectiveness on the relationship between corporate financialization and financial fraud. The study finds that.

First, the higher the level of financialization of a non-financial firm, the greater the probability of fraud occurring. The regression coefficients of the level of financialization of an entity regarding corporate financial fraud shows a significant positive relationship between the two, with each 1% increase in the share of financial assets of a firm increasing the probability of committing fraud by 0.297%.

Secondly. Good internal controls can inhibit the contribution of financialization to corporate fraud. The regression coefficient between the interaction term of financialization and internal control and corporate fraud shows that good internal control negatively moderates the relationship between financialization and fraud.

Table 4
Moderating effect results.

	(1)	Large (2)	Medium and small (3)
	Fraud	*Fraud*	*Fraud*
Fin	0.197***	0.098***	0.344***
	(0.68)	(0.61)	(0.77)
IC	−0.013***	−0.009***	−0.031***
	(−0.42)	(−0.58)	(−0.63)
Fin×IC	−0.042***	−0.029***	−0.061***
	(−0.29)	(−0.33)	(−0.47)
Controls	YES	YES	YES
Constant	0.183***	0.364***	0.574***
	(1.27)	(2.19)	(3.91)
N	4302	2151	2151
R^2	0.247	0.198	0.226
u_i	YES	YES	YES
θ_t	YES	YES	YES

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

The authors do not have permission to share data.

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