Whether Cost Stickiness Stimulates the Occurrence of Financial Reporting Fraud? Evidence in the Digital Economy Background

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Abstract: In the context of the rapid development of digital economy technology, more and more Chinese enterprises have started to carry out digital reform. This paper attempts to study the impact of cost stickiness on financial reporting fraud based on the environment of digital economy development. Through the empirical analysis of rare event regression model, it is found that there is a significant positive relationship between cost stickiness and financial reporting fraud. Meanwhile, this paper finds that government subsidies can play a significant inhibited role in above relationship. It is worth mentioning that firms with higher digitalization are less likely to experience financial reporting fraud, even with higher cost stickiness. The harmful relationship is weakened by digital. The results show that enterprises should pay attention to the level of cost stickiness and promote digitalization actively.

1 INTRODUCTION

For the past few years, the occurrence of financial reporting fraud never stopped in capital market. Fraudulent financial reporting is a social and economic issue of serious concern. On the one hand, the importance of financial reporting information for resource allocation is well documented. Therefore, financial reporting fraud threatens the sustainable development of enterprises, affects the effectiveness of capital markets, and weakens the resource allocation function of capital markets. On the other hand, financial reporting fraud impairs the trust between corporation, regulators and market participants who require the information and engage in commerce. This paper attempts to explore that under the digital economy background, whether cost stickiness stimulates the occurrence of financial reporting fraud.

After 40 years of unremitting efforts of reform and opening, China's economic development has made remarkable achievements. At present, China's economy has moved from high-speed development to high-quality development. Also, as the IT technology and artificial intelligence development, digital economy has advanced rapid economic growth, improved people's living standards, increased efficient utilization of resources, and strengthened environmental protection. In the future, digital economy may play a more important role in resource allocation.

An increasing number of researchers found that cost stickiness is prevalent. For enterprise management, cost behavior determines the accuracy of subsequent cost management and business forecast. The existence of cost asymmetry can lead to biased cost and earnings forecasts by managers, and companies may blindly over-invest based on the motivation of increasing revenue and expanding profits. So, the existence of cost stickiness will affect the cost management of enterprises, intensify the fluctuation of surplus, and thus increase the business risk. The Fraud Triangle is commonly used by both sociologists and psychologists to account for crime in organizations to recognize the financial reporting fraud. Based on the fraud triangle theory, when an enterprise has unstable business conditions and increased business risks, managers will face operational pressure. Therefore, when a company has highly cost stickiness, the likelihood of financial statement fraud increases accordingly.

When the risks of enterprises are increasing and complex, government subsidies, as an important external means for the government to guide the survival and development of enterprises can convey the good reputation and future development potential of enterprises to the outside world, broaden the

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financing channels of enterprises and reduce the business risks of enterprises. Meanwhile, government subsidies are able to help guiding and promoting the firm's survive and development, reduce the risk of corporates and show the positive attitude to the public. Based on this, when a company receives government subsidies, the likelihood of financial reporting fraud caused by cost stickiness is correspondingly reduced.

To further explore the impact of digital economy on cost stickiness and financial reporting fraud, this paper refers to part of method in Li, Y. et al. (2021). The results show that companies with a high degree of digitization help to suppress the impact of cost stickiness on financial reporting fraud.

As the frequency of financial statement fraud is low, we run the rare event regression to better estimate the relation between cost stickiness and financial reporting fraud. Using data from 2016 to 2021, this paper finds that there is a significant positive relationship between cost stickiness and financial reporting fraud, and government subsidies can suppress this relationship to some extent. And the relationship between cost stickiness and financial reporting fraud is stable and not endogenous.

The contributions of this paper include four aspects. Firstly, this paper bridges the gap in the theoretical basis of the impact of cost stickiness on financial reporting fraud. The current literatures have focused on corporate governance, executive behavior, and external regulation with respect to the factors influencing financial reporting fraud. In terms of corporate governance, relevant studies mainly show that internal control and internal audit have impacts on financial reporting fraud. About executive behavior, the executives' behaviors affect the likelihood of financial reporting fraud to some extent. As for external regulation, mandatory auditing is the main factor of financial reporting fraud, due to poor quality of mandatory audits and audit tenure. However, few researchers have investigated the possibility of financial reporting fraud in relation to the operational risk arising from the phenomenon of cost stickiness. Secondly, broadening the consequences of cost stickiness is also a contribution. Many papers focus on the reasons of cost stickiness happened, only a few papers consider the influence of cost stickiness. Third, this paper helps Chinese enterprises and regulators pay attention to the impact of over-investment and resource misallocation on the occurrence of financial statement fraud. Fourth, this paper further investigates the role of digitalization on cost stickiness and financial reporting fraud, which provides a foundation for encouraging companies to make digital changes.

In the following section, literature is reviewed and hypothesizes are raised on the correlation between cost stickiness and financial reporting fraud in section 2. Based on the proposed hypothesis, an empirical study is conducted in the section 3 and the conclusion is drawn in the section 4.

2 LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Cost stickiness is a phenomenon in which costs do not change in proportion to business volume. Anderson (2003) and Subramaniam (2003) found that the proportion of cost increases when sales revenue increases by one unit is greater than the proportion of cost decreases when sales revenue decreases by one unit through regression analysis of a large sample of U.S. listed companies, and they defined this phenomenon as "cost stickiness". Regarding the causes of the cost stickiness problem, Banker et al. (2006) divided the causes into three points: adjustment costs, agency problems, and managers' over-optimism. However, the existing research on the economic consequences of cost stickiness is very limited. Most scholars believe that cost stickiness will have negative effects on firms, mainly because it will weaken the firm's earning smoothness and increase the instability of coming surplus. Weiss (2010) found that higher cost stickiness will lead to bias or even error in surplus forecast; Homburg et al. (2018) argued that the instability of surplus brought by cost stickiness will lead to the increase of default and overall credit risk.

Regarding the drivers of the occurrence of financial statement fraud, Dan Amiram et al. (2018) summarized the relevant literature mainly from three perspectives, i.e., law, accounting, and finance; standing on the perspective of law, numerous legal scholars have studied fraud based on their own experiences. Davison's (2022) study explored the relationship between executive equity compensation and financial, pointed out that executives had stronger equity incentives in fraud cases. Based on the same theory, Gheachang Im et al. (2019) found that both corporate ethics and managerial ethics have an impact on the quality of financial reporting fraud. When analyzing specific fraud cases, a common model used by many experts and scholars is the fraud triangle, including pressure, motivation, and

opportunity. In the fraud triangle, Schuchter et al. (2016) points out that “feeling pressure is obviously to most frauds’ cases”, which means pressure may play the most important "fraud trigger" for fraudulent behavior.

To sum up, cost stickiness can weaken earnings smoothness, lead to fluctuations in surplus, affect the accuracy of managers' cost management and forecasting, and increase the business risk of the company. Undoubtably, inaccuracies of cost management and surplus forecast increase firms’ operation risk, managers will perceive pressure and the likelihood of financial statement fraud will increase simultaneously. Therefore, the first hypothesis is raised:

H1: Cost stickiness increases financial reporting fraud.

Government subsidies are usually regarded as an important means of government economic intervention in the market and play an important role in addressing market failures. Claro (2006) points out that funds from government grants can help firms overcome the constraints of capital shortage. So, government subsidies play an invaluable role in supporting and promoting the development of firms. Soratana et al. (2014) finds through a study of Chinese firms that government subsidies can have a positive relationship on the performance of new energy firms. Peng H et al (2018) and Luo et al. (2021) point out that government subsidies have a positive impact on the long-term financial performance of Chinese new energy power generation firms. Meuleman et al. (2012) support that government subsidies convey that the firm has great potential for future development and good reputation, which can help the firm to obtain bank loans and social funds, reduce financial risks.

Since government subsidies can effectively help enterprises reduce the costs and risks. It is beneficial to reduce the risk of the firm and has a positive contribution to the financial quality of the firm, that is, government subsidies can inhibit the occurrence of financial reporting fraud caused by cost stickiness. Therefore, the second hypothesis of this paper is made:

H2: Government subsidies have a positive moderating effect on the relationship between corporate cost stickiness and financial statement fraud.

3 RESEARCH DESIGN

3.1 Sample and Data

This paper takes the A-share listed companies from 2016-2021 as the initial data, and in order to eliminate the effects of extreme and erroneous values, this paper screens the data as follows: (1) exclude financial and insurance listed companies and real estate listed companies; (2) exclude ST companies and ST* companies with abnormal business environment and unrepresentative data; (3) eliminate companies with missing data or data that do not meet the requirements of data measurement; (4) shrink the tails of the sample at the level of upper and lower 1% for continuous variables. After screening, this paper finally obtains 11208 sample observations.

The data used in this paper are mainly from the CSMAR database.

3.2 Variable Definition

1） Dependent Variable: Financial Reporting Fraud: In this paper, Financial Reporting Fraud represents all types of violations disclosed by the China Securities Regulatory Commission, Shenzhen Stock Exchange, Shanghai Stock Exchange, and Ministry of Finance for listed companies, including fictitious profits, false listing of assets, material omissions, and inaccurate disclosures. Indicators variable equals to 1 for a firm with fraudulent matters and equals to 0 otherwise.

2） Independent Variable: Cost Stickiness: As for cost stickiness, the commonly used models are ABJ’s model and Weiss’s model, but ABJ’s model is usually used to measure the level of cost stickiness in an industry, only applicable to test the influence of other factors on cost stickiness and unable to be treated as an independent variable. Therefore, in this paper, based on the cost stickiness measurement model proposed by Weiss (2010) and modified with reference to the methods of Rouxelin et al. (2018), cost stickiness is valued by model 1.

$$STICKY_{i,t} = LN\left(\frac{\Delta COST}{\Delta SALE}\right)_{i,t} - LN\left(\frac{\Delta COST}{\Delta SALE}\right)_{i,\ \underline{t}} \quad t, \underline{t}, \in (t, \dots, t-3). \tag{1}$$

In model 1, t and $\underline{t}$ is the most recent of the last four quarters with an increase (decrease) in sales, $\Delta COST = COST_{i,t} - COST_{i,\ t-1}$ and $\Delta SALE = SALE_{i,t} - SALE_{i,\ t-1}$. For more accurate

values, I took the absolute value of $STICKY$. Therefore, the higher values mean imply more cost asymmetry level.

3) Regulatory Variable: Government Subsidies: Following Luo et al. (2019), this paper uses the amount of direct government subsidies to measure government subsidies. Specifically, in order to minimize large number of subsidies, I took the natural logarithm of government subsidies for the empirical research.

4) Control Variables: Referring to Salim et al. (2021), five financial factors are selected in this paper as control variables, which are: rate of assets, receivables, firm age, capital, and leverage of firm. Additionally, basing on pervious lectures, two factors also are participated in as control variables, which are: rate of equity and size. Variable definitions are shown in Table 1.

Table 1: Variable Definitions.

Variables	Definition
Dependent Variable	
FRAUD	Indicator variable equal to 1 for fraud firms at the beginning of the year reporting fraud begins, and 0 otherwise.
Independent Variable	
STICKY	The absolute value of Model (1)
Control Variables	
LEV	Total debts including long- and short-term debt divided by total assets.
ROA	Net income divided by total assets.
Capital	Net property, plant, and equipment scaled by total assets.
Receivable	Accounts receivable scaled by total assets.
ROE	Net income divided by equity
AGE	The years of existence
SIZE	Natural logarithm of total assets.
Regulated Variable	
Subsidies	Natural logarithm of total government subsidies in that year

3.3 Model Setting

Based on the above variables, the model used for regression analysis in this paper is set as follows:

$$FRAUD = \alpha_0 + \alpha_1 \times STICKY + \sum Control\ Variables + \partial \quad (2)$$

Since the values of FRAUD are 0 or 1, the regression using logit model. If α_1 is significant positive, it means that there is a positive relationship between the degree of cost stickiness and corporate financial reporting fraud, i.e., the higher the degree of cost stickiness, the higher the possibility of corporate financial reporting fraud; on the contrary, α_1 is significant negative, it means that there is a negative relationship between the degree of cost stickiness and corporate financial statement fraud. That is, the higher the degree of cost stickiness, the lower the possibility of financial statement fraud of enterprises.

In order to verify the moderating effect of government subsidies on the relationship between cost stickiness and financial statement fraud, the following regression model is set up in this paper:

$$FRAUD = \alpha_0 + \alpha_1 \times STICKY + \alpha_2 \times Subsidies + \alpha_3 \times STICKY \times Subsidies + \sum Control\ Variables + \partial \quad (3)$$

The moderating effect of government subsidies between cost stickiness and financial reporting fraud is determined by α_3. In this model, α_3 is matters.

4 EMPIRICAL RESULTS

4.1 Descriptive Statistics

The results of descriptive statistics of the main variables of this study are shown in the Table 2.

According to Table 2, the median of the financial reporting fraud is 0, and the mean is 0.016, which proves that most of the listed companies are free from financial reporting fraud. So, the rare event regression model is used. The standard deviation of cost stickiness is 0.827, which indicates that cost stickiness level is not large difference among different listed companies. The mean and median are

0.669 and 0.361 respectively, which means the cost stickiness situation is common among listed companies in China. For government subsidies, the standard deviation is 1.699, and the mean is 16.776, which indicates that the amount of government subsidies varies widely among different listed companies.

Table 2: Descriptive Statistics.

Variable	Mean	Standard Deviation	Min	Media	Max	Sample
Fraud	0.016	0.126	0.000	0	1	11208
STICKY	0.669	0.827	0.003	0.361	4.870	11208
ROA	0.048	0.039	0.002	0.039	0.192	11208
ROE	0.085	0.063	0.003	0.072	0.331	11208
Receivable	0.122	0.063	0.001	0.098	0.493	11208
Age	20.35	5.503	5.000	20	63	11208
Capital	0.449	0.198	0.002	0.434	0.977	11208
Size	22.59	1.315	17.55	22.43	28.64	11208
Lev	0.429	0.187	0.01	0.423	0.999	11208
Subsidies	16.776	1.699	2.536	16.807	23.231	11208

4.2 Main Regression Results

The results of the main regression and moderating variables are shown on Table 3.

The results of the main regression as Column 1 shows.

For Model 2, the results show in Column 1. There is a significant positive relationship between Sticky and Fraud with a correlation coefficient of 18.3%, which is significant at the 5% level. This indicates that as the degree of cost stickiness of the firm increases, the more likely the firm is to experience Fraud, which is consistent with the assumptions of hypothesis one.

The results of the moderating variables are shown in Column 2.

The regression results from Model 3 show that Fraud is negatively correlated with cost stickiness and government subsidy cross value at the 5% level with a correlation coefficient of -0.082. This indicates that government subsidy can negatively moderate the relationship between cost stickiness level and financial reporting fraud.

Table 3: Main Regression Results.

	Column 1	Column 2
	Fraud	***Fraud***
STICKY	0.177**	1.365**
	(2.34)	(2.11)
Subsidies	-	0.022
	-	(0.29)
STICKY× Subsidies	-	-0.074*
	-	(-1.85)
ROA	-2.987	-1.523
	(-1.10)	(-0.52)
ROE	-0.010*	-0.011*
	(-1.75)	(-1.91)
Receivable	2.592***	2.361***
	(3.96)	(3.05)

Age	0.011	0.010
	-0.8	(0.59)
Capital	0.63	0.892*
	(1.39)	(1.72)
Size	-0.197***	-0.168**
	(-3.18)	(-1.97)
Lev	1.603***	2.020***
	(3.15)	(3.41)
Constant	-0.855	-2.183
	(-0.66)	(-1.41)
Year fixed effects	Yes	Yes
adj_R^2	0.0319	0.0341
Observation	11208	11208

Note: "*" "**" "***"indicate statistically significant when the correlation coefficient stands at 10%, 5%, and 1%.

4.3 Robustness Test and Endogeneity Test

To verify the robustness of the evaluation method and the explanatory power of the indicators in Model 1, this paper removes the sample during the new crown epidemic in 2019 and retains the 9197 samples from 2016-2018 and 2020-2021, and regresses the samples with the same model, and the results shown in Table 4 indicate that fraud remains positively correlated with the cost stickiness profile of the company at the 5% level, with a correlation coefficient of 17.8%. It indicates that the relationship between fraud and cost stickiness still exists in the conventional economic environment.

Table 4: Robustness Test Results.

	Fraud
STICKY	0.170**
	(2.03)
ROA	-2.154
	(-0.77)
ROE	-0.011*
	(-1.94)
Receivables	2.376***
	(3.41)
Age	0.019
	(1.40)
Capital	0.328
	(0.67)
Size	-0.219***
	(-3.19)
Lev	1.701***
	(3.09)
Constant	-0.415
	(-0.29)
Year fixed effect	Yes
adj_R^2	0.0337
Observation	9197

Note: "*" "**" "***"indicate statistically significant when the correlation coefficient stands at 10%, 5%, and 1%

Because the relationship between independent variable and dependent variable may be driven by heterogeneity in firm factors that cause they move together, so I made the Two-stage least squares estimation. I used the lagging items of STICKY as in the first stage regression, then used lagging items of STICKY as a substitution of independent variable in second stage. The two stages' results show in Table 5.

Table 5: Endogeneity Test Results.

Variables	**Stage 1**	**Stage 2**
	STICKY	***Fraud***
STICKY_1	0.146***	2.390***
	(10.54)	(4.25)

ROA	1.427*	-17.915***
	(1.82)	(-3.45)
ROE	0.038	3.580*
	(0.09)	(1.74)
Receivables	-0.111	3.805***
	(-1.21)	(4.78)
Age	0	-0.016
	-0.07	(-0.92)
Capital	0.595***	-0.697
	(10.5)	(-1.06)
Size	-0.006	-0.204**
	(-0.73)	(-2.46)
Lev	-0.455***	1.548**
	(-5.05)	(1.96)
Constant	1.171***	-1.23
	(2.74)	(-0.70)
Year fixed effect	Yes	Yes
adj_R^2	0.0801	0.0512
Observation	11208	11208

Note: "*" "**" "***"indicate statistically significant when the correlation coefficient stands at 10%, 5%, and 1%.

The results of the first stage of the regression are shown in the first column, and the results indicate that the independent variable is positively and significantly related to its lagged term, STICKY_1, at the 1% level with a coefficient of 0.146. In the second stage of the regression, the lagged term from the first stage is used to form STICKY_1 and regressed with model one, and the results indicate that the relationship between fraud and sticky is still significantly and positively related at the 1% level. Therefore, the positive correlation result between cost stickiness and financial reporting fraud can still be supported.

4.4 Further Test

In order to test the impact of the degree of digital economy on cost stickiness and financial reporting fraud, in further test, I partly refer to the method of Li, Y. et al (2021), and uses the text extraction method based on the relevant indicators in the CSMAR database on the evaluation of the degree of digitalization of enterprises, and extracts "Artificial Intelligence Technology", "Blockchain Technology", "Big Data Technology", "Cloud Computing Technology" and "Digital Technology Application". The frequency of these keywords is summarized to calculate the digitalization degree of enterprises. The higher the frequency of these keywords, the higher the degree of digitalization of the enterprise. After that, the median digitization degree was used as the basis for sample grouping, and the sample was divided into high digitization degree (DE high) and low digitization degree (DE low) to further investigate the role of digitization degree.

Table 6 presents the relationship between the two sets of results.

The results show that when firms have low degree of digitization, fraud and sticky are significantly positively correlated at the 1% level with a correlation coefficient of 0.339; while when firms have high degree of digitization, there is no correlation between fraud and sticky.

Table 6: Further Test Results.

Variables	**DE high**	**DE low**
	Fraud	***Fraud***
DE high	-0.149	
	(-0.96)	
DE low		0.292***
		(3.35)
ROA	-4.218	-4.485
	(-0.99)	(-0.87)
ROE	2.581*	-1.054
	(1.72)	(-0.54)
Receivables	3.624***	2.269***
	(3.01)	(2.78)
Age	-0.006	0.018
	(-0.24)	(1.09)
Capital	1.702**	0.142
	(2.13)	(0.25)
Size	-0.261***	-0.127
	(-2.93)	(-1.43)
Lev	1.519	1.318*
	(1.63)	(1.74)
Constant	-0.059	-2.03
	(-0.03)	(-1.11)
Year fixed effect	Yes	Yes

Adj R^2	0.0526	0,0426
Observation	4312	6896

Note: "*" "**" "***"indicate statistically significant when the correlation coefficient stands at 10%, 5%, and 1%.

The results show that with the development of digital economy, the possibility of financial reporting fraud in enterprises with low digitalization will be higher than that in enterprises with high digitalization due to cost stickiness. Therefore, enterprises should pay attention to digital development and vigorously promote the digital reform of enterprises.

5 CONCLUSION

To explore the relationship between cost stickiness and financial reporting fraud, this paper uses rare event regression model to prove the hypothesis. Through regression analysis of the data of 11208 listed companies in the five-year period of 2016-2021, this paper finds that (1) there is a positive relationship between cost stickiness and financial reporting fraud; (2) government subsidies, as factors that can stabilize the development of enterprises, play a positive correlation between cost stickiness and financial statement fraud. (3) In the context of digital economy, the high degree of digitalization of enterprises can suppress the positive influence of cost stickiness on financial reporting fraud to a certain extent, reduce the occurrence of financial reporting fraud, and improve the level of information disclosure and the quality of development of enterprises

The findings of this paper not only enrich the research on the results of cost stickiness, but also make inspiration for the high-quality development of Chinese enterprises, based on which, this paper makes the following suggestions: (1) Enterprise managers should pay attention to the impact of the cost stickiness phenomenon on the stability of enterprise surpluses. (2) Shareholders should strengthen the supervision of managers, pay attention to the efficiency and effectiveness of capital utilization in the production and operation process. (3) The state and government should further use the "visible hand" to reasonably guide the use of resources by enterprises, pay attention to the efficiency of the use of government subsidies and use a variety of ways to encourage companies to make digital revolution and promote the digital economy.

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REFERENCES

Amiram D, Bozanic Z, Cox J D, et al. Financial reporting fraud and other forms of misconduct: a multidisciplinary review of the literature[J]. Review of Accounting Studies, 2018, 23(2): 732-783.

Anderson M C, Banker R D, Janakiraman S N. Are selling, general, and administrative costs "sticky"?[J]. Journal of accounting research, 2003, 41(1): 47-63.

Banker R D, Chen L. Predicting earnings using a model based on cost variability and cost stickiness[J]. The accounting review, 2006, 81(2): 285-307.

Breuer M. How Does Financial-Reporting Regulation Affect Industry-Wide Resource Allocation?[J]. Journal of Accounting Research, 2021, 59(1): 59-110.

Bonner S E, Palmrose Z V, Young S M. Fraud type and auditor litigation: An analysis of SEC accounting and auditing enforcement releases[J]. Accounting Review, 1998: 503-532.

Carcello J V, Nagy A L. Audit firm tenure and fraudulent financial reporting[J]. Auditing: a journal of practice & theory, 2004, 23(2): 55-69.

Chahine S, Fang Y, Hasan I, et al. CEO Network Centrality and the Likelihood of Financial Reporting Fraud[J]. Abacus, 2021, 57(4): 654-678.

Chahine S, Fang Y, Hasan I, et al. CEO Network Centrality and the Likelihood of Financial Reporting Fraud[J]. Abacus, 2021, 57(4): 654-678.

Church B K, McMillan J J, Schneider A. Factors affecting internal auditors' consideration of fraudulent financial reporting during analytical procedures[J]. Auditing: A Journal of Practice & Theory, 2001, 20(1): 65-80.

Claro S. Supporting inefficient firms with capital subsidies: China and Germany in the 1990s[J]. Journal of Comparative Economics, 2006, 34(2): 377-401.

Davidson R H. Who did it matters: Executive equity compensation and financial reporting fraud[J]. Journal of Accounting and Economics, 2022, 73(2-3): 101453.

Donelson D C, Ege M S, McInnis J M. Internal control weaknesses and financial reporting fraud[J]. Auditing: A Journal of Practice & Theory, 2017, 36(3): 45-69.

Duffie D, Lando D. Term structures of credit spreads with incomplete accounting information[J]. Econometrica, 2001, 69(3): 633-664.

Francis J, LaFond R, Olsson P M, et al. Costs of equity and earnings attributes[J]. The accounting review, 2004, 79(4): 967-1010.

Homburg C, Hoppe A, Nasev J, et al. Cost stickiness and

credit risk[J]. Available at SSRN 2792085, 2018.
Im C, Nam G. Does Ethical Behavior of Management Influence Financial Reporting Quality? [J]. Sustainability, 2019, 11(20): 5765.
Johnson V E, Khurana I K, Reynolds J K. Audit-firm tenure and the quality of financial reports[J]. Contemporary accounting research, 2002, 19(4): 637-660.
Kabuye F, Nkundabanyanga S K, Opiso J, et al. Internal audit organisational status, competencies, activities and fraud management in the financial services sector[J]. Managerial Auditing Journal, 2017.
Kim M, Prather-Kinsey J. An additional source of financial analysts' earnings forecast errors: imperfect adjustments for cost behavior[J]. Journal of Accounting, Auditing & Finance, 2010, 25(1): 27-51.
Lee C Y, Wu H L, Pao H W. How does R&D intensity influence firm exploravitveness? Evidence of R&D active firms in four advanced countries[J]. Technovation, 2014, 34(10): 582-593.
Li Y, Yang X, Ran Q, et al. Energy structure, digital economy, and carbon emissions: evidence from China[J]. Environmental Science and Pollution Research, 2021, 28(45): 64606-64629.
Luo G, Liu Y, Zhang L, et al. Do governmental subsidies improve the financial performance of China's new energy power generation enterprises? [J]. Energy, 2021, 227: 120432.
Meuleman M, De Maeseneire W. Do R&D subsidies affect SMEs' access to external financing? [J]. Research Policy, 2012, 41(3): 580-591.
Peng H, Liu Y. How government subsidies promote the growth of entrepreneurial companies in clean energy industry: An empirical study in China[J]. Journal of Cleaner Production, 2018, 188: 508-520.
Purda L, Skillicorn D. Accounting variables, deception, and a bag of words: Assessing the tools of fraud detection[J]. Contemporary Accounting Research, 2015, 32(3): 1193-1223.
Rouxelin F, Wongsunwai W, Yehuda N. Aggregate cost stickiness in GAAP financial statements and future unemployment rate[J]. The Accounting Review, 2018, 93(3): 299-325.
Schuchter A, Levi M. The fraud triangle revisited[J]. Security Journal, 2016, 29(2): 107-121.
Song M, Zheng C, Wang J. The role of digital economy in China's sustainable development in a post-pandemic environment [J]. Journal of Enterprise Information Management, 2021.
Soratana K, Harden C L, Zaimes G G, et al. The role of sustainability and life cycle thinking in US biofuels policies [J]. Energy Policy, 2014, 75: 316-326.
Subramaniam C, Watson M W. Additional evidence on the sticky behavior of costs[M]//Advances in Management Accounting. Emerald Group Publishing Limited, 2016, 26: 275-305.
Svabova L, Kramarova K, Chutka J, et al. Detecting earnings manipulation and fraudulent financial reporting in Slovakia [J]. Oeconomia Copernicana, 2020, 11(3): 485-508.
Weiss D. Cost behavior and analysts' earnings forecasts[J]. The Accounting Review, 2010, 85(4): 1441-1471.
Wu A. The signal effect of government R&D subsidies in China: does ownership matter? [J]. Technological Forecasting and Social Change, 2017, 117: 339-345.