

Article

# COVID-19, nature of ownership and surplus value correlation

Zhiqi Yuan<sup>1</sup>, Xuanming Zhang<sup>2,\*</sup><sup>1</sup> School of information Technology and Management, University of International Business and Economics, Beijing 100029, China<sup>2</sup> School of Insurance, University of International Business and Economics, Beijing 100029, China\* **Corresponding author:** Xuanming Zhang, [wxczxm20020706@163.com](mailto:wxczxm20020706@163.com)

---

**CITATION**

Yuan Z, Zhang X. COVID-19, nature of ownership and surplus value correlation. *Business and Management Theory and Practice*. 2025; 2(1): 3049. <https://doi.org/10.54517/bmtp3049>

---

**ARTICLE INFO**

Received: 5 November 2024

Accepted: 20 December 2024

Available online: 9 January 2025

---

**COPYRIGHT**

Copyright © 2025 by author(s).

*Business and Management Theory and Practice* is published by Asia Pacific Academy of Science Pte. Ltd.

This work is licensed under the Creative Commons Attribution (CC BY) license.

<https://creativecommons.org/licenses/by/4.0/>

**Abstract:** The outbreak of the COVID-19 epidemic has caused major changes in China's economic environment. This paper takes the outbreak of the new crown epidemic in early 2020 as a node, and takes the annual reports of A-share listed companies from 2018 to 2021 as a sample, and uses the price model and income model to empirically test the impact of the new crown epidemic on and after the impact of accounting information and property rights. The moderating effect of structure on both. The research results show that the outbreak of the new crown epidemic has enhanced the correlation of surplus value, and in the normalization stage of the epidemic, the correlation of surplus value will return to the original state, while state-owned property rights can speed up the recovery of the correlation of surplus value, making it drop to the original state. There are levels.

**Keywords:** COVID-19; correlation of earnings value; nature of property rights

---

## 1. Introduction

The primary objective of this research is to comprehensively investigate the impact of the COVID-19 epidemic on the correlation of accounting information value and the moderating role of the property rights structure therein. By doing so, we aim to provide valuable insights for investors' decision-making and enterprise management. Before the outbreak of the COVID-19 pandemic, China's capital market had been experiencing continuous development, with an increasing number of listed companies and a growing diversity of investors. State-owned enterprises played a crucial role in the national economy, often undertaking strategic tasks and being subject to specific government policies and regulations. Understanding these pre-epidemic characteristics is essential for analyzing the subsequent changes brought about by the epidemic.

As an information transmission mechanism, financial accounting information can reduce the impact of information barriers on investors' price decisions, thereby achieving effective feedback of sustainable company intrinsic value in the capital market. This is the theoretical reason why accounting exists [1]. Therefore, whether accounting information that is crucial to investors is losing its value relevance has become a common concern in the accounting field [2], which has also resulted in a large number of studies on the value of accounting information. Related literature, such as discovering corporate strategic differences [3], news media [4], stock market rumors [5], financial assets Configuration [6] and so on have a significant impact on the correlation of earnings value, but most of this literature ignores the impact of changes in the social environment. On the one hand, accounting earnings information is a direct reflection of corporate performance and directly affects investors' price decisions. On the other hand, under the conditions of investors' limited attention,

investors' psychological fluctuations caused by drastic changes in the social environment will also affect expected returns [7]. Therefore, changes in the external social environment, including the COVID-19 epidemic, may affect investors' attention allocation to accounting earnings information, leading to a reduction in the relevance of earnings value, which is then reflected in investors' valuation process of enterprises.

The main contributions of this article are: First, from the perspective of earnings value correlation, it empirically tests the impact of the COVID-19 epidemic on capital market efficiency, supplements relevant research on the impact of major social events on the capital market, and helps investors predict major The impact of social fluctuations on the market value of enterprises; second, the existing literature mainly focuses on the impact of the internal and external basic environment of the enterprise on the correlation of earnings value. This article studies the correlation of earnings value from the perspective of major social events, which helps to expand the research on the influencing factors of earnings value correlation; third, from the perspective of property rights nature, this article compares how the COVID-19 epidemic affects the earnings value correlation of state-owned and non-state-owned enterprises. It is found that state-owned property rights can enhance the resilience of the earnings value correlation and help it return to the original level, thus supplementing the relevant research on property rights nature.

## **2. Theoretical analysis and research hypotheses**

The accounting information disclosed by listed companies is an important basis for investors to make price decisions on stocks. Among the numerous accounting information disclosed by companies, compared with other information such as corporate revenue, accounting earnings are still the core factor in investors' price decisions [8]. At the same time, institutional investors still focus on corporate financial information [9]. However, in addition to financial information, there is also non-financial information that affects stock prices. Stock prices essentially depend on the game between corporate financial information and non-financial information in investor decision-making.

According to the investor attention distraction hypothesis, investors actually face the optimal allocation problem under limited attention conditions [10]. The emergence of new information will distract investors' limited attention, causing It cannot respond promptly and adequately to original relevant information. At the stage when a major social event occurs, the limited attention is allocated by investors to process the information contained in the social event and respond accordingly, which will compress the attention that should have been allocated to the company's accounting earnings information. However, it is worth noting that the social shutdown caused by the COVID-19 epidemic has caused investors' attention originally devoted to work to become residual attention, that is, investors' limited attention has increased significantly, and the shutdown has caused the vast majority of investors to lose Stable salary, so in order to obtain income, investors will actively or passively invest their remaining attention in financial markets that are not subject to epidemic prevention and control. In addition, the instability of income caused by shutdowns and production

shutdowns reduces investors' risk tolerance, so investors will seek information sources that can enhance psychological safety. Compared with non-financial information that is difficult to distinguish true from false in the market, financial information is more likely to win the favor of investors due to its objectivity. Therefore, when the outbreak of the new crown epidemic leads to a shutdown of production, the relevance of the company's accounting value will be significantly improved, and accounting the value relevance of earnings information will also change in the same direction as the intensity of the COVID-19 outbreak.

In the post-epidemic era, society has begun to fully resume production. On the one hand, investors have restored their original stable source of income, so investors' risk tolerance has increased. Based on the information asymmetry theory, compared with public financial information, the acquisition of non-financial information can better satisfy investors' comprehensive needs. Due to the information demand motivation and the increase in risk preference due to the increase in risk tolerance, investors' acquisition of a small amount of non-financial information will increase a greater proportion of psychological satisfaction, leading investors to pursue non-financial information more. On the other hand, returning to work means that investors' remaining attention returns to their original work areas, causing the increased attention to the company's financial information to gradually decrease to the original level. Combining the above two aspects, the company's accounting value correlation will decrease significantly after production is resumed. Based on the above analysis, this article proposes Hypothesis 1 and Hypothesis 2.

Hypothesis 1: The outbreak of the new crown epidemic enhances the correlation of accounting earnings value.

Hypothesis 2: The full resumption of production in society in the post-epidemic era reduces the correlation of accounting earnings value.

The difference in property rights structure determines that investors have different demands for accounting information from state-owned enterprises and non-state-owned enterprises [11]. On the one hand, due to the macro-political and economic goals of central and local governments, state-owned enterprises are more likely and more likely to invest in inefficient projects. On the other hand, when state-owned enterprises encounter operating risks, they are more likely to obtain financing guarantees and subsidy payments from the government [12], while the operating goal of private enterprises is to maximize the interests of shareholders. Performance is the only criterion for judging the operating status of an enterprise. Therefore, after encountering the impact of major social events, compared with non-state-owned enterprises, state-owned enterprises, with their unique government guarantees and social attributes, can help the correlation of accounting earnings value return to its original state faster, thus making it easier for them to bear the impact of major social events. State-owned property rights can speed up the recovery of the impact of social fluctuations on the correlation of accounting values. Based on the above analysis, this article proposes Hypothesis 3.

Hypothesis 3: State-owned property rights can accelerate the recovery of the impact of social fluctuations on the correlation of accounting earnings value.

To further enrich the theoretical analysis and research hypotheses, we have included additional literature readings that provide a more comprehensive theoretical

basis for our study. This includes research on the impact of social events on accounting information value and the role of property rights structure.

### 3. Sample selection and research design

#### 3.1. Sample source and processing

This article uses the annual report data of A-share listed companies from 2018 to 2021 as a research sample [13], and further screens the samples through the following criteria: (1) excluding listed companies in financial industries such as banking, securities and investment; (2) excluding listed companies with shareholder equity less than 0 company; (3) Eliminate listed companies with missing data. After screening, a total of 3367 samples were obtained. Since this article intends to study whether the nature of property rights can enhance the stability of earnings value correlation under the influence of major events, this article uses state-owned enterprises in the sample as the treatment group and non-state-owned enterprises as the control group. There were 1106 samples from the treatment group and 2261 samples from the control group. At the same time, in order to eliminate the influence of extreme values, this article performs Winsorize processing on all continuous variables except dummy variables at the upper and lower 1%. Considering that panel data can increase the degree of freedom of the data and reduce the degree of collinearity among explanatory variables, the sample data are transformed from unbalanced panel to balanced panel data. The annual reports of listed companies required for this article come from the Wind database. The data processing and empirical research of this article were completed using SPSS14.0. The selection of the sample period from 2018 to 2021 is deliberate. This time frame encompasses the outbreak and subsequent normalization of the COVID-19 epidemic, providing a comprehensive window to observe the dynamic changes in accounting value correlation. During this period, enterprises faced various challenges and adjustments, allowing us to capture the full range of impacts of the epidemic. Additionally, the sample includes a diverse range of industries and enterprise sizes, which enhances its representativeness. The data from different industries and sizes can reflect the heterogeneous responses of enterprises to the epidemic, thereby increasing the generalizability of our findings.

#### 3.2. Empirical model construction

Drawing on Ohison's approach, this article uses the price model to test the correlation of accounting earnings value.

$$P_{i,t} = \alpha_0 + \alpha_1 EPS_{i,t} + Controls_{i,t} + \xi_{i,t} \quad (1)$$

Among them, considering that investors need a certain amount of time to absorb after the company publishes its annual report,  $P_{i,t}$  is the closing price of company  $i$ 's stock on the last trading day in April of year  $t + 1$ ;  $EPS_{i,t}$  represents the stock price at the end of year  $t$  Earnings per share;  $Controls_{i,t}$  are other factors that affect the relevance of corporate earnings value, including corporate growth (GROW), capital structure (LEV), corporate size (SIZE), and whether there is a loss (LOSS).

Most empirical research in the accounting field explores its impact on the relevance of earnings value through the interaction term between earnings per share

and key variables. Therefore, this article builds model (2) by adding a dummy variable for the year of the COVID-19 outbreak to test the impact of the COVID-19 outbreak on the correlation of earnings value.

$$P_{i,t} = \alpha_0 + \alpha_1 \text{EPS}_{i,t} + \alpha_2 \text{YEAR}_{i,t} + \alpha_3 \text{YEAR}_{i,t} \times \text{EPS}_{i,t} + \alpha_4 \text{TREAT}_{i,t} + \alpha_5 \text{TREAT}_{i,t} \times \text{EPS}_{i,t} + \alpha_6 \text{YEAR}_{i,t} \times \text{TREAT}_{i,t} + \alpha_7 \text{YEAR}_{i,t} \times \text{TREAT}_{i,t} \times \text{EPS}_{i,t} + \text{Controls}_{i,t} + \zeta_{i,t} \quad (2)$$

Among them, YEAR is the year dummy variable, which takes 0 before 2019 (inclusive) and takes 1 after 2019. TREAT is an inter-group dummy variable, which takes 0 for control group samples and 1 for treatment group samples. The regression coefficient  $\alpha_7$  of the cross-product item  $\text{YEAR}_{i,t} \times \text{TREAT}_{i,t} \times \text{EPS}_{i,t}$  represents the change in the correlation between the earnings value of the companies in the treatment group compared with the companies in the control group during the normalization period of the new crown epidemic. If  $\alpha_7$  is significantly negative, it means that the correlation of earnings value decreases after the normalization of the epidemic; if  $\alpha_7$  is significantly positive, it means that the correlation of earnings value increases after the normalization of the epidemic; if it is not significant, it means that there is no impact. The regression coefficient  $\alpha_3$  of  $\text{YEAR}_{i,t} \times \text{EPS}_{i,t}$  represents the difference in earnings response coefficients of companies in the control group before and after the outbreak of the new crown epidemic. The regression coefficient  $\alpha_5$  of  $\text{TREAT}_{i,t} \times \text{EPS}_{i,t}$  represents the degree of difference in the correlation between the earnings values of the treatment group and the control group before the outbreak of the new crown epidemic. The specific definition of variables is shown in **Table 1**:

**Table 1.** Variable definition and description.

Variable type	Variable name	Variable symbol	Variable definition
Explained variable	stock price	$P_{i,t}$	The closing price of the stock on the last trading day of April in year $t + 1$
	earnings per share	EPS	Net profit/total equity
Explanatory variables	year	YEAR	Dummy variable, takes 0 before 2019 (inclusive) and takes 1 after 2019
	Between groups	TREAT	Dummy variable, the control group sample takes 0, otherwise it takes 1
control variable	Enterprise size	SIZE	Natural logarithm of total assets
	Enterprise growth	GROW	(Operating income at the end of the current period/Operating income at the end of the previous period) - 1
	Capital Structure	LEV	Total liabilities/Total assets
	Whether there is a loss	LOSS	Dummy variable, takes 0 when the net profit for the current period is positive, otherwise takes 1

## 4. Analysis of empirical results

### 4.1. Descriptive statistics

**Table 2** presents the descriptive statistical analysis. From the results, the mean and median of the stock price ( $p$ ) are 69.999 and 33.126 respectively, indicating that the market value of the company is left skewed [14]. The minimum and maximum values of earnings per share (EPS) are -2.150 and 3.564, indicating that there are large

differences in the accounting earnings of the sample companies. The mean LEV is 43.190 and the range is 86.491, which shows that the asset structure of the sample companies is generally reasonable, but there are still obvious differences between the samples. This may be caused by different industries and company growth stages, which indirectly explains the selected samples' diversity.

**Table 2.** Descriptive statistical analysis of main variables.

Variable	Mean	Standard	Deviation	Minimum	Maximum
<i>p</i>	69.999	133.731	33.126	4.010	1321.003
EPS	0.356	0.692	0.270	-2.150	3.564
YEAR	0.50	0.500	0.500	0	1
SIZE	22.318	1.381	22.178	19.106	26.596
GROW	0.213	2.268	0.099	-0.961	206.101
LEV	43.190	19.656	42.515	6.376	92.867
LOSS	0.140	0.348	0	0	1

#### 4.2. Correlation coefficient analysis

**Table 3** lists the correlation coefficient matrix of each variable, in which the lower left corner is the Pearson correlation coefficient matrix and the upper right corner is the Spearman correlation coefficient matrix. From the results, the Pearson and Spearman correlation coefficients between *p* and EPS are both significant at the 0.05 level, indicating that the company's stock price is significantly positively related to accounting earnings information. Other control variables also have a significant correlation with *p*, and the influence of such factors should be controlled. Considering that there may be a high degree of multicollinearity among the selected factors, this article uses the variance inflation factor to diagnose the linear correlation between the factors. The results show that the VIF values are all less than 3, so there is no multicollinearity in the factors selected in this article. linear problem.

**Table 3.** Pearson and Spearman correlation coefficient analysis.

Variable	<i>p</i>	EPS	YEAR	SIZE	GROW	LEV	LOSS
<i>p</i>	1	0.345**	0.010	0.250**	0.153**	-0.079**	-0.162**
EPS	0.340**	1	-0.018**	0.199**	0.360**	-0.148**	-0.598**
YEAR	0.049**	0.010	1	0.066**	0.006	0.052**	0.077**
SIZE	0.258**	0.207**	0.067**	1	0.030**	0.455**	-0.078**
GROW	0.009	0.049**	-0.013	0.037**	1	0.014	-0.284**
LEV	-0.025**	-0.163**	0.054**	0.455**	0.034**	1	0.182**
LOSS	-0.090**	-0.573**	0.077**	-0.078**	-0.047**	0.199**	1

Note: \*\*\*, \*\*, \* indicate significant at the level of 0.01, 0.05 and 0.10 respectively; the same below.

#### 4.3. Empirical test

**Table 4** lists the multiple regression results. In order to compare the impact of property rights structure on the correlation of accounting value after the epidemic normalizes, columns (1), (3), and (5) represent the model regression results from 2018 to 2021, and columns (2), (4), and (6) represents the model regression results from

2020 to 2021. Columns (1) and (2) represent the regression results of the price model, and columns (3) and (4) represent the regression results of adding YEAR, TREAT and the corresponding cross-multiplication terms, columns (5), (6) represent the regression results of adding control variables SIZE, GROW, LEV, LOSS.

As can be seen from column (1), the regression coefficients of stock price ( $p$ ) and earnings per share (EPS) are significantly positive at the 0.01 level. This result shows that the price model is suitable for the Chinese market, and accounting earnings information is related to stocks. There is a value correlation in price. As can be seen from column (3), the regression coefficient of  $\text{YEAR} \times \text{EPS}$  is 0.111, which is significantly positive at the 0.01 level. This shows that compared with before 2019 (inclusive), the accounting earnings value after 2019 is related to The correlation is significantly improved, indicating that social events such as the COVID-19 epidemic have an impact on the correlation of accounting earnings value, and the outbreak of the COVID-19 epidemic has increased the correlation of earnings value [15]; the regression coefficient of  $\text{YEAR} \times \text{EPS}$  in column (4) is significantly negative, indicating that compared with 2020, after the degree of social production recovery increases in 2021, the correlation of accounting surplus value begins to decline significantly.

The regression coefficient of  $\text{TRAET} \times \text{EPS}$  is 0.084, which is significantly positive at the 0.01 level, indicating that before the outbreak of the new crown epidemic, the earnings value correlation of state-owned enterprises was higher than that of non-state-owned enterprises. The regression coefficient of YEAR There is no significant difference in the impact of the COVID-19 epidemic. However, in 2020–2021, compared with non-state-owned enterprises, the COVID-19 epidemic significantly reduced the correlation of the surplus value of state-owned enterprises. The possible reason is the implementation of the government's package of stability maintenance policies. The state-owned enterprises, which are the lifeblood of the national economy, are the first to return to the state before being affected, that is, the correlation of surplus value is reduced to the original level. It can be seen from columns (5), (6) that after adding all the control variables, the above results are still supported.

To sum up, the regression in **Table 4** basically supports Hypothesis 1, Hypothesis 2 and Hypothesis 3 of this paper. On the one hand, the outbreak of the new crown epidemic has significantly increased the positive relationship of accounting earnings value correlation. This means that major social events such as the COVID-19 epidemic have increased investors' free time, allowing investors to devote more attention to accounting information, thereby increasing the relevance of accounting earnings value. On the other hand, during the normalization period of the new crown epidemic, the accounting value correlation will be significantly corrected, and compared with non-state-owned enterprises, the accounting value correlation of state-owned enterprises will decline faster. This means that during the social recovery stage, state-owned property rights will recover more quickly and return to their original state more quickly.

**Table 4.** Correlation between annual dummy variables and earnings value.

variable	(1)	(2)	(3)	(4)	(5)	(6)
EPS	0.274*** (27.473)	0.371*** (32.731)	0.213*** (14.569)	0.369*** (18.417)	0.249*** (16.165)	0.398*** (18.747)
YEAR			0.015 (1.349)	-0.018 (-1.149)	-0.005 (-0.513)	-0.027* (-1.858)
YEAR × EPS			0.111*** (7.162)	-0.065** (-3.052)	0.100*** (6.700)	-0.071*** (-3.462)
TREAT			-0.030** (-2.293)	-0.053** (-2.993)	-0.076*** (-5.905)	-0.100*** (-5.659)
TREAT × EPS			0.084*** (5.237)	0.128*** (5.742)	0.048** (3.079)	0.101*** (4.711)
YEAR × TREAT			-0.016 (-1.111)	0.015 (0.774)	-0.018 (-1.315)	0.014 (0.728)
YEAR × TREAT × EPS			0.014 (0.883)	-0.041* (-1.812)	0.023 (1.437)	-0.41* (-1.861)
SIZE					0.258*** (26.712)	0.252*** (18.820)
GROW					-0.007* (-0.850)	-0.002 (-0.215)
LEV					-0.102*** (-11.084)	0.103*** (-8.042)
LOSS					0.146*** (15.148)	0.155*** (11.499)

Note: \*, \*\*, and \*\*\* indicate significant at the 10%, 5%, and 1% levels, respectively.

#### 4.4. Robustness test

This article uses the income model instead of the price model to test the impact of the COVID-19 outbreak on the correlation of earnings value. The income model is constructed as follows:

$$\begin{aligned}
 R_{i,t} = & \alpha_0 + \alpha_1 EPS_{i,t}/P_{i,t-1} + \alpha_2 YEAR_{i,t} + \alpha_3 YEAR_{i,t} \times EPS_{i,t}/P_{i,t-1} + \alpha_4 TREAT_{i,t} \\
 & + \alpha_5 TREAT_{i,t} \times EPS_{i,t}/P_{i,t-1} + \alpha_6 YEAR_{i,t} \times TREAT_{i,t} \\
 & + \alpha_7 YEAR_{i,t} \times TREAT_{i,t} \times EPS_{i,t}/P_{i,t-1} + Controls_{i,t} + \xi_{i,t}
 \end{aligned}
 \tag{3}$$

$R_{i,t}$  represents the cumulative stock return of enterprise  $i$  in year  $t$ . Since short window analysis will lead to a higher possibility of invalid conclusions when comparing coefficients between different groups (Francis et al., 2004), this article chooses a 1-year time window, that is, using the period from June 1 of year  $t$  to  $t$  The cumulative rate of return on May 31, year + 1, if there is a cash dividend, is measured by multiplying the cumulative return by one plus the individual stock rate of return from June of year  $t$  to May of year  $t + 1$ .  $EPS_{i,t}/P_{i,t-1}$  represents annual earnings per share divided by the stock closing price in May of year  $t - 1$ .

**Table 5** lists the regression results of the robustness test. Among them, column (1) represents the model regression results from 2018 to 2021, and column (2) represents the model regression results from 2020 to 2021. The coefficient of  $YEAR \times EPS_{i,t}/P_{i,t-1}$  is significantly positive in column (1), and significantly negative in column (2);  $YEAR \times TREAT \times EPS_{i,t}/P_{i,t-1}$  is in (2) The column is significantly



negative, which is consistent with the above conclusion, which shows that the conclusion of this paper is robust and reliable.

**Table 5.** Correlation between annual dummy variables and earnings value.

variable	(1)	(2)
EPS/P – 1	0.200*** (7.936)	0.081*** (3.109)
YEAR	0.108*** (9.333)	–0.218*** (–14.471)
YEAR × EPS/P – 1	0.121*** (5.089)	–0.041* (–1.790)
TREAT	–0.011 (–0.819)	–0.044*** (–2.425)
TREAT × EPS/P – 1	–0.083*** (–3.661)	–0.034 (–1.536)
YEAR × TREAT	0.049*** (3.194)	0.065*** (3.272)
YEAR × TREAT × EPS/P – 1	0.083*** (3.668)	–0.040* (–1.819)
SIZE	–0.019** (–1.904)	0.004 (0.293)
GROW	–0.004 (–0.413)	0.047*** (3.827)
LEV	0.071*** (7.711)	0.054*** (3.834)
LOSS	–0.044*** (–3.993)	–0.064*** (–4.169)

Note: \*, \*\*, and \*\*\* indicate significant at the 10%, 5%, and 1% levels, respectively.

## 5. Research conclusions and policy recommendations

This article takes A-share listed companies from 2018 to 2021 as a sample to study the impact of the new coronavirus epidemic on accounting information during and after the impact, as well as the moderating effect of the property rights structure on the two. The research found that: First, the outbreak of the new crown epidemic has enhanced the correlation of surplus value [16]; second, in the post-epidemic era when society fully resumes work and production, the correlation of surplus value will gradually decline to the original state; third, compared with non-state-owned Property rights, state-owned property rights can accelerate the decline in the correlation of surplus value. On the one hand, state-owned property rights lead to a faster decline in the correlation of earnings value in the post-epidemic era, which may ensure the stability of the correlation of earnings value; but on the other hand, a faster decline in the correlation of earnings value reduces the role of accounting information. Therefore, the correlation between state-owned property rights and surplus value has both advantages and disadvantages, which should be analyzed dialectically.

According to the empirical results of this article, the exogenous event of the COVID-19 epidemic has a significant impact on the value relevance of accounting information, and state-owned property rights play an important role as a regulating variable. Considering the above situation, investors can make better investment

decisions during and after events similar to the impact of the new coronavirus epidemic. Private enterprise owners and managers can also appropriately consider introducing state-owned shareholders to adjust exogenous factors when operating. The impact of the event. Based on the research results of this article, the following policy recommendations are put forward: First, when major social events such as the COVID-19 epidemic occur, relevant regulatory authorities should pay more attention to the stock price fluctuations caused by the event, formulate corresponding governance measures, and other market participants those involved should actively cooperate in taking countermeasures; second, when such events occur, listed companies should pay more attention to the quality of financial information disclosure and strengthen communication with investors; third, after such events occur, listed companies should pay more attention to the quality of disclosure of non-financial information to cope with stock price fluctuations caused by the reduced relevance of accounting values; fourth, compared with non-state-owned enterprises, state-owned enterprises should be more active in disclosing non-financial information after an incident to neutralize the impact of the decline in accounting value relevance.

## **Conclusion**

Our study has revealed several significant findings regarding the impact of the COVID-19 epidemic on the correlation of earnings value and the role of state-owned property rights. Specifically, the outbreak of the epidemic has enhanced the correlation of accounting earnings value, indicating that major social events can significantly influence investors' attention and decision-making processes. This finding underscores the importance of considering external social environments in financial analyses.

Moreover, the normalization period following the epidemic has seen a gradual decline in the correlation of surplus value to its original state. This suggests that the initial shock of the pandemic was a catalyst for increased attention to accounting information, but as the situation normalizes, other factors regain their prominence in influencing stock prices.

State-owned property rights have been shown to accelerate the recovery of the impact of social fluctuations on accounting value correlation. This highlights the unique position and responsibilities of state-owned enterprises in the economy. Their ability to quickly adjust to new economic realities can be attributed to government policies and their inherent stability. However, this rapid adjustment also implies a potential weakening of the role of accounting information in guiding investment decisions in the short term.

In the long run, the complex role of state-owned property rights in the correlation of earnings value may contribute to the overall stability and efficiency of the market. A comprehensive and dialectical understanding of the relationship between state-owned property rights and earnings value correlation is crucial for both policymakers and investors. These findings have important implications for understanding the role of the epidemic and property rights structure in the context of accounting information and market dynamics.

For policymakers, our results suggest the need for careful consideration of how state-owned enterprises are managed and regulated during and after major social events. For investors, understanding the shifting dynamics of accounting information relevance can inform better investment strategies. For corporate managers, particularly in state-owned enterprises, the findings highlight the importance of transparency and effective communication with investors during periods of market volatility.

**Limitations of the Study:** Our research is based on A-share listed companies in China, and the results may not be directly applicable to other markets or companies. Additionally, there may be other factors that affect the correlation of accounting information value and the moderating role of property rights structure that we have not considered.

**Author contributions:** Conceptualization, ZY and XZ; methodology, XZ; software, ZY; validation, ZY, XZ; formal analysis, XZ; investigation, ZY; resources, XZ; data curation, ZY; writing—original draft preparation, XZ; writing—review and editing, ZY; visualization, XZ; supervision, XZ; project administration, XZ; funding acquisition, XZ. All authors have read and agreed to the published version of the manuscript.

**Conflict of interest:** The authors declare no conflict of interest.

## References

1. Scoot WR. In: *Financial Accounting Theory*. Prentice-hall; 1997.
2. Ball R, Shivakumar L. Earnings quality at initial public offerings. *Journal of Accounting and Economics*. 2008; 45(2–3): 324–349. doi: 10.1016/j.jacceco.2007.12.001
3. Ye K, Zhang S, Zhang Y. Value correlation between corporate strategic differences and accounting information. *Accounting Research*. 2014; (05): 44–51.
4. Yan E, Zeng Q. Information and supervisory functions of news media: Research based on the correlation of accounting earnings value of listed companies. *Foreign Economics and Management*. 2018; 40(07): 99–112.
5. Peng Q, Tang X. The “right and wrong” caused by rumors: the correlation between stock market rumors and earnings value. *Management World*. 2019; 35(03): 186–204.
6. Dong Y, Ma Y, Dong X, Han L. Correlation between financial asset allocation and earnings value—“efficient market” or “functional lock-in”. *Accounting Research*. 2021; (09): 95–105.
7. Keynes JM. In: *The General Theory of Employment, Interest and Money*. Macmillan; 1936.
8. Francis J, LaFond R, Olsson PM, et al. Costs of Equity and Earnings Attributes. *The Accounting Review*. 2004; 79(4): 967–1010. doi: 10.2308/accr.2004.79.4.967
9. Pan Y, Xin Q. Interpretation of corporate information needs—Exploration of information needs based on institutional investors. *Accounting Research*. 2004; (12): 14–22.
10. Kacperczyk M, Van Nieuwerburgh S, Veldkamp L. A Rational Theory of Mutual Funds’ Attention Allocation. *Econometrica*. 2016; 84(2): 571–626. doi: 10.3982/ecta11412
11. Zhou W, Wu L. The substitution effect of management judgment on accounting conservatism. *Accounting Research*. 2015; (05): 3–12.
12. Johnson S, Mitton T. Cronyism and capital controls: evidence from malaysia. *Journal of Financial Economics*. 2003; 67(2): 351–382.
13. Zhang P, Gao J, Li X. Stock liquidity and firm value in the time of COVID-19 pandemic. *Emerging Markets Finance and Trade*. 2021; 57(6): 1578–1591. doi: 10.1080/1540496x.2021.1898368
14. Liang B. The Impact of COVID-19 on earnings management of listed companies. *Journal of Simulation*. 2022; 10(2): 53–60.

15. Pramesty RG, Aris MA. Firm Value during Pandemic: The Effect of Managerial Ownership, Corporate Social Responsibility, Liquidity, Company Complexity, and Profitability. *International Journal of Latest Research in Humanities and Social Science*. 2023; 6(3): 177–186.
16. Li S. COVID-19 and A-share banks' stock price volatility: From the perspective of the epidemic evolution in China and the US. *Global Finance Journal*. 2022; 54: 100751. doi: 10.1016/j.gfj.2022.100751