



The Public Health Events on the Audit Behavior and the Audit Quality: An Empirical Study

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Abstract

Public health emergencies have a significant impact on the safety of life and property of the people, and also exert a profound influence on various aspects of Chinese society and economy. In this study, we aim to select public health emergencies that occurred between 2018 and 2021 as empirical data. Using event analysis techniques, we systematically investigate how such emergencies affect the audit behavior of listed companies in China and the quality of their audits. Our findings indicate that public health emergencies have a significant negative impact on audit quality and also affect audit behavior, as evidenced by the increase in audit fees following the outbreak of such emergencies. By conducting empirical analysis on the impact of public health emergencies on audit quality, we aim to make audit practices more scientific, comprehensive, and efficient. This will enable the better utilization of the supervisory function of audit and enhance the quality of audit. In the context of public health emergencies, this study provides theoretical foundations and practical recommendations for auditing agencies to advance their audit practices.

Keywords: Public health emergencies, Audit quality, Audit behavior, Audit fees.

Citation

Ouyang, Y., Cai, X., & Wang Z. (2024). The Public Health Events on the Audit Behavior and the Audit Quality: An Empirical Study. *Journal of Social Systems and Policy Analysis*, 1(1), 1–8.

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1 Introduction

According to WHO, these incidents have led to constraints on business operations, stagnation in certain industries, and a decline in overall consumer demand. These sudden public health events have had profound impacts on various aspects of society and the economy, and have significantly impacted the audit practices of listed companies.

In response to these challenges, on April 7, 2021, the China Securities Regulatory Commission issued a landmark announcement on the audit and disclosure of annual reports for listed companies and other relevant entities. This announcement serves as a crucial guideline for enhancing the transparency and reliability of corporate disclosures during such challenging times. Audit quality is intricately linked to the success of the audit process, as it directly impacts the achievement of audit objectives.

The growing significance of audit in various facets of business operations has sparked heightened attention to the issue of audit quality from both audit institutions and other stakeholders. Consequently, the enhancement of audit quality has become a critical factor in ensuring the long-term sustainability and reputation of the audit profession.

While the study of public health events' impact has often centered on case studies and theoretical discussions, with limited empirical data to support these assertions, there remains a significant gap in research examining the specific effects of such events

Submitted: 29 December 2023

Accepted: 4 January 2024

Published: 5 January 2024

Vol. 1, No. 1, 2024.

10.62762/JSSPA.2024.178395

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on audit behavior and quality. To address this gap, we have selected publicly listed companies in Hubei Province from 2018 to 2021, listed on the Shanghai stock exchange and Shenzhen stock exchange, as our research sample. Utilizing an empirical research approach, we aim to investigate the impact of public health crises on the audit practices and quality of these organizations. By examining the effects of public health events on audit behavior and quality, our research aims to provide empirical evidence that can inform more scientific, comprehensive, and effective practices in the field of auditing. It further aims to enhance the role of audit supervision and improve overall audit quality, thereby offering theoretical foundations and practical recommendations for audit authorities to effectively navigate the challenges posed by public health emergencies.

Audit reports issued by accounting firms serve as a crucial reference for capital market participants engaged in investment and other financial activities. High-quality and authentic audit reports play a significant role in maintaining the stability and proper functioning of the capital market. In practice, the authenticity of audit reports is directly linked to the integrity of audit behavior and quality. To enhance our understanding of these relationships, we employ an empirical research approach to investigate the impact of public health events on the audit practices and quality of publicly listed companies. By examining how such events influence audit behavior and quality, our research aims to inform more scientific, comprehensive, and effective practices in the field of auditing. It further aims to enhance the role of audit supervision and improve overall audit quality, thereby offering theoretical foundations and practical recommendations for audit authorities to effectively navigate similar public health emergencies in the future.

2 Literature Review and Development of Hypotheses Concerning on the Impact of Public Health Events on Auditing

2.1 Literature Review n the Impact of Public Health Events on Auditing

While research on the impact of public health events on auditing remains limited among scholars abroad, there has been a focus on the broader macroeconomic effects of such events. In the current global landscape, where the economy is facing unprecedented challenges posed by public health crises, foreign scholars have examined the impact of the pandemic on economically

disadvantaged regions. A study by Zhao and Rasoulinezhad (2021) [1] delves into the effects of the pandemic on poverty in various Asian regions categorized under the United Nations Geographic Program. The findings reveal that the pandemic has posed significant challenges to poverty in South Asia, Southeast Asia, Central Asia, East Asia, and West Asia. Notably, larger or developed economies in Asia have demonstrated a comparatively lower impact on poverty compared to smaller or less developed economies. This research highlights the need for further examination of the intricate relationships between public health events, auditing practices, and economic outcomes across different global contexts.

Welsh (2020) [2] examines the influence of the pandemic on audit institutions, drawing parallels to the Soviet Gulags and their political technology as a centralized camp system. This analysis not only illuminates the operational dynamics of audit techniques but also highlights their strategic utilization in academic circles. It emphasizes how the government's response to the ongoing pandemic has tightened the political grip on academic organizations. Welsh's work complements existing accounts that integrate diverse technical experiences within academic auditing and determines how these techniques shape a distinct audit culture and institutional framework.

Liu and Xu (2021) [3] examine the relationship between auditor experience and both audit quality and fees. Using econometric models, including a two-stage least squares (2SLS) approach, they find that during the early career stage of partners, audit quality improves; however, as they progress into their later career stages, audit quality diminishes. Furthermore, they establish a positive correlation between audit fees and non-Big Four accounting firms, but no significant relationship with Big Four firms. These findings contribute to a better understanding of the impact of auditor experience on audit outcomes and pricing decisions.

Johnston et al. (2000) [4] conducted a study to investigate the factors that influence effective clinical auditing. They interviewed 145 clinicians with diverse clinical backgrounds from 12 trusts within three Scottish health boards using a semi-structured interview approach. The results revealed that the most significant barrier to conducting audits was a lack of time. Additionally, colleagues' attitudes were identified as the primary obstacle to implementing

changes based on audit findings. Notably, few clinicians recognized the need for additional resources, preferring instead a focused and proactive support from management and audit personnel.

2.2 The Prevailing Dimensions of Auditing

2.2.1 Audit Quality

Audit quality refers to the professionalism and work quality demonstrated by auditors during the conduct of their work. It is directly linked to the achievement of audit objectives and serves as a crucial safeguard for the stable development of society and the economy. However, there is significant divergence among Chinese scholars regarding the factors that influence audit quality.

Chen (2022) [5] posits that the primary factors currently impeding the audit quality of Chinese accounting firms include their size and organizational structure, regulatory environment and intensity, business contracting models, and the methods of charging audit fees. She further suggests optimization strategies to enhance the audit quality of Chinese accounting firms. Yang (2021) [6] examines the impact of "large-firm-small-client" and "small-firm-large-client" mismatches on audit quality. She finds that the former leads to an improvement in audit quality, while the latter results in a decline. Additionally, the level of company profitability can modulate this effect. Wu (2018) [7] utilizes normative research methods to analyze the impact of social network connections between auditors and senior executives on audit practices. His findings suggest that variations in social network connections between company executives and auditors influence the selection of auditors, subsequently affecting factors such as audit fees and quality. Auditors with strong social connections can leverage their informational advantages to provide higher-quality services, especially those who occupy central positions within the network.

Xu (2022) [8] examines the relationship between auditor industry expertise, audit tenure, and audit quality. He finds that the industry expertise of the signing auditor positively impacts audit quality. Additionally, longer audit tenures tend to enhance audit quality. Specifically, in the context of private enterprises, Big Four firms, and firms without any change in auditor, the industry expertise of the signing auditor exerts a positive influence on audit quality, with longer audit tenures further enhancing audit quality. Wang (2020) [9] identifies

three main factors that impact audit quality: audit environmental factors, accounting firm factors, and the factors of the auditee. Chen (2015) [10] employs contract economics, behavioral theories of individuals and groups, behavioral audit theory, and empirical research by Durfee to conduct an empirical study on the mechanisms influencing audit quality. The results of this study demonstrate that the contractual relationships between auditors and auditees have an indirect effect on audit quality, while the contractual relationships between auditors and their clients have a direct impact on audit quality.

2.2.2 Audit Fees

In China, due to the continued slow growth of non-audit services, audit fees remain the primary source of profit for accounting firms. These fees not only serve as a key metric for competition among accounting firms, but also play a crucial role in fostering positive collaborative relationships. Audit fees not only contribute to increased revenue for accounting firms, but also enhance client relationships and deliver superior client service. Furthermore, these fees enable accounting firms to more accurately predict future income, thus offering more effective financial management solutions to their clients. It is important to note that the level and reasonableness of fees have implications beyond the survival and growth of individual firms, potentially impacting the stability of the entire CPA profession and even the broader economic landscape.

Yang (2021) [6] found that the mismatch in size between large accounting firms and small businesses leads to increased costs for auditors at the accounting firm, while the mismatch in size between small accounting firms and large businesses results in decreased costs for auditors and subsequently lower overall audit costs. Wu et al. [7] further posits that as the social network connections of the principal become more tightly knit, the auditor may be more likely to reduce their investment in the principal due to trust, leading to smaller investments. In turn, the auditor may seek to recoup these losses through "rewards" received from the principal, ultimately leading to lower demands and increased expectations. Chen (2019) [11] examined the impact of partner-level registered public accountants (PH signers) on audit practices and found that the cost of audit services varies depending on the characteristics of the PH signer. In particular, higher levels of education and age among PH signers correspond to higher audit fees.

2.3 Development of Hypotheses Concerning on the Impact of Public Health Events on Auditing

The sudden public health events have caused significant disruptions across various industries, imposing notable pressure on the audit profession and influencing audit behavior. This pressure manifests itself in two primary aspects: an increase in audit costs and a heightened level of audit risk. The former is a result of the need for additional resources to address the complexities and uncertainties brought about by the events, while the latter arises from the challenges in assessing and managing risk in volatile and unpredictable circumstances.

The global economy, due to the ramifications of the public health crisis, is currently witnessing a widespread downturn. This economic pressure can potentially instigate fraudulent behaviors within audited entities, subsequently augmenting the risk of significant misstatements at the financial statement level. Furthermore, the stringent containment measures enforced in response to the public health emergency have necessitated the remote execution of certain audit procedures through information technology. Nevertheless, this transition poses challenges in ensuring the authenticity and integrity of transmitted data, as well as assessing the reliability of the software tools utilized. Consequently, the audit process is confronted with a heightened level of risks during this period, ultimately compromising the quality of audits.

Furthermore, in response to the public health emergency, the CPA is compelled to implement additional audit procedures to guarantee audit quality, which significantly elevates audit costs. The requirement for isolation during fieldwork results in increased travel expenses for the accounting firm. For those auditees unable to facilitate physical inspections, substitute testing is necessary, further contributing to the overall audit costs. This rise in audit costs ultimately leads to higher audit fees. Consequently, we posit the following research hypothesis:

Hypothesis (H1): The adverse effects of public health events on the economy may result in a decrease in the overall quality of audits.

Hypothesis (H2): The impact of public health events has the potential to raise audit fees due to the additional costs incurred.

3 Research Method

We selected 77 companies listed on the Shanghai and Shenzhen stock exchanges in Hubei Province, China, from 2018 to 2021 as our research subjects. After excluding financial companies, ST companies, and companies with missing data, we obtained our final sample. All variable data in this study were retrieved from the CSMAR database.

3.1 Measurement of the Variables

3.1.1 Audit Fees

We directly adopted the audit fees of the enterprise in the same year for representation.

3.1.2 Audit Quality

The Controllable Surplus (CS) of an enterprise serves as a critical metric for gauging its financial health and audit quality. CS refers to the portion of the reported profit that management has the ability to influence within a specified timeframe. This metric is integral in understanding the true financial position of a company as it excludes items that are beyond management's control, such as extraordinary items or changes in accounting policies.

The calculation of CS offers valuable insights into the financial health and integrity of a company. It serves as a proxy for assessing the quality of an audit, providing an indication of the reliability and credibility of financial reporting. A higher CS suggests a greater likelihood of financial misstatement or manipulation, indicating a potential compromise in the quality of the audit. Conversely, a lower CS suggests a more robust and reliable financial position, reflecting a higher-quality audit.

Furthermore, the assessment of manipulative accruals adds another dimension to the evaluation of audit quality. Manipulative accruals refer to the artificial adjustment of expenses or revenues in the accounting records to influence the reported financial performance. A significant amount of manipulative accruals indicates a higher risk of financial misstatement and, consequently, a lower-quality audit.

In conclusion, the assessment of CS and manipulative accruals provides a more comprehensive understanding of audit quality. By considering these metrics, investors, regulators, and other stakeholders can gain a more accurate assessment of a company's financial health and make informed decisions regarding their financial transactions and

audits.

3.1.3 Event Time Variable

The controllable surplus of an enterprise refers to the surplus that the enterprise can control within a certain period of time, which is an important indicator for reporting the financial condition of the enterprise. By calculating the controllable surplus of the enterprise, one can gain insights into the financial condition of the enterprise and assess the audit quality of the company. Additionally, the manipulative accruals of the auditee company can be calculated. A high level of manipulative accruals indicates a lower quality of audit. Therefore, representing the audit quality of a company using its controllable surplus and calculating the manipulative accruals can provide a more comprehensive measure of audit quality.

3.1.4 control variable

After controlling for the financial indicators that impact audit quality, we found the following coefficients: β_1 represents the gearing ratio, β_2 indicates the revenue growth rate, β_3 represents the cash ratio, which is the ratio of net cash flow from operating activities to revenue, and β_4 represents the return on total assets.

3.2 Model

TA=NI-CFO

TA: Total Accruals, NI: Net Income, CFO: Net Cash Flow from Operating Activities, ΔREV : Increase in Operating Revenue, PPE: Net Fixed Assets, A: Total Assets at the End of the Period, NDA: Non-Manipulative Accruals, DA: Manipulative Accruals, DCFO: Dummy Variable, Tcost: Audit Fees. When CFO is negative, DCFO is assigned a value of 1, otherwise it is assigned a value of 0.

Build the following model:

$$|DA| = \alpha_0 + \alpha_1 Listi, t + \alpha_2 Controls + \sum Year + \beta_1 + \beta_2 + \beta_3 + \beta_4 \quad (1)$$

$$Tcosti, t = \alpha_0 + \alpha_1 Listi, t + \alpha_2 Controls + \sum Year + \sum Industry + \beta_1 + \beta_2 + \beta_3 + \beta_4 \quad (2)$$

4 Statistical Tests of Hypotheses

4.1 Descriptive Statistics

The descriptive statistics for the primary variables are comprehensively outlined in Table 1. Notably, the average level of corporate audit quality, quantified

through the proportion of profit manipulation undertaken by the company, stands at 5.6%. A higher value in this metric signifies poorer audit quality, highlighting significant variability in earnings management practices across enterprises. Consequently, this variability provides a certain degree of assurance for the feasibility of conducting empirical research in this domain.

4.2 correlation analysis

The correlation analysis among the main variables is summarized in Table 2. To establish the validity of the results for hypotheses H1 and H2, a correlation analysis was conducted among the key variables as follows:

4.3 Regression Analysis

The primary regression results, summarized in Table 3, indicate that the impact of public health events on audit quality can be better predicted through the examination of the outcomes. According to the regression analysis conducted in Model (1), after controlling for other factors such as gearing ratio, revenue growth rate, cash ratio, and return on total assets, the interaction term Did, which is the product of Year and List, is significant at the 5% level. This finding suggests that, overall, there has been a significant decline in the audit quality of financial statements for listed companies from 2019 to 2021 due to the impact of public health events. Therefore, Hypothesis H1 is supported, indicating that the impact of public health events has a negative effect on the audit quality of annual reports for listed companies. The results from this analysis provide valuable insights into the relationship between public health events and audit quality, which can inform future research and policy decisions regarding the impact of such events on financial reporting.

Model (2) presents the regression analysis of Tcost, revealing that the regression coefficient for Tcost is positive (0.010) and significant at the 0.05 level. This finding suggests that, under the influence of public health events, auditors increase their audit fees. Therefore, Hypothesis H2 is supported by the sample data, indicating that the impact of public health events elevates audit costs.

5 Conclusion

We conducted a comprehensive analysis of the impact of public health events on the annual report audit behavior and audit quality of listed companies in

Table 1. Descriptive Statistics.

	N	minimum	maximum	mean value	SD
DA	308	0.000	0.791	0.056	0.077
β_1	308	1.097	20.696	3.227	2.782
β_2	308	-0.662	1.979	0.122	0.317
β_3	308	-1.166	1.564	0.074	0.205
β_4	308	-0.593	0.328	0.039	0.088
Tcost	287	150000.000	14816791.370	1309473.750	1451442.060

Table 2. Correlation analysis.

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. DA	1												
2. β_1	-0.054	1											
3. β_2	-0.122*	-0.077	1										
4. β_3	-0.505**	0.390**	0.1	1									
5. β_4	-0.640**	0.195**	0.227**	0.758**	1								
6.TA	-0.292**	0.155**	-0.005	0.172**	0.161**	1							
7.NI	-0.281**	-0.091	0.051	0.295**	0.472**	-0.174**	1						
8.CFO	-0.001	-0.159**	0.038	0.087	0.212**	-0.755**	0.778**	1					
9. Δ REV	-0.1	-0.105	0.423**	0.019	0.099	-0.220**	0.343**	0.369**	1				
10.PPE	-0.102	-0.170**	0.031	0.065	0.112*	-0.277**	0.635**	0.600**	0.270**	1			
11.A	-0.098	-0.286**	0.031	-0.008	0.022	-0.407**	0.557**	0.631**	0.525**	0.626**	1		
12.NDA	-0.023	0.181**	-0.022	0.111	0	0.022	-0.019	-0.027	-0.014	-0.028	-0.033	1	
13.Tcost	0.149*	-0.176**	0.082	-0.049	-0.056	-0.544**	0.044	0.422**	0.132*	0.04	0.355**	-0.025	1

**. Correlation is significant at the .01 level.*. Correlation is significant at the .05 level.

Table 3. Regression Analysis.

	Model (1)	Model (2)
Variable	DA	Tcost
Year	-0.017*** (-5.750)	0.037*** (-9.190)
List	-0.006** (-1.980)	0.007** (2.480)
Did	-0.009** (2.290)	0.010** (2.500)
Controls	Yes	Yes

***. Correlation is significant at the .001 level.**. Correlation is significant at the .01 level.*. Correlation is significant at the .05 level.

Hubei Province from 2018 to 2021, utilizing data from the Shanghai and Shenzhen stock exchanges. The results of our research indicate that the outbreak of public health events exerts significant pressure on the audit work of accounting firms, leading to a deterioration in audit quality and an increase in

audit fees. This finding offers valuable insights into the theoretical and practical implications of understanding the impact of public health events on the audit industry. It highlights the importance of considering the potential impact of such events on financial reporting and audit quality, which can inform future research and policy decisions regarding the resilience of the audit industry in times of uncertainty.

To ensure the robustness of our research findings, we employed a range of sophisticated methodologies. Initially, we undertook a meticulous data screening and cleansing process to guarantee the representativeness and integrity of our sample. Subsequently, we leveraged diverse statistical techniques, encompassing regression analysis and robustness testing, to assess the consistency and dependability of our results. Furthermore, we conducted comprehensive case studies, which offered an intricate examination of audit practices and quality pertaining to specific companies, thereby corroborating our research outcomes.

It is noteworthy that our investigation not only

scrutinized the efficacy of audit measures in the wake of isolated public health incidents but also proffered pertinent recommendations aimed at audit institutions to facilitate effective audit execution during crises. Drawing from our research outcomes, we advocate for the following recommendations: Firstly, audit institutions must augment their vigilance and responsiveness towards contingencies, encompassing public health events, by formulating tailored contingency plans. Secondly, accounting firms should prioritize enhancing their internal frameworks and upscaling the professional proficiency and adaptability of their auditing personnel. Lastly, publicly listed companies ought to establish resilient risk management frameworks to bolster their risk mitigation capabilities. These suggestions carry significant implications for bolstering the resilience and service quality within the auditing profession.

In conclusion, by adopting an empirical analytical approach, we have delved deeply into examining the ramifications of public health events on the annual auditing practices and quality of listed companies. The findings derived from our exploration contribute a nuanced perspective and renewed understanding of how public health events shape the auditing landscape. Additionally, our insights offer valuable guidance for pertinent regulatory bodies and practitioners alike. Scope for future research encompasses further unpacking the intricate mechanisms underlying the influence of public health events on auditing, alongside exploring the implications of other unforeseen crises on auditing practices. Moreover, there exists a rich avenue for examining audit quality through a multifaceted lens that considers auditors' professional proficiency, independence, industry expertise, among other factors. By persistently refining and advancing related research efforts, we can contribute to enriching theoretical frameworks and driving practical innovations within the auditing domain.

Acknowledgement

Key research platforms and projects for universities in Guangdong Province, China (2023WQNCX111); Research fund project of Software Engineering Institute of Guangzhou (ky202234); Research fund project of Software Engineering Institute of Guangzhou (ky202325).

References

- [1] Zhao, L., & Rasoulinezhad, E. (2023). How has the coronavirus outbreak affected economic poverty in different asian regions? *The Singapore Economic Review*, 68(04), 1091–1113. [CrossRef]
- [2] Welsh, J. (2021). Controlling academics: Power and resistance in the archipelago of post-covid-19 audit regimes. *Anthropological Theory*, 21(4), 460–493. [CrossRef]
- [3] Liu, C., & Xu, C. (2021). The effect of audit engagement partner professional experience on audit quality and audit fees: early evidence from form ap disclosure. *Asian Review of Accounting*, 29(2), 128–149. [CrossRef]
- [4] Johnston, G., Crombie, I., & Davies, H. (2000). What stops effective clinical audit? reports from the front line. *Scottish Medical Journal*, 45(1), 23–27. [CrossRef]
- [5] Chen, T. (2022). Discussion on the influencing factors and optimization strategies of audit quality in China's accounting firms. *Enterprise Reform and Management*, 4, 138–140.
- [6] Yang, S. (2021). The impact of the mismatch between enterprise and accounting firm scale on audit fees and audit quality. *Communication of Finance and Accounting*, 17, 38–42.
- [7] Wu, Y., Liao, Y., & Lin, B. (2018). The relationship between social network and company audit behavior: A study based on social network theory. *Journal of Xiamen University (Arts & Social Sciences)*, 5, 65–72.
- [8] Xu, D. (2022). The impact of auditor industry expertise and auditor tenure on audit quality. *Communication of Finance and Accounting*, 17, 77–81.
- [9] Wang, Q. (2020). Discussion on the influencing factors of accounting firm audit quality. *Guangzhou: Beijing Tianyuanquan Certified Public Accountants Guangdong Branch Office*, 187–188.
- [10] Chen, W. (2015). Research on the audit quality from the perspective of behavioral audit. *Journal of Hunan Ecological Science*, 3, 58–62.
- [11] Chen, Y. (2019). The study on the allocation of PH certified public accountants and its impact on audit behavior. *Donghua University*, 1–63.



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