

Does digital tax enforcement alleviate corporate financial misconduct? An information perspective

Qiaozhe Guo

*School of Economic Management, Nanjing University of Industry Technology,
Nanjing, China*

Lexin Zhao

Durham University Business School, Durham, UK, and

Haohao Shang

Nanjing Normal University, Nanjing, China

Received 5 May 2026
Revised 9 July 2026
Accepted 31 August 2026

Abstract

Purpose – This study examines whether digital tax enforcement (DTE) reduces corporate financial misconduct (CFM) using China's Golden Tax Project III as a quasi-natural experiment. It also investigates the mediating role of internal controls and the moderating role of analyst scrutiny.

Design/methodology/approach – The sample includes 35,979 firm-year observations of Chinese A-share listed firms from 2011 to 2022. A difference-in-differences model is employed, with CFM measured by the number of misconduct cases, DTE by GTP III implementation, and analyst scrutiny by the number of analyst reports. Control variables include leverage, ROA, cash flow, firm age, size, and Tobin's Q, with firm, year, and industry fixed effects.

Findings – The findings show that DTE significantly reduces corporate financial misconduct, with improved internal controls serving as a key mechanism. Analyst scrutiny amplifies this deterrent effect, indicating a complementary relationship between digital enforcement and external monitoring. Interestingly, analyst scrutiny alone is associated with more misconduct, suggesting a dual role. The results remain robust across various sensitivity tests, including parallel trend and placebo checks.

Originality/value – This study is the first to use a quasi-natural experiment to reveal that digital tax enforcement curbs corporate financial misconduct, with internal control as the key mechanism. It also clarifies the dual role of analyst scrutiny – positively associated with misconduct alone but reinforcing the deterrent effect of digital enforcement. These findings provide new evidence on the synergy between digital regulation and market-based monitoring.

Keywords Digital tax enforcement, Corporate financial misconduct, Internal controls, Analyst scrutiny

Paper type Research article

1. Introduction

Corporate financial misconduct (CFM) poses significant challenges to corporate governance and economic stability. CFM, which includes practices such as earnings manipulation, financial fraud, and tax evasion, erodes corporate transparency, undermines stakeholder trust, and distorts resource allocation (Velte, 2023; Zhong, Ren, & Song, 2021). Regulatory authorities, scholars, and practitioners have long emphasized the importance of mitigating CFM through a combination of internal controls, external monitoring, and regulatory frameworks. Traditional governance approaches — such as enhancing managerial

JEL Classification — M14, M48, G38

© Qiaozhe Guo, Lexin Zhao and Haohao Shang. Published in *China and World Business Review*. Published by Emerald Publishing Limited. This article is published under the Creative Commons Attribution (CC BY 4.0) licence. Anyone may reproduce, distribute, translate and create derivative works of this article (for both commercial and non-commercial purposes), subject to full attribution to the original publication and authors. The full terms of this licence may be seen at <http://creativecommons.org/licenses/by/4.0/>.

Funding: This work obtained support from China's National Natural Science Foundation (#72602167) and general project on Philosophy and Social Sciences for Universities in Jiangsu Province (2026SJYB136).



China and World Business Review
Emerald Publishing Limited
2978-2279
DOI 10.1108/CWBR-05-2026-0004

accountability (Fama & Jensen, 1983), auditor independence (DeAngelo, 1981), and external scrutiny mechanisms such as analyst monitoring (Luo, Li, & Chen, 2018) — have shown partial success. However, the persistent occurrence of CFM, even among highly monitored firms, signals the need for innovative compliance tools that can complement existing strategies and improve corporate accountability.

Recent advancements in digital technologies, including big data analytics, artificial intelligence (AI), and blockchain, have radically transformed regulatory and governance practices (Chen, Leng, & Luo, 2024a, Chen, Lin, & Liu, 2024b; Zhao, Zhang, Peng, Zhou, & Hu, 2024). Digital tax enforcement (DTE) represents one such innovation, providing a powerful approach to enhancing corporate accounting transparency (Bassey, Mulligan, & Ojo, 2022). By leveraging technology to automate oversight and access real-time financial data, DTE has the ability to reduce information asymmetry and detect anomalies with higher precision compared to traditional monitoring methods. Information asymmetry theory posits that such tools can bridge the gap between regulators and firms, thereby addressing the root causes of financial misconduct (Akerlof, 1970; Healy & Palepu, 2001). In this regard, DTE strengthens the oversight process by enabling regulators to identify discrepancies in corporate financial reporting in a cost-efficient and timely manner.

One prominent example of DTE application is China's Golden Tax Project III (GTP III), a large-scale reform introduced to digitize tax administration. GTP III integrates big data technologies into tax enforcement, allowing authorities to monitor tax compliance and financial reporting with unparalleled accuracy (Li, Wang, & Wu, 2020; Ye, Zeng, Tao, & Yun, 2023). Unlike traditional governance mechanisms that often rely on retrospective audits or partial datasets, DTE systems such as GTP III provide real-time access to a comprehensive array of firm-level data (Huang, Zhang, Chan, & Wang, 2024). Notably, while DTE's influence on tax compliance and financial disclosure quality has been well-established (Li *et al.*, 2020; Ye *et al.*, 2023), its broader effects on CFM remain underexplored. Specifically, there is limited understanding of how DTE interacts with other governance mechanisms, such as analyst scrutiny, to influence misconduct.

Building on the regulatory digitization literature, this study examines the impact of DTE on CFM using GTP III as a quasi-natural experiment. Given that earnings manipulations, tax evasion, major omissions, and fraudulent disclosures are main manifestations of CFM (Zhong *et al.*, 2021), our analysis highlights the mechanisms through which DTE acts to inhibit these behaviors. We argue that improved corporate internal controls are a central pathway through which DTE reduces opportunistic managerial conduct. Stronger internal controls, driven by enhanced oversight and reduced information asymmetry, limit managers' ability to engage in deceptive practices without detection (Zhong *et al.*, 2021). Furthermore, this study pursues a broader integration of DTE with external market monitoring, focusing on the amplifying role of analyst scrutiny. Financial analysts play a critical role in reducing agency problems by providing information to investors and exerting external pressure on management (Yu, 2008). We hypothesize that the combined effect of DTE and analyst scrutiny creates a self-reinforcing governance mechanism that intensifies monitoring and deters misconduct.

To test the proposed hypotheses, the study draws on data from Chinese publicly listed firms between 2011 and 2022 to explore the relationship between DTE and CFM. The findings demonstrate that DTE significantly reduces CFM, with the mechanism being the strengthening of firms' internal controls. Moreover, our results reveal that stronger analyst oversight enhances the effectiveness of DTE, underscoring the complementary relationship between regulatory innovations and market-based governance tools.

These findings make several important contributions to the literature. First, our study extends the growing body of research on digital regulatory mechanisms (Li *et al.*, 2020; Guo, Wang, Wang, & Zhang, 2024; Huang *et al.*, 2024) by shedding light on DTE's broader implications for curbing corporate malfeasance. Second, our study provides evidence of internal control improvements as an underlying channel through which DTE operates, thereby strengthening our theoretical understanding of its effectiveness (Hai, Shi, Piao, & Dou, 2024). Third, by integrating DTE with analyst scrutiny, our study highlights how digital innovations

can work synergistically with traditional monitoring mechanisms to achieve superior compliance outcomes (Hussain, Yang, Maqsood, & Zahid, 2024; Qin, Chen, Chen, & Su, 2024). From a policy perspective, this research also offers valuable insights for leveraging technological advances to enhance corporate governance. Regulators aiming to reduce financial misconduct may benefit from scaling up digital enforcement systems while fostering synergy with external market participants.

2. Research background and research hypothesis

2.1 Digital technologies and corporate governance

Digital technologies, such as big data analytics, AI, and blockchain, have fundamentally transformed the landscape of governance by facilitating real-time surveillance, transparency, and oversight. These innovations significantly reduce the cost and time associated with traditional monitoring methods, enabling regulators, investors, and stakeholders to detect and combat financial misconduct more efficiently (Ye *et al.*, 2023; Li *et al.*, 2020; Bassey *et al.*, 2022; Brogi & Lagasio, 2024). For example, AI-powered platforms can process massive datasets, identify patterns, and highlight anomalies in financial transactions, drawing the attention of regulators and stakeholders to potential misconduct (Gupta *et al.*, 2023; Zhao *et al.*, 2024). Blockchain technology, with its immutable and transparent ledger system, has emerged as a robust tool for safeguarding corporate financial data against manipulation, ensuring that transaction records remain tamper-proof and accessible to authorized entities (Yermack, 2017). These technological advancements strengthen the capacity of both internal governance mechanisms and external regulators to preempt and address governance failures.

The role of digitalization in mitigating agency problems and enhancing corporate governance has been widely recognized in extant literature. Agency theory suggests that the separation of ownership and control in corporations creates a conflict of interest between managers and shareholders, often leading to opportunistic managerial behavior (Jensen & Meckling, 1976). According to our review, digital tools can address these agency problems in several impactful ways. First, by automating routine financial and operational processes, digital technologies can reduce opportunities for managers to exercise discretion in ways that benefit their self-interest at the expense of shareholders. Automation ensures consistency and accuracy, minimizing the risk of manipulation (Healy & Palepu, 2001; Silal, Jha, & Saha, 2023). Second, advanced oversight tools may offer regulators and shareholders the ability to monitor managerial decisions and performance in real-time. This reduces the latency of traditional audits and enhances accountability by swiftly flagging deviations from expected behavior (Guo *et al.*, 2024). Real-time transparency also deters misconduct, as firms are aware of the constant scrutiny applied to their behavior. Third, AI algorithms and big data analytics enable firms and regulators to identify high-risk behavior patterns that would ordinarily remain hidden in conventional reporting systems. Predictive governance tools foster preemptive interventions, reducing the likelihood of severe financial misconduct (Brogi & Lagasio, 2024).

While these advancements offer significant promise, gaps remain in understanding how digitalization specifically reduces corporate financial violations and how digital tools interact with traditional market-based governance mechanisms like analyst scrutiny. Analyst scrutiny, as a key external monitoring mechanism, can complement digital governance systems by interpreting complex datasets and signaling risks to investors (Yu, 2008; Luo *et al.*, 2018). However, its interaction with digital technologies is underexplored, leaving significant questions unanswered about complementarity or substitution effects.

Emerging literature suggests that digitalization may amplify the efficacy of market-based governance tools, creating a synergistic effect. For instance, Shoetan, Oyewole, Okoye, and Ofodile (2024) argue that digital systems enhance traditional monitoring methods by providing analysts and other stakeholders with timely, comprehensive, and credible datasets. In a digitalized environment, analysts are better equipped to scrutinize financial disclosures,

interpret behavioral patterns, and issue accurate risk assessments, which reinforces corporate accountability. Their enhanced capability is particularly valuable in markets with high information asymmetry, where digital tools bridge data gaps and increase transparency (Dai & Zhu, 2024).

However, the extent to which analyst scrutiny positively interacts with digitalization to improve governance outcomes remains unclear. Some argue that while digitalization strengthens regulatory and internal control systems, it might reduce reliance on external monitoring by narrowing the scope for managerial discretion and misconduct opportunities. Yet, others posit that synergistic interactions between digital tools and analyst scrutiny can amplify the governance effect on compliance or business ethics behavior, as firms are subject to overlapping layers of monitoring mechanisms (Yermack, 2017; Hussain *et al.*, 2024). Therefore, understanding the dynamic relationship between digital governance tools and traditional oversight mechanisms is critical for advancing knowledge on corporate governance in the digital age. By exploring whether digital systems complement or substitute analyst scrutiny, our study aims to provide valuable insights into how these mechanisms jointly deter misconduct.

2.2 Policy background

Within the broader scope of digitalization, DTE has garnered increasing attention in practice due to its potential to reduce information asymmetry and enhance regulatory oversight. To enhance the effectiveness of regulatory oversight and modernize its tax governance systems, China has undertaken a series of reforms driven by technological innovation. Central to these efforts is the Golden Tax Project (GTP), a flagship initiative aimed at improving transparency, reducing tax evasions, strengthening financial reporting integrity, and increasing regulatory precision (Chen & He, 2024). Launched in the 1990s, the GTP is one of the largest and most comprehensive tax system digitization efforts in the world, reflecting China's commitment to leveraging technology for fiscal governance.

The GTP spans four stages, each progressively expanding the scope and complexity of tax enforcement. The first phase focused on developing anti-counterfeit invoice systems to curb tax fraud through falsified receipts. The second phase introduced cross-regional invoice verification to ensure greater consistency in tax reporting across provinces and sectors. However, these earlier stages largely emphasized building foundational infrastructure and response capabilities for tax compliance.

The third stage, known as GTP III, marked a significant advancement in China's tax regulatory framework. Launched in 2013 and gradually implemented nationwide, GTP III was rolled out in a quasi-experimental, staggered manner across provincial cohorts, rather than through a single simultaneous national launch. Specifically, the system was first piloted in 2013 within the State and Local Taxation Bureaus of Chongqing, Shanxi, and Shandong. Following system optimization and the completion of the first-stage comprehensive acceptance, the pilot expanded in 2014 to include Guangdong (excluding Shenzhen), Henan, and Inner Mongolia. In 2015, the rollout scaled up significantly by adding 14 more provinces and autonomous regions, including Jilin and Hainan. By the end of 2016, GTP III successfully achieved full nationwide coverage. Technically, GTP III integrates advanced digital technologies such as big data analytics, AI, and cloud computing to enable real-time tax enforcement. It features a centralized data-sharing platform that connects tax authorities with enterprises and other government departments, including customs, commercial banking systems, and social insurance agencies. This enables comprehensive data cross-verification, improving the accuracy and reliability of tax oversight. GTP III also strengthens regulatory capabilities by facilitating risk-based profiling and identifying discrepancies using AI algorithms.

This multi-year, multi-stage implementation across distinct provincial cohorts creates a series of unique treatment windows, providing an ideal quasi-natural experiment for a

staggered difference-in-differences (DID) design. By centralizing and standardizing oversight mechanisms, GTP III addresses long-standing challenges associated with fragmented regulatory systems and information asymmetry. Unlike prior stages, GTP III not only enforces tax compliance but also compels firms to improve their internal governance practices to align with heightened scrutiny.

GTP III provides an ideal research context to explore DTE and its implications for governance. By enhancing transparency and limiting firms' ability to conceal financial misstatements, GTP III reduces information asymmetry between regulators and firms, thereby curbing incentives for CFM. Moreover, given its role in integrating tax oversight with broader governance mechanisms. Studying its impact sheds light on how DTE intersects with existing monitoring frameworks to discourage unethical financial practices. This makes GTP III a significant benchmark for assessing the broader potential of DTE in addressing misconduct in corporate financial reporting.

2.3 Hypothesis development

The regulatory digitalization literature highlights the transformative potential of digital technologies in addressing governance challenges and enhancing compliance. DTE represents a critical regulatory innovation, leveraging advanced technologies like big data analytics and AI to mitigate information asymmetry and improve regulatory oversight. Information asymmetry, where firms possess more information than regulators, shareholders, or other stakeholders, is a key factor driving CFM. It creates barriers to effective oversight, making it challenging to detect irregularities in financial reporting or assess the true financial health of firms (Wang, Wang, & Fang, 2023; Zhong *et al.*, 2021). Agency theory posits that such asymmetry exacerbates moral hazards as managers prioritize personal interests over shareholder value, often engaging in activities such as earnings manipulation, tax evasion, or fraud (Jensen & Meckling, 1976).

As a regulatory innovation, DTE addresses these challenges by enhancing real-time transparency and precision in monitoring. China's GTP III exemplifies the use of digital tools to streamline tax administration and regulatory enforcement (Ye *et al.*, 2023). By integrating data from multiple sources — banks, customs, and social insurance agencies — tax authorities access a consolidated and comprehensive dataset, enabling cross-validation of financial transactions. This significantly reduces the ability of firms to conceal misconduct and creates a disincentive for opportunistic behavior. In line with institutional theory (DiMaggio & Powell, 1983), enhanced transparency imposed by DTE pressures firms to adopt more robust internal controls and adhere to higher reporting standards to avoid regulatory scrutiny and reputational damage.

Furthermore, advanced data-driven algorithms employed in DTE systems continuously monitor firm activities, detecting irregularities at an earlier stage than traditional oversight mechanisms. These tools strengthen governance by reducing regulatory blind spots and holding firms accountable to stricter compliance measures (Binns, 2022). Consequently, DTE fosters an environment of regulatory rigor, compelling firms to maintain accurate disclosures and avoid financial misconduct. Based on these considerations, we propose the following hypothesis:

H1. Digital tax enforcement can effectively reduce corporate financial misconduct.

Digital tax enforcement (DTE) fundamentally reshapes the external corporate regulatory landscape by utilizing advanced information technologies to mitigate information asymmetry. Beyond its direct auditing effects, DTE exerts a potent deterrent effect on corporate financial misconduct (CFM) via a structural transmission channel that continually optimizes and fortifies a firm's internal control system.

The institutional mechanism initiated by DTE functions as a compelling catalyst that drives firms to upgrade their internal control frameworks. In traditional regulatory environments, financial misreporting typically thrives on fragmented accounting tracking and opaque

transaction trails. Modern DTE platforms, however, integrate big data analytics, algorithmic profiling, and cross-departmental data sharing, which exponentially lift the probability of detecting accounting discrepancies (Chen *et al.*, 2024b). Facing heightened regulatory scrutiny and the severe economic and reputational penalties associated with non-compliance, corporate management faces strong incentives to eliminate internal informational blind spots. To prevent triggering automated regulatory red flags, firms are compelled to institutionalize precise accounting oversight, formalize transaction authorizations, and enhance data integrity (Ning, Ji, & Xiang, 2025). Consequently, DTE shifts the operational paradigm of internal control from a passive compliance checklist into an active, tech-responsive risk-management apparatus.

Subsequently, this fortified internal control system serves as a robust internal governance barrier that reduces both the incentives and opportunities for CFM. High-quality internal control closes structural loopholes by institutionalizing strict segregation of duties, elevating reporting transparency, and standardizing financial protocols (Gao & Zhang, 2022). This directly constrains managerial discretion over opportunistic accounting adjustments and elevates the personal cost of orchestrating fraudulent disclosures. As a result, anomalous data or unauthorized transactions are effectively intercepted and corrected internally before escalating into systematic misconduct. This dual-layered interaction demonstrates that DTE acts as an external institutional pressure that materializes into enhanced internal auditing rigor, which ultimately suppresses manipulative financial behaviors. Based on these arguments, we propose the following hypothesis:

- H2.* Digital tax enforcement suppresses corporate financial misconduct by strengthening the quality of firms' internal controls.

External monitoring mechanisms also play a pivotal role in addressing information asymmetry and enhancing corporate governance (Jia, Huang, & Man Zhang, 2019). DTE leverages advanced technologies like big data analytics and AI to enhance regulatory oversight, ensuring compliance by enabling real-time monitoring of tax-related activities (Ye *et al.*, 2023; Brogi & Lagasio, 2024). On the other hand, analyst scrutiny — an essential market-based monitoring tool — may complement DTE by scrutinizing broader corporate financial and operational disclosures, interpreting complex data, and amplifying transparency (Velte, 2023).

While DTE primarily focuses on ensuring regulatory compliance, analysts provide critical oversight beyond tax data by identifying non-tax-related financial irregularities and signaling risks to investors. This dual-layered framework creates a complementary relationship: DTE strengthens regulatory oversight, while analyst scrutiny adds an additional layer of scrutiny, thereby reaffirming corporate accountability across various dimensions of governance. Institutional and stakeholder theories further suggest that firms subject to heightened public and market scrutiny, such as those with high analyst coverage, face amplified reputational and financial risks from misconduct (Freeman, 1984; Luo *et al.*, 2018). Consequently, firms experiencing increased analyst scrutiny are likely to adopt stricter internal controls and financial practices to avoid adverse outcomes. Therefore, we propose that analyst scrutiny reinforces the deterrent effect of DTE by highlighting misconduct risks and exerting reputational pressure, incentivizing firms to maintain greater transparency and robust internal controls.

- H3.* Analyst scrutiny strengthens the effectiveness of digital tax enforcement in reducing corporate financial misconduct.

3. Methodology

3.1 Sample and data source

Our initial sample consists of A-share listed companies in China from 2011 to 2022. We performed the following processing on the sample. First, we excluded samples with abnormal

operations such as those with ST or PT status. Second, we excluded observations with missing data on the variables involved in the study. Finally, continuous variables were winsorized at the 1% level to mitigate outliers and estimation bias. Our final sample consists of 35,979 firm-year observations. Firm-level data are sourced from China Stock Market and Accounting Research (CSMAR) database. CSMAR database is chosen because of its reliability and credibility, with being widely recognized and used by academic research (e.g. Yao, Ouyang, Guo, & Gong, 2024; Zhong *et al.*, 2021).

3.2 Model design and variable definition

Following Huang *et al.* (2024), we treat the implementation of the GTP III as a quasi-natural experiment, using regions with GTP III as the experimental group and those without as the control group. We constructed the following difference-in-differences (DID) model to examine the impact of DTE on CFM and the moderating role of analyst scrutiny:

$$CFM_{it} = \alpha_0 + \alpha_1 GTP_{ct} + \gamma \sum Controls_{it} + \delta_i + \sigma_t + \partial_f + \varepsilon_{itf} \quad (1)$$

$$CFM_{it} = \alpha_0 + \alpha_1 GTP_{ct} * Analyst_{it} + \alpha_2 GTP_{ct} + \alpha_3 Analyst_{it} + \gamma \sum Controls_{it} + \delta_i + \sigma_t + \partial_f + \varepsilon_{itf} \quad (2)$$

In the above model, i denotes the firm, c represents the region, and t indicates the year. CFM_{it} represents our dependent variable. Gaining insight from prior research (Zhong *et al.*, 2021; Zhou & Lei, 2025), our dependent variable was measured by the number of financial misconduct cases of firm i in year t . Such misconduct cases typically include earnings manipulation, financial fraud, tax evasion, and other unethical or illegal financial practices. GTP_{ct} indicates whether the GTP III has been implemented for firm i in region c during year t . If the GTP III was implemented in the region where the firm is located in a given year, then GTP_{ct} was assigned a value of 1, otherwise it was 0. $Analyst_{it}$ indicates analyst scrutiny, which is measured by the number of financial analyst reports issued for a specific firm during the year (Yao *et al.*, 2024). To ensure a standard moderation specification, Equation (2) simultaneously incorporates the core interaction term ($GTP_{ct} \times Analyst_{it}$) and their standalone components (GTP_{ct} and $Analyst_{it}$). Our primary coefficient of interest is α_1 , which captures how external analyst scrutiny mathematically moderates the impact of digital tax enforcement on corporate financial misconduct. Meanwhile, the standalone terms (α_2 and α_3) are controlled to capture their direct baseline linear effects on CFM. $\sum Controls_{it}$ represent a set of control variables which could affect financial misconduct, δ_i indicates the individual fixed effects, σ_t represents the time fixed effects, ∂_f denotes the industry fixed effects, and ε_{itf} is the standard error of the established model.

We also followed prior studies (e.g. Hai *et al.*, 2024; Zhong *et al.*, 2021; Li, Shi, Connelly, Yi, & Qin, 2022) to control following variables. First, considering that financial indicators that reflect firms' liabilities, profits, cash flow, etc. might be important factors affecting their financial activities, we thus controlled leverage ratio (Lev) which was measured by the total liabilities to total assets ratio, return on assets (ROA) signified by the net profit to total assets ratio, and cash flow (Cashflow) measured by the net cash flow to total assets ratio. Second, when relevant personnel in a firm are engaged in financial misconduct, they may often consider their firm's duration and size as important evaluation factors. Therefore, we included firm age (FirmAge), which was calculated based on firms' year of registration (after logarithmic transformation) and firm size (Size), which was measured by total assets in firms (after logarithmic transformation). We also believe that firms with better market performance may have stronger motivations to conduct lawful financial activities to maintain their good

reputation. We thus took Tobin’s Q ratio (TobinQ) into account. We further added firm-, year-, and industry-fixed effects, as well as standard errors.

4. Results and analyses

4.1 Descriptive statistics and correlation analysis

Table 1 shows that CFM ranges from 0 to 8, indicating differences in financial misconduct. The average of DTE is 0.367, indicating that 36.7% of the observations in our sample were influenced by GTP III. Analyst scrutiny (Analyst) ranges from 0 to 10.038, with a standard deviation of 1.078, reflecting heterogeneity across firms. Other control variables fall within reasonable ranges and are suitable for inclusion in subsequent regression models. Table 2 reports the correlation among the variables, which suggests that no correlation coefficient is big enough to cause the concern of multi-collinearity.

4.2 Baseline regression analysis

Table 3 presents the regression results on DTE’s impact on CFM. In M1, without control variables, the coefficient is −0.096 and significant at the 1% level. In M2, adding control variables, the coefficient becomes −0.110, also significant at 1%. These findings indicate that DTE significantly reduces CFM, supporting hypothesis 1.

4.3 Moderating effects

Table 3 presents the results for testing hypothesis 3, focusing on the moderating effect. In M3-M5, the coefficient of Analyst is positive and significant, indicating its direct impact on CFM. This result may contrast with our expectation on the monitoring role of analyst scrutiny for reducing CFM, which we will discuss later. Our hypothesis primarily concerns the joint (interactional) effects of DTE and analyst scrutiny on CFM. As M5 shows, the interaction term between DTE and analyst scrutiny is negative and significant ($\beta = -0.019$; $p < 0.05$), indicating that DTE’s effectiveness in reducing CFM is amplified for firms with higher levels of analyst scrutiny. This suggests a complementary relationship between DTE and analyst scrutiny, whereby the two mechanisms reinforce each other to more effectively reduce financial misconduct. Firms facing greater market-based scrutiny from analysts may be subject to heightened transparency expectations and external pressures, which enhance the impact of DTE’s government oversight in detecting and preventing financial misconduct.

4.4 Mechanism analysis

Examining how DTE impacts CFM is an important research topic. Building on prior theories, this study investigates the role of internal controls in mediating the relationship between DTE and CFM. According to our earlier arguments, DTE improves external regulatory oversight by

Table 1. Descriptive analyses of variables

VarName	Obs	Mean	SD	Min	Median	Max
CFM	35,979	0.154	0.507	0.000	0.000	8.000
DTE	35,979	0.367	0.482	0.000	0.000	1.000
Analyst	35,979	3.806	1.078	0.000	3.738	10.038
Lev	35,979	0.414	0.207	0.050	0.404	0.898
ROA	35,979	0.044	0.064	−0.228	0.042	0.224
Cashflow	35,979	0.047	0.069	−0.163	0.046	0.243
FirmAge	35,979	2.900	0.357	0.000	2.944	4.174
Size	35,979	22.190	1.338	14.942	21.987	28.636
TobinQ	35,979	2.023	1.291	0.847	1.604	8.510

Table 2. Variable correlation

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
CFM	1								
DTE	−0.087*	1							
Analyst	0.064*	−0.164*	1						
Lev	0.083*	−0.006	0.186*	1					
ROA	−0.169*	−0.036*	0.001	−0.385*	1				
Cashflow	−0.080*	0.006	0.052*	−0.155*	0.407*	1			
FirmAge	0.025*	0.220*	−0.076*	0.187*	−0.140*	0.030*	1		
Size	−0.024*	0.091*	0.353*	0.509*	−0.032*	0.082*	0.185*	1	
TobinQ	0.018*	−0.046*	0.103*	−0.241*	0.161*	0.104*	−0.014*	−0.365*	1

Note(s): * $p < 0.05$. (1) to (9) correspond sequentially to the 9 variables CFM to TobinQ in the rows

Table 3. Baseline regression and moderating results

	M1	M2	M3	M4	M5
<i>DV=CFM</i>					
DTE (H1)	−0.096*** (0.01)	−0.110*** (0.01)		−0.096*** (0.01)	−0.043+ (0.02)
Analyst			0.048*** (0.00)	0.048*** (0.00)	0.045*** (0.00)
DTE×Analyst (H3)					−0.019** (0.01)
Lev		0.095*** (0.03)			0.092** (0.03)
ROA		−0.946*** (0.06)			−0.948*** (0.06)
Cashflow		0.038 (0.05)			0.039 (0.05)
FirmAge		0.044 (0.04)			0.041 (0.04)
Size		0.045*** (0.01)			0.046*** (0.01)
TobinQ		−0.002 (0.00)			−0.002 (0.00)
_cons	−0.154+ (0.09)	−1.345*** (0.19)	−0.336*** (0.09)	−0.331*** (0.09)	−1.378*** (0.19)
<i>N</i>	35,979	35,979	35,979	35,979	35,979
<i>R</i> ²	0.014	0.032	0.016	0.019	0.032
Year	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes
Firm	Yes	Yes	Yes	Yes	Yes
Firm number	4,565	4,565	4,565	4,565	4,565
Log likelihood	−2.0e+04	−2.0e+04	−2.0e+04	−2.0e+04	−2.0e+04

increasing financial data availability and granularity, prompting firms to strengthen internal controls to meet stricter regulatory standards. In this sense, effective internal controls reduce information asymmetry, mitigate agency problems, and curb financial misconduct. For example, [Elbannan \(2009\)](#) shows that stronger internal controls enhance governance by limiting managerial opportunism and boosting compliance. Enhanced internal governance is seen as a way to curb financial misconduct ([Wang, Dang, Downs, & Foley, 2024](#)). In this study, we gained insights from prior studies (e.g. [Elbannan, 2009](#)) and measured internal control

effectiveness using a dummy variable (1 for effective, 0 otherwise). Following [Wei, Song, and Jin \(2024\)](#), mechanism test models were constructed as follows:

$$M_{it} = \beta_0 + \beta_1 GTP_{ct} + \gamma \sum Controls_{it} + \delta_i + \sigma_t + \partial_f + \varepsilon_{itf} \tag{3}$$

$$CFM_{it} = \mu_0 + \mu_1 GTP_{ct} + \mu_2 M_{it} + \gamma \sum Controls_{it} + \delta_i + \sigma_t + \partial_f + \varepsilon_{itf} \tag{4}$$

where, M_{it} is the mediating variable, and other variables are as described previously.

The results are reported in [Table 4](#). M1 shows that DTE significantly enhances internal control effectiveness ($\beta = 0.014$; $p < 0.01$), while the coefficient of the mediating variable (internal control) in M2 is negative and also significant ($\beta = -0.043$; $p < 0.001$).

For robustness check, we followed [Zhou and Li \(2025\)](#) and used the DIB internal control index to measure the auditor rating of firms’ internal control, a crucial indicator for assessing the internal control status of listed companies. Results in M3 suggest that DTE significantly increase auditors’ rating of internal control ($\beta = 0.020$; $p < 0.01$), while the rating significantly reduces CFM (M4: $\beta = -0.260$; $p < 0.001$). These results indicate that the negative impact of DTE on CFM can be achieved through increasing firms’ internal control. These support views of [Wang et al. \(2024\)](#), emphasizing enhanced internal governance is seen as a way to curb financial misconduct, supporting [hypothesis 2](#).

Table 4. Mechanisms test

	M1 Internal control	M2 CFM	M3 Auditor rating	M4 CFM
Internal control		−0.043 ^{***} (0.01)		
Auditor rating				−0.260 ^{***} (0.01)
DTE	0.014 ^{**} (0.01)	−0.110 ^{***} (0.01)	0.020 ^{**} (0.01)	−0.103 ^{***} (0.01)
Lev	−0.080 ^{***} (0.01)	0.098 ^{***} (0.03)	−0.017 (0.02)	0.091 ^{**} (0.03)
ROA	0.003 (0.03)	−0.990 ^{***} (0.06)	0.581 ^{***} (0.03)	−0.827 ^{***} (0.06)
Cashflow	−0.032 (0.02)	0.038 (0.05)	0.014 (0.03)	0.049 (0.05)
FirmAge	−0.180 ^{***} (0.02)	0.030 (0.04)	0.084 ^{***} (0.02)	0.056 (0.04)
Size	0.020 ^{***} (0.00)	0.055 ^{***} (0.01)	−0.011 ^{**} (0.00)	0.055 ^{***} (0.01)
TobinQ	0.010 ^{***} (0.00)	0.005 (0.00)	−0.001 (0.00)	0.003 (0.00)
_cons	0.763 ^{***} (0.09)	−1.377 ^{***} (0.19)	5.044 ^{***} (0.11)	−0.161 (0.20)
N	35,979	35,979	35,979	35,979
R ²	0.071	0.030	0.017	0.052
Year	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes
Firm	Yes	Yes	Yes	Yes
Firm number	4,565	4,565	4,480	4,480
Log likelihood	5495.116	−2.0e+04	−1.1e+03	−1.9e+04

Note(s): Standard errors in parentheses; ⁺ $p < 0.1$, ^{*} $p < 0.05$, ^{**} $p < 0.01$, ^{***} $p < 0.001$

4.5 Robustness checks

- (1) *Parallel Trend Test.* The DID model assumption requires the treatment and control groups to exhibit the same trend before policy intervention, satisfying the parallel trend assumption. To test this, using the event study method, we constructed Equation (4) to assess the parallel trend and dynamic effects.

$$CFM_{it} = \rho_0 + \sum_{t=-5, t \neq -1}^{t=5} \rho_1 GTP_{ct} + \gamma \sum Controls_{it} + \delta_i + \sigma_t + \varepsilon_{it} \quad (4)$$

Here, the key coefficient tests whether there is a significant trend difference between the treatment and control groups before and after GTP III implementation. Taking the year before the implementation of GTP III (i.e. T-1) as the baseline to avoid multicollinearity, we focused on the five years before (i.e. T-5, T-4, T-3, and T-2), during (i.e. T-0), and after (i.e. T+1, T+2, T+3, T+4, and T+5) the implementation of GTP III.

Figure 1 presents the parallel trend test results. Before GTP III implementation, estimated coefficients are basically not significant, indicating no systematic differences in CFM between treatment and control groups. After implementation, coefficients become significantly negative, showing a substantial reduction in financial misconduct in the treatment group relative to the control group. These findings confirm the parallel trend assumption, validating the use of a multi-period DID model to assess the impact of DTE on CFM.

- (2) *Placebo Test.* To ensure the robustness of the causal relationship between GTP III implementation and CFM, a placebo test was conducted following Wei et al. (2024). Using random sampling, pseudo-pilot indicators were generated as substitutes for the core explanatory variable (DTE). The baseline model was then replicated 500 times for regression simulations. If the coefficients of pseudo-pilot indicators are centered around zero, it suggests no key variables have been omitted.

Figure 2 shows the results with CFM as the dependent variable: the mean coefficient is approximately zero and follows a normal distribution, differing significantly from the baseline

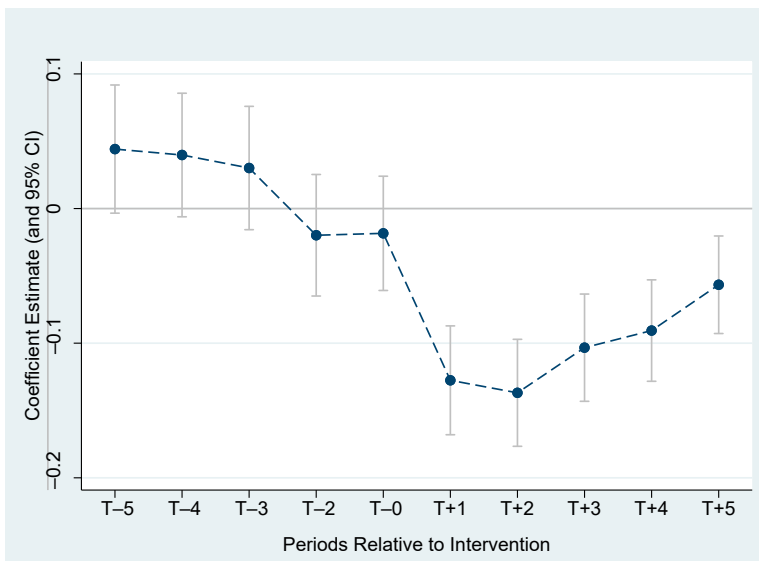


Figure 1. Parallel trends test

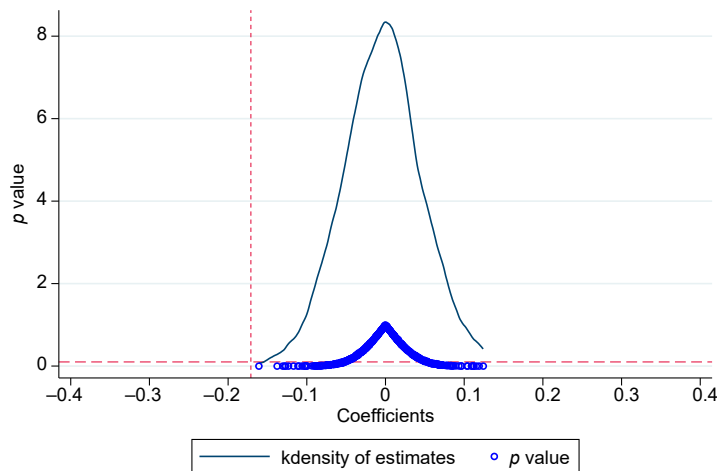


Figure 2. Placebo test

coefficients. This confirms that unobserved random factors do not significantly influence CFM, reinforcing the robustness of the findings.

- (3) *Additional Robustness Tests.* We present additional robustness tests in Table 5. First, replacing the dependent variable with a binary indicator for CFM (M1; Dummy) yields a significantly negative coefficient, consistent with earlier results. Second, restricting the sample to manufacturing firms (M2; Manufacture) produces robust results. Third, employing alternative model specifications, including Tobit (M3), Poisson (M4), Negative Binomial (M5; Nbreg), Zero-Inflated Poisson (M6; Zip), and Zero-Inflated Negative Binomial (M7; Zinb) regressions, confirms the baseline conclusions. These findings demonstrate the robustness and reliability of our results.

5. Implications

5.1 Theoretical implications

This study investigates the impact of DTE, with a specific focus on China's GTP III, on CFM. Leveraging GTP III as a quasi-natural experiment, this study provides robust empirical evidence that DTE significantly reduces instances of CFM. By employing advanced digital technologies such as big data analytics and AI, GTP III allows regulators to monitor firm behavior in real-time, reduce information asymmetry, and identify financial irregularities with greater precision. These findings make notable contributions to the academic literature on corporate governance and regulatory digitization, offering insights into both the theoretical understanding and practical implications of DTE in combating misconduct.

First, the study extends the growing body of research on digital regulatory mechanisms by highlighting the transformative potential of DTE in curbing corporate malfeasance (Li *et al.*, 2020; Ye *et al.*, 2023). Regulatory digitization equips authorities with tools to detect, analyze, and deter misconduct with speed and accuracy, surpassing traditional regulatory methods. By examining the effects of GTP III, this research underlines the role of DTE in addressing persistent agency problems by reducing informational asymmetries between firms and regulators. This is consistent with the theoretical propositions of agency theory, which identifies information asymmetry as a key enabler of managerial opportunism (Jensen & Meckling, 1976). Unlike traditional governance measures that rely on retrospective audits or

Table 5. Robustness checks

	M1 Dummy	M2 Manufacture	M3 Tobit	M4 Possion	M5 Nbreg	M6 Zip	M7 Zinb
DTE	-0.457*** (0.08)	-0.104*** (0.01)	-0.748*** (0.06)	-0.574*** (0.09)	-0.732*** (0.05)	-0.726*** (0.04)	-0.735*** (0.05)
Lev	0.857*** (0.20)	0.110** (0.04)	1.162*** (0.14)	0.573** (0.22)	0.819*** (0.11)	0.685*** (0.09)	0.812*** (0.11)
ROA	-4.596*** (0.39)	-0.945*** (0.07)	-8.532*** (0.39)	-3.303*** (0.30)	-6.310*** (0.27)	-4.541*** (0.23)	-6.166*** (0.31)
Cashflow	0.207 (0.35)	0.089 (0.06)	-1.418*** (0.35)	0.075 (0.29)	-1.089*** (0.28)	-1.084*** (0.24)	-1.092*** (0.27)
FirmAge	0.630* (0.31)	0.044 (0.05)	0.301*** (0.07)	0.428 (0.38)	0.283*** (0.06)	0.290*** (0.05)	0.285*** (0.06)
Size	0.197*** (0.05)	0.065*** (0.01)	-0.122*** (0.02)	0.233*** (0.06)	-0.088*** (0.02)	-0.071*** (0.02)	-0.086*** (0.02)
TobinQ	0.021 (0.02)	0.004 (0.00)	0.053** (0.02)	-0.005 (0.02)	0.033* (0.02)	0.011 (0.01)	0.033* (0.02)
_cons	— (0.22)	-1.388*** (0.22)	-1.221* (0.56)	—	-0.836* (0.42)	-0.095 (0.40)	-0.569 (0.46)
N	35,979	35,979	35,979	35,979	35,979	35,979	35,979
R ²	—	0.027	—	—	—	—	—
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm number	1,620	3,289	4,565	1,628	4,565	4,565	4,565
Log likelihood	-5.8e+03	-1.3e+04	-1.6e+04	-8.4e+03	-1.5e+04	-1.5e+04	-1.5e+04

Note(s): Standard errors in parentheses; ⁺ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

limited datasets, GTP III's integration of financial and non-financial information sources — such as bank transactions, customs data, and social insurance records — enables cross-verification of disclosures, exposing misconduct in a timely manner. This contribution addresses gaps in understanding digital innovations' broader implications for regulatory frameworks, advancing prior work on financial transparency and regulatory enforcement (Li *et al.*, 2020; Ye *et al.*, 2023; Guo *et al.*, 2024).

Second, the study identifies the enhancement of internal controls as a critical mechanism through which DTE reduces CFM. By improving internal governance practices, DTE minimizes managerial discretion in financial reporting and strengthens accountability. Enhanced internal controls enable firms to detect and address irregularities proactively, reducing the likelihood of external regulatory sanctions (Zhong *et al.*, 2021). Drawing on the insights of regulatory digitalization literature and information asymmetry theory, this study illustrates how DTE equips firms with the tools to mitigate informational gaps and improve compliance with regulatory standards. This mechanism-based insight deepens the theoretical understanding of how digital technologies function as governance enablers, complementing existing regulatory systems and promoting ethical financial practices (Hai *et al.*, 2024; Wei *et al.*, 2024).

The third key contribution lies in the identification of analyst scrutiny dual roles in influencing CFM. One the one hand, our results show that analyst attention exhibits a positive correlation with financial misconduct. This result is contrary to the traditional view of analyst scrutiny as a key market-based monitoring tool, the positive and significant link between analyst scrutiny and CFM suggests that analysts may fail to adequately mitigate financial misconduct. This result aligns with prior literature highlighting potential conflicts of interest

among analysts who are incentivized to focus on short-term gains over rigorous oversight. Analysts may inadvertently enable financial misconduct by pressuring firms to prioritize earnings targets or by under-scrutinizing risky behaviors that support stock price appreciation. On the other hand, we show that firms subject to higher levels of analyst scrutiny exhibit a stronger inhibitory effect of DTE on CFM. This finding highlights the complementary relationship between digital governance tools like DTE and market-based monitoring mechanisms (Hussain *et al.*, 2024; Qin *et al.*, 2024). Financial analysts play a pivotal role in reducing agency problems by providing timely and comprehensive evaluations of firm performance, thereby increasing the reputational and financial risks associated with misconduct. When combined with DTE's capacity for real-time monitoring, analyst scrutiny amplifies the pressure on firms to maintain transparency, adhere to stricter internal controls, and ensure compliance across various dimensions of governance. This synergy between DTE and analyst scrutiny underscores the importance of integrating digital innovations with traditional oversight approaches, demonstrating that effective governance increasingly depends on hybrid mechanisms that leverage both regulatory and market-based forces (Jia *et al.*, 2019; Cao, She, Cao, & Cao, 2024). Overall, these findings suggest that analyst scrutiny serves as a double-edged sword, combining elements of oversight with pressures that may exacerbate misconduct, while it also complement digital governance tool in reducing CFM.

5.2 Policy and managerial implications

Practically, these findings offer valuable insights for policymakers and corporate regulators seeking to enhance governance frameworks in a digital age. The evidence supports scaling up digital enforcement systems like GTP III, which strengthens the accountability infrastructure for managing financial misconduct. Moreover, the results suggest that fostering collaboration between regulators and market participants, such as financial analysts, can yield superior compliance outcomes. In an era where rapid technological advancements present both opportunities and risks, this study provides a roadmap for leveraging digital tools to combat CFM more effectively. Future policy implications include the development of integrated digital reporting systems, investments in analyst training for leveraging DTE data, and fostering governance ecosystems that bridge regulatory and market-based oversight.

6. Conclusion

In conclusion, this study advances the literature on digital regulatory mechanisms and corporate governance by demonstrating that DTE, as exemplified by GTP III, directly reduces CFM by enhancing firms' internal controls. Furthermore, the complementary role of analyst scrutiny establishes the value of hybrid governance solutions that integrate digital tools and market-based mechanisms. With these findings, this study contributes significantly to the theoretical discourse on regulatory digitization by situating DTE within the broader framework of governance theory. It highlights that digital innovations are not standalone solutions but become most effective when complemented by traditional monitoring mechanisms. However, a notable limitation of this study is that while we theorize DTE reduces CFM by mitigating information asymmetry and enhancing corporate transparency, these specific informational channels were not explicitly and empirically tested in our mechanism analysis due to data constraints. Future research could extend our findings by employing formal proxies for transparency—such as financial disclosure quality indices or earnings smoothness measures—to directly validate these underlying information-perspective channels. Nonetheless, the verified dual-layered monitoring framework focusing on internal control can serve as a foundation for addressing not only financial misconduct but also broader corporate governance challenges, contributing to global efforts toward corporate accountability and ethical business practices.

Reference

- Akerlof, G. A. (1970). 4. The market for 'lemons': Quality uncertainty and the market mechanism. In *Market Failure or Success*, 66.
- Bassey, E., Mulligan, E., & Ojo, A. (2022). A conceptual framework for digital tax administration-a systematic review. *Government Information Quarterly*, 39(4), 101754. doi: [10.1016/j.giq.2022.101754](https://doi.org/10.1016/j.giq.2022.101754).
- Binns, R. (2022). Algorithmic bias in corporate governance tools: Challenges and remedies. *Journal of Business Ethics*, 183(2), 323–341.
- Brogi, M., & Lagasio, V. (2024). New but naughty. The evolution of misconduct in FinTech. *International Review of Financial Analysis*, 95, 103489. doi: [10.1016/j.irfa.2024.103489](https://doi.org/10.1016/j.irfa.2024.103489).
- Cao, G., She, J., Cao, C., & Cao, Q. (2024). Environmental protection tax and green innovation: The mediating role of digitalization and ESG. *Sustainability*, 16(2), 577. doi: [10.3390/su16020577](https://doi.org/10.3390/su16020577).
- Chen, L., & He, R. (2024). Does digital tax enforcement drive corporate digitalization? Evidence from the Golden Tax Project III in China: A pre-registered report. *Pacific-Basin Finance Journal*, 83, 102242. doi: [10.1016/j.pacfin.2023.102242](https://doi.org/10.1016/j.pacfin.2023.102242).
- Chen, S., Leng, X., & Luo, K. (2024a). Supply chain digitalization and corporate ESG performance. *American Journal of Economics and Sociology*, 83(4), 855–881. doi: [10.1111/ajes.12596](https://doi.org/10.1111/ajes.12596).
- Chen, T., Lin, C., & Liu, S. (2024b). Digitalization of tax enforcement and corporate governance: Evidence from a quasi-natural experiment. *Journal of Accounting Research*, 62(2), 455–492.
- Dai, J., & Zhu, Q. (2024). ESG performance and green innovation in a digital transformation perspective. *American Journal of Economics and Sociology*, 83(1), 263–282. doi: [10.1111/ajes.12541](https://doi.org/10.1111/ajes.12541).
- DeAngelo, L. E. (1981). Auditor size and audit quality. *Journal of Accounting and Economics*, 3(3), 183–199. doi: [10.1016/0165-4101\(81\)90002-1](https://doi.org/10.1016/0165-4101(81)90002-1).
- DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 48(2), 147–160. doi: [10.2307/2095101](https://doi.org/10.2307/2095101).
- Elbannan, M. A. (2009). Quality of internal control over financial reporting, corporate governance and credit ratings. *International Journal of Disclosure and Governance*, 6(2), 127–149. doi: [10.1057/jdg.2008.32](https://doi.org/10.1057/jdg.2008.32).
- Fama, E. F., & Jensen, M. C. (1983). Separation of ownership and control. *The Journal of Law and Economics*, 26(2), 301–325. doi: [10.1086/467037](https://doi.org/10.1086/467037).
- Freeman, R. E. (1984). *Strategic management: A stakeholder approach*. Boston: Pitman.
- Gao, Y., & Zhang, J. (2022). Does information technology integration under digital tax systems suppress corporate financial fraud? *The Accounting Review*, 97(4), 189–214.
- Guo, Y., Wang, J., Wang, H., & Zhang, F. (2024). The impact of big data tax collection and management on inefficient investment of enterprises—a quasi-natural experiment based on the Golden Tax Project III. *International Review of Economics and Finance*, 92, 678–689. doi: [10.1016/j.iref.2024.02.012](https://doi.org/10.1016/j.iref.2024.02.012).
- Gupta, C. M. (2023). *Financial crimes: A guide to financial exploitation in a digital age*. Springer Nature.
- Hai, B., Shi, H., Piao, T., & Dou, Z. (2024). Digitalization of tax administration and its impact on corporate ESG performance. *Finance Research Letters*, 68, 105791. doi: [10.1016/j.frl.2024.105791](https://doi.org/10.1016/j.frl.2024.105791).
- Healy, P. M., & Palepu, K. G. (2001). Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature. *Journal of Accounting and Economics*, 31(1-3), 405–440. doi: [10.1016/s0165-4101\(01\)00018-0](https://doi.org/10.1016/s0165-4101(01)00018-0).
- Huang, X., Zhang, Y., Chan, K. C., & Wang, Y. (2024). Digital tax enforcement and shadow banking of non-financial firms: Evidence from China's Golden Tax Project III. *Finance Research Letters*, 70, 106379. doi: [10.1016/j.frl.2024.106379](https://doi.org/10.1016/j.frl.2024.106379).

- Hussain, M., Yang, S., Maqsood, U. S., & Zahid, R. M. A. (2024). Tapping into the green potential: The power of artificial intelligence adoption in corporate green innovation drive. *Business Strategy and the Environment*, 33(5), 4375–4396. doi:[10.1002/bse.3710](https://doi.org/10.1002/bse.3710).
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs, and ownership structure. *Journal of Financial Economics*, 3(4), 305–360. doi: [10.1016/0304-405x\(76\)90026-x](https://doi.org/10.1016/0304-405x(76)90026-x).
- Jia, N., Huang, K. G., & Man Zhang, C. (2019). Public governance, corporate governance, and firm innovation: An examination of state-owned enterprises. *Academy of Management Journal*, 62(1), 220–247. doi: [10.5465/amj.2016.0543](https://doi.org/10.5465/amj.2016.0543).
- Li, J., Wang, X., & Wu, Y. (2020). Can government improve tax compliance by adopting advanced information technology? Evidence from the Golden Tax Project III in China. *Economic Modelling*, 93, 384–397. doi: [10.1016/j.econmod.2020.08.009](https://doi.org/10.1016/j.econmod.2020.08.009).
- Li, J., Shi, W., Connelly, B. L., Yi, X., & Qin, X. (2022). CEO awards and financial misconduct. *Journal of Management*, 48(2), 380–409. doi: [10.1177/0149206320921438](https://doi.org/10.1177/0149206320921438).
- Luo, J. H., Li, X., & Chen, H. (2018). Annual report readability and corporate agency costs. *China Journal of Accounting Research*, 11(3), 187–212. doi: [10.1016/j.cjar.2018.04.001](https://doi.org/10.1016/j.cjar.2018.04.001).
- Ning, M., Ji, X., & Xiang, M. (2025). Tax authority digitalization and internal control quality over financial reporting: Evidence from China's tax system upgrade. *Journal of Corporate Finance*, 91, 102640.
- Qin, L., Chen, C., Chen, Y., & Su, Y. (2024). Digital financial inclusion, analyst attention, and the green innovation in energy firms. *Finance Research Letters*, 67, 105947. doi: [10.1016/j.frl.2024.105947](https://doi.org/10.1016/j.frl.2024.105947).
- Shoetan, P. O., Oyewole, A. T., Okoye, C. C., & Ofodile, O. C. (2024). Reviewing the role of big data analytics in financial fraud detection. *Finance and Accounting Research Journal*, 6(3), 384–394. doi: [10.51594/farj.v6i3.899](https://doi.org/10.51594/farj.v6i3.899).
- Silal, P., Jha, A., & Saha, D. (2023). Examining the role of e-government in controlling corruption: A longitudinal study. *Information and Management*, 60(1), 103735. doi: [10.1016/j.im.2022.103735](https://doi.org/10.1016/j.im.2022.103735).
- Velte, P. (2023). The link between corporate governance and corporate financial misconduct. A review of archival studies and implications for future research. *Management Review Quarterly*, 73(1), 353–411. doi: [10.1007/s11301-021-00244-7](https://doi.org/10.1007/s11301-021-00244-7).
- Wang, Z., Wang, C., & Fang, Z. (2023). Common institutional ownership and corporate misconduct. *Managerial and Decision Economics*, 44(1), 102–136. doi: [10.1002/mde.3669](https://doi.org/10.1002/mde.3669).
- Wang, S., Dang, L., Downs, J., & Foley, M. (2024). How to deter earnings manipulation in Chinese banks? A study from the combined effects of corporate governance, enterprise resources, and supervisory mechanisms. *American Journal of Economics and Sociology*, 83(4), 689–707. doi: [10.1111/ajes.12568](https://doi.org/10.1111/ajes.12568).
- Wei, W., Song, Y., & Jin, R. (2024). The impact of tax digitalization on corporate salary structures. *Finance Research Letters*, 64, 105408. doi: [10.1016/j.frl.2024.105408](https://doi.org/10.1016/j.frl.2024.105408).
- Yao, N., Ouyang, Z., Guo, Q., & Gong, X. (2024). Quality or breadth? Environmental information disclosure, corporate financial performance and the role of analysts. *Business Ethics, the Environment and Responsibility*, 33(3), 431–448. doi: [10.1111/beer.12615](https://doi.org/10.1111/beer.12615).
- Ye, Y., Zeng, L., Tao, Y., & Yun, F. (2023). Tax authority monitoring and corporate information disclosure quality in China. *International Review of Financial Analysis*, 90, 102872. doi: [10.1016/j.irfa.2023.102872](https://doi.org/10.1016/j.irfa.2023.102872).
- Yermack, D. (2017). Corporate governance and blockchains. *Review of Finance*, 21(1), 7–31. doi: [10.1093/rof/rfw074](https://doi.org/10.1093/rof/rfw074).
- Yu, F. F. (2008). Analyst coverage and earnings management. *Journal of Financial Economics*, 88(2), 245–271. doi: [10.1016/j.jfineco.2007.05.008](https://doi.org/10.1016/j.jfineco.2007.05.008).
- Zhao, S., Zhang, L., Peng, L., Zhou, H., & Hu, F. (2024). Enterprise pollution reduction through digital transformation? Evidence from Chinese manufacturing enterprises. *Technology in Society*, 77, 102520. doi: [10.1016/j.techsoc.2024.102520](https://doi.org/10.1016/j.techsoc.2024.102520).

-
- Zhong, X., Ren, L., & Song, T. (2021). Different effects of internal and external tournament incentives on corporate financial misconduct: Evidence from China. *Journal of Business Research*, 134, 329–341. doi: [10.1016/j.jbusres.2021.05.020](https://doi.org/10.1016/j.jbusres.2021.05.020). China and World Business Review
- Zhou, J., & Lei, X. (2025). ESG rating uncertainty and corporate financial misconduct. *Journal of Business Research*, 189, 115092. doi: [10.1016/j.jbusres.2024.115092](https://doi.org/10.1016/j.jbusres.2024.115092).
- Zhou, L., & Li, Y. (2025). Commercial credit supply in the digital economy era: Impact mechanisms and differences in property rights. *International Review of Financial Analysis*, 99, 103931. doi: [10.1016/j.irfa.2025.103931](https://doi.org/10.1016/j.irfa.2025.103931).
-

Corresponding author

Haohao Shang can be contacted at: 3319330935@qq.com