World Journal of Economics and Business Research
Print ISSN: 2960-0073
Online ISSN: 2960-0081
DOI: https://doi.org/10.61784/wjebr3108

THE IMPACT OF THE IMPLEMENTATION OF THE NEW REVENUE STANDARD ON EARNINGS MANAGEMENT IN HIGH-TECH ENTERPRISES

XinQi Gu[#], JiaNing Zhang[*,#]
International Business College, Dongbei University of Finance and Economics, Dalian 116025, Liaoning, China.
[#]XinQi Gu and JiaNing Zhang are both the first authors.
[*]Corresponding Author: JiaNing Zhang

Abstract: This study investigates how the adoption of the revised revenue recognition standard affects earnings management practices among Chinese A-share listed high-tech firms. Empirical findings reveal a notable decline in accrual-based earnings management following the standard's enactment, indicating that its enhanced requirements—spanning contract identification, performance obligation disaggregation, control transfer assessment, and expanded disclosure—effectively curtail firms' discretion in revenue recognition. However, further examination uncovers a concurrent rise in real earnings management, suggesting that when accrual-based manipulation becomes constrained, firms tend to substitute it with real operating decisions to achieve desired earnings outcomes. Moreover, this regulatory effect is amplified among firms characterized by greater R&D intensity. The study enriches the accounting literature on the economic ramifications of standard-setting and earnings management within the high-tech sector, while offering practical insights for regulators, auditors, and investors seeking to better assess the financial reporting quality of technology-oriented enterprises.
Keywords: New revenue standard; High-tech enterprises; Earnings management; R&D intensity

1 INTRODUCTION

In recent years, revenue recognition has become increasingly important to the quality of accounting information as firms' business models have become more complex and diversified [1-3]. This issue is particularly relevant for high-tech enterprises, where software licensing, technical services, research and development projects, system integration, and long-term contracts are common. These business activities often involve multiple performance obligations, allocation of transaction prices, and managerial judgment regarding the timing of the transfer of control. The implementation of the new revenue standard has changed the traditional revenue recognition framework by shifting the focus from the transfer of risks and rewards to the transfer of control and by introducing a more unified model for revenue recognition [4,5]. This institutional change may affect not only the timing and amount of reported revenue, but also the opportunities and methods through which firms manage earnings.

Prior studies have mainly examined the accounting treatment, disclosure effects, and earnings quality implications of the new revenue standard. Some studies suggest that the new standard improves the consistency and transparency of revenue recognition, thereby constraining accrual-based earnings management through revenue manipulation. However, other studies argue that the new standard still requires substantial managerial judgment in areas such as contract identification, separation of performance obligations, and estimation of variable consideration, which may create new room for earnings management. For high-tech enterprises, the incentives and methods of earnings management may be more complex because these firms are typically characterized by intensive R&D investment, complex contract structures, and strong growth pressure. Nevertheless, limited attention has been paid to how the implementation of the new revenue standard affects the degree of earnings management in high-tech enterprises [6,7].

Against this background, this study investigates the impact of the implementation of the new revenue standard on earnings management in high-tech enterprises. Specifically, it examines whether the new standard reduces earnings management by regulating firms' revenue recognition practices and further explores whether this effect varies across firms with different levels of R&D intensity. This study contributes to the literature on the economic consequences of accounting standards and provides empirical evidence on earnings management behavior in high-tech enterprises. The findings may also offer useful implications for regulators in improving the enforcement of accounting standards, for auditors in identifying revenue recognition risks, and for investors in evaluating the quality of accounting information disclosed by high-tech firms.

2 THEORETICAL FRAMEWORK AND HYPOTHESIS CONSTRUCTION

2.1 Effects of the New Revenue Standard on Financial Reporting Quality

Revenue is a key indicator of a firm's operating performance and profitability, and it is widely used by investors, creditors, and regulators to evaluate financial conditions [8]. Because revenue recognition directly affects reported earnings, managers may have incentives to manage earnings by adjusting the timing and amount of revenue recognition

as well as the matching of related expenses. Under the previous revenue standard, revenue recognition mainly relied on whether the significant risks and rewards of ownership had been transferred. In complex transactions and diversified business models, however, this criterion could be ambiguous, leaving room for firms to manipulate revenue and earnings.

The new revenue standard introduces a contract-based revenue recognition model and requires firms to recognize revenue when customers obtain control of the promised goods or services. Compared with the previous standard, the new standard places greater emphasis on contract identification, separation of performance obligations, determination of transaction prices, allocation of transaction prices, and the timing of revenue recognition. These changes improve the consistency and discipline of revenue recognition and strengthen disclosure requirements related to contract assets, contract liabilities, and performance obligations. Therefore, the new revenue standard may constrain accrual-based earnings management by increasing the transparency of revenue recognition and reducing managerial discretion in reporting revenue.

However, the new revenue standard does not necessarily eliminate the possibility of earnings management. Managerial judgment is still required in areas such as contract identification, allocation of performance obligations, estimation of variable consideration, and assessment of the transfer of control. Firms may still use such discretion to influence reported revenue. Moreover, when the room for accrual-based earnings management is reduced, managers may shift to real activities manipulation, such as accelerating sales, relaxing credit policies, cutting R&D expenditures, or delaying necessary expenses. Therefore, the effect of the new revenue standard on earnings management may be twofold: it may reduce accrual-based earnings management while encouraging a substitution toward real earnings management.

Based on the above discussion, this study proposes the following hypotheses:

H1a: The implementation of the new revenue standard reduces accrual-based earnings management in high-tech enterprises.

H1b: The implementation of the new revenue standard may increase real earnings management in high-tech enterprises.

2.2 High-Tech Enterprises and Earnings Management

High-tech enterprises are characterized by strong innovation orientation and high growth potential. Their operations usually involve intensive R&D investment, long project cycles, and complex contractual arrangements. Compared with traditional manufacturing firms, high-tech enterprises often generate revenue from more diversified sources, such as software sales, technical services, outsourced R&D projects, system integration, intellectual property licensing, and subsequent maintenance services. These activities frequently involve multiple performance obligations and complex revenue recognition arrangements, making revenue recognition more dependent on managerial judgment. As a result, high-tech enterprises face a more complex accounting environment under the new revenue standard.

At the same time, high-tech enterprises may have stronger incentives to engage in earnings management. On the one hand, these firms are often in a rapid growth stage and are highly sensitive to external financing needs, market valuation, and investor expectations. Managers may therefore have incentives to maintain stable or increasing earnings performance. On the other hand, high-tech enterprises often benefit from tax incentives, government subsidies, and policy support, and the acquisition or maintenance of these benefits may be related to firms' reported financial performance. In addition, accounting treatments related to R&D capitalization, government subsidy recognition, and impairment of intangible assets may also provide opportunities for earnings management.

After the implementation of the new revenue standard, earnings management behavior in high-tech enterprises may change. The new standard provides more explicit requirements for revenue recognition, which may reduce the opportunity for firms to conduct accrual-based earnings management by accelerating revenue recognition or adjusting reported revenue amounts. Nevertheless, high-tech enterprises may still influence earnings through real business decisions, such as adjusting the timing of R&D investment, changing project delivery schedules, offering price discounts to accelerate sales, or modifying customer credit policies. This suggests that the new revenue standard may affect not only the degree of earnings management but also the methods through which high-tech enterprises manage earnings.

Furthermore, R&D intensity may moderate the relationship between the new revenue standard and earnings management. Firms with higher R&D intensity usually face more complex technology projects, greater uncertainty in future benefits, and stronger performance pressure. Their revenue recognition and expense recognition processes are also more likely to involve managerial judgment. Therefore, the impact of the new revenue standard on earnings management may be more pronounced among firms with higher R&D intensity. Accordingly, this study further proposes the following hypothesis:

H2: The impact of the implementation of the new revenue standard on earnings management in high-tech enterprises is more pronounced among firms with higher R&D intensity.

3 RESEARCH DESIGN

3.1 Sample and Data

This study uses Chinese A-share listed high-tech enterprises as the research sample to examine the impact of the implementation of the new revenue standard on earnings management. Considering that the new revenue standard was implemented in stages among Chinese listed firms, this study selects firm-year observations covering several years

before and after the adoption of the standard, so as to capture changes in corporate behavior around the institutional reform. Specifically, this study intends to use data from A-share listed firms from 2016 to 2023 as the initial sample and identify high-tech enterprises based on industry classification, official high-tech enterprise certification, strategic emerging industry classification, or information disclosed in annual reports.

The sample is screened according to the following procedures. First, financial and insurance firms are excluded because their accounting practices and financial structures differ substantially from those of non-financial firms. Second, ST, *ST, and delisting-risk firms are excluded to avoid the influence of abnormal operating conditions. Third, observations with missing values for key variables are removed. Fourth, to reduce the influence of extreme values, all major continuous variables are winsorized at the 1st and 99th percentiles. Financial data, corporate governance data, and market data are mainly obtained from databases such as CSMAR, WIND, or GTA, while information on high-tech enterprises is identified through annual reports, CSMAR industry classification, strategic emerging industry classification, or other public disclosures of listed firms.

Since the new revenue standard may have different effects across industries and business models, this study focuses on high-tech enterprises whose revenue recognition is relatively complex. For example, firms in software and information technology services, computer, communication and electronic equipment manufacturing, pharmaceutical manufacturing, specialized equipment manufacturing, and technical services often engage in business activities such as technical services, software licensing, system integration, R&D projects, and long-term contracts. These activities are more likely to involve complex revenue recognition arrangements and are therefore more likely to be affected by the new revenue standard. Accordingly, focusing on high-tech enterprises is both practically relevant and theoretically justified.

3.2 Variables

3.2.1 Dependent variable: earnings management

The dependent variable in this study captures the extent of earnings management. To comprehensively examine how the revised revenue standard shapes firms' reporting behavior, earnings management is measured along two dimensions: accrual-based earnings management and real earnings management.

For the first dimension, discretionary accruals serve as the proxy for accrual-based earnings management. The modified Jones model is employed to estimate discretionary accruals, with their absolute value used as the primary measure, denoted as ABS_DA. A larger ABS_DA reflects greater reliance on accounting estimates and policy choices to manipulate reported earnings.

For the second dimension, real earnings management indicators are constructed to capture the degree to which firms adjust reported earnings via operational decisions. Drawing on established approaches in the literature, this measure incorporates abnormal operating cash flows, abnormal production costs, and abnormal discretionary expenditures, collectively denoted as REM. A higher REM value signals greater earnings manipulation through real business activities, such as alterations in sales strategies, production schedules, R&D spending, or discretionary outlays.

Where data availability or space constraints apply, ABS_DA serves as the primary dependent variable, while REM is incorporated as supplementary analysis or a robustness check. This arrangement preserves the parsimony of the main research design while retaining the theoretical consideration that the revised standard may induce firms to shift between different earnings management channels.

3.2.2 Independent variable: implementation of the new revenue standard

The primary independent variable of interest is the adoption of the new revenue standard. Given that China's rollout of the new revenue standard followed a staggered schedule, different categories of listed firms transitioned to the standard at different points in time. Specifically, firms with dual listings or those preparing financial statements under International Financial Reporting Standards or Chinese Accounting Standards were required to adopt the standard earlier, whereas other domestically listed firms followed in subsequent years. Accordingly, the treatment variable is constructed based on the actual fiscal year in which each firm first applied the new revenue standard.

In the baseline regression, NRS is defined as a binary indicator capturing whether a firm has adopted the new revenue standard. It takes a value of one beginning in the adoption year and for all years thereafter, and zero for all prior periods. Where a difference-in-differences framework is employed, the key explanatory variable is instead specified as the interaction term Treat × Post. Here, Treat identifies firms subject to a greater degree of exposure to the new standard, Post denotes the post-adoption period, and their interaction serves to isolate the causal effect of the standard on earnings management behavior.

The treatment group is delineated according to how substantially a firm's revenue recognition practices are affected by the new standard. As a proxy for exposure intensity, this study employs the ratio of advances from customers or contract liabilities to operating revenue, measured prior to adoption. Firms exhibiting a higher ratio are more likely to engage in advance payment arrangements, multi-stage performance obligations, long-term contracts, or other customer payment structures whose revenue recognition is susceptible to revision under the new standard. Firms whose ratio exceeds the industry-year median are therefore assigned to the treatment group, with the remainder constituting the control group. This classification strategy leverages cross-sectional heterogeneity in the degree to which the new revenue standard affects individual firms.

3.2.3 Control variables

To control for other firm characteristics that may affect earnings management, this study includes the following control variables, see Table 1:

Table 1 Variable Definition

Variable	Symbol	Definition
Firm size	Size	Natural logarithm of total assets
Leverage	Lev	Total liabilities divided by total assets
Profitability	ROA	Net income divided by total assets
Growth	Growth	Year-on-year percentage change in operating revenue
Operating cash flow	CFO	Ratio of net cash generated from operations to total assets
R&D intensity	RD	Proportion of R&D expenditure relative to operating revenue
Firm age	Age	Number of years since listing or since establishment
Ownership concentration	Top1	Percentage of total shares held by the largest shareholder
Audit quality	Big4	Indicator variable equal to one if audited by a Big Four firm, and zero otherwise
Ownership type	SOE	Indicator variable equal to one for state-owned enterprises, and zero otherwise

Among these variables, R&D intensity is particularly important for this study. Firms with higher R&D intensity tend to have more complex technology projects and stronger performance pressure, and their revenue recognition and expense recognition processes may involve greater managerial judgment. Therefore, this study further examines whether R&D intensity moderates the relationship between the new revenue standard and earnings management.

3.3 Model Specification

To investigate how the adoption of the new revenue standard influences earnings management practices in high-tech firms, a baseline regression model is constructed as follows:

$$EM_{it}=\alpha_0+\alpha_1 NRS_{it}+\sum Controls_{it}+FirmFE+YearFE+\varepsilon_{it} \quad (1)$$

where EM_{it} denotes the extent of earnings management for firm i in year t, proxied by either ABS_DA or REM. NRS_{it} is a dummy variable taking the value of one upon the firm's adoption of the revised revenue standard, and zero otherwise. $Controls_{it}$ represents a vector of control variables. $FirmFE$ and $YearFE$ denote firm and year fixed effects, respectively, absorbing time-invariant firm heterogeneity and aggregate annual shocks. ε_{it} is the error term.

The primary coefficient of interest is α_1. A significantly negative estimate of α_1 when ABS_DA serves as the dependent variable would suggest that the revised standard curtails accrual-based earnings management among high-tech firms, lending support to H1a. Conversely, a significantly positive α_1 when REM is the dependent variable would imply that firms increasingly resort to real activities manipulation following standard adoption, consistent with H1b.

To further strengthen causal identification, a difference-in-differences framework is employed:

$$EM_{it}=\beta_0+\beta_1 Treat_i\times Post_t+\sum Controls_{it}+FirmFE+YearFE+\varepsilon_{it} \quad (2)$$

where $Treat_i$ distinguishes firms more substantially affected by the revised standard, and $Post_t$ identifies the post-adoption period. The interaction term $Treat_i\times Post_t$ constitutes the key explanatory variable, isolating the standard's effect on earnings management among treated firms. A significantly negative β_1 in the accrual-based model would indicate a stronger constraining effect on ABS_DA for more exposed high-tech firms, whereas a significantly positive β_1 in the real earnings management model would point to a substitution from accrual-based toward real earnings management.

To examine the moderating role of R&D intensity, the following model is specified:

$$EM_{it}=\gamma_0+\gamma_1 NRS_{it}+\gamma_2 RD_{it}+\gamma_3 NRS_{it}\times RD_{it}+\sum Controls_{it}+FirmFE+YearFE+\varepsilon_{it} \quad (3)$$

where RD_{it} captures firm-level R&D intensity, and the interaction term $NRS_{it}\times RD_{it}$ tests whether the standard's effect on earnings management varies with R&D investment. A statistically significant γ_3 would indicate that R&D intensity moderates the association between standard adoption and earnings management, supporting H2.

4 RESULTS AND EMPIRICAL ANALYSIS

4.1 Primary Empirical Results

Table 2 presents the baseline regression estimates examining how the adoption of the revised revenue standard influences earnings management among high-tech firms. In Columns (1) and (2), ABS_DA serves as the dependent variable, capturing accrual-based earnings management, whereas Columns (3) and (4) employ REM to measure real earnings management. With respect to fixed effects, Columns (1) and (3) account for year fixed effects only, while Columns (2) and (4) incorporate both firm and year fixed effects.

Table 2 Baseline Regression Results

Variables	(1) ABS_DA	(2) ABS_DA	(3) REM	(4) REM
NRS	-0.018**	-0.024***	0.014*	0.021**
	(-2.31)	(-3.12)	(1.89)	(2.46)
Size	-0.006*	-0.004	-0.003	-0.002
	(-1.82)	(-1.34)	(-1.21)	(-0.88)
Lev	0.027**	0.022**	0.018*	0.020*
	(2.27)	(2.05)	(1.73)	(1.84)
ROA	-0.041***	-0.036***	-0.019*	-0.022**
	(-3.58)	(-3.14)	(-1.76)	(-2.09)
Growth	0.012*	0.010	0.017**	0.015**
	(1.76)	(1.51)	(2.21)	(2.03)
CFO	-0.033***	-0.029***	-0.024**	-0.026**
	(-3.45)	(-3.01)	(-2.36)	(-2.52)
RD	0.016*	0.019**	0.028***	0.031***
	(1.79)	(2.11)	(2.94)	(3.25)
Firm FE	No	Yes	No	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	6,842	6,842	6,842	6,842
Adjusted R^2	0.214	0.287	0.196	0.251

As shown in Table 2, when ABS_DA is used as the dependent variable, the coefficient on NRS is significantly negative in both Columns (1) and (2). After controlling for both firm and year fixed effects, the coefficient on NRS is -0.024 and significant at the 1% level. This result indicates that the implementation of the new revenue standard significantly reduces accrual-based earnings management in high-tech enterprises. It supports Hypothesis H1a, suggesting that the new standard constrains firms' use of accounting estimates and accounting policy choices to manage earnings by improving the discipline of revenue recognition, strengthening the identification of performance obligations, and enhancing disclosure requirements.

When REM is used as the dependent variable, the coefficient on NRS is significantly positive. In Column (4), the coefficient is 0.021 and significant at the 5% level. This finding indicates that real earnings management increases after the implementation of the new revenue standard. A possible explanation is that when firms face tighter constraints on accrual-based earnings management, managers may shift to real activities manipulation, such as accelerating sales, relaxing credit policies, adjusting the timing of R&D expenditures, or reducing discretionary expenses. This result supports Hypothesis H1b.

Overall, the baseline results suggest that the new revenue standard does not simply reduce all forms of earnings management. Instead, it appears to change the structure of earnings management. Specifically, the new standard significantly reduces accrual-based earnings management in high-tech enterprises, while it may encourage a shift toward real earnings management. This finding is consistent with the theoretical prediction of this study and highlights the importance of considering both accounting-based and real operating channels when evaluating the economic consequences of accounting standards.

4.2 Robustness Checks

To examine the reliability of the baseline findings, this study conducts several robustness tests. Specifically, it verifies the results in three ways: first, by replacing the measure of accrual-based earnings management; second, by adopting a difference-in-differences specification; and third, by examining the dynamic effects around the implementation of the new revenue standard.

Table 3 presents the robustness test results. Column (1) recalculates accrual-based earnings management using the performance-matched modified Jones model. Column (2) reports the difference-in-differences estimation. Columns (3) and (4) use alternative measures of real earnings management.

Table 3 Robustness Test Results

Variables	(1) PM_ABS_DA	(2) DID_ABS_DA	(3) REM_1	(4) REM_2
NRS	-0.021***		0.018**	0.023**
	(-2.89)		(2.14)	(2.37)
Treat × Post		-0.027***		
		(-3.26)		
Size	-0.005	-0.004	-0.002	-0.003
	(-1.42)	(-1.29)	(-0.79)	(-1.03)
Lev	0.024**	0.021*	0.019*	0.022**
	(2.18)	(1.86)	(1.77)	(2.04)
ROA	-0.038***	-0.034***	-0.021**	-0.020*
	(-3.21)	(-2.97)	(-2.02)	(-1.93)
Growth	0.011	0.009	0.016**	0.014*
	(1.58)	(1.37)	(2.05)	(1.82)
CFO	-0.031***	-0.028***	-0.025**	-0.027***
	(-3.18)	(-2.91)	(-2.43)	(-2.65)
RD	0.018**	0.017*	0.030***	0.032***
	(2.03)	(1.94)	(3.07)	(3.29)
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	6,842	6,842	6,842	6,842
Adjusted R^2	0.279	0.291	0.244	0.257

The estimates reported in Table 3 demonstrate that upon substituting the proxy for accrual-based earnings management, the coefficient on NRS remains significantly negative, confirming that the constraining effect of the revised standard on accrual-based earnings management is not driven by any particular measurement choice. Within the difference-in-differences framework, the coefficient on Treat × Post stands at -0.027 and is statistically significant at the 1% level, indicating that firms more heavily exposed to the revised standard exhibit a more pronounced reduction in accrual-based earnings management following its adoption. Furthermore, when alternative proxies for real earnings management are employed, the coefficient on NRS remains significantly positive, corroborating the notion that firms tend to substitute accrual-based manipulation with real operating activities.

To further assess the validity of the difference-in-differences design, dynamic effects surrounding the adoption of the revised revenue standard are examined through an event-study plot.

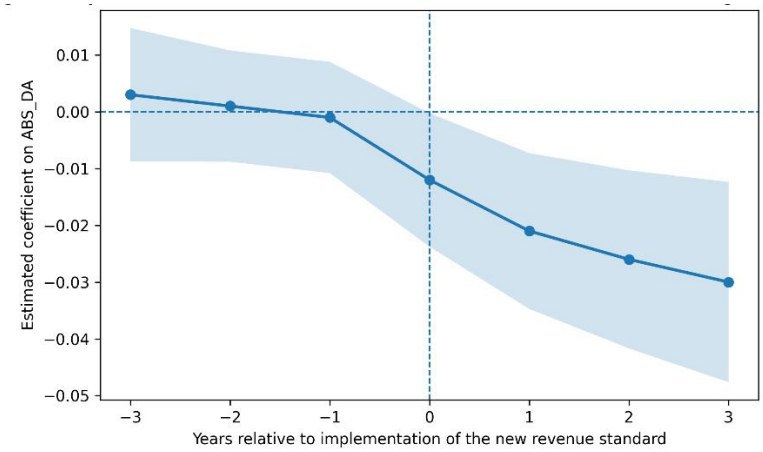

Figure 1 Dynamic Effect of the New Revenue Standard on Accrual-Based Earnings Management

Figure 1 shows that the estimated coefficients are close to zero during the three years before implementation, and the confidence intervals include zero. This suggests that there is no significant pre-treatment trend difference between the treatment and control groups, supporting the parallel trends assumption. After the implementation of the new revenue standard, the estimated coefficients gradually become more negative and remain negative from the first to the third year

after implementation. This indicates that the constraining effect of the new revenue standard on accrual-based earnings management is not merely a short-term fluctuation, but appears to be relatively persistent. This evidence further strengthens the credibility of the baseline findings.

4.3 Further Analysis: R&D Intensity

A defining characteristic of high-tech firms is their pronounced reliance on R&D activities. Such activities not only shape firms' innovative capabilities, but also bear directly on revenue recognition, expense treatment, and reported earnings. From one perspective, firms with elevated R&D intensity are more likely to engage in technical services, research-oriented contracts, and long-term project arrangements, rendering their revenue recognition processes inherently more complex. From another perspective, the timing and capitalization decisions surrounding R&D expenditures may themselves serve as channels through which reported earnings are managed. Against this backdrop, this study investigates whether the revised standard's effect on earnings management is contingent on firms' R&D intensity.

To this end, the sample is partitioned into high and low R&D intensity subgroups based on the ratio of R&D expenditure to operating revenue, with separate regressions estimated for each group. The corresponding results are presented in Table 4.

Table 4 Heterogeneous Effects by R&D Intensity

Variables	(1) Low R&D ABS_DA	(2) High R&D ABS_DA	(3) Low R&D REM	(4) High R&D REM
NRS	-0.012*	-0.034***	0.008	0.026***
	(-1.76)	(-3.67)	(1.12)	(2.91)
Size	-0.003	-0.006*	-0.001	-0.004
	(-0.94)	(-1.78)	(-0.45)	(-1.31)
Lev	0.018*	0.029**	0.014	0.026**
	(1.72)	(2.35)	(1.29)	(2.22)
ROA	-0.028**	-0.044***	-0.017	-0.027**
	(-2.21)	(-3.42)	(-1.55)	(-2.34)
Growth	0.008	0.014*	0.011	0.020**
	(1.18)	(1.89)	(1.42)	(2.27)
CFO	-0.023**	-0.036***	-0.019*	-0.031***
	(-2.17)	(-3.29)	(-1.76)	(-2.94)
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	3,421	3,421	3,421	3,421
Adjusted R^2	0.241	0.306	0.218	0.274

As shown in Table 4, in the low R&D intensity group, the coefficient on NRS is -0.012 and only significant at the 10% level when ABS_DA is used as the dependent variable. In contrast, in the high R&D intensity group, the coefficient on NRS is -0.034 and significant at the 1% level. This suggests that the constraining effect of the new revenue standard on accrual-based earnings management is more pronounced among firms with higher R&D intensity. A possible explanation is that high R&D firms have more complex business models and contractual arrangements, making them more strongly affected by the revenue recognition and disclosure requirements introduced by the new standard.

For real earnings management, the coefficient on NRS is insignificant in the low R&D intensity group but significantly positive in the high R&D intensity group. Specifically, the coefficient is 0.026 and significant at the 1% level. This indicates that high R&D firms are more likely to increase real earnings management after the implementation of the new revenue standard. When the room for revenue-related accrual manipulation is reduced, these firms may be more likely to adjust R&D expenditures, project delivery schedules, or other real operating decisions to influence current earnings.

To provide a more intuitive presentation of the heterogeneous effects, this study further plots the estimated treatment effects by R&D intensity.

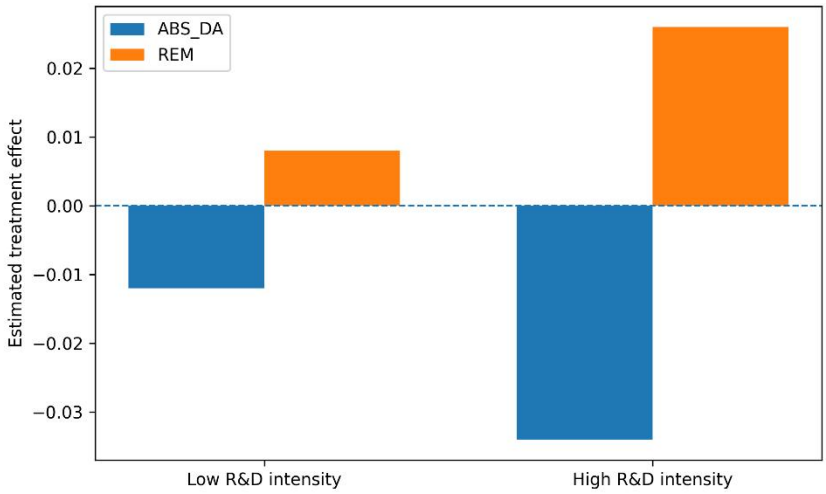

Figure 2 Heterogeneous Effects by R&D Intensity

As illustrated in Figure 2, the adoption of the new revenue standard is associated with a more pronounced negative effect on ABS_DA and a greater positive effect on REM among firms in the high R&D intensity group. These findings align with the regression estimates reported in Table 4, underscoring R&D intensity as a key firm-level characteristic in explaining how the new revenue standard shapes earnings management behavior. Taken together, the supplementary analysis lends support to Hypothesis H2, indicating that high-tech firms with greater R&D intensity exhibit a stronger response to the new revenue standard in terms of earnings management practices.

5 CONCLUSION

This study examines the impact of the implementation of the new revenue standard on earnings management in Chinese A-share listed high-tech enterprises. The results show that accrual-based earnings management significantly decreases after the implementation of the new revenue standard. This suggests that the new standard constrains firms' ability to manipulate accounting earnings through revenue recognition by strengthening contract identification, the separation of performance obligations, the assessment of the transfer of control, and disclosure requirements. However, the results also indicate an increase in real earnings management, implying that firms may shift to real operating activities to manage earnings when accrual-based discretion becomes more restricted.

Further analysis shows that the effect of the new revenue standard is more pronounced among firms with higher R&D intensity. High R&D firms usually have more complex business models, more uncertain technology projects, and stronger performance pressure. As a result, their revenue recognition and expense recognition processes are more likely to be affected by changes in accounting standards. This finding suggests that the evaluation of accounting standard reforms should consider not only improvements in accounting recognition and disclosure, but also firms' behavioral responses in real business activities.

This study contributes to the literature on the economic consequences of the new revenue standard and earnings management in high-tech enterprises. It also provides practical implications for regulators, auditors, and investors. Regulators should pay attention to the substitution from accrual-based earnings management to real earnings management after the implementation of the new standard. Auditors should place greater emphasis on complex contracts, performance obligations, R&D expenditures, and the timing of revenue recognition. Investors should evaluate the accounting information quality of high-tech firms by considering not only reported earnings, but also cash flows, R&D investment, and contract liabilities.

Future research may extend this study in several directions. First, future studies could use annual report textual analysis to more accurately identify the extent to which the new revenue standard affects individual firms. Second, researchers could distinguish among different types of high-tech enterprises, such as software firms, biopharmaceutical firms, and electronic information manufacturers, to examine potential industry heterogeneity. Finally, future research could incorporate internal control quality, auditor industry expertise, and capital market reactions into the analysis to provide a more comprehensive understanding of the economic consequences of the new revenue standard.

COMPETING INTERESTS

The authors have no relevant financial or non-financial interests to disclose.

REFERENCES

[1] Ernestivita G, Kumar V, Subagyo. Leveraging strategic revenue management and marketing for effective revenue diversification: evidences from Indonesia. Journal of Revenue and Pricing Management, 2026, 25(1): 41-52.

[2] Thuan PQ, Khuong NV, Anh NDC, et al. The determinants of the usage of accounting information systems toward operational efficiency in industrial revolution 4.0: Evidence from an emerging economy. Economies, 2022, 10(4): 83.
[3] Donner M, Gohier R, de Vries H. A new circular business model typology for creating value from agro-waste. Science of the Total Environment, 2020, 716: 137065.
[4] Fauzi SM, Ali MM, Ghani EK. The forces of revenue recognition standard changes in a telecommunication company: A qualitative approach. Journal of Ecohumanism, 2024, 3(3): 1-15.
[5] Chou C, Hwang NR, Schneider GP, et al. Using smart contracts to establish decentralized accounting contracts: An example of revenue recognition. Journal of Information Systems, 2021, 35(3): 17-52.
[6] Rashid CA. The efficiency of financial ratios analysis to evaluate company profitability. Journal of Global Economics and Business, 2021, 2(4): 119-132.
[7] Rahiminezhad Galankashi M, Mokhatab Rafiei F. Financial performance measurement of supply chains: a review. International journal of productivity and performance management, 2022, 71(5): 1674-1707.
[8] Diana HI, Maria MM. The importance of profitability indicators in assessing the financial performance of economic entities. The Annals of the University of Oradea, 2020, 29(2020): 219.