



The Impact of Accounting Standards on Earnings Quality, Earnings Management, and Income Smoothing Before and After the Implementation of Accounting Standards in Iran




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Abstract: Since financial statements are among the most critical sources of information for decision-makers, it is essential to comply with accounting standards in their preparation. These standards serve as a benchmark for the quality of information contained in financial statements. Following the mandatory implementation of accounting standards approved by the Audit Organization in Iran, the question arises as to whether these standards have improved the quality of accounting information. Therefore, this study aims to examine the impact of accounting standards on earnings quality, earnings management, and income smoothing before and after the implementation of accounting standards in Iran. The research follows a fundamental-experimental approach. The statistical population of this study comprises all companies listed on the Tehran Stock Exchange, and a systematic elimination sampling method was used to select the sample. The sample size was 61 firms. The financial data of these companies were examined over a 31-year period (1992–2022). To collect the necessary data for hypothesis testing, financial data of the selected companies were extracted using Rahavard Novin software and the Iranian Securities and Exchange Organization's databases. A multiple linear regression model was employed to test the hypotheses. In the statistical analysis, regression based on panel data was used to analyze the research hypotheses, and the data analysis was conducted using Eviews and Excel software. According to the results, earnings quality did not have a significant relationship with earnings management among companies listed on the Tehran Stock Exchange before and after the implementation of accounting standards. However, earnings quality was significantly related to income smoothing among these companies before and after the implementation of accounting standards. Additionally, income smoothing had a significant relationship with earnings management among companies listed on the Tehran Stock Exchange before and after the implementation of accounting standards.

Keywords: Accounting standards, earnings quality, earnings management, income smoothing

1. Introduction

Users of financial statements must be able to compare a business entity's financial statements over time to identify trends in its financial position, financial performance, and financial flexibility [1]. They must also be able to compare the financial statements of different business entities to assess their financial position, financial performance, and financial flexibility relative to one another [2, 3]. To ensure comparability of a business entity's financial statements across different periods, it is necessary that the effects of transactions and similar events within the entity be measured and presented consistently [4]. Compliance with accounting standards facilitates the comparability of financial statements across different business entities, as these standards mandate that entities use similar procedures for accounting for transactions and events of a similar nature [5].

Accounting standards are essentially a set of general guidelines and specific policies that economic entities must follow in the process of recognizing, measuring, and reporting financial information. The nature of these standards varies across countries, depending on the economic system, cultural values, and social conditions. In fact, accounting and financial reporting standards, which ensure the realization of the financial statements' objective of meeting users' informational needs, must be developed considering environmental conditions and characteristics. The rapid economic growth and increasing complexity of society have justified the need for relevant economic information, leading to the development of information systems and processes for generating such information, as well as an increased demand for auditing as part of the financial reporting process. The extent to which various sectors of a society benefit from audit services will be maximized when the role of auditing is clearly defined and comprehensively understood [6].

The increasing number of users of audit reports, who are essentially clients, has heightened the scrutiny of audit quality. The quality of auditors' work and their opinions can enhance a country's financial information system and ultimately lead to optimal economic decision-making. The auditor is the most qualified individual to express an opinion on the accuracy of the preparation and presentation of an entity's financial reports. The auditor's competence lies in the fact that the audit is conducted in accordance with established accounting standards. The auditor provides credibility to the assertions made by others in financial statements, thereby enhancing the reliability of the information used in economic decisions [7].

Society also justifies the need for relevant and reliable economic information, information systems, and processes for generating such information, thereby expanding the demand for auditing as part of the financial reporting process. Thus, auditing standards are one of the factors influencing audit quality. Standards serve as mandatory regulations for assessing the quality of audit execution. The existence of generally accepted auditing standards indicates auditors' commitment to maintaining high and consistent quality in their work across all independent auditors. These standards also establish the minimum criteria for examining financial information and serve as a benchmark for evaluating the performance of independent auditors in terms of adherence to fundamental selection criteria. Moreover, these standards set forth minimum requirements, violations of which could expose auditors to legal liability [8, 9].

Transparent and comparable financial information is a fundamental component of accountability and informed economic decision-making. Therefore, financial statements must meet high-quality standards. Financial statements achieve the desired level of quality when they are prepared in accordance with recognized standards, namely, accounting standards. These standards define the criteria for recognizing and measuring assets, liabilities, equity, revenues, and expenses, and consequently, they have significant economic implications. Hence, it appears essential

to examine the importance and effectiveness of implementing these standards in Iran [5, 10]. If auditors' judgments are not based on predetermined criteria, they become subjective and lack any substantive value. Periodic measurement of earnings is perhaps the primary objective of the accounting process. The concept of earnings is one of the most unstable notions in the business world. Accounting earnings are measured based on the accrual assumption within the framework of generally accepted accounting principles [11].

Earnings are one of the most critical metrics for evaluating performance and determining the value of economic enterprises. However, due to inherent limitations in accounting, the reported earnings in financial statements may not reflect the true earnings of an entity. To address this issue, the concept of earnings quality has been introduced. The notion of earnings quality was first proposed by financial analysts and stockbrokers, who felt that reported earnings did not accurately portray a company's earnings potential as envisioned in their analyses [12-14]. They found that predicting future earnings based on reported results was challenging. Additionally, analysts discovered that analyzing a company's financial statements was complicated due to numerous weaknesses in accounting measurement. According to the conceptual framework of the Financial Accounting Standards Board (FASB), the primary criterion for evaluating efficiency is decision-usefulness [15].

On the other hand, earnings management involves modifying financial reports to mislead shareholders about an entity's underlying performance or to influence contractual outcomes that depend on reported accounting figures. Earnings management negatively affects earnings quality and can undermine the credibility of financial reports. Accounting information systems in each company create certain gaps or opportunities for management to influence financial statements to persuade shareholders or other stakeholders, such as potential investors, creditors, or regulatory bodies, regarding the realization of projected earnings. As a result, managers can manipulate financial statements to meet shareholders' expectations and address pressures from internal or external stakeholders. These modifications are generally aimed at adjusting the company's actual earnings to a predetermined or expected level. Simply put, earnings management refers to a set of activities within the framework of accounting procedures and methods or through exploiting regulatory loopholes to adjust earnings to a desired level expected by the market or other stakeholders [16].

Therefore, appropriate standards must be in place to mitigate earnings management and significantly limit its scope. High-quality accounting standards are based on a set of accounting and financial assumptions that allow for the accurate measurement of various indicators and the presentation of actual figures. Financial statements and their quality, information transparency, financial symmetry, and other similar variables are defined as key accounting metrics. Clearly, improving these metrics requires a comprehensive and reliable set of standards, with international financial reporting standards (IFRS) serving as one such tool [16-18].

Another important consideration is that investors believe stable earnings, as opposed to volatile earnings, ensure higher dividend payouts. Additionally, earnings volatility is considered a key indicator of a company's overall risk, and firms with smoother earnings are perceived to have lower risk. As a result, companies with stable earnings are more attractive to investors and are viewed as more suitable investment options [19]. In practice, financial managers have the discretion to choose cost recognition methods within the framework of generally accepted accounting principles, and this discretion extends to the timing of financial activities. Consequently, financial officers can systematically influence reported earnings from year to year, thereby smoothing earnings. The phenomenon of earnings smoothing can impact investors' decisions and lead to significant market outcomes. This highlights the necessity for continuous quality assessments of accounting personnel and financial officers to ensure that information system designers account for environmental uncertainties and provide a broad range of relevant data.

Given these considerations, accounting standards may influence earnings smoothing incentives. It is likely that managers and financial officers attempt to alter or conceal information to smooth earnings. With increased precision and awareness, a better understanding of organizational tendencies and behaviors can be achieved [20].

The literature on the impact of accounting standards and earnings management highlights the role of International Financial Reporting Standards (IFRS) in financial reporting and corporate transparency. Abbaszadeh et al. (2021) identified key factors influencing earnings management, including business continuity, regulatory pressure, and accounting standard quality, revealing that earnings management strategies rely on real activities, information disclosure, and accrual manipulation [11]. In the context of earnings smoothing, Fereydouni et al. (2021) conducted a comparative study using artificial intelligence to assess the impact of regulatory and performance criteria on earnings smoothing models, finding that performance factors had a stronger effect than governance variables [19]. Eiler et al. (2021) analyzed the impact of accounting standards on earnings management in Mexico and found that IFRS adoption reduced earnings smoothing, especially for firms cross-listed in the U.S [5]. These studies collectively indicate that IFRS adoption improves financial reporting quality, reduces earnings management, and enhances investor confidence, although challenges remain in implementation and compliance.

Considering the above, a significant challenge in implementing accounting standards in the stock market is their incomplete and inconsistent application. Moreover, since the relationship between these standards and financial statements has been less frequently explored in prior research, aligning previous findings with this study presents difficulties. In Iran, this issue has not yet been thoroughly examined, and the conversion of certain indicators to validate or reject hypotheses poses challenges. The lack of full financial transparency among some companies listed on the Tehran Stock Exchange is another potential limitation of this research, as transparent data lead to clear results, whereas a lack of transparency makes it difficult to determine whether these standards have effectively reduced earnings management, facilitated earnings smoothing, and improved earnings quality. Accordingly, the present study seeks to answer the question: Has earnings quality, earnings management, and earnings smoothing changed in companies listed on the Tehran Stock Exchange before and after the implementation of accounting standards?

2. Methodology

This study is classified as a fundamental-experimental research, as it is conducted based on past financial data of companies and organizations. From a methodological perspective, it falls under the category of descriptive-correlational research.

The statistical population of this study includes all companies listed on the Tehran Stock Exchange over a 31-year period, from 1992 to 2022, both before and after the mandatory implementation of accounting standards. The sampling method used in this study is systematic elimination. The sample size includes all companies in the statistical population that meet the following criteria:

1. The company must not belong to the financial intermediation sector (such as banks, investment companies, and leasing firms).
2. To ensure comparability of data, the company's fiscal year must end in March.
3. The company must not have changed its fiscal year during the research period.
4. The company's stock transactions must not have been suspended for more than six months on the Tehran Stock Exchange during the research period.

Considering these conditions and limitations, a total of 61 companies were selected as the final sample.

To collect theoretical foundations and literature related to the research, a library-based approach was used. This involved studying relevant books and journals and referring to specialized websites to gather necessary information. Additionally, document analysis was used to collect the required financial data. Financial data and related information were obtained from corporate financial statements, the Tehran Stock Exchange's official website (Codal), the Research, Development, and Islamic Studies Organization of the Stock Exchange, and financial databases such as Rahavard Novin.

For data collection, both library and field methods were used, depending on the case:

1. **Library Study Method:** This method was used to explain the theoretical foundations of the research and to collect literature related to past and future company performance variables, including explanatory and dependent variables. Books, dissertations, and Persian and English articles were reviewed and utilized.
2. **Document Analysis Method:** To obtain data for hypothesis testing and statistical analyses, a document review approach was applied based on the financial statements and records of selected listed companies. In this context, financial statements, explanatory notes, and supporting financial documents were analyzed. Additionally, online databases, journals, books, and electronic articles were reviewed to collect theoretical foundations and research background. Data on research variables were gathered from various sources, including financial databases, Rahavard Novin, the Tehran Stock Exchange, and company financial statements.

To prepare variables for use in hypothesis-testing models, Microsoft Excel was used. First, the collected data were entered into spreadsheet workbooks, where necessary calculations were performed to derive the study variables. After computing all required variables, they were integrated into unified worksheets for electronic transfer to the software used for final analysis. The statistical analysis was conducted using EViews software.

Variables and Their Calculation and Measurement

To formulate the research hypotheses, it is essential to first define the study variables. Based on these definitions, the hypotheses were structured. The variables in this study include dependent, independent, and control variables, which are described below.

Independent Variables

1. **Earnings Management:** Real earnings management is measured using three variables: abnormal cash flow from operations, abnormal discretionary expenses, and abnormal production costs, based on the model proposed by Roychowdhury (2006):

$$\text{CFOit}/\text{Ai,t-1} = \alpha_1 (1/\text{Ai,t-1}) + \alpha_2 (\text{Salesit}/\text{Ai,t-1}) + \alpha_3 (\Delta\text{Salesit}/\text{Ai,t-1}) + \varepsilon_{it}$$

where:

- CFO represents cash flow from operations.
- Sales represents total sales revenue.
- Ai,t-1 represents total assets at the beginning of the period to adjust for size effects.
- α represents a constant term.

Production costs (PRO) are estimated as follows:

$$\text{PROit}/\text{Ai,t-1} = \alpha_1 (1/\text{Ai,t-1}) + \alpha_2 (\text{Salesit}/\text{Ai,t-1}) + \alpha_3 (\Delta\text{Salesit}/\text{Ai,t-1}) + \alpha_4 (\Delta\text{Salesit-1} / \text{Ai,t-1}) + \varepsilon_{it}$$

where:

- PRO represents production costs, including the cost of goods sold and changes in inventory.

Discretionary expenses (DExp) are estimated using the model:

$$\text{DExpit}/\text{Ai,t-1} = \alpha_1 (1/\text{Ai,t-1}) + \alpha_2 (\text{Salesi,t-1}/\text{Ai,t-1}) + \varepsilon_{it}$$

where:

- DExp includes advertising, general, administrative, and sales expenses.

By combining these three variables, a single proxy variable representing the overall level of real earnings management is constructed, denoted as REMit (following Cohen et al., 2008, and Zhang, 2012):

$$\text{REMit} = \text{CFOit} + \text{PROit} + \text{DExpit}$$

2. **Income Smoothing:** The model proposed by Shubita et al. (2015) is used to measure income smoothing:

$$\text{Accrualsit} = \alpha_1 (1/\text{Assetsit-1}) + \alpha_2 (\Delta \text{Salesit}) + \alpha_3 (\Delta \text{PPEit}) + \alpha_4 (\Delta \text{ROAit}) + \varepsilon_{it}$$

where:

- Accruals represent total accruals, calculated as the difference between net income and operating cash flows.
- Sales represents the change in annual sales.
- PPE represents gross property, plant, and equipment, adjusted by dividing by the logarithm of total assets at the beginning of the period.
- ROA represents return on assets, calculated as net income divided by total assets at the end of the period.

Using regression estimates, the firm's non-discretionary accruals (NDAP) are determined. The difference between discretionary and non-discretionary accruals represents the extent of income smoothing.

Dependent Variables

1. **Earnings Quality:** The study measures earnings quality using the annual return rate of company *i* in industry *j*.

Additionally, in the third hypothesis, income smoothing is considered the dependent variable, as previously described.

Control Variables

Control variables in this study include company-specific characteristics:

1. **Firm Size:** Measured as the natural logarithm of total assets at the end of the year.
2. **Firm Growth:** Measured as the ratio of net income to total company assets (Dechow, 2003).
3. **Profitability:** Measured as the net income-to-total assets ratio multiplied by 100.
4. **Company Age:** Defined as the number of years since the company's listing on the stock exchange.

A table defining the operationalization of these variables is provided in the next section.

3. 3-5 Research Hypotheses

Based on the research objectives, the following hypotheses are proposed:

1. Earnings quality is significantly related to earnings management among companies listed on the Tehran Stock Exchange before and after the implementation of accounting standards.
2. Earnings quality is significantly related to income smoothing among companies listed on the Tehran Stock Exchange before and after the implementation of accounting standards.
3. Income smoothing is significantly related to earnings management among companies listed on the Tehran Stock Exchange before and after the implementation of accounting standards.

Regression Models for Hypothesis Testing

A multiple regression model is used to test the first hypothesis:

$$\text{Returnit} = \beta_0 + \beta_1 \text{REMit} + \beta_2 \text{SIZEit} + \beta_3 \text{GROWit} + \beta_4 \text{ROAit} + \beta_5 \text{AGEit} + \varepsilon_{it}$$

A similar regression model is used for the second hypothesis:

$$\text{Returnit} = \beta_0 + \beta_1 \text{NDAPit} + \beta_2 \text{SIZEit} + \beta_3 \text{GROWit} + \beta_4 \text{ROAit} + \beta_5 \text{AGEit} + \varepsilon_{it}$$

For the third hypothesis, the following regression model is applied:

$$NDAP_{it} = \beta_0 + \beta_1 REM_{it} + \beta_2 SIZE_{it} + \beta_3 GROW_{it} + \beta_4 ROA_{it} + \beta_5 AGE_{it} + \epsilon_{it}$$

Statistical Methods Used in the Study

Data analysis is a multi-stage process in which collected data are summarized, categorized, and processed to establish relationships and conduct scientific analyses for hypothesis testing. Initially, descriptive statistics are presented, followed by statistical tests to analyze heteroscedasticity and correlation among research variables.

1. The regression model is analyzed, and the significance of regression coefficients is tested to confirm or reject hypotheses. Data are analyzed separately for the periods before and after the implementation of accounting standards.
2. Finally, hypothesis testing is conducted using the t-test in SPSS to examine the impact of independent variables on dependent variables before and after the implementation of accounting standards and determine any potential differences in results.

3. Findings and Results

Descriptive statistics for the variables used in the research model were measured using data from 61 companies listed on the Tehran Stock Exchange over the period from 1992 to 2022. These statistics include the mean, median, minimum, maximum, standard deviation, skewness, and kurtosis. The results indicate that before the implementation of accounting standards in Iran, the mean for real earnings management was -0.123, for income smoothing was -0.033, for earnings transparency was -0.472, for firm age was 2.89, for financial leverage was 0.58, for firm size was 14.18, and for growth was 0.217. After the implementation of accounting standards in Iran, the mean for real earnings management was 0.195, for income smoothing was 0.054, for earnings transparency was 0.825, for firm age was 3.17, for financial leverage was 0.525, for firm size was 15.13, and for growth was 0.511.

The first hypothesis of the study states that earnings quality has a significant relationship with earnings management in companies listed on the Tehran Stock Exchange before and after the implementation of accounting standards. Table 1 presents the findings from multiple linear regression tests for the first model, where the dependent variable is earnings quality, which is expected to influence earnings management. Control variables, including firm age, growth, firm size, and financial leverage, were also included in the model. The regression coefficients were estimated using the least squares method.

Table 1. Estimation Results for the First Research Model Before the Implementation of Accounting Standards in Iran

Variable	Symbol	Coefficient	Standard Error	t-statistic	p-value
Real Earnings Management	REM	0.35	0.098	3.6	0.000
Growth	GROW	0.41	0.074	5.56	0.000
Firm Age	AGE	0.052	0.064	0.81	0.413
Firm Size	SIZE	0.025	0.025	0.99	0.318
Financial Leverage	LEV	-0.281	0.186	-1.50	0.131
Constant	C	-0.86	0.423	-2.042	0.041

R-squared = 0.064; Adjusted R-squared = 0.058; F-statistic = 9.882 and p-value = 0.000; Durbin-Watson test = 2.72

Table 2. Estimation Results for the First Research Model After the Implementation of Accounting Standards in Iran

Variable	Symbol	Coefficient	Standard Error	t-statistic	p-value
Real Earnings Management	REM	0.183	0.153	1.2	0.230
Growth	GROW	0.865	0.182	4.73	0.000
Firm Age	AGE	0.103	0.233	0.44	0.658
Firm Size	SIZE	-0.027	0.067	-0.4	0.688

Financial Leverage	LEV	-0.318	0.525	-0.60	0.544
Constant	C	0.596	1.34	-0.44	0.656

R-squared = 0.064; Adjusted R-squared = 0.054; F-statistic = 6.56 and p-value = 0.000; Durbin-Watson test = 3.14

To assess model fitness, an F-test was conducted, which was found to be statistically significant. Before the implementation of accounting standards in Iran, the adjusted R-squared value was 0.058, which is below the average of 50%, indicating that the independent variables in the model could explain only 6% of the variations in the dependent variable. The Durbin-Watson test for checking the independence of residuals resulted in a value of 2.72, confirming the assumption of residual independence. The significance test of coefficients showed that the effect of earnings quality on earnings management was confirmed ($p < 0.05$), with a positive impact, meaning that as earnings quality increases, earnings management also increases.

After the implementation of accounting standards in Iran, the adjusted R-squared value was 0.054, which is again below the average of 50%, indicating that the independent variables could explain less than 6% of the variations in the dependent variable. The Durbin-Watson test for checking residual independence yielded a value of 3.14, confirming the assumption of residual independence. However, the coefficient significance test showed that the effect of earnings quality on earnings management was not confirmed ($p > 0.05$). Thus, as shown in Table 2, after the implementation of accounting standards in Iran, earnings quality no longer has an impact on earnings management.

The second hypothesis of the study states that earnings quality has a significant relationship with income smoothing in companies listed on the Tehran Stock Exchange before and after the implementation of accounting standards. Table 3 presents the findings from multiple linear regression tests for the second model, where the dependent variable is income smoothing, which is expected to be influenced by earnings quality. Control variables, including firm age, growth, firm size, and financial leverage, were also included in the model. The regression coefficients were estimated using the least squares method.

Table 3. Estimation Results for the Second Research Model Before the Implementation of Accounting Standards in Iran

Variable	Symbol	Coefficient	Standard Error	t-statistic	p-value
Income Smoothing	NDAP	0.73	0.28	2.61	0.009
Growth	GROW	0.35	0.077	4.51	0.000
Firm Age	AGE	0.048	0.064	0.74	0.457
Firm Size	SIZE	0.025	0.025	1.012	0.313
Financial Leverage	LEV	-0.239	0.188	-1.272	0.203
Constant	C	-0.889	0.425	-2.089	0.037

R-squared = 0.056; Adjusted R-squared = 0.050; F-statistic = 8.58 and p-value = 0.000; Durbin-Watson test = 2.69

Table 4. Estimation Results for the Second Research Model After the Implementation of Accounting Standards in Iran

Variable	Symbol	Coefficient	Standard Error	t-statistic	p-value
Income Smoothing	NDAP	1.012	0.418	2.42	0.015
Growth	GROW	0.865	0.178	4.85	0.000
Firm Age	AGE	0.080	0.232	0.34	0.720
Firm Size	SIZE	-0.043	0.067	-0.64	0.510
Financial Leverage	LEV	-0.084	0.534	-0.157	0.870
Constant	C	0.781	1.33	0.58	0.550

R-squared = 0.07; Adjusted R-squared = 0.06; F-statistic = 7.51 and p-value = 0.000; Durbin-Watson test = 1.63

To assess model fitness, an F-test was conducted. Before the implementation of accounting standards in Iran, the adjusted R-squared value was 0.05, indicating that the independent variables in the model could explain 5% of the variations in the dependent variable. The Durbin-Watson test for checking the independence of residuals resulted in a value of 2.69, confirming the assumption of residual independence. The significance test of coefficients showed that the effect of earnings quality on income smoothing was confirmed ($p < 0.05$), with a positive impact, meaning that as earnings quality increases, income smoothing also increases.

After the implementation of accounting standards in Iran, the adjusted R-squared value was 0.06, which is below the average of 50%, indicating that the independent variables in the model could explain 6% of the variations in the dependent variable. The Durbin-Watson test for checking residual independence resulted in a value of 1.63, confirming the assumption of residual independence. The significance test of coefficients also showed that the effect of earnings quality on income smoothing was confirmed ($p < 0.05$), with a positive impact, meaning that as earnings quality increases, income smoothing also increases.

Therefore, as shown in Table 4, earnings quality continues to influence income smoothing even after the implementation of accounting standards in Iran. To examine whether this effect differs significantly before and after the implementation of accounting standards, a t-test was conducted using SPSS v.23.

Table 5. Comparison of the Effect of Earnings Quality on Income Smoothing Before and After the Implementation of Accounting Standards in Iran

Time Period	t-statistic	Degrees of Freedom	Significance Level	Mean Difference
Before Implementation	0.926	5	0.397	0.92
After Implementation	1.173	5	0.294	1.06

According to the above table, there is no significant difference in the effect of earnings quality on income smoothing before and after the implementation of accounting standards in Iran, as the significance level is greater than 0.05 (0.397).

The third hypothesis of the study states that income smoothing has a significant relationship with earnings management in companies listed on the Tehran Stock Exchange before and after the implementation of accounting standards. Table 6 presents the findings from multiple linear regression tests for the third model, where the dependent variable is income smoothing, which is expected to be influenced by earnings management. Control variables, including firm age, growth, firm size, and financial leverage, were also included in the model. The regression coefficients were estimated using the least squares method.

Table 6. Estimation Results for the Third Research Model Before the Implementation of Accounting Standards in Iran

Variable	Symbol	Coefficient	Standard Error	t-statistic	p-value
Real Earnings Management	REM	0.068	0.012	5.3	0.000
Growth	GROW	0.080	0.009	8.27	0.000
Firm Age	AGE	-0.012	0.008	-1.43	0.151
Firm Size	SIZE	0.001	0.003	0.53	0.595
Financial Leverage	LEV	-0.065	0.024	-2.66	0.007
Constant	C	-0.006	0.055	-0.11	0.911

R-squared = 0.139; Adjusted R-squared = 0.133; F-statistic = 23.192 and p-value = 0.000; Durbin-Watson test = 1.90

Table 7. Estimation Results for the Third Research Model After the Implementation of Accounting Standards in Iran

Variable	Symbol	Coefficient	Standard Error	t-statistic	p-value
Real Earnings Management	REM	0.17	0.014	11.73	0.000
Growth	GROW	0.002	0.017	0.139	0.880
Firm Age	AGE	0.023	0.022	1.06	0.286
Firm Size	SIZE	0.016	0.006	2.61	0.009
Financial Leverage	LEV	-0.237	0.050	-4.69	0.000
Constant	C	-0.188	0.129	-1.46	0.144

R-squared = 0.327; Adjusted R-squared = 0.320; F-statistic = 46.106 and p-value = 0.000; Durbin-Watson test = 1.87

To assess model fitness, an F-test was conducted, which was found to be statistically significant. Before the implementation of accounting standards in Iran, the adjusted R-squared value was 0.133, which is below the average of 50%, indicating that the independent variables in the model could explain 13% of the variations in the dependent variable. The Durbin-Watson test for checking the independence of residuals resulted in a value of 1.90, confirming the assumption of residual independence. The significance test of coefficients showed that the effect of earnings management on income smoothing was confirmed ($p < 0.05$), with a positive impact, meaning that as earnings management increases, income smoothing also increases.

After the implementation of accounting standards in Iran, the adjusted R-squared value was 0.32, indicating that the independent variables in the model could explain 32% of the variations in the dependent variable. The Durbin-Watson test for checking residual independence resulted in a value of 1.87, confirming the assumption of residual independence. The significance test of coefficients showed that the effect of earnings management on income smoothing was confirmed ($p < 0.05$), with a positive impact, meaning that as earnings management increases, income smoothing also increases.

Therefore, as shown in Table 7, earnings management continues to influence income smoothing even after the implementation of accounting standards in Iran. To examine whether this effect differs significantly before and after the implementation of accounting standards, a t-test was conducted using SPSS v.23.

Table 8. Comparison of the Effect of Earnings Management on Income Smoothing Before and After the Implementation of Accounting Standards in Iran

Time Period	t-statistic	Degrees of Freedom	Significance Level	Mean Difference
Before Implementation	0.955	5	0.383	1.65
After Implementation	0.688	5	0.552	1.56

According to the above table, there is no significant difference in the effect of earnings management on income smoothing before and after the implementation of accounting standards in Iran, as the significance level is greater than 0.05 (0.383).

4. Discussion and Conclusion

The test results indicate that earnings quality does not have a significant relationship with earnings management after the implementation of accounting standards in Iran, whereas before the implementation of accounting standards, earnings quality had a significant relationship with earnings management. With a 95% confidence level,

this hypothesis is rejected. This result is consistent with the prior [6, 7, 9, 21]. Accounting standards include accounting methods (estimates related to principles and other estimations), other methods (classification of financial statements and interim reporting), and principle-based and rule-based approaches in accounting standard-setting. Extensive research has been conducted on the use of accounting methods for earnings management. Findings indicate that managers primarily engage in earnings management through their estimates and judgments (such as depreciation estimates and inventory accounting methods). Regarding other methods, research shows that managers attempt to transfer expenses to less persistent classifications in the income statement (such as extraordinary or non-recurring items). Additionally, the relatively low volume of auditing processes in the early financial year increases the motivation for earnings management in these periods compared to the final fiscal quarter. Research findings suggest that one reason for the decline in earnings management in recent years is the adoption of standards that provide explicit rules for recognizing financial events rather than emphasizing the economic substance of transactions.

The test results indicate that earnings quality has a significant relationship with income smoothing both before and after the implementation of accounting standards in Iran. With a 95% confidence level, this hypothesis is not rejected. This result aligns with the findings of Eiler et al. (2021). Periodic earnings transparency may be the primary objective of the accounting process for business entities [5]. Earnings quality contributes to the economy in various ways: earnings serve as a measure of a business entity's success; earnings are a criterion for determining access to cash profits; earnings serve as an indicator for regulators to assess the fairness of set rates; and earnings guide managers in operating their businesses. According to the Financial Accounting Standards Board (FASB) Conceptual Statement No. 1, the objective of financial reporting is to provide useful information for decision-making. Conceptual Statement No. 6 of the FASB also states that usefulness in decision-making is the key criterion for selecting accounting principles. Therefore, the goal of financial reporting is decision-usefulness. The purpose of generally accepted accounting principles (GAAP) is to ensure that financial statements fairly represent an entity's performance and economic condition. The presence of opportunities for earnings manipulation due to conflicts of interest, along with inherent limitations in accounting—such as deficiencies in estimation processes, uncertainty in future forecasts, and the availability of multiple accounting methods—has led to discrepancies between a firm's actual earnings and its reported earnings. Researchers and accounting professionals must evaluate reported earnings due to the importance of earnings transparency as a key performance metric and a determinant of a firm's value.

The test results indicate that earnings management has a significant relationship with income smoothing before and after the implementation of accounting standards in Iran. With a 95% confidence level, this hypothesis is not rejected. This result aligns with the prior findings [5, 19, 22, 23]. This outcome suggests that accounting standards have not been a significant factor influencing income smoothing among listed companies on the Tehran Stock Exchange. To prevent income smoothing by managers, several measures can be implemented, such as defining qualitative characteristics of financial information and establishing regulations that require companies to disclose more information. The qualitative characteristics of financial information become more evident when disclosure is extensive. To provide transparent and reliable financial statements that support decision-making, financial information must possess certain characteristics that ensure the statements are prepared accurately and fairly. Information should enable investors to evaluate a company's past performance and predict its future, as well as assist them in assessing investment risks. The reliability of information depends on its verifiability, objectivity, and accuracy. Information disclosed about a company is more useful to investors when it can be compared with similar

companies over different periods. However, these aspects are not explicitly addressed in accounting standards, or companies fail to comply with them.

Regarding the First Hypothesis: Given the current approach in accounting standards, it is recommended that the application of these standards be prioritized in financial policies to reduce the level of earnings management, particularly real earnings management, in companies operating in the national economy. Additionally, policymakers, corporate managers, and independent auditors should recognize the impact of accounting standards on earnings management and pay special attention to the tendency of managers to manipulate real activities and engage in real earnings management. This is crucial because earnings manipulation can alter financial records, distort corporate activities, and affect a company's actual performance, ultimately harming investors.

Regarding the Second Hypothesis: Accounting standard-setters should consider how managers, auditors, and audit committees—three key factors affecting financial reporting quality—interpret and apply established standards. Accounting standards typically undergo a consultation process with experts, and once a proposed standard is finalized, it is not easily modified. Therefore, ensuring that the standards are drafted in a way that minimizes ambiguity and interpretation will enhance financial reporting quality.

Regarding the Third Hypothesis: Investors and market participants are advised to closely monitor the existing conditions and future directions of accounting standards, particularly managers' inclinations toward real earnings management. Investors should carefully analyze these activities when assessing investment opportunities in the market and incorporate these factors into their investment decisions.

Authors' Contributions

Authors equally contributed to this article.

Ethical Considerations

All procedures performed in this study were under the ethical standards.

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Conflict of Interest

The authors report no conflict of interest.

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