





# Determinants and Consequences of Financial Statement Restatements: A Mixed-Methods Approach

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## ABSTRACT

Financial statement restatement is a critical phenomenon in accounting literature, signaling the presence of material misstatements or policy deviations in prior periods. Such restatements not only undermine financial reporting quality but also trigger substantial economic and managerial repercussions for firms and stakeholders. Accordingly, this study aims to develop and validate a comprehensive model encompassing both the determinants and consequences of financial statement restatements. Adopting a mixed-methods research design, the qualitative phase employed the Delphi technique. Based on the consensus of 21 purposively selected experts across two rounds, 21 determinants and 6 consequences were identified and confirmed. In the quantitative phase, data from 114 firms listed on the Tehran Stock Exchange (TSE) were analyzed using Structural Equation Modeling (SEM) to test the final model's parameters. The empirical results indicate that all identified determinants exert a statistically significant influence on restatement occurrences, with information asymmetry, audit committee independence, and auditor industry expertise exhibiting the most profound effects. Regarding consequences, restatements significantly drive CEO turnover, diminish sales growth rates, and alter accrual-based earnings management behaviors. Overall, the findings highlight the pivotal role of corporate governance and audit mechanisms in mitigating restatement risks, offering vital insights for policymakers, firms, and capital market participants.

**Keywords:** Financial Statement Restatement; Corporate Governance; Delphi Technique; Structural Equation Modeling (SEM).

## Introduction

In modern capital markets, the integrity and reliability of financial reporting constitute the cornerstone of efficient resource allocation and informed decision-making. Financial statements serve as the primary communication channel through which firms convey their financial position, performance, and governance quality to external stakeholders. Consequently, any disruption in the credibility of these reports can have far-reaching implications for investors, regulators, and the broader economy. One of the most critical manifestations of compromised financial reporting quality is the occurrence of financial statement restatements, which signal that previously issued financial information contained material misstatements requiring correction (1, 2).

Financial statement restatements are not merely technical accounting revisions; rather, they represent substantive failures in the financial reporting process. These failures may arise from a wide spectrum of causes,



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ranging from unintentional errors and misapplications of accounting standards to deliberate managerial manipulation and opportunistic behavior. The complexity of modern accounting standards and the increasing sophistication of financial transactions further exacerbate the likelihood of such misstatements, making restatements an enduring concern for both practitioners and researchers (3, 4). Importantly, the presence of a restatement undermines the fundamental qualitative characteristics of accounting information, particularly reliability and faithful representation, thereby diminishing the usefulness of financial reports for decision-making purposes (2, 5).

The prevalence and significance of financial statement restatements have attracted substantial scholarly attention over the past decades. Early research documented the frequency and nature of restatements, highlighting their association with reporting errors and irregularities (6). Subsequent studies extended this line of inquiry by examining the economic and market consequences of restatements, revealing that such events are often accompanied by sharp declines in stock prices, increased cost of capital, and heightened information risk (7, 8). These findings underscore the role of restatements as negative signals in capital markets, prompting investors to reassess firm value and revise their expectations regarding future performance.

From a theoretical perspective, financial statement restatements can be interpreted through the lens of agency theory, which posits that conflicts of interest between managers (agents) and shareholders (principals) may lead to opportunistic reporting behavior. Managers may have incentives to manipulate earnings or obscure unfavorable information to achieve personal objectives such as compensation maximization or job security. When such behavior is eventually detected, firms are compelled to restate their financial statements, thereby exposing prior misreporting and triggering reputational damage (9, 10). This perspective is further supported by evidence indicating that restatements are frequently followed by managerial turnover, particularly among chief executive officers and chief financial officers, as a mechanism of accountability and governance correction (11).

In addition to agency-related explanations, the literature identifies several organizational and structural determinants that influence the likelihood of financial statement restatements. Corporate governance mechanisms, such as board independence and audit committee effectiveness, play a crucial role in monitoring managerial behavior and ensuring the integrity of financial reporting. Weak governance structures are associated with a higher probability of misstatements and subsequent restatements, whereas strong oversight can mitigate such risks (12, 13). Similarly, auditor characteristics, including audit quality, industry specialization, and audit fees, have been shown to significantly affect the detection and prevention of misreporting (14, 15).

Firm-specific financial attributes also contribute to the occurrence of restatements. For instance, financial distress and high leverage may create pressures on management to present a more favorable financial position, increasing the likelihood of aggressive accounting practices and subsequent corrections (16, 17). Conversely, firms with stable profitability and strong operating cash flows tend to exhibit lower restatement risk, as they face fewer incentives to engage in earnings manipulation (17). Moreover, information asymmetry between managers and external stakeholders has been identified as a critical driver of restatements, as opaque reporting environments facilitate the concealment of misstatements (18).

Behavioral factors, particularly managerial traits, have also emerged as significant determinants of financial reporting quality. CEO overconfidence, for example, has been linked to an increased likelihood of restatements, as overconfident executives may underestimate risks and overestimate their ability to manage complex accounting issues (19). Similarly, tournament incentives and competitive pressures within organizations can encourage

aggressive reporting practices, thereby elevating the risk of misstatements (20). These insights highlight the importance of considering both structural and behavioral dimensions when analyzing the determinants of financial statement restatements.

Recent advancements in data analytics and machine learning have further enriched the literature by providing novel approaches to detecting and predicting restatements. Techniques such as data mining and textual analysis have demonstrated considerable potential in identifying patterns indicative of financial misreporting, enabling earlier detection and more effective risk management (21, 22). These developments reflect the growing integration of technological tools in accounting research and practice, offering new avenues for enhancing financial reporting quality.

Beyond their determinants, the consequences of financial statement restatements are equally significant and multifaceted. At the firm level, restatements often lead to a deterioration in financial performance, reduced sales growth, and increased volatility in stock prices, reflecting diminished investor confidence and heightened uncertainty (23, 24). At the market level, restatements can impair the informational efficiency of capital markets by reducing the credibility of financial disclosures and increasing the cost of information processing for investors (25). Furthermore, restatements may have broader economic implications by affecting credit availability, as lenders become more cautious in extending financing to firms with a history of misreporting (26).

The impact of restatements also extends to corporate governance and managerial accountability. Empirical evidence suggests that restatements frequently trigger changes in top management and board composition, reflecting efforts to restore credibility and strengthen oversight mechanisms (9, 10). Additionally, restatements can influence auditor behavior, leading to more conservative audit opinions and increased scrutiny in subsequent periods (13). These dynamics illustrate the interconnected nature of financial reporting, governance, and market outcomes.

Despite the extensive body of research on financial statement restatements, much of the existing literature has focused on either their determinants or their consequences in isolation. While such studies have provided valuable insights, they often fail to capture the complex interplay between the factors that give rise to restatements and the outcomes that follow. This fragmented approach limits the ability to develop a comprehensive understanding of the restatement phenomenon and to design effective strategies for its mitigation (27). Moreover, most empirical studies have been conducted in developed markets, leaving a gap in the literature regarding the dynamics of restatements in emerging economies, where institutional frameworks and regulatory environments may differ significantly.

Addressing these limitations requires an integrative approach that simultaneously examines the determinants and consequences of financial statement restatements within a unified analytical framework. Such an approach can provide a more holistic understanding of the phenomenon, enabling researchers and practitioners to identify key leverage points for improving financial reporting quality and reducing the incidence of restatements. By incorporating insights from corporate governance, auditing, financial economics, and behavioral accounting, a comprehensive model can offer valuable guidance for policymakers, firms, and investors seeking to enhance transparency and accountability in financial reporting.

In this context, the present study contributes to the literature by developing and empirically validating a comprehensive model that captures both the determinants and consequences of financial statement restatements, thereby providing an integrated perspective on this critical accounting phenomenon.

## Methods and Materials

### *Research Design*

This study employs a mixed-methods research design, specifically an exploratory sequential approach, to comprehensively investigate the determinants and consequences of financial statement restatements. The research is conducted in two distinct but interrelated phases: a qualitative phase utilizing the Delphi technique to identify and refine the conceptual model, followed by a quantitative phase employing Structural Equation Modeling (SEM) to empirically validate the hypothesized relationships using archival data.

#### *Qualitative Phase: The Delphi Technique*

The objective of the qualitative phase was to identify the multifaceted drivers and subsequent impacts of financial restatements within the specific context of the Iranian capital market. To achieve consensus among subject-matter experts, a two-round Delphi technique was executed.

**Participants and Procedure:** The panel comprised 21 purposively selected experts, including university professors in accounting, certified public accountants (CPAs), and senior financial executives. Selection criteria required a minimum of ten years of professional or academic experience and profound knowledge of financial reporting standards. Over two iterative rounds, participants evaluated a preliminary list of factors extracted from the literature. Consensus was reached upon the identification of 21 distinct determinants (e.g., information asymmetry, audit committee independence, CEO overconfidence, and financial distress) and 6 core consequences (e.g., CEO turnover, stock price volatility, and accrual-based earnings management).

#### *Quantitative Phase: Empirical Validation*

Following the qualitative consensus, the quantitative phase aimed to test the structural relationships within the developed model.

**Population and Sample:** The statistical population for the empirical analysis consisted of all companies listed on the Tehran Stock Exchange (TSE). A systematic elimination method (purposive sampling) was applied based on the following criteria: (1) maintaining a continuous listing on the TSE during the study period from 2019 to 2023; (2) excluding financial institutions, banks, and investment firms due to their distinct reporting regulations; and (3) possessing complete and accessible financial data for the required variables. After applying these criteria, a final sample of 114 firms was selected.

**Data Collection:** Archival data for the quantitative phase were extracted from the audited financial statements and board of directors' reports available on the comprehensive database of all listed companies (Codal network) and the Rahavard Novin software.

**Variables and Measurement:** The central construct of the study is "Financial Statement Restatement." The independent constructs encompass the 21 determinants validated in the Delphi phase, categorized broadly into corporate governance mechanisms, auditor characteristics, firm financial attributes, and managerial traits. The dependent constructs comprise the 6 consequences, including impacts on firm value, sales growth, and auditor opinions.

## Data Analysis

Given the complexity of the research model and the presence of multiple independent and dependent variables, Partial Least Squares Structural Equation Modeling (PLS-SEM) was utilized. PLS-SEM is particularly advantageous for exploratory research and theory development, as it does not require stringent assumptions regarding data normality and is robust with relatively smaller sample sizes (Hair et al., 2019). The analysis was conducted in two stages:

1. Measurement Model Assessment: Evaluating the reliability and validity of the constructs. This included assessing indicator reliability, internal consistency, convergent validity via Average Variance Extracted (AVE), and discriminant validity using the Heterotrait-Monotrait (HTMT) ratio.
2. Structural Model Assessment: Examining the path coefficients, coefficient of determination ( $R^2$ ), and predictive relevance ( $Q^2$ ) to test the significance and explanatory power of the hypothesized paths.

## Findings and Results

### A) Identification of Indicators Affecting Financial Statement Restatements

At this stage, the researcher initially identified a list of influencing factors or indicators through an extensive review of the research literature and other relevant sources. An initial screening process was then conducted, during which repetitive or conceptually similar indicators were eliminated. As a result, 15 effective indicators were ultimately identified. Following the implementation of two rounds of the Delphi technique, theoretical saturation was achieved.

The final set of variables identified in this phase is presented in the corresponding table.

**Table 1. Fuzzy Values and Defuzzified Scores of Determinants**

Row	Items (Indicators)	L	M	U	Defuzzified Value
1	Firm Size	2	3.818	5	3.659
2	Ownership Concentration	2	4.087	5	3.793
3	Institutional Ownership	1	3.093	5	3.046
4	Board Independence	1	3.241	5	3.121
5	Board Compensation	1	3.404	5	3.202
6	Information Asymmetry	3	4.530	5	4.265
7	Related-Party Transactions	3	4.328	5	4.164
8	Audit Committee Independence	1	3.304	5	3.152
9	Independent Auditor Size	1	3.153	5	3.077
10	Auditor Industry Specialization	2	3.687	5	3.594
11	Audit Fees	1	3.142	5	3.071
12	Financial Leverage	2	3.859	5	3.679
13	Profitability	1	3.241	5	3.121
14	Financial Distress	3	4.122	5	4.061
15	Corporate Governance	3	4.011	5	4.005
16	Operating Cash Flow	2	3.818	5	3.659
17	Corporate Social Responsibility	2	3.051	5	3.275
18	Cash Flow Sensitivity	1	3.197	5	3.098
19	Industry Competition	2	3.766	5	3.633
20	Firm Operational Complexity	1	3.694	5	3.347
21	CEO Overconfidence	1	3.231	5	3.115

### B) Identification of the Consequences of Financial Statement Restatements

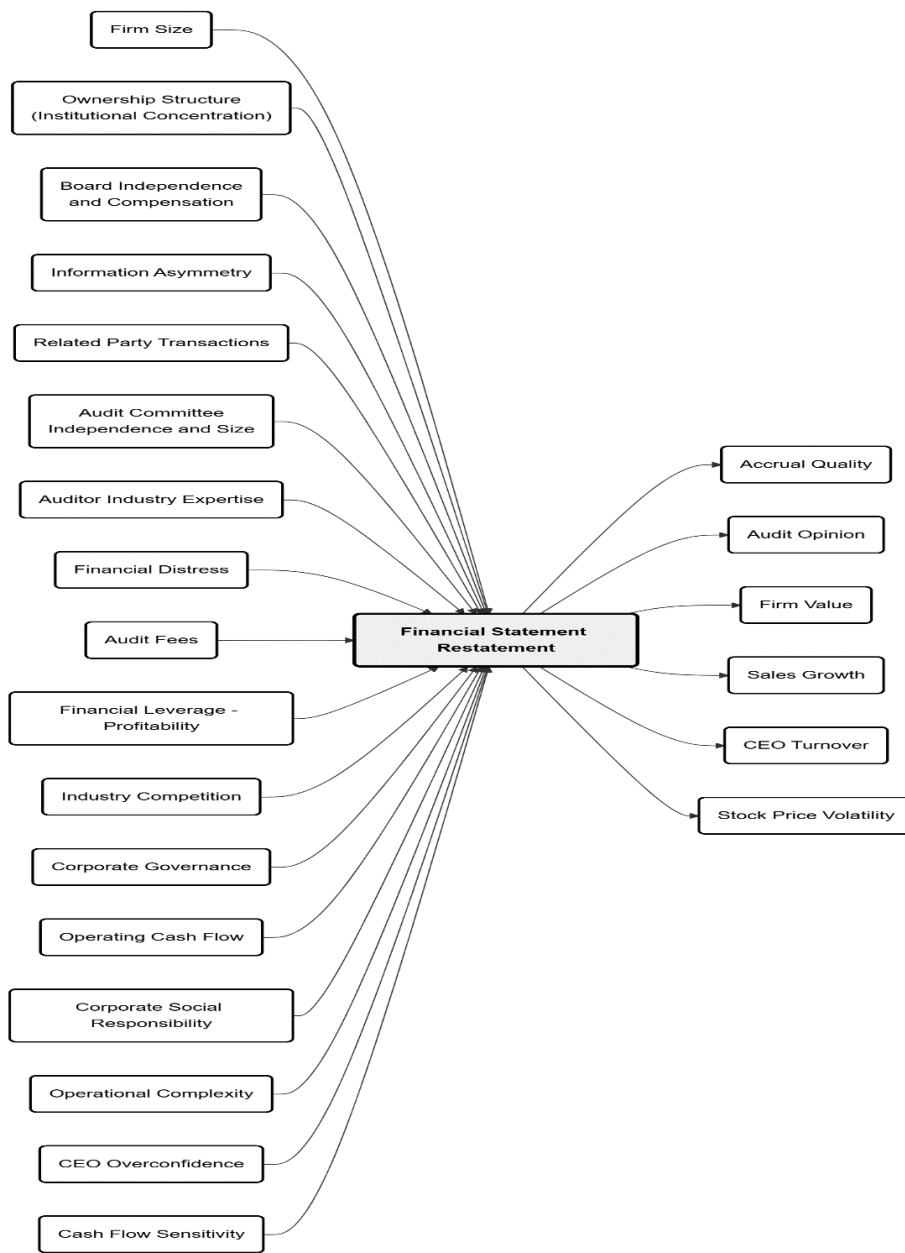
At this stage, similar to the previous phase, the researcher reviewed the relevant literature to identify a preliminary list of the consequences of financial statement restatements. Subsequently, an initial screening was conducted,

and repetitive or synonymous indicators were removed. Finally, after implementing two rounds of the Delphi technique, six consequences were identified. The final results are presented in the table below.

**Table 2. Fuzzy Values and Defuzzified Scores of Restatement Consequences**

Row	Indicators (Items)	fuzzified Value			Defuzzified Value
		L	M	U	
1	Earnings management (discretionary accruals)	3.694	5	3.347	3.347
2	Auditor's opinion	3.574	5	3.287	3.287
3	Firm value	3.585	5	3.542	3.542
4	Sales growth rate	3.310	5	3.155	3.155
5	Stock price volatility	3.648	5	3.324	3.324
6	CEO turnover	3.126	5	3.063	3.063

Accordingly, after completing the Delphi process and identifying the final determinants and consequences, the finalized research model was established, as illustrated in the following figure.



**Figure 1. Final Conceptual Model of the Study**

### C) Evaluation and Validation of the Financial Statement Restatement Model and Its Consequences

One of the key prerequisites of structural analysis is examining the adequacy of the relationship between items and constructs. For this purpose, factor analysis is employed. To assess this adequacy, factor loadings were examined within the structural model of the study. Depending on the researcher's level of stringency in item elimination, threshold values may vary; however, the minimum acceptable value is generally considered to be 0.40.

The results of factor loadings indicate that all items exhibit acceptable loadings; therefore, none of the items needed to be removed from the model.

To assess the adequacy of the measurement model, Cronbach's alpha and composite reliability (CR) were employed to evaluate internal consistency reliability. The commonly accepted threshold for both indices is 0.70.

**Table 3. Results of Cronbach's Alpha and Composite Reliability**

Variables	Cronbach's Alpha ( $\alpha > 0.70$ )	Composite Reliability (CR $> 0.70$ )
Firm Size	0.86	0.84
Ownership Concentration	0.87	0.85
Institutional Ownership	0.83	0.80
Board Independence	0.88	0.85
Board Compensation	0.85	0.83
Information Asymmetry	0.82	0.81
Related-Party Transactions	0.89	0.87
Audit Committee Independence	0.89	0.86
Independent Auditor Size	0.92	0.90
Auditor Industry Specialization	0.90	0.87
Audit Fees	0.81	0.79
Financial Leverage	0.84	0.82
Profitability	0.79	0.76
Financial Distress	0.80	0.78
Corporate Governance	0.86	0.83
Operating Cash Flow	0.80	0.78
Corporate Social Responsibility	0.79	0.77
Cash Flow Sensitivity	0.73	0.72
Industry Competition	0.84	0.82
Firm Operational Complexity	0.80	0.78
CEO Overconfidence	0.83	0.80

Cronbach's alpha is the traditional criterion used to assess reliability. This coefficient is determined based on the dispersion of observed data, with the standard deviation serving as the primary basis for evaluating reliability. In contrast, composite reliability (CR) is calculated based on the internal consistency and interrelatedness of the indicators associated with each construct and is therefore considered a more precise measure of reliability in structural equation modeling.

Given that the acceptable threshold for both Cronbach's alpha and composite reliability is greater than 0.70, and as indicated by the results reported in Table 3, all constructs exhibit values exceeding this benchmark. Accordingly, the reliability of the measurement model in this study is confirmed.

Moreover, based on the results presented in Table 4, the convergent validity of the model is also supported.

**Table 4. Results of Average Variance Extracted (AVE)**

Variables	Average Variance Extracted (AVE > 0.50)
Firm Size	0.59
Ownership Concentration	0.57
Institutional Ownership	0.53
Board Independence	0.58
Board Compensation	0.62
Information Asymmetry	0.57
Related-Party Transactions	0.59
Audit Committee Independence	0.54
Independent Auditor Size	0.60
Auditor Industry Specialization	0.52
Audit Fees	0.59
Financial Leverage	0.60
Profitability	0.58
Financial Distress	0.54
Corporate Governance	0.50
Operating Cash Flow	0.58
Corporate Social Responsibility	0.61
Cash Flow Sensitivity	0.53
Industry Competition	0.51
Firm Operational Complexity	0.52
CEO Overconfidence	0.55

Another criterion used to assess the validity of the measurement model is discriminant validity, which was evaluated using the Fornell–Larcker criterion. The logic underlying the Fornell–Larcker approach is based on the premise that a latent construct should share more variance with its own indicators than with other constructs in the model.

Accordingly, discriminant validity is established when the square root of the AVE for each construct is greater than its correlations with other constructs, indicating that each construct is empirically distinct and captures a unique concept within the model.

**Table 5. Fornell–Larcker Criterion Results**

Construct	1	2	3	4	5	6	7	8	9	10	11
1. Firm Size	0.768										
2. Ownership Concentration	0.692	0.754									
3. Institutional Ownership	0.655	0.634	0.728								
4. Board Independence	0.643	0.622	0.607	0.761							
5. Board Compensation	0.680	0.701	0.689	0.677	0.787						
6. Information Asymmetry	0.592	0.588	0.543	0.570	0.660	0.754					
7. Related-Party Transactions	0.599	0.539	0.499	0.507	0.639	0.608	0.768				
8. Audit Committee Independence	0.601	0.613	0.533	0.566	0.588	0.613	0.540	0.734			
9. Independent Auditor Size	0.489	0.492	0.513	0.533	0.500	0.607	0.641	0.577	0.774		
10. Auditor Industry Specialization	0.513	0.587	0.689	0.696	0.588	0.637	0.644	0.628	0.433	0.761	
11. Audit Fees	0.466	0.490	0.555	0.583	0.690	0.611	0.455	0.597			

As shown in the above table, the square root of the Average Variance Extracted (AVE) for each construct is greater than its corresponding correlations with the underlying constructs. Therefore, discriminant validity based on the Fornell–Larcker criterion is confirmed.

Finally, the last criterion used to assess discriminant validity is the Heterotrait–Monotrait ratio (HTMT). According to this criterion, if the HTMT value is below 0.90, discriminant validity between two reflective constructs is established. As reported in Table 6, all HTMT values are below the recommended threshold, indicating that discriminant validity is satisfactorily supported for all constructs in the model.

**Table 6. Heterotrait–Monotrait Ratio (HTMT) Results**

Construct	1	2	3	4	5	6	7	8	9	10	11
1. Firm Size	—										
2. Ownership Concentration	0.498	—									
3. Institutional Ownership	0.333	0.489	—								
4. Board Independence	0.450	0.444	0.512	—							
5. Board Compensation	0.498	0.503	0.555	0.553	—						
6. Information Asymmetry	0.522	0.289	0.570	0.377	0.660	—					
7. Related-Party Transactions	0.380	0.652	0.399	0.209	0.512	0.770	—				
8. Audit Committee Independence	0.577	0.713	0.612	0.444	0.733	0.641	0.473	—			
9. Independent Auditor Size	0.712	0.444	0.566	0.622	0.448	0.700	0.533	0.467	—		
10. Auditor Industry Specialization	0.698	0.507	0.633	0.538	0.480	0.691	0.567	0.477	0.803	—	
11. Audit Fees	0.633	0.469	0.309	0.533	0.379	0.488	0.701	0.551			
Construct	12	13	14	15	16	17	18	19	20	21	
12. Financial Leverage	—										
13. Profitability	0.318	—									
14. Financial Distress	0.600	0.492	—								
15. Corporate Governance	0.469	0.490	0.550	—							
16. Operating Cash Flow	0.466	0.537	0.493	0.700	—						
17. Social Responsibility	0.544	0.533	0.499	0.677	0.666	—					
18. Cash Flow Sensitivity	0.540	0.390	0.312	0.703	0.658	0.803	—				
19. Industry Competition	0.701	0.399	0.288	0.569	0.479	0.733	0.677	—			
20. Firm Activity Complexity	0.777	0.451	0.441	0.612	0.705	0.634	0.773	0.508	—		
21. CEO Overconfidence	0.673	0.579	0.588	0.466	0.771	0.479	0.770	0.588	0.449	—	

In this stage, the relationships among variables were evaluated using criteria such as  $R^2$  and  $Q^2$ . Based on the results presented in the following tables, both indicators demonstrate acceptable and satisfactory levels.

**Table 7. Results of the R<sup>2</sup> Criterion**

Variables	R <sup>2</sup> Value
Financial statement restatement	0.707
Earnings management (discretionary accruals)	0.578
Auditor's opinion	0.685
Firm value	0.586
Sales growth rate	0.489
Stock price volatility	0.621
CEO turnover	0.541

Additionally, the Q<sup>2</sup> criterion evaluates the predictive power of the model. The results of this test are presented in Table 8 and indicate that the obtained values fall within an acceptable range.

**Table 8. Results of the Coefficient of Determination (R<sup>2</sup>)**

Endogenous Variable	R <sup>2</sup> Value
Financial Statement Restatement	0.707
Accrual-Based Earnings Management	0.578
Auditor Opinion	0.685
Firm Value	0.586
Sales Growth Rate	0.489
Stock Price Volatility	0.621
CEO Turnover	0.541

The final step in model evaluation involves assessing the overall model fit, which is examined using the Goodness-of-Fit (GOF) index. Given that the recommended threshold for this criterion is 0.36, values exceeding this benchmark indicate an acceptable overall fit of the model. The results confirm that the GOF value is above the suggested threshold, providing evidence of a satisfactory overall model fit.

After confirming the adequacy of the model fit across the measurement model, structural model, and overall model, the analysis proceeds to the interpretation of the structural relationships. In this study, a relationship represented by a directional arrow is considered statistically significant if its t-value exceeds 1.96, indicating significance at the 5% level. The corresponding path coefficients for these relationships are presented in the structural model figures.

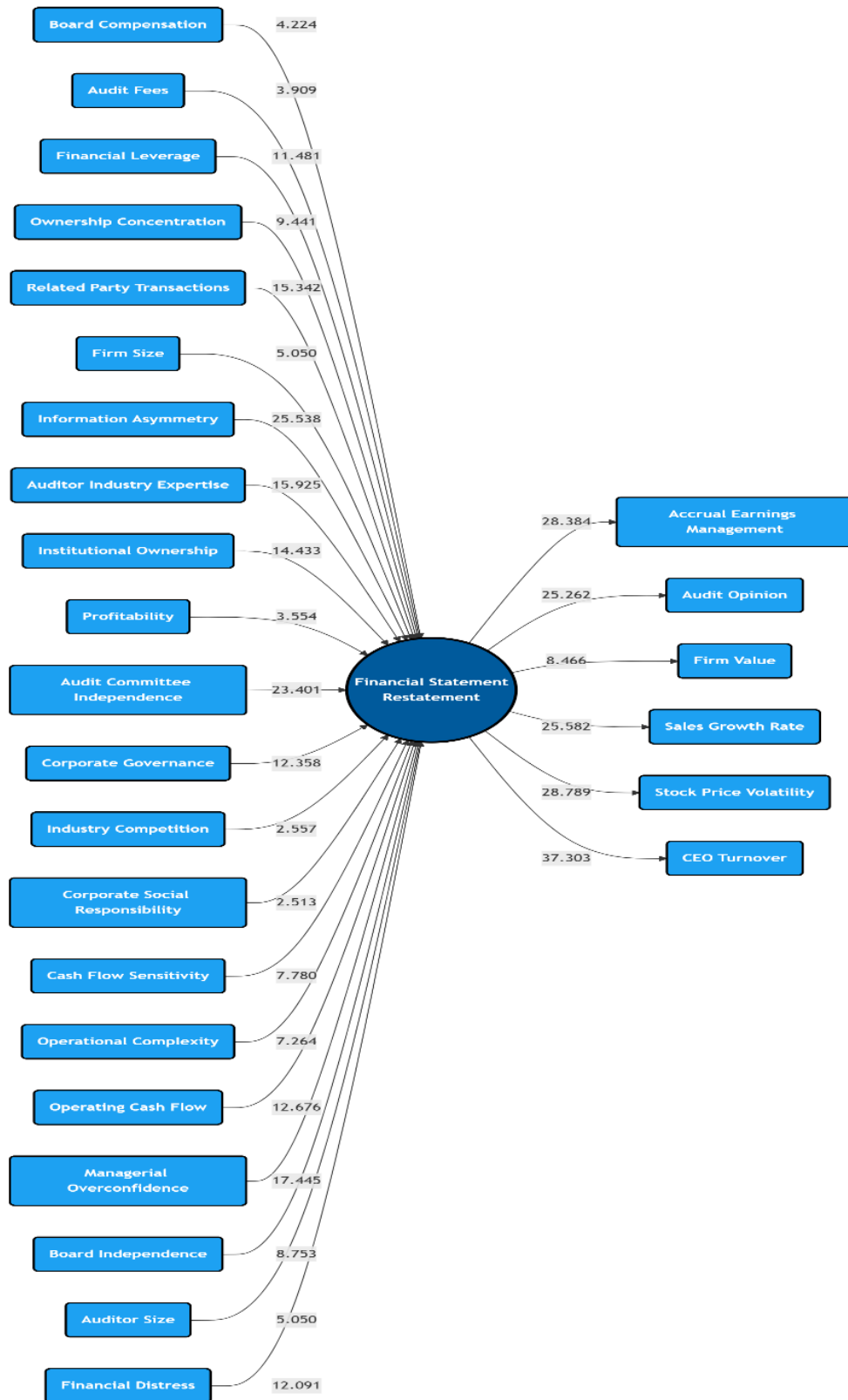


Figure 2. Structural Model with t-values

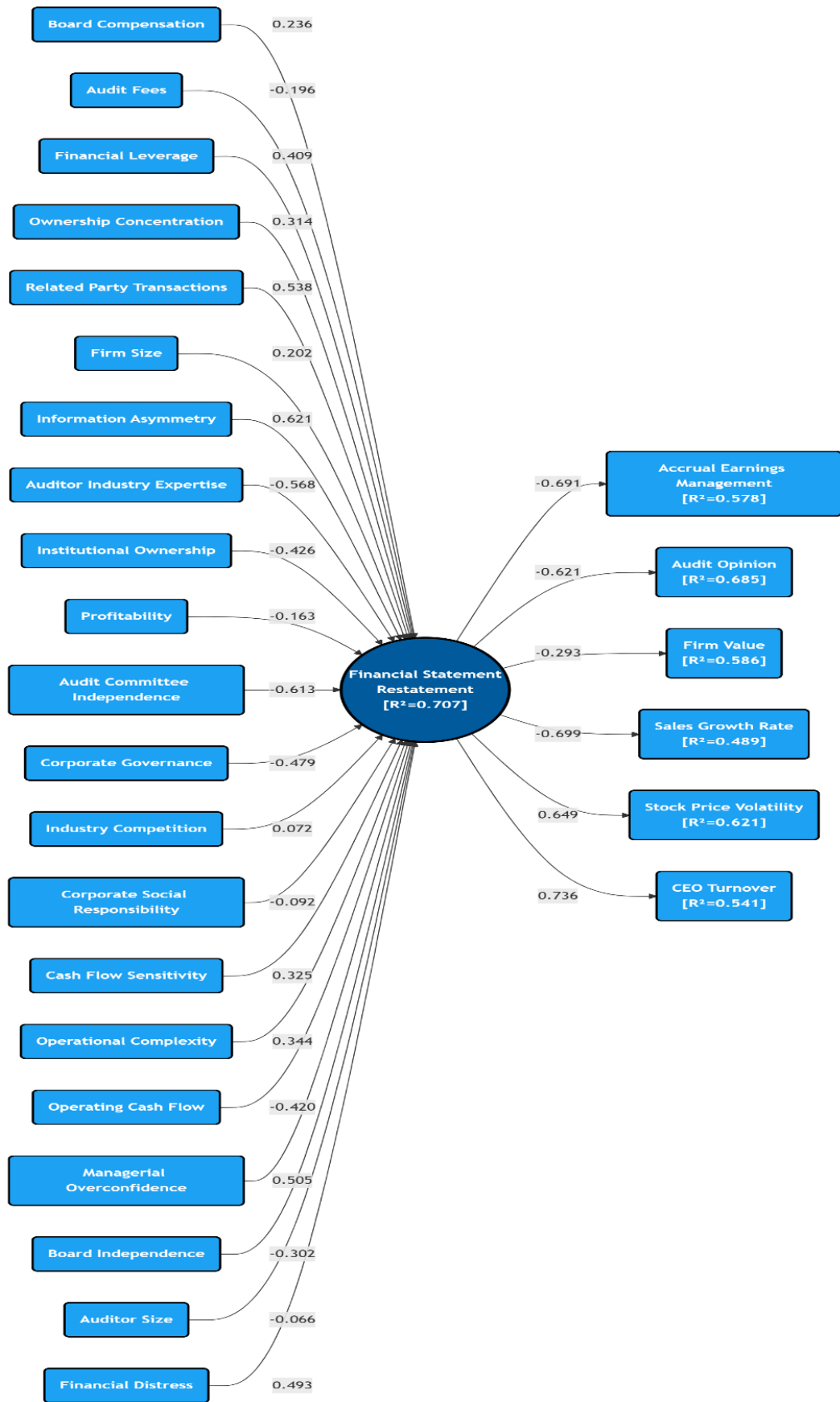


Figure 3. Structural Model with Path Coefficients

At this stage, after confirming the satisfactory fit of the model across all evaluation criteria, the analysis proceeds to interpret the magnitude and quality of the effects exerted by the independent variables on the dependent variable. The summary of these results is presented in Table 9.

**Table 9. Final Results of Structural Path Analysis (Influential Determinants)**

Path	Structural Relationship	Path Coefficient ( $\beta$ )	t-value	Final Result
1	Firm Size → Financial Statement Restatement	0.202	5.050	Positive and significant effect supported
2	Ownership Concentration → Financial Statement Restatement	0.314	9.441	Positive and significant effect supported
3	Institutional Ownership → Financial Statement Restatement	-0.426	14.433	Negative and significant effect supported
4	Board Independence → Financial Statement Restatement	-0.302	8.753	Negative and significant effect supported
5	Board Remuneration → Financial Statement Restatement	0.236	4.224	Positive and significant effect supported
6	Information Asymmetry → Financial Statement Restatement	0.621	25.538	Positive and significant effect supported
7	Related-Party Transactions → Financial Statement Restatement	0.538	15.342	Positive and significant effect supported
8	Audit Committee Independence → Financial Statement Restatement	-0.613	23.401	Negative and significant effect supported
9	Independent Auditor Size → Financial Statement Restatement	-0.066	5.050	Negative and significant effect supported
10	Auditor Specialization → Financial Statement Restatement	-0.568	15.925	Negative and significant effect supported
11	Audit Fees → Financial Statement Restatement	-0.196	3.909	Negative and significant effect supported
12	Financial Leverage → Financial Statement Restatement	0.409	11.481	Positive and significant effect supported
13	Profitability → Financial Statement Restatement	-0.163	3.554	Negative and significant effect supported
14	Financial Distress → Financial Statement Restatement	0.493	12.091	Positive and significant effect supported
15	Corporate Governance → Financial Statement Restatement	-0.479	12.358	Negative and significant effect supported
16	Operating Cash Flow → Financial Statement Restatement	-0.420	12.676	Negative and significant effect supported
17	Corporate Social Responsibility → Financial Statement Restatement	-0.092	2.513	Negative and significant effect supported
18	Industry Competition → Financial Statement Restatement	0.072	2.557	Positive and significant effect supported
19	Firm Activity Complexity → Financial Statement Restatement	0.344	7.264	Positive and significant effect supported
20	CEO Overconfidence → Financial Statement Restatement	0.505	17.445	Positive and significant effect supported
21	Cash Flow Sensitivity → Financial Statement Restatement	0.325	7.780	Positive and significant effect supported

Based on the results, it can be observed that all paths leading to the dependent variable are statistically significant. Accordingly, all 21 identified main components (independent variables) exert a significant effect on financial statement restatements. The following section therefore focuses on examining the consequences of financial statement restatements.

**Table 10. Final Results of Structural Path Analysis (Consequences)**

Path	Structural Relationship	Path Coefficient ( $\beta$ )	t-value	Final Result
1	Financial Statement Restatement → Accrual Earnings Management	-0.691	28.384	Negative and significant effect supported
2	Financial Statement Restatement → Firm Value	-0.293	8.466	Negative and significant effect supported
3	Financial Statement Restatement → Sales Growth Rate	-0.699	25.582	Negative and significant effect supported
4	Financial Statement Restatement → Stock Price Volatility	0.649	28.789	Positive and significant effect supported
5	Financial Statement Restatement → Auditor Opinion	-0.621	25.262	Negative and significant effect supported
6	Financial Statement Restatement → CEO Turnover	0.736	37.303	Positive and significant effect supported

Note: All paths are statistically significant at the 95% confidence level (t-value > 1.96).

With respect to the consequences, as shown in Table 10, all paths leading to the six identified outcomes are statistically significant. Accordingly, all six components meet the inclusion criteria as consequences of financial statement restatements in the final model.

## Discussion and Conclusion

The present study set out to develop and empirically validate a comprehensive structural model explaining both the determinants and consequences of financial statement restatements within the context of firms listed on the Tehran Stock Exchange. The findings provide strong empirical support for the proposed model, demonstrating substantial explanatory power for the central construct of financial statement restatement ( $R^2 = 0.707$ ). The results indicate that all identified determinants exert statistically significant effects on the likelihood of restatement, while all examined consequences are meaningfully influenced by restatement occurrences. This comprehensive validation confirms that financial statement restatements are the product of a complex interplay of governance, financial, operational, and behavioral factors, and in turn, they generate profound organizational and market-level repercussions.

Among the determinants, information asymmetry emerged as the most influential positive driver of financial statement restatements. This finding suggests that when the gap between internal managerial knowledge and external stakeholder information widens, the probability of misreporting increases substantially. In opaque reporting environments, managers possess greater discretion to manipulate accounting figures or delay the disclosure of unfavorable information, which eventually necessitates restatement. This result aligns with prior research emphasizing that information asymmetry is a fundamental condition enabling earnings manipulation and reporting distortions (1, 28). Furthermore, the significance of information asymmetry is consistent with evidence indicating that lower disclosure quality and higher uncertainty in financial reporting environments increase the likelihood of restatements (18, 22).

The findings also highlight the critical role of corporate governance mechanisms in mitigating restatement risk. Specifically, audit committee independence and board independence exhibit significant negative relationships with financial statement restatements, indicating their effectiveness in constraining opportunistic managerial behavior. Independent oversight enhances monitoring quality, reduces managerial discretion, and ensures adherence to accounting standards before financial statements are released. This result is consistent with earlier studies

demonstrating that strong governance structures reduce the incidence of financial misstatements and improve reporting quality (11, 12). Moreover, the negative impact of corporate governance on restatement likelihood reinforces the argument that effective internal control systems and governance practices serve as essential safeguards against financial reporting failures (9).

Auditor-related characteristics also play a decisive role in shaping restatement outcomes. The negative and significant effects of auditor industry specialization, audit fees, and auditor size indicate that higher audit quality is associated with a lower probability of restatements. Specialized auditors possess superior industry knowledge, enabling them to detect complex accounting irregularities more effectively. Similarly, higher audit fees may reflect greater audit effort and rigor, which contribute to improved financial reporting accuracy. These findings are in line with prior research showing that audit quality is a key determinant of financial reporting integrity and that stronger audit mechanisms reduce the likelihood of restatements (13-15). The results thus underscore the importance of external auditing as a critical governance mechanism in enhancing financial statement reliability.

From a financial perspective, variables such as financial leverage, financial distress, and firm size exhibit significant positive relationships with restatement likelihood. These results suggest that firms facing financial pressure or operating at larger scales are more prone to engage in aggressive accounting practices. Financially distressed firms may attempt to mask poor performance through earnings manipulation, while larger firms, due to their operational complexity, may encounter greater challenges in maintaining accurate financial reporting. This finding corroborates previous studies indicating that financial constraints and economic pressures increase the incentives for misreporting and subsequent restatements (16, 17). Additionally, the positive effect of firm operational complexity further supports the notion that complexity increases the risk of accounting errors and misstatements, as suggested by prior literature (3).

Behavioral factors, particularly CEO overconfidence, were found to significantly increase the likelihood of financial statement restatements. Overconfident managers may overestimate their ability to manage financial reporting processes or underestimate the risks associated with aggressive accounting choices, leading to eventual corrections. This result is consistent with the behavioral accounting literature, which identifies managerial traits as critical drivers of financial reporting outcomes (19). Similarly, the positive effect of related-party transactions on restatement likelihood suggests that such transactions may be used as a channel for opportunistic behavior, thereby increasing the risk of misreporting.

Turning to the consequences of financial statement restatements, the findings reveal a clear pattern of adverse economic and organizational impacts. One of the most prominent results is the significant negative effect of restatements on firm value. This indicates that restatements are perceived by the market as negative signals, leading to a decline in investor confidence and a reassessment of firm valuation. This finding is strongly aligned with prior empirical evidence documenting negative market reactions to restatement announcements (5, 7). The decline in firm value reflects increased uncertainty regarding the reliability of financial information and future performance prospects.

In addition to valuation effects, restatements were found to significantly reduce sales growth rates, suggesting that the consequences extend beyond financial markets to operational performance. This may be attributed to reputational damage, loss of stakeholder trust, and disruptions in business relationships following restatement events. These findings are consistent with research indicating that restatements negatively affect firm growth and

operational outcomes (23, 24). The decline in sales growth underscores the broader economic impact of financial reporting failures on firm performance.

The results also demonstrate a significant positive relationship between restatements and stock price volatility, indicating increased uncertainty and risk perception among investors. Heightened volatility reflects the market's reaction to new information regarding prior misstatements and the reassessment of firm risk profiles. This finding is consistent with prior studies showing that restatements increase information risk and lead to greater fluctuations in stock prices (8, 25). The increase in volatility further emphasizes the destabilizing effect of restatements on capital markets.

Another important consequence identified in this study is the significant positive effect of restatements on CEO turnover. This finding suggests that restatements serve as a trigger for managerial accountability, leading to leadership changes as firms attempt to restore credibility and improve governance. This result is consistent with earlier research documenting increased executive turnover following financial reporting failures (9, 10). The association between restatements and CEO turnover highlights the disciplinary role of governance mechanisms in addressing reporting deficiencies.

Furthermore, restatements were found to significantly influence accrual-based earnings management and auditor opinions in subsequent periods. The negative relationship with discretionary accruals suggests a shift toward more conservative reporting practices following restatement events, possibly due to increased scrutiny from auditors and regulators. Similarly, the negative impact on auditor opinions indicates heightened professional skepticism and stricter audit assessments in the aftermath of restatements. These findings align with prior studies emphasizing the long-term effects of restatements on reporting behavior and audit outcomes (11, 15).

Overall, the findings of this study provide a comprehensive understanding of financial statement restatements as a multidimensional phenomenon shaped by governance, financial, and behavioral factors, and characterized by significant economic and organizational consequences. By integrating these dimensions into a unified model, the study contributes to the literature by offering a holistic perspective that extends beyond fragmented analyses of individual determinants or outcomes.

One limitation of this study is its reliance on data from firms listed on the Tehran Stock Exchange, which may limit the generalizability of the findings to other institutional contexts with different regulatory environments and governance structures. Additionally, the use of archival data and proxy variables may not fully capture the complexity of constructs such as managerial overconfidence or information asymmetry. Another limitation relates to the cross-sectional nature of the analysis, which restricts the ability to examine dynamic changes in restatement behavior over time.

Future research could extend this study by employing longitudinal data to explore the temporal dynamics of financial statement restatements and their determinants. Comparative studies across different countries and market environments would also provide valuable insights into the role of institutional factors in shaping restatement behavior. Furthermore, incorporating qualitative approaches, such as case studies or interviews with financial executives and auditors, could enrich the understanding of underlying mechanisms and contextual influences. The application of advanced analytical techniques, including machine learning and big data analytics, also presents promising opportunities for improving the prediction and detection of financial misstatements.

From a practical perspective, the findings of this study suggest that firms should prioritize strengthening corporate governance structures, particularly by enhancing the independence and effectiveness of audit committees and

boards of directors. Regulators should consider implementing stricter disclosure requirements and monitoring mechanisms to reduce information asymmetry and improve transparency. Investors and analysts are encouraged to incorporate governance and behavioral indicators into their risk assessment models to better anticipate potential restatement risks. Additionally, firms should invest in high-quality auditing services and internal control systems to prevent financial reporting errors and maintain stakeholder confidence.

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### Authors' Contributions

All authors equally contributed to this study.

### Declaration of Interest

The authors of this article declared no conflict of interest.

### Ethical Considerations

All ethical principles were adhered in conducting and writing this article.

### Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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