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Reassessing the Financial Implications of Corporate Diversification: Evidence from Iran

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ABSTRACT

This study examines whether corporate diversification strategy influences capital structure decisions in publicly listed holding companies. Using a balanced panel dataset of 36 holding companies listed on the Tehran Stock Exchange over the period 2011–2015, the analysis investigates the relationship between diversification strategy and firms' reliance on debt and equity financing. Corporate diversification is measured using the Herfindahl index based on segment-level investment data, while capital structure is proxied by the debt-to-assets and equity-to-assets ratios. Firm size is included as a control variable. Panel regression models are estimated using random-effects specifications, selected through Chow and Hausman tests. The results indicate that diversification strategy does not have a statistically significant effect on either debt financing or equity financing. In contrast, firm size exhibits a significant association with capital structure, suggesting that scale-related factors play a more prominent role in financing decisions than strategic diversification. The findings challenge the common assumption that diversification enhances financial flexibility or increases debt capacity and highlight the context-dependent nature of the diversification–capital structure relationship. In the institutional setting of an emerging market, diversification alone does not appear to alter firms' financing behavior. These results provide implications for managers and policymakers by emphasizing that diversification should not be pursued solely as a mechanism for optimizing capital structure.

Keywords: Diversification strategy; Capital structure; Holding companies; Panel data; Emerging markets; Iran

Introduction

Capital structure decisions represent one of the most critical financial choices faced by firms, as they determine the proportion of equity financing versus debt financing used to fund corporate activities. While equity financing may dilute shareholders' returns, debt financing—although potentially enhancing firm value through tax shields—exposes firms to increased financial risk when excessively employed. Consequently, firms seek an optimal capital structure that minimizes the cost of capital while supporting sustainable performance. In parallel with capital structure decisions, corporate growth strategies—particularly diversification—have attracted substantial attention in strategic management and corporate finance research. Firms increasingly expand their scope of activities through related and unrelated diversification, vertical integration, or horizontal expansion in response to market complexity, competitive pressure, and risk considerations. The emergence of large, diversified business groups and holding companies has intensified scholarly debate regarding whether diversification

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enhances firm performance and financial flexibility or instead leads to inefficiencies and agency problems [1].

Holding companies, by their nature, manage portfolios of multiple business units operating across diverse industries and markets. This organizational structure enables internal capital allocation, risk dispersion, and potential stabilization of cash flows. Prior theoretical and empirical studies suggest that diversification may reduce earnings volatility and enhance debt capacity by lowering cash flow risk, thereby facilitating greater access to external financing. From this perspective, diversified firms are expected to employ higher financial leverage and benefit from debt-related advantages such as tax shields and investment flexibility [2].

Conversely, agency theory offers an alternative explanation for the relationship between diversification and capital structure. According to the free cash flow hypothesis, managers may pursue diversification strategies not solely to maximize shareholder value, but also to expand organizational size, managerial power, and discretionary control over resources. In such cases, diversification may lead to inefficient capital allocation, excessive internal investment, and weakened external monitoring—particularly when firms rely heavily on internal financing rather than debt. Higher leverage, by reducing free cash flows available to managers, may serve as a disciplinary mechanism that limits overinvestment and managerial opportunism [3].

Empirical evidence on the diversification–capital structure relationship remains inconclusive. While some studies document a positive association between diversification and leverage—attributing this relationship to improved risk-sharing and asset redeployability—others report negative or insignificant effects, emphasizing the role of agency costs, asset specificity, and institutional context. These mixed findings suggest that the impact of diversification on capital structure may depend on firm characteristics, governance mechanisms, and market environments [4,5].

Despite the growing body of international research, empirical evidence from emerging markets—particularly regarding publicly listed holding companies—remains limited. In countries such as Iran, where holding companies play a substantial role in capital markets and economic development, understanding the financial consequences of diversification strategies is especially important. Institutional features, financing constraints, and regulatory frameworks may alter the theoretical predictions derived from developed markets.

Accordingly, this study examines the effect of corporate diversification on capital structure in publicly listed holding companies in Iran. Using panel data from 36 holding firms over the period 2011–2015, diversification is measured using the Herfindahl index, while capital structure is proxied by debt-to-assets and equity-to-assets ratios. By focusing on a specific organizational form and an underexplored market context, this study contributes to the literature by providing empirical evidence on whether diversification strategies systematically influence financing choices in holding companies.

2. Literature Review and Hypotheses Development

2.1. Corporate Diversification: Concepts and Strategic Forms

Corporate diversification is widely discussed as a strategic response to environmental complexity, competitive pressure, and changing customer needs. As organizations expand their scope of operations, diversification strategies may enable firms to leverage shared resources, create synergy, and benefit from economies of scale and scope. In many industries, firms seek growth by broadening their product and market footprints, either by extending activity within related domains or entering new, unrelated lines of business [1,4]. This strategic shift has historically raised a central question in both strategic

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management and corporate finance: **does diversification improve firm outcomes by creating value and reducing risk, or does it introduce inefficiencies and managerial agency costs?**

From a strategic perspective, diversification is commonly categorized into **related (concentric) diversification**, **unrelated (conglomerate) diversification**, and **horizontal diversification**. Related diversification involves adding new products or services that share technological, operational, or market linkages with existing business lines, thereby enhancing the potential for operational synergy. Unrelated diversification refers to entry into businesses without clear linkage to current operations, often justified by financial motivations such as spreading risk or exploiting investment opportunities across sectors. Horizontal diversification is typically defined as offering new products to existing customers or expanding across adjacent product categories. These strategic forms are highly relevant to holding companies whose core function often involves managing portfolios of businesses with varying degrees of relatedness [6-8].

In Iran, the growth of multi-business firms—often referred to as "holding companies"—has intensified over time, reflecting a broader trend toward organizational expansion and portfolio-based corporate structures. Evidence suggests that the number of multi-business enterprises has increased, making holding companies an economically important organizational form within the capital market context [9]. Because holding companies typically oversee multiple subsidiaries and allocate resources across diverse segments, they represent a particularly useful setting for examining how corporate strategy translates into financing policy.

2.2. Capital Structure: Financing Choice and Its Economic Consequences

Capital structure refers to the mix of financing sources used by a firm, typically reflecting the balance between **debt financing** and **equity financing**. Capital structure decisions are widely recognized as central to corporate financial management because they influence the firm's cost of capital, financial flexibility, risk profile, and ultimately its market value. Debt financing can offer a cost advantage due to the tax deductibility of interest payments and can enhance firm value through tax shields [10-12]. However, excessive reliance on debt increases the probability of financial distress and bankruptcy risk, which can reduce firm value and raise the required return demanded by investors and creditors. Equity financing, on the other hand, may mitigate financial distress risk but can raise the cost of capital if shareholders demand higher expected returns or if equity issuance dilutes ownership and earnings [13-15].

In this framework, the notion of an "optimal" capital structure is often described as the financing mix that minimizes the cost of capital and maximizes shareholder wealth. Yet achieving such a balance is difficult in practice because firms face varying constraints related to profitability, asset structure, growth opportunities, and market conditions. Moreover, the institutional environment (e.g., capital market development, creditor protections, regulatory constraints) shapes corporate financing behavior and may alter theoretical predictions across different contexts [16-18].

For holding companies, capital structure decisions are particularly consequential because their financial position reflects both the structure of the parent entity and the performance and risk properties of subsidiary cash flows. Consequently, a core question arises: **does portfolio diversification in holding companies translate into more debt capacity and higher leverage, or does it alter financing choices in the opposite direction due to governance and agency concerns?**

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2.3. Theoretical Links Between Diversification and Capital Structure

Prior research proposes multiple mechanisms through which diversification may affect capital structure. Importantly, these mechanisms can predict either a positive, negative, or insignificant association, depending on which channel dominates.

2.3.1. Risk Reduction, Cash Flow Stabilization, and Debt Capacity

One prominent argument is that diversification stabilizes firm-level cash flows because revenues and operating outcomes from different segments are not perfectly correlated. When cash flows become less volatile, creditors may view the firm as safer, thereby increasing access to external borrowing and raising debt capacity [19-21]. Berger and Ofek [22] emphasize that cash flows generated by different segments may display weak dependence, which can reduce aggregate cash flow fluctuations and support higher debt capacity. A reduction in cash flow volatility may also enhance financial flexibility by enabling the firm to sustain debt obligations even under adverse segment-level shocks.

From this perspective, diversified holding companies may be more likely to use debt financing because stable cash flows reduce perceived credit risk. In addition, greater debt can support investment in projects with positive net present value and improve performance via tax shields. Park and Jang [23] argue that higher leverage can contribute to improved performance through increased investment capacity and the tax advantages associated with debt.

2.3.2. Asset Structure, Redeployability, and Collateral Value

A second mechanism highlights asset characteristics. Markides and Williamson [24] argue that financing choices are strongly influenced by asset properties. Diversified firms may hold more **non-specific, redeployable assets**, which can serve as more credible collateral and retain higher liquidation value in distress scenarios. If assets can be redeployed or sold more easily, creditors may be more willing to provide debt financing, resulting in higher leverage. Conversely, firms with highly specialized assets—more common in narrowly focused or single-business firms—may face greater financing constraints and rely more heavily on equity [25-27]. For holding companies, the asset redeployability mechanism may be especially relevant when diversification expands the set of asset types and increases the availability of liquid or collateralizable assets across subsidiaries.

2.3.3. Agency Theory, Free Cash Flow, and the Disciplining Role of Debt

In contrast to the risk-reduction and collateral channels, agency theory can predict a weaker or even negative relationship between diversification and leverage. Jensen's [28] free cash flow hypothesis suggests that managers may prefer retaining and reinvesting excess cash rather than distributing it to shareholders. Diversification can provide managers with more opportunities for internal investment, organizational expansion, and increased control over resources. Under this view, diversification may be driven partly by managerial incentives rather than shareholder value maximization [29,30].

Debt can serve as a disciplinary mechanism in such settings because required interest and principal payments reduce discretionary free cash flow and limit managers' ability to overinvest. Belkaoui and Bannister discuss how higher leverage may constrain managerial opportunism by reducing free cash flows available for discretionary projects. Consequently, the diversification–capital structure relationship may depend on whether diversification primarily reflects value-creating risk spreading or agency-driven expansion.

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2.4. Empirical Evidence: Mixed Findings and Context Dependence

Empirical research has not converged on a single consensus regarding the diversification–capital structure relationship. Some studies report that more diversified firms carry higher leverage ratios, consistent with risk reduction and increased borrowing capacity. For instance, Monteforte et al. find evidence in Italian firms that higher diversification is associated with higher debt ratios and that diversification can facilitate debt-based financing [31-35].

However, other studies report opposite or insignificant relationships. In Iran, some findings suggest that firms with higher debt levels exhibit more limited diversification [36], implying potential constraints or strategic differences in high-leverage firms. Other domestic studies report positive associations between product diversification and measures of capital structure and firm value [36], while still others document no statistically significant relationship between diversification (both related and unrelated forms) and capital structure [37].

International evidence likewise highlights the sensitivity of results to model specification and control variables. For example, the interplay between diversification strategy, capital structure, and profitability in French firms and suggests that relationships can appear positive when considered in isolation but may become inverse once individual effects are controlled. Such findings reinforce the idea that diversification and financing policy may be jointly determined and that empirical results are highly dependent on institutional and market conditions [6].

Overall, the literature indicates that the diversification–capital structure relationship is **context-specific** and potentially shaped by market structure, financing constraints, governance environments, and firm characteristics. This motivates further research in emerging markets where holding companies play a prominent economic role and where financing channels and institutional features may differ from those in developed markets [7,38,39].

2.5. Research Focus and Hypotheses

Given the theoretical ambiguity and mixed empirical evidence, the present study focuses on publicly listed holding companies and investigates whether diversification strategy is associated with financing structure in this organizational setting. Diversification is expected to influence leverage and equity reliance through competing mechanisms: (i) cash flow stabilization and debt capacity, (ii) collateral and redeployability effects, and (iii) agency considerations that may alter the preference for debt versus internal or equity financing.

Consistent with the thesis framework and the empirical design of the study, capital structure is operationalized using two complementary ratios: **debt-to-assets** and **equity-to-assets**. Diversification is captured via a concentration/diversification index (e.g., Herfindahl-based measure), reflecting the distribution of a holding company's activities across segments.

Because the literature does not conclusively predict the direction of the relationship across contexts—and because results may differ depending on whether risk reduction or agency channels dominate—the hypotheses are formulated in a non-directional form, consistent with rigorous empirical testing in an underexplored context:

H1 (Equity financing). Corporate diversification strategy **significantly affects equity financing** in publicly listed holding companies. *(Operational proxy: Equity-to-Assets ratio)*

H2 (Debt financing). Corporate diversification strategy **significantly affects debt financing** in publicly listed holding companies. *(Operational proxy: Debt-to-Assets ratio)*

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2.6. Conceptual Link to the Empirical Model

Building on the above theoretical arguments, the empirical analysis tests whether diversified holding companies systematically differ in their leverage and equity reliance after accounting for firm-specific characteristics. In line with the thesis design, firm size (or asset base) is treated as an important control variable because the scale of operations can influence both diversification capability and access to financing. The panel-data setting further allows the study to exploit variation across firms and over time, providing a stronger basis for inference regarding the diversification–capital structure association in publicly listed holding companies.

3. Methodology

3.1. Research Design and Empirical Strategy

This study adopts a quantitative, explanatory research design to investigate the effect of corporate diversification strategy on capital structure in publicly listed holding companies. Given the applied nature of the research and its focus on firm-level financial decision-making, the study is classified as applied research. The empirical analysis is conducted using a panel-data framework, which allows the study to exploit both cross-sectional and time-series variation in firm characteristics over a five-year period from 2011 to 2015. The panel approach improves estimation efficiency and enables control for unobserved firm-specific heterogeneity that may influence financing behavior. The empirical strategy is designed to test whether diversification strategy affects firms' financing choices through equity and debt, consistent with the hypotheses developed in the previous section.

3.2. Population, Sample Selection, and Data Sources

The population of the study consists of holding companies listed on the Tehran Stock Exchange (TSE) during the period 2011–2015. Holding companies are selected due to their portfolio-based organizational structure, which makes them particularly suitable for examining diversification strategies and internal resource allocation.

Sample firms are selected using a purposeful screening procedure. Firms are included in the sample if (i) their fiscal year ends in March, (ii) complete financial and segment-level data are available throughout the study period, and (iii) they did not experience trading suspension for more than six months in any given year. Applying these criteria yields a final sample of 36 publicly listed holding companies, ensuring data consistency and comparability across firms and over time.

All data used in the analysis are archival and obtained from reliable and officially recognized sources, including the Iranian Financial Information Processing Center and Rahavard Novin financial software. These databases provide audited financial statements and disaggregated investment information, supporting the reliability and validity of the empirical analysis.

3.3. Variable Measurement

3.3.1. Diversification Strategy

Corporate diversification is measured using the Herfindahl Index (HHI), a widely employed indicator of concentration and diversification in both industrial organization and corporate finance research. The index captures the distribution of a firm's activities across business segments and is calculated as:

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$$HHI_{it} = \sum_{j=1}^{N_{it}} (S_{jit})^2$$

where S_{jit} denotes the share of segment j in total assets (or sales) of firm i in year t, and N_{it} represents the number of segments. Lower values of the index indicate greater diversification. Segment-level investment data are extracted from firms' financial statements [37].

3.3.2. Capital Structure

Capital structure is operationalized using two complementary measures to capture firms' financing choices. Debt financing is measured by the debt-to-assets ratio, calculated as the book value of total liabilities divided by the book value of total assets. Equity financing is measured by the equity-to-assets ratio, computed as shareholders' equity divided by total assets. Using both ratios allows for a comprehensive assessment of how diversification strategy relates to firms' reliance on debt versus equity financing [4,14, 40].

3.3.3. Control Variable

Firm size is included as a control variable and measured by the book value of total assets. Firm size is commonly associated with diversification capacity, access to capital markets, and financing flexibility, and therefore may influence both diversification strategy and capital structure [41-43].

3.4. Empirical Model Specification

To examine the relationship between diversification strategy and capital structure, two panel regression models are estimated. The first model assesses the effect of diversification on equity financing, while the second model examines its effect on debt financing. The models are specified as follows:

$$EQUITY_{it} = \alpha + \beta_1 HHI_{it} + \beta_2 SIZE_{it} + \varepsilon_{it}$$
$$DEBT_{it} = \alpha + \beta_1 HHI_{it} + \beta_2 SIZE_{it} + \varepsilon_{it}$$

where i denotes the firm, t denotes the year, and ε_{it} is the error term. The coefficient β_1 captures the effect of diversification strategy on financing structure, while firm size is included to control for scale-related effects [14,44].

3.5. Panel Estimation Procedure

Given the longitudinal structure of the data, panel-data estimation techniques are employed. The analysis begins with the Chow (F-Limer) test to determine whether pooled ordinary least squares estimation is appropriate or whether panel estimation is required. Upon confirmation of panel effects, the Hausman specification test is used to select between fixed-effects and random-effects models. The choice of estimation method is based on whether unobserved firm-specific effects are correlated with the explanatory variables [45-47]. All models are estimated using the appropriate panel specification as indicated by the test results.

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3.6. Diagnostic and Statistical Tests

To ensure the robustness and validity of the regression results, several diagnostic tests are conducted. Panel unit root tests are applied to examine the stationarity of variables and to mitigate the risk of spurious regression. Serial correlation in the residuals is assessed using the Durbin–Watson statistic. Normality of variables is examined prior to estimation to confirm the suitability of parametric inference.

Statistical significance of coefficients is evaluated using t-statistics, and overall model significance is assessed using F-statistics at the 5% significance level. All econometric analyses are conducted using EViews software [48, 49].

3.7. Empirical Procedure

The empirical procedure follows a structured sequence: identification and operationalization of variables, construction of a balanced panel dataset, selection of the appropriate panel-data estimation method, execution of diagnostic tests, and estimation of regression models to test the proposed hypotheses [50,51]. This approach ensures methodological rigor and provides a reliable basis for evaluating the effect of diversification strategy on capital structure in publicly listed holding companies.

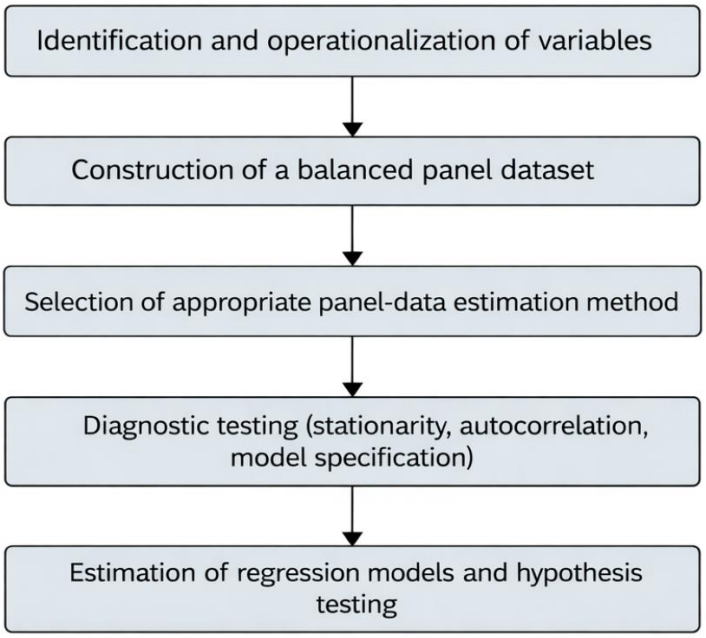

Figure 1. Empirical research procedure. The figure illustrates the sequential steps of the empirical analysis, including identification and operationalization of variables, construction of a balanced panel dataset, selection of the appropriate panel-data estimation method, execution of diagnostic tests, and estimation of regression models to test the research hypotheses.

4. Results

4.1. Descriptive Statistics

Table 1 reports the descriptive statistics for the main variables used in the empirical analysis. The average value of the diversification index (DIV), measured by the Herfindahl index, is 0.485, indicating

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a moderate degree of business concentration among the sampled holding companies. The mean debt-to-assets ratio (FIN-LA) is 0.328, while the mean equity-to-assets ratio (FIN-EA) is 0.672, suggesting that equity financing represents the dominant source of financing in these firms during the study period.

Firm size exhibits substantial dispersion, reflecting heterogeneity in the scale of operations among publicly listed holding companies. The variation observed in all variables confirms that the dataset provides sufficient cross-sectional and temporal variability for regression analysis.

Table 1. Descriptive statistics of the study variables

Variable	Mean	Median	Max	Min	Std. Dev.
DIV	0.4845	0.5757	0.8782	0.0000	0.2809
FIN-LA	0.3276	0.2765	1.1636	0.0059	0.2278
FIN-EA	0.6723	0.7234	0.9940	−0.1636	0.2278
SIZE	7,030,688	3,872,569	38,781,512	45,424	8,984,886

4.2. Panel Unit Root Tests

Before estimating the regression models, panel unit root tests were conducted to ensure the stationarity of the variables and to avoid spurious regression results. The Levin–Lin–Chu test was applied to all variables. As shown in Table 2, the test statistics are significant at the 5% level for all variables.

Accordingly, the null hypothesis of a unit root is rejected for all series, confirming that the variables are stationary and suitable for panel regression analysis.

Table 2. Panel unit root test results (Levin–Lin–Chu)

Variable	Test Statistic	p-value	Result
DIV	−8.4088	0.0000	Stationary
FIN-LA	−20.3223	0.0000	Stationary
FIN-EA	−20.3223	0.0000	Stationary
SIZE	−17.8937	0.0000	Stationary

4.3. Model Selection Tests

To determine the appropriate estimation method, a Chow (F-Limer) test was conducted. The results, reported in Table 3, reject the null hypothesis of homogeneous intercepts, indicating that pooled OLS estimation is inappropriate and that panel-data techniques should be employed.

Subsequently, the Hausman test was used to choose between fixed-effects and random-effects specifications. As reported in Table 4, the test results support the random-effects model for both regression specifications.

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Table 3. Chow (F-Limer) test results

Test	F-statistic	p-value	Decision
Chow test	16.1410	0.0000	Panel model required

Table 4. Hausman test results

Test	Chi-square	p-value	Preferred model
Hausman test	4.8815	0.0871	Random effects

4.4. Regression Results: Debt Financing

Table 5 presents the estimation results for Model 1, which examines the effect of diversification strategy on debt financing (FIN-LA). The overall model is statistically significant (F-statistic $p < 0.05$), although the adjusted R^2 indicates limited explanatory power.

The coefficient on diversification (DIV) is positive but statistically insignificant, suggesting that diversification strategy does not significantly affect firms' reliance on debt financing. In contrast, firm size exhibits a negative and statistically significant relationship with debt financing, indicating that larger holding companies tend to employ lower levels of leverage.

Diagnostic tests confirm the adequacy of the model specification. The Durbin–Watson statistic indicates no serial correlation, and the White test fails to reject the null hypothesis of homoskedasticity. The histogram of residuals (Figure 1) further supports the normality assumption.

Table 5. Random-effects regression results: Debt financing (FIN-LA)

Variable	Coefficient	Std. Error	t-statistic	p-value
DIV	0.0888	0.0819	1.0851	0.2796
SIZE	−6.3E−10	2.1E−10	−3.0163	0.0030
Constant	0.3362	0.0556	6.0429	0.0000
Adjusted R^2	0.0478			
Durbin–Watson	1.5920			

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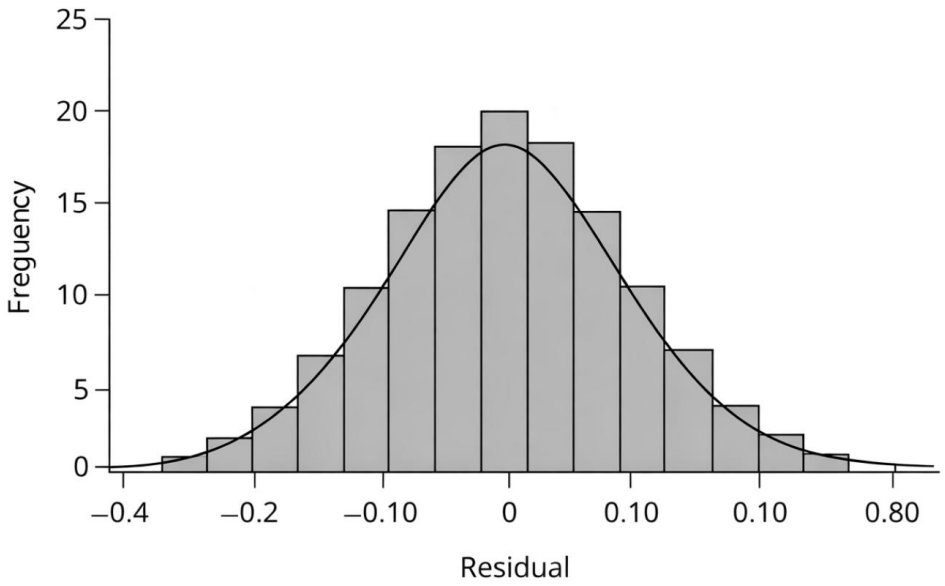

Figure 1. Histogram of residuals for Model 1 (Debt financing) *The approximately bell-shaped and symmetric distribution of residuals indicates acceptable normality.*

Based on these results, **Hypothesis 1 is rejected**.

4.5. Regression Results: Equity Financing

Table 6 reports the estimation results for Model 2, which evaluates the effect of diversification strategy on equity financing (FIN-EA). Similar to Model 1, the overall regression is statistically significant, while explanatory power remains modest.

The coefficient on diversification is negative but statistically insignificant, indicating that diversification strategy does not significantly influence equity financing decisions. Firm size again exhibits a statistically significant effect, highlighting its role as a key determinant of capital structure.

Diagnostic tests confirm the robustness of the model, with no evidence of heteroskedasticity or serial correlation. Residual diagnostics (Figure 2) support the normality assumption.

Table 6. Random-effects regression results: Equity financing (FIN-EA)

Variable	Coefficient	Std. Error	t-statistic	p-value
DIV	−0.0888	0.0819	−1.0851	0.2796
SIZE	−6.3E−10	2.1E−10	−3.0163	0.0030
Constant	0.6637	0.0556	11.9280	0.0000
Adjusted R^2	0.0478			
Durbin–Watson	1.5920			

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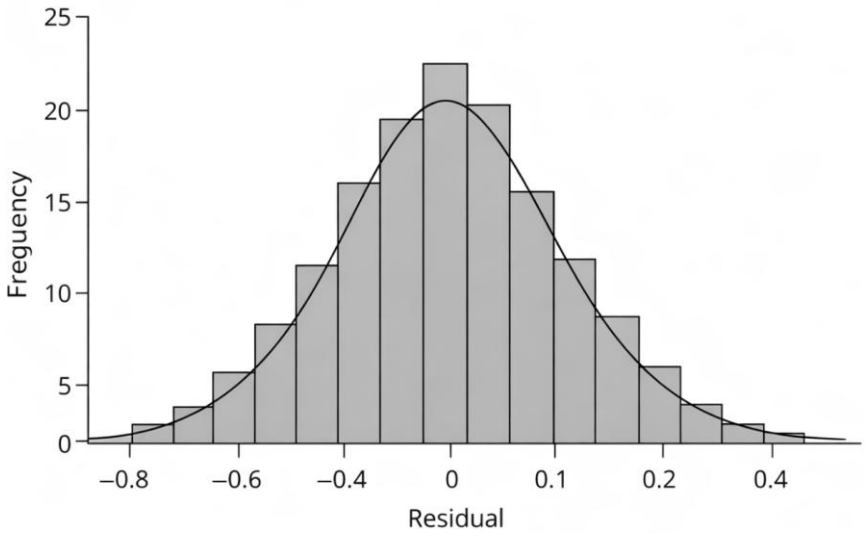

Figure 2. Histogram of residuals for Model 2 (Equity financing) *Residuals display a symmetric distribution, indicating satisfactory model fit.*

Based on these findings, **Hypothesis 2 is rejected**.

4.6. Summary of Empirical Findings

Table 7 summarizes the hypothesis testing results. The findings indicate that diversification strategy does not exert a statistically significant effect on either debt or equity financing in publicly listed holding companies in Iran. Firm size, however, emerges as a consistent and significant determinant of capital structure.

Table 7. Summary of hypothesis testing results

Hypothesis	Relationship	Result
H1	Diversification → Debt financing	Not supported
H2	Diversification → Equity financing	Not supported

5. Discussion

The purpose of this study was to examine whether corporate diversification strategy influences capital structure decisions—specifically equity and debt financing—in publicly listed holding companies in Iran. Contrary to several theoretical expectations, the empirical results indicate that diversification strategy does not exert a statistically significant effect on either debt financing or equity financing. These findings contribute to an ongoing and inconclusive debate in the literature regarding the financial consequences of diversification [2].

From the perspective of **internal capital market theory**, diversified firms are often expected to benefit from more stable and less correlated cash flows across business segments. Lower cash-flow volatility increases debt capacity by reducing default risk and improving firms' ability to service obligations [52,54]. Similarly, diversified firms may achieve higher leverage ratios due to improved risk-

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sharing across segments. However, the results of the present study do not support this argument in the Iranian context, as diversification does not appear to increase firms' reliance on debt financing [55].

One possible explanation for this divergence lies in **institutional and financial market characteristics**. In emerging economies such as Iran, corporate financing decisions are often shaped by structural constraints in the banking system, regulatory policies, and limited access to competitive capital markets. Under such conditions, lenders may place greater emphasis on firm size, asset tangibility, and ownership structure than on strategic attributes such as diversification. As a result, the risk-reduction benefits of diversification may not be sufficiently recognized or priced by creditors, limiting its impact on capital structure [56].

Another important explanation emerges from **agency theory and the free cash flow hypothesis**. Managers with access to substantial free cash flows may pursue diversification strategies that increase firm size and managerial power rather than shareholder value [54]. From this perspective, diversification may reflect managerial preferences rather than value-maximizing financial policies [54]. If diversification is driven by agency motives, creditors and investors may discount its potential benefits, which could explain the absence of a significant relationship between diversification and financing decisions observed in this study.

Furthermore, the role of **asset specificity** in shaping financing choices has been studied. They argue that diversified firms typically possess less specialized and more redeployable assets, which should theoretically enhance their ability to raise debt financing. However, this mechanism assumes well-functioning liquidation and collateral markets. In environments where asset markets are illiquid or valuation mechanisms are weak, as may be the case in Iran, the redeployability of assets may not translate into greater borrowing capacity. Consequently, diversification may fail to influence capital structure through this channel [2].

The insignificant effect of diversification on **equity financing** is also noteworthy. Prior studies have suggested that diversified firms may rely less on equity issuance due to internal capital allocation or may face higher equity costs due to reduced transparency and increased complexity [14]. The absence of a significant relationship in this study suggests that equity financing decisions among Iranian holding companies may be dominated by ownership concentration and controlling shareholders' preferences rather than diversification considerations. This interpretation is consistent with the characteristics of many Iranian listed firms, where equity issuance is often constrained by governance structures rather than strategic portfolio decisions [10].

When comparing these findings with prior empirical evidence, the results align with studies that report **weak or inconsistent links** between diversification and capital structure. For example, no significant relationship between diversification strategy and capital structure in Iranian firms, while highly leveraged firms tend to exhibit lower levels of diversification. These mixed findings highlight the context-dependent nature of the diversification–capital structure relationship and underscore the importance of country-specific institutional factors [57,58].

An important and robust finding of this study is the significant effect of **firm size** on both debt and equity financing. Larger holding companies exhibit systematically different financing patterns, which may reflect economies of scale, stronger reputational capital, and enhanced access to external financing [59]. This result is consistent with capital structure theories suggesting that firm size reduces information asymmetry and bankruptcy risk, thereby influencing financing decisions more strongly than strategic diversification.

Overall, the findings suggest that diversification strategy alone does not constitute a reliable mechanism for altering capital structure in Iranian holding companies. While diversification may serve strategic,

operational, or risk-management objectives, its financial implications appear limited when institutional constraints, agency problems, and market imperfections dominate financing behavior.

6. Conclusion

This study investigated the relationship between diversification strategy and capital structure in publicly listed holding companies in Iran over the period 2011–2015. Using panel-data regression models and controlling for firm size, the analysis provides evidence that diversification strategy, as measured by the Herfindahl index, does **not** have a statistically significant effect on either debt financing or equity financing. The results contribute to the literature by demonstrating that the presumed financial advantages of diversification are **context-dependent** and may not materialize in emerging markets with distinct institutional, regulatory, and financial structures. While diversification is often pursued with the expectation of increased financial flexibility and enhanced access to debt, the empirical evidence presented here does not support such expectations for Iranian holding companies. From a managerial perspective, the findings caution against adopting diversification strategies solely as a means of improving capital structure or attracting external financing. Managers should recognize that diversification does not inherently reduce financing costs or increase leverage capacity. Instead, greater emphasis should be placed on firm size, asset quality, transparency, and governance mechanisms, which appear to play a more decisive role in financing outcomes. From a policy standpoint, the results highlight the importance of financial market development and institutional reform. Enhancing transparency, strengthening creditor protection, and improving capital market efficiency may be more effective in shaping firms' financing behavior than encouraging diversification per se.

This study is subject to certain limitations. First, diversification is measured using a single index, which may not capture qualitative differences between related and unrelated diversification. Second, the analysis focuses exclusively on listed holding companies, which may limit the generalizability of the findings. Future research could extend this work by examining alternative diversification measures, incorporating ownership and governance variables, or exploring dynamic capital structure adjustments. In conclusion, while diversification remains a prominent strategic choice among holding companies, its role as a determinant of capital structure appears limited in the Iranian context. These findings underscore the need for a more nuanced understanding of the interaction between corporate strategy and financial structure, particularly in emerging economies.

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