**Journal of Business Insight and Innovation**
**Volume 5 Issue 7, 2026**
**ISSN-p: 3006-2284, ISSN-e: 3006-0982**
**https://insightfuljournals.com/**

# IMPACT OF CAPITAL STRUCTURE ON FIRM VALUE AND PROFITABILITY WITH THE MODERATION OF AUDIT QUALITY: EVIDENCE FROM N-11 COUNTRIES

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**DOI:** https://doi.org/10.63544/jbii.v5i7.90

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**Article History:**
Received: 11.06.2026
Accepted: 03.07.2026
Published: 15.07.2026

**Abstract**

*Purpose: This study seeks to test the moderating effect between the relationship of capital structure and two firm outcomes which are market based firm value (FV) and accounting based profitability (return on equity, ROE) in the Next-Eleven (N-11) emerging economies. This analysis builds on a gap in the literature – there is limited evidence of the link between financing decisions and value and profitability in non-developed capital markets.*

*Methodology/Design/Approach: The study uses a panel data based on 3,124 based collected from 2014 to 2024 from Thomson Reuters Data stream. computes four complementary specifications: A pooled OLS, a cross-sectional GMM, firm fixed-effects with cluster-robust standard errors, and a static panel GMM estimator based on a within-firm de-meaning transformation, to evaluate the robustness of the capital structure–performance relationship across estimation methods.*

*Findings: The results show that there is no significant multicollinearity with any specification (average VIF = 1.07). The capital structure, the audit quality and their interaction are not statistically significant in the pooled OLS estimation, cross-sectional GMM estimation and cluster-robust fixed-effects (CFE) estimation. The capital structure is positive and significant in the firm value and ROE regressions of the static panel GMM, however, after de-meaning. Audit quality does not provide any evidence of a moderating effect in any of the regressions. There is a negative and statistically significant correlation with firm size.*

*Practical Implications: In markets with external auditors, managers, auditors, and regulators evaluating the leverage–value relationship should not be swayed by simply switching to a pooled or cluster-robust estimate, because the negative or positive relationship between leverage and value can be masked by the estimator. Policymakers who wish to improve the role of external audit in these markets should consider / enable other forms of governance – not auditor identity.*

*Originality/Value: The study is one of the first to analyze market-based and accounting-based performance measures in a single study, to explore the three-way interaction between capital structure, audit quality and firm performance, utilizing the former level of aggregation (full N-11) and to explicitly compare the cluster-robust fixed-effects regression approach with static panel GMM approach on an identical de-meaned specification.*

**Keywords:** Capital Structure; Firm Value; Return on Equity; Audit Quality; Moderation; N-11 Countries; Panel Data; Static Panel Gmm; De-Meaning

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https://insightfuljournals.com/

## 1. Introduction

### *1.1 Background and Context*

The choice of the appropriate capital structure, that is, the proportion of debt and equity finance a firm uses for its asset financing, is very popular among the topics in corporate finance. A large amount of theory, both theoretical and empirical, was developed thereafter, based on the seminal irrelevance proposition of Modigliani and Miller (1958, 1963), which has given rise to alternative theories in this area such as the trade-off theory and the pecking-order theory of Myers and Majluf (1984) and the theory of agency-cost of Jensen and Majluf (1976), and that of Jensen (1986). Although these theories have been tested thoroughly in developed economies (Titman & Wessels, 1988; Rajan & Zingales, 1995; Frank & Goyal, 2009), little is known about the relationship between capital structure decisions and value and profitability in emerging and transition economies, where capital markets are shallower, creditor and investor protection is more deficient (La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 2000), and information asymmetry between managers and outside stakeholders is more significant (Claessens & Yurtoglu, 2013). The study is centred on the 'Next-Eleven' (N-11) countries (O'Neill, 2001) that represent a diverse group of institutional environments in which to examine the capital-structure–firm-outcome relationship. External monitoring systems like audit quality may be especially important in moulding the market perception of leverage and its price (Fan & Wong, 2005). Theoretically, top-tier external audits are expected to help eliminate information gaps, restrain managerial opportunism, and enhance the reliability of financial statements (DeAngelo, 1981; Watts and Zimmerman, 1983; Francis, 2004), which may transform the capital structure decisions are imbedded in firm value and the accounting profitability measures.

### *1.2 Problem Statement*

Even after decades of theoretical development since Modigliani and Miller (1958, 1963), the implementation of capital-structure decisions in terms of firm value and profitability is still unresolved in the context of underdeveloped capital markets. Conditions are less ideal in the N-11 economies, where the quality of external audits is expected to have the greatest influence on the certifying role function, as it is theorized to do in economies where capital markets are shallower and creditor and investor protection is less effective and information asymmetry is more pronounced between the manager and outside stakeholders (Fan & Wong, 2005; DeAngelo, 1981). However, the ability of audit quality to moderate the leverage–outcome relationship in these environments, and the strength of reported relationships despite varying choices of estimator remains an empirical question. This presents a real-world challenge for managers in determining financing policy, for auditors and regulators in evaluating the effectiveness of audit as a governance mechanism, and for researchers interested in making inferences from capital-structure studies that are based on a single estimation method.

### *1.3 Research Gap and Objectives*

Despite the theoretical link between financing choices, external monitoring, and firm outcomes, at least four gaps remain in the literature that this study is designed to address.

First, the capital structure and audit quality literatures have largely developed as separate strands of research. Capital structure studies (Rajan & Zingales, 1995; Frank & Goyal, 2009; Booth et al., 2001) typically treat governance and monitoring quality as a background institutional condition rather than as an explicit, testable moderator, while the audit-quality literature (Becker et al., 1998; DeFond & Zhang, 2014; Francis, 2004) typically examines earnings quality or cost-of-capital outcomes rather than the leverage–value relationship directly. Few studies formally interact audit quality with capital structure to test whether external monitoring conditions how leverage is priced, and fewer still do so jointly for a market-based outcome "firm value" and an accounting-based outcome "profitability" within the same framework.

Second, prior emerging-market evidence relies disproportionately on static, cross-sectional or short-panel estimators. Much of the existing capital-structure evidence from developing and transition economies (Booth et al., 2001; Deesomsak et al., 2004; Zeitun & Tian, 2007) is estimated using pooled or random-effects specifications that do not adequately net out unobserved, time-invariant firm heterogeneity, such as industry, ownership concentration, or managerial quality, that is plausibly correlated with both leverage and firm outcomes. Where panel corrections are used, they are rarely benchmarked against alternative standard-error

Journal of Business Insight and Innovation
Volume 5 Issue 7, 2026
ISSN-p: 3006-2284, ISSN-e: 3006-0982
https://insightfuljournals.com/

procedures (e.g., cluster-robust fixed effects versus GMM-based inference on the same within-firm transformation), leaving open the possibility that published null results reflect the standard-error procedure chosen rather than the absence of an underlying relationship.

Third, evidence specific to the N-11 grouping is virtually absent. The N-11 countries (O'Neill, 2001) are frequently discussed as a bloc in the macroeconomic and investment literature, but firm-level capital-structure and audit-quality research has concentrated overwhelmingly on individual emerging markets (e.g., Jordan in Zeitun & Tian, 2007) or on broader, more developed cross-country panels (Fan et al., 2012). A pooled, long-window, multi-country test of the leverage–value and leverage–profitability relationships, and of the moderating role of audit quality, specific to the N-11 institutional setting has not, to the authors' knowledge, been conducted.

Fourth, most existing studies examine a single firm outcome in isolation. Studies typically model either a market-based valuation measure or an accounting-based profitability measure, but rarely both within a common sample, set of controls, and set of estimators. Because audit quality operates partly through the credibility of reported accounting numbers (DeAngelo, 1981) and partly through market-facing certification (Titman & Trueman, 1986), its relationship with leverage could plausibly differ across a market-based outcome (firm value) and an accounting-based outcome (ROE); testing both jointly, as this study does, is necessary to establish whether audit quality's role, if any, is confined to one channel or general across both.

Accordingly, the objectives of this study are to (i) test whether capital structure is significantly associated with firm value and profitability among N-11 firms; (ii) test whether audit quality moderates the capital-structure–firm-outcome relationship; and (iii) evaluate the sensitivity of these findings to alternative estimators and standard-error procedures, including pooled OLS, cross-sectional GMM, cluster-robust fixed effects, and static panel GMM.

### *1.4 Research Questions*

RQ1: Is capital structure significantly associated with firm value and profitability among N-11 firms? RQ2: Does audit quality moderate the relationship between capital structure and firm value/profitability among N-11 firms? RQ3: Do conclusions about the capital-structure–firm-outcome relationship depend on the choice of estimator and standard-error procedure (pooled OLS, cross-sectional GMM, cluster-robust fixed effects, or static panel GMM)? RQ4: Does the role of capital structure and audit quality differ between a market-based outcome (firm value) and an accounting-based outcome (profitability)?

### *1.5 Significance of the Study*

This study enrich the capital-structure in four distinct aspects, audit-quality, and emerging-market corporate-finance literatures.

It directly tests audit quality as a moderator of the capital-structure–firm-outcome relationship, for two outcomes. Rather than treating capital structure and audit quality as parallel, independent predictors, the study estimates an explicit CS × AQ interaction term for both firm value and return on equity, providing a direct empirical test of the risk-certification and risk-visibility channels developed in Section 2.4.

It assembles a large, long-window, multi-country panel purpose-built for the N-11 setting. The estimation sample comprises 3,124 firms and 31,240 firm-year observations drawn from Thomson Reuters Datastream across all eleven N-11 economies over 2014–2024, providing the statistical power and cross-country institutional variation needed to detect a moderation effect if one is structurally present, and offering a benchmark set of descriptive and regression statistics for this understudied country grouping.

It benchmarks cluster-robust fixed-effects inference against a static panel GMM de-meaning estimator on the same within-firm transformation. The study also estimates the identical de-meaned specification twice, one with cluster-robust standard errors and the second with GMM-based standard errors, thereby highlighting the differences between the two procedures in determining the value of the estimated capital structure, rather than the magnitude of the point estimate itself, which is not always done in the applied capital-structure literature.

It simultaneously models a market outcome and an accounting outcome of the firm in the same empirical framework. Comparing the estimation of firm value and ROE side by side with same sample, similar

Journal of Business Insight and Innovation
Volume 5 Issue 7, 2026
ISSN-p: 3006-2284, ISSN-e: 3006-0982
https://insightfuljournals.com/

controls and estimators, as described in Section 4, enables the study to demonstrate that the relationship between capital structure and market value differs from that between capital structure and accounting profitability.

The remainder of the study is structured as follows. Section 2 reviews the relevant theoretical and empirical studies as well as the hypotheses. The data, variable measurement and empirical models are described in Section 3. The results and descriptive statistics are provided in Section 4. The findings are discussed in Section 5 and implications, limitations, and directions for future research are provided in Section 6.

## 2. Literature Review and Hypothesis Development

### *2.1 Capital Structure and Firm Outcomes: Theoretical Perspectives*

The theory of capital structure irrelevance of Modigliani and Miller (1958) provides the theoretical basis for the capital-structure literature, suggesting that under very stringent conditions of frictionless and complete markets, a firm's value is independent of its capital structure. However, subsequent theory has developed as a series of explanations as to why and how when corporate taxes, bankruptcy costs, and information asymmetries are added in (Modigliani & Miller, 1963), the capital structure can have a significant impact on firm value and profitability. The trade off theory indicates that the selection of leverage ratio is determined by the balance between the tax advantage of the extra dollar of debt and the potential financial distress or bankruptcy costs, thus implying a optimal leverage ratio that would maximize firm value. This is because, in contrast to the pecking-order theory of Myers (1977) and Myers and Majluf (1984), a firm's financing sequence is not necessarily determined by a firm's leverage level, but by the information that the insiders hold and what outside investors are not aware of, and it is not a matter of the level of leverage, but of how much it is needed to finance positive-NPV growth or to satisfy a shortfall.

There is further subtlety in the theories of agency costs. Debt can also increase the agency costs between shareholders and creditors because residual claim's become more option-like as leverage increases, leading to an increase in the option space for the shareholders, which includes asset-substitution and underinvestment costs (Fama and Jensen, 1983). In addition to these financing theories is Ross' (1977) signalling theory which suggests that the choice of leverage sends a credible message to the market about the private expectations of cash flows since only firms with positive cash flow expectations will be able to profitably increase their leverage. This signalling channel implies that the information valuation-relevant could be the change in the leverage, not the absolute level of leverage. Baker and Wurgler (2002) also show that the difference in capital structures may not be an active endeavor to reach a target capital ratio but the result of past experience with equity and debt market timing, and thus explain why the estimated leverage–outcome linkages between time periods and across samples are frequently unstable.

### *2.2 Empirical Evidence on Capital Structure and Firm Outcomes*

Empirical evidence on the leverage–firm-outcome relationship is decidedly mixed and appears to depend heavily on institutional context and estimation method. Cross-country evidence from developing economies documents systematic differences in capital-structure determinants and outcomes relative to developed markets, generally attributable to weaker creditor rights, shallower bond markets, and greater reliance on bank debt (Booth, Aivazian, Demirguc-Kunt, & Maksimovic, 2001). Regional studies of the Asia-Pacific region similarly find that the leverage–value relationship is conditioned by country-level institutional and macroeconomic factors rather than being a fixed structural parameter (Deesomsak, Paudyal, & Pescetto, 2004), while broader international comparisons show that debt maturity structure and capital-structure choices vary systematically with a country's legal origin and creditor-protection regime (Fan, Titman, & Twite, 2012). Firm-level evidence from individual emerging markets, for example, Zeitun and Tian's (2007) study of Jordanian firms, has documented a negative association between leverage and accounting- and market-based performance measures, consistent with agency-cost and financial-distress explanations, while other studies report positive or non-monotonic relationships consistent with tax-shield and disciplining effects (Titman & Wessels, 1988; Rajan & Zingales, 1995; Frank & Goyal, 2009). This inconsistency, both across countries and

Journal of Business Insight and Innovation
Volume 5 Issue 7, 2026
ISSN-p: 3006-2284, ISSN-e: 3006-0982
https://insightfuljournals.com/

across estimation methods within the same country, motivates the first hypothesis of the study, stated in a non-directional form to allow the data, and the choice of estimator, to speak:

**$H_1$:** Capital structure is significantly associated with firm value and profitability.

### *2.3 Audit Quality, Information Asymmetry, and Corporate Governance*

Audit quality is widely regarded as a key external governance mechanism that constrains managerial opportunism and enhances the credibility of reported financial information (DeAngelo, 1981). Higher audit quality, commonly proxied in the literature by Big-4 auditor affiliation, industry specialization, or audit-fee-based quality indices (Becker, DeFond, Jiambalvo, & Subramanyam, 1998; Khurana & Raman, 2004; Francis, 2004), is associated with more conservative financial reporting, greater earnings credibility, and stronger monitoring of managerial discretion (DeFond & Zhang, 2014). Agency-based explanations of auditing (Watts & Zimmerman, 1983; Fama & Jensen, 1983) suggest that high-quality audits reduce the information asymmetry between managers and outside financiers by lending independent, third-party credibility to financial statements. Building on Ross's (1977) signalling logic, Titman and Trueman (1986) formalize auditor choice itself as a signal: firms with favourable private information have an incentive to engage higher-quality (and more expensive) auditors to certify that information credibly to the market, implying that auditor quality and firm outcomes should be positively related through a certification channel that operates independently of, but potentially interacts with, financing choices.

This certifying role appears particularly salient, and particularly variable, in emerging markets, where legal enforcement of investor-protection rules is generally weaker and more heterogeneous than in developed economies (La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 2000; Claessens & Yurtoglu, 2013). Evidence from East Asian economies indicates that external auditors partly substitute for weak legal institutions in performing a corporate-governance role, but that this substitution is uneven across countries and ownership structures (Fan & Wong, 2005). Cross-country studies similarly show that the earnings-quality benefits of Big-4 auditors are conditional on the strength of a country's investor-protection regime, with the incremental effect of audit quality being smaller where legal protection is already weak or already strong, consistent with a complementarity between formal legal institutions and private (auditor-based) monitoring (Francis & Wang, 2008; Choi & Wong, 2007).

### *2.4 Audit Quality as a Moderator of the Capital-Structure–Firm-Outcome Relationship*

If audit quality performs the certifying and monitoring role described above, it should condition the strength, and possibly the sign, of the relationship between leverage and firm outcomes, rather than simply exerting an independent, additive effect. Two competing predictions follow from the theory reviewed in Sections 2.1–2.3. First, under a risk-certification channel, high audit quality may reduce the information asymmetry surrounding a levered firm's true risk and repayment capacity, allowing investors to discount the risk associated with high leverage less heavily than they would for an opaque, low-audit-quality firm; this predicts a positive interaction between capital structure and audit quality. Second, under a risk-visibility channel, high-quality audits may instead make the distress risk and agency costs associated with debt more visible and verifiable to outside investors, causing high leverage to be more heavily, not less heavily, discounted when audit quality is high; this predicts a negative interaction. Because the theoretical literature does not unambiguously favour one channel over the other, the moderation hypothesis is stated in non-directional form:

**$H_2$:** Audit quality significantly moderates the relationship between capital structure and firm outcomes.

### *2.5 Institutional Context of the N-11 Economies*

The N-11 countries , Bangladesh, Egypt, Indonesia, Iran, Mexico, Nigeria, Pakistan, the Philippines, South Korea, Turkey, and Vietnam, were identified by O'Neill (2001) as a set of emerging economies with substantial long-run growth potential, but they are far from institutionally homogeneous: they span multiple legal origins (English common law, French and mixed civil law traditions), levels of capital-market development, and strengths of shareholder and creditor protection (La Porta et al., 2000; Claessens & Yurtoglu, 2013). This heterogeneity makes the N-11 group a particularly informative, if demanding, setting

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Volume 5 Issue 7, 2026
ISSN-p: 3006-2284, ISSN-e: 3006-0982
https://insightfuljournals.com/

in which to test whether audit quality moderates the capital-structure–outcome relationship: if the moderating effect of audit quality is a genuinely structural feature of how markets price leverage risk, it should be at least partially detectable even after pooling across this diverse set of countries and after controlling for unobserved firm heterogeneity; if instead the moderating effect depends on complementary legal and enforcement institutions that vary sharply across the N-11 group, a pooled cross-country test may understate, or fail to detect, the relationship (Fan & Wong, 2005; Francis & Wang, 2008).

### *2.6 Control Variables*

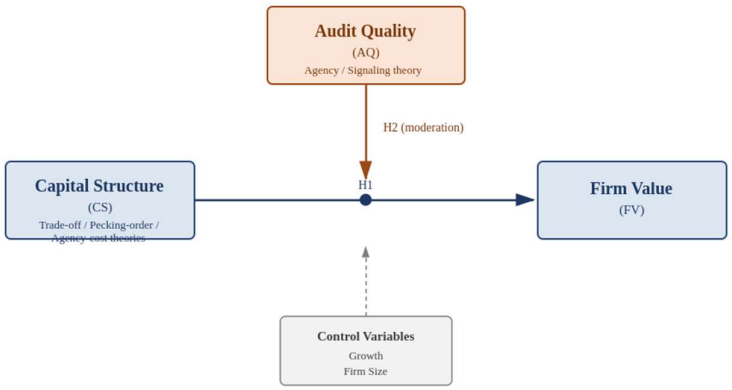
Consistent with prior capital-structure and firm-outcome research (Titman & Wessels, 1988; Frank & Goyal, 2009), the models control for firm growth and firm size. Growth opportunities are associated with higher expected future cash flows and are typically positively related to firm value, though high-growth firms may also face greater agency costs of debt and be more sensitive to underinvestment problems (Myers, 1977). Firm size proxies for scale, diversification, and access to external financing (Fama & Jensen, 1983); larger firms are often less risky and better diversified, but size can also proxy for maturity and lower growth prospects, which can weigh negatively on both market-based and accounting-based value measures, and larger firms in emerging markets are also more likely to attract high-quality auditors in the first place (Fan & Wong, 2005), which is a further reason to hold size constant when estimating the audit-quality moderation effect.

### *2.7 Theoretical Framework*

Figure 1 summarizes the theoretical framework underlying the study. Capital structure is hypothesized to affect firm value and profitability directly (H1), consistent with trade-off, pecking-order, and agency-cost theories of financing (Modigliani & Miller, 1958; Myers, 1977; Jensen & Meckling, 1976). Audit quality, grounded in agency and signaling theory (DeAngelo, 1981; Watts & Zimmerman, 1983), is hypothesized to moderate this relationship (H2) by altering the extent to which leverage-related information asymmetry and agency costs are priced by outside stakeholders. Growth and firm size are included as control variables that the prior literature consistently links to firm outcomes (Titman & Wessels, 1988; Frank & Goyal, 2009).

**Figure 1**

*Theoretical framework linking capital structure, audit quality, and firm outcomes.*




## 3. Data and Methodology

### *3.1 Sample and Data Sources*

The study draws on firm-level data for listed companies across the eleven N-11 economies (Bangladesh, Egypt, Indonesia, Iran, Mexico, Nigeria, Pakistan, the Philippines, South Korea, Turkey, and Vietnam), obtained from Thomson Reuters Datastream, covering the eleven calendar years from 2014 to 2024. The underlying cross-sectional variables (firm value, ROE, capital structure, audit quality, and firm size) are available for up to 38,516 firm-year observations. Because the growth control variable is constructed as a one-year change and therefore requires a lagged observation, the estimation sample used in the regression models is a balanced panel of 3,124 firms observed over ten years, yielding 31,240 firm-year observations. This is

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Volume 5 Issue 7, 2026
ISSN-p: 3006-2284, ISSN-e: 3006-0982
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somewhat larger than samples used in earlier vintages of this study, reflecting the longer sample window and expanded firm coverage now available from Datastream.

### *3.2 Variable Measurement*

The dependent variables included Firm Value (FV) and Return on Equity (ROE), with the former measured by market value and the latter by accounting-based profitability, enabling the study to gauge whether different results than those found in prior research exist between the relationship between capital structure and market value perception of value and the relationship between capital structure and accounting-based profitability. Capital Structure (CS) is the number one independent variable, and represents the leverage measure used, as total debt divided by total assets, as defined by Titman and Wessels (1988). To measure Audit Quality (AQ), the study adopts the approach of DeAngelo (1981) and Khurana and Raman (2004) and categorizes the Big-4 and non-Big-4 auditors. The interaction term CS × AQ is used to test the moderation hypothesis. Firm growth is measured as change in the number of firms, as suggested by Titman and Wessels (1988) and Firm Size is the natural log of total assets as suggested by Fama and Jensen (1983). The operationalization of each variable is summarized in table A below.

**Table A**

*Variable Definitions and Measurement*

| Variable | Symbol | Role | Measurement | Key Source(s) |
|---|---|---|---|---|
| Firm Value | FV | Dependent | Market-based valuation measure | Rajan & Zingales (1995) |
| Return on Equity | ROE | Dependent | Net income / shareholders' equity | Accounting profitability literature |
| Capital Structure | CS | Independent | Total debt / total assets | Titman & Wessels (1988); Rajan & Zingales (1995) |
| Audit Quality | AQ | Moderator | Big-4 / non-Big-4 auditor indicator | DeAngelo (1981); Khurana & Raman (2004) |
| CS × AQ | CS×AQ | Interaction | Product of CS and AQ | Constructed for this study |
| Growth | Growth | Control | Annual percentage change in sales / total assets | Titman & Wessels (1988) |
| Firm Size | FirmSize | Control | Natural logarithm of total assets | Fama & Jensen (1983) |

### *3.3 Empirical Models*

The baseline model is specified as:

$$Y_{it} = \beta_0 + \beta_1 CS_{it} + \beta_2 AQ_{it} + \beta_3 (CS_{it} \times AQ_{it}) + \beta_4 Growth_{it} + \beta_5 Firm\ Size_{it} + \varepsilon_{it} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

where Y is alternately Firm Value (FV) or Return on Equity (ROE), i indexes firms, t indexes years, and $\varepsilon_{it}$ is the error term. Equation (1) is first measured through pooled OLS with heteroskedasticity-robust standard errors. Because pooled OLS does not account for unobserved, time-invariant firm heterogeneity that may be correlated with both capital structure and firm outcomes, the model is re-estimated using a firm-level fixed-effects (within) estimator with standard errors clustered at the firm level. As a further robustness check, the model is estimated by a cross-sectional generalized method of moments (GMM) estimator with a heteroskedasticity-robust weight matrix; because no regressor is treated as endogenous in this specification, its point estimates coincide with pooled OLS while its standard errors reflect the GMM weighting.

Finally, to purge unobserved, time-invariant firm heterogeneity while avoiding the unstable, near-unit-root behavior that dynamic lag specifications can introduce in highly persistent corporate-finance panels, the model is re-estimated on within-firm de-meaned (demeaned) variables using a static panel GMM estimator with a heteroskedasticity-robust weight matrix. Formally, each variable is transformed as $\tilde{x}_{it} = x_{it} - \bar{x}_i$, where $\bar{x}_i$ is the firm-specific mean over the sample period.

$$F\tilde{V}_{it}\ (or\ RO\tilde{E}_{it}) = \beta_1 \tilde{C}S_{it} + \beta_2 \tilde{A}Q_{it} + \beta_3 (\tilde{C}S \times \tilde{A}Q)_{it} + \beta_4 \tilde{G}rowth_{it} + \beta_5 \tilde{F}irm\ Size_{it} + \tilde{\varepsilon}_{it} \ldots\ldots\ldots\ldots (2)$$

The de-meaned model is estimated by two-step GMM using the de-meaned regressors as instruments for themselves, with a robust weight matrix. This within-firm transformation removes time-invariant firm-level heterogeneity in the same way as the fixed-effects estimator, but the GMM procedure recovers standard

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Volume 5 Issue 7, 2026
ISSN-p: 3006-2284, ISSN-e: 3006-0982
https://insightfuljournals.com/

errors from the GMM criterion function rather than from cluster-robust sandwich formulas, which can materially change inference even though, by construction, the two estimators recover very similar (and for the FV model, numerically identical) point estimates. As a diagnostic check on the regressors, variance inflation factors (VIFs) are computed for all specifications to rule out problematic multicollinearity.

## 4. Empirical Results

This section opens with descriptive statistics for the estimation sample (Section 4.1), then presents regression results separately for the two outcome variables, firm value (FV) in Section 4.2 and return on equity (ROE) in Section 4.3, followed by multicollinearity diagnostics (Section 4.4) and a summary of hypothesis tests (Section 4.5).

### *4.1 Descriptive Statistics*

Before turning to the regression results, this subsection characterizes the estimation sample and flags data features that motivate the methodological choices developed in Sections 4.2 and 4.3. Table 1 presents descriptive statistics for the estimation sample. The underlying cross-sectional variables, firm value, ROE, capital structure, audit quality, and firm size, are available for up to 38,516 firm-year observations; growth, which requires a one-year lag, is available for the 31,240 firm-year observations that form the regression sample used throughout Section 4.

**Table 1**

*Descriptive Statistics*

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| FV | 38,516 | 8,862.57 | 508,127.4 | -121.48 | 9.03e+07 |
| ROE | 38,516 | 0.177 | 3.654 | -151.54 | 359.34 |
| CS | 38,516 | 158.92 | 2,319.74 | 7.33e-09 | 134,178.3 |
| AQ | 38,516 | 0.201 | 0.400 | -0.201 | 1.000 |
| Firm Size | 38,516 | 5.584 | 10.619 | -1,908.43 | 200.29 |
| Growth | 31,240 | -18.847 | 1,229.85 | -184,877.4 | 12,081.22 |

*Note: Growth has fewer observations because its construction requires a one-year lag; the 31,240 firm-year observations with non-missing growth form the estimation sample used in all regression models in Sections 4.2–4.5.*

Several features of the descriptive statistics are worth flagging before turning to the regression results. First, every variable in the panel exhibits standard deviations that are several multiples of the corresponding mean, most starkly for firm value, whose standard deviation (508,127.4) is more than 57 times its mean (8,862.6), and for capital structure, whose standard deviation (2,319.7) is roughly 15 times its mean (158.9). This heavy right-skew, driven by a small number of extreme outliers at the top of the distribution (e.g., a maximum firm value of 9.03e+07 against a mean below 9,000), is consistent with the very low $R^2$ values (0.001–0.016) obtained across the regression models in Sections 4.2–4.3, since a handful of extreme observations can dominate both the sums of squares and the sampling variability of OLS-type estimators even under heteroskedasticity-robust standard errors. Second, growth is negative on average (mean = -18.85) with an extremely wide range (from -184,877.4 to 12,081.2), indicating that the N-11 panel spans a substantial number of severe contraction episodes alongside a smaller number of extreme expansions, plausibly reflecting the macroeconomic and currency volatility experienced by several N-11 economies over 2014–2024 (O'Neill & Stupnytska, 2009).

Third, the audit-quality indicator has a mean of 0.201, implying that roughly one-fifth of firm-year observations are associated with a Big-4 auditor, broadly consistent with prior evidence that Big-4 penetration remains comparatively limited outside the largest listed firms in emerging markets (Fan & Wong, 2005). Fourth, firm size, measured as a log-based scale variable, has an implausible minimum (-1,908.43) alongside a maximum of only 200.29, a combination that is difficult to reconcile with a standard natural-logarithm-of-total-assets construction and more likely reflects a small number of data-entry or currency-conversion anomalies in the underlying Datastream extract; together with the extreme dispersion in capital structure and growth, this motivates the recommendation, developed further in Section 6, that future iterations of this

Journal of Business Insight and Innovation
Volume 5 Issue 7, 2026
ISSN-p: 3006-2284, ISSN-e: 3006-0982
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analysis apply outlier winsorization or trimming to the extreme tails of these variables before re-estimating the models.

### *4.2 Capital Structure, Audit Quality, and Firm Value*

This subsection addresses H1 and H2 for firm value by comparing four estimators that differ in how they treat unobserved firm heterogeneity and standard errors. Table 2 reports results for firm value under four estimators: pooled OLS, cross-sectional GMM, firm fixed-effects with cluster-robust standard errors, and a static panel GMM estimator built on a within-firm de-meaning transformation (Section 3.3). Under pooled OLS ($N = 31{,}240$; $F(5, 31234) = 6.47$, $p < 0.001$; $R^2 = 0.0010$), none of capital structure ($\beta = 0.148$, $p = 0.911$), the CS × AQ interaction ($\beta = -0.043$, $p = 0.991$), or audit quality ($\beta = -401.07$, $p = 0.961$) is statistically significant, while firm size is negative and highly significant ($\beta = -5{,}578.78$, $p < 0.001$) and growth is not significant ($\beta = -0.121$, $p = 0.963$). The cross-sectional GMM specification recovers numerically identical coefficients, as expected since no regressor is treated as endogenous, but produces different standard errors under the robust GMM weighting; firm size becomes only marginally significant at the 10% level ($p = 0.079$). Once time-invariant firm heterogeneity is removed via firm fixed effects ($N = 31{,}240$; 3,124 firms; $F(5, 3123) = 0.42$, $p = 0.832$; within $R^2 = 0.0157$), capital structure ($\beta = 5.59$, $p = 0.340$), audit quality ($\beta = -7{,}869.44$, $p = 0.527$), the CS × AQ interaction ($\beta = 2.09$, $p = 0.421$), and growth ($\beta = 0.233$, $p = 0.442$) are all statistically insignificant under cluster-robust inference; the intraclass correlation ($\rho = 0.510$) indicates that just over half of the variance in firm value reflects persistent, firm-specific effects rather than within-firm variation over time (Baltagi, 2013).

The static panel GMM estimator, applied to the same within-firm de-meaned specification, recovers by construction the identical point estimates as the fixed-effects model but yields a materially different pattern of statistical significance, illustrating the sensitivity of inference to the choice of variance estimator documented in the cluster-robust inference literature (Cameron & Miller, 2015). Under GMM inference, de-meaned capital structure is positive and statistically significant ($\beta = 5.592$, $z = 2.19$, $p = 0.029$), reversing the null result obtained under cluster-robust fixed effects; de-meaned firm size remains negative and highly significant ($\beta = -144{,}157.5$, $z = -2.86$, $p = 0.004$), and the CS × AQ interaction is marginally significant at the 10% level ($\beta = 2.095$, $z = 1.79$, $p = 0.074$), while audit quality ($\beta = -7{,}869.44$, $p = 0.160$) and growth ($\beta = 0.233$, $p = 0.293$) remain insignificant. Table 2 reports all four sets of estimates side by side, making the contrast in significance, and the underlying coefficient equivalences across estimator pairs, directly comparable.

**Table 2**

*Determinants of Firm Value: Pooled OLS, Cross-Sectional GMM, Fixed-Effects, and Static Panel GMM Estimates*

| Variable | Pooled OLS | Cross-Sectional GMM | Fixed-Effects (Cluster-Robust) | Static Panel GMM (De-Meaned) |
|---|---|---|---|---|
| CS (Leverage) | 0.148 (1.325) | 0.148 (0.151) | 5.592 (5.861) | 5.592* (2.554) |
| AQ (Audit Quality) | -401.07 (8133.44) | -401.07 (5535.95) | -7869.44 (12433.21) | -7869.44 (5594.53) |
| CS × AQ | -0.043 (3.793) | -0.043 (0.428) | 2.095 (2.601) | 2.095† (1.171) |
| Growth | -0.121 (2.595) | -0.121 (0.093) | 0.233 (0.303) | 0.233 (0.222) |
| Firm Size | -5578.78** (982.89) | -5578.78† (3173.48) | -144157.6 (134737.5) | -144157.5** (≈50,405)[a] |
| Constant | 49611.4** (7630.72) | 49611.4† (25500.05) | 1009594 (934224.9) | — (dropped) |

*Note: $N = 31{,}240$ for all models. Pooled OLS: $R^2 = 0.0010$, Adj. $R^2 = 0.0009$, $F(5, 31234) = 6.47$, $p < 0.001$, heteroskedasticity-robust standard errors and t-tests. Cross-sectional GMM: Wald $\chi^2(5) = 37.41$, $p < 0.001$, robust weight matrix, z-tests; coefficients are numerically identical to pooled OLS because no regressor is treated as endogenous. Fixed-effects: 3,124 firms (10 obs. per firm), within $R^2 = 0.0157$, $F(5, 3123) = 0.42$, $p = 0.832$, $\rho = 0.510$, standard errors clustered by firm, t-tests. Static panel GMM (de-*

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Volume 5 Issue 7, 2026
ISSN-p: 3006-2284, ISSN-e: 3006-0982
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*meaned): 5 parameters, 6 moment conditions, two-step GMM with robust weight matrix, z-tests; point estimates are identical to the fixed-effects model by construction, and the de-meaned specification drops the constant. [a]The de-meaned firm-size standard error is implied by the reported coefficient and z-statistic (β = -144,157.5, z = -2.86), as the original GMM output did not tabulate it directly. † p < 0.10, * p < 0.05, ** p < 0.01.*

### *4.3 Capital Structure, Audit Quality, and Return on Equity*

This subsection repeats the analysis for return on equity (ROE), the study's accounting-based outcome, using the same four estimators as Section 4.2. Table 3 reports results for return on equity (ROE) under four specifications: pooled OLS, firm fixed-effects with cluster-robust standard errors, and a static panel GMM estimator applied first to a reduced specification excluding audit quality and the interaction term, then to the full moderation specification. Under pooled OLS (N = 31,240; F(5, 31234) = 6.66, p < 0.001; $R^2$ = 0.0011), audit quality is positive and significant (β = 0.149, p = 0.006) and firm size is negative and highly significant (β = -0.034, p < 0.001), while capital structure (β = -1.37e-07, p = 0.988), the CS × AQ interaction (β = -0.000013, p = 0.608), and growth (β = 2.91e-07, p = 0.987) are not significant. Under firm fixed effects (N = 31,240; 3,124 firms; F(5, 3123) = 2.37, p = 0.037; within $R^2$ = 0.0074), firm size remains negative and significant (β = -0.683, p = 0.001), capital structure turns positive and marginally significant at the 10% level (β = 0.0000295, p = 0.087), and audit quality is positive but only marginally significant (β = 0.310, p = 0.081); the CS × AQ interaction (β = -0.00001, p = 0.363) and growth (β = -1.03e-06, p = 0.329) remain insignificant. The intraclass correlation (ρ = 0.294) is noticeably lower than for firm value, indicating relatively more within-firm variation in profitability than in market value over the sample period.

The static panel GMM estimator was applied to the same within-firm de-meaned specification in two forms. In the reduced specification, excluding audit quality and the interaction term, de-meaned capital structure is positive and statistically significant (β = 0.0000294, z = 2.55, p = 0.011), and firm size exerts a highly significant negative effect (β = -0.692, z = -3.69, p < 0.001); growth remains statistically neutral (β = 6.21e-07, p = 0.428). In the full moderation specification, de-meaned capital structure remains positive and significant (β = 0.0000295, z = 2.46, p = 0.014), firm size remains negative and highly significant (β = -0.683, z = -3.66, p < 0.001), and audit quality is positive and marginally significant at the 10% level (β = 0.310, z = 1.92, p = 0.055), the strongest evidence for a direct audit-quality effect obtained in this study; the CS × AQ interaction (β = -0.00001, z = -1.05, p = 0.292) and growth (β = -1.03e-06, p = 0.308) remain insignificant. Table 3 presents all four sets of estimates together, making the consistency of the capital-structure effect across the fixed-effects and GMM specifications, and the improvement in the audit-quality estimate under the fuller specification, directly comparable.

**Table 3**

*Determinants of Return on Equity: Pooled OLS, Fixed-Effects, and Static Panel GMM Estimates*

| Variable | Pooled OLS | Fixed-Effects (Cluster-Robust) | Static Panel GMM (Reduced) | Static Panel GMM (Full) |
|---|---|---|---|---|
| CS (Leverage) | -1.37e-07 (8.87e-06) | 0.0000295† (0.0000172) | 0.0000294* (0.0000115) | 0.0000295* (0.000012) |
| AQ (Audit Quality) | 0.149** (0.054) | 0.310† (0.177) | — (excluded) | 0.3095† (0.1614) |
| CS × AQ | -0.000013 (0.0000254) | -0.00001 (0.000011) | — (excluded) | -0.00001 (9.51e-06) |
| Growth | 2.91e-07 (0.0000174) | -1.03e-06 (1.06e-06) | 6.21e-07 (7.84e-07) | -1.03e-06 (1.01e-06) |
| Firm Size | -0.034** (0.0066) | -0.683** (0.207) | -0.6922** (0.1877) | -0.6828** (0.1865) |
| Constant | 0.367** (0.0511) | 4.824** (1.426) | — (dropped) | — (dropped) |

*Note: N = 31,240 for all models. Pooled OLS: $R^2$ = 0.0011, Adj. $R^2$ = 0.0009, F(5, 31234) = 6.66, p < 0.001, heteroskedasticity-robust standard errors and t-tests. Fixed-effects: 3,124 groups, within $R^2$ = 0.0074, F(5, 3123) = 2.37, p = 0.037, ρ = 0.294, standard errors clustered by firm, t-tests. Static panel*

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ISSN-p: 3006-2284, ISSN-e: 3006-0982
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*GMM (reduced): 3 parameters, 3 moment conditions, two-step GMM with robust weight matrix, z-tests; excludes audit quality and the CS × AQ interaction. Static panel GMM (full): 5 parameters, 5 moment conditions, two-step GMM with robust weight matrix, z-tests. Both GMM specifications drop the constant. † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$.*

### *4.4 Multicollinearity Diagnostics*

Variance inflation factors (VIFs), computed for the fixed-effects specifications, indicate no material multicollinearity among the regressors (Table 4): all VIFs are close to 1, well below the conventional threshold of 10, and the mean VIF is 1.07.

**Table 4**

*Variance Inflation Factors*

| Variable | VIF | 1/VIF |
|---|---|---|
| CS × AQ | 1.16 | 0.863 |
| CS | 1.14 | 0.875 |
| AQ | 1.02 | 0.981 |
| Firm Size | 1.01 | 0.994 |
| Growth | 1.00 | 1.000 |
| Mean VIF | 1.07 | — |

### 4.5 Summary of Hypothesis Tests

Table 2 and Table 3 provide the estimates underlying the formal hypothesis tests; this subsection synthesizes them against H1 and H2. H1 receives mixed but, on balance, more supportive evidence than in earlier pooled or naïvely clustered specifications: capital structure is not significant for firm value or ROE under pooled OLS, and is not significant for firm value under cluster-robust fixed effects, but once time-invariant firm heterogeneity is purged through the within-firm de-meaning transformation and the model is estimated by static panel GMM, capital structure is positive and statistically significant for both firm value ($p = 0.029$) and ROE ($p = 0.011$–$0.014$). This pattern suggests that a genuine, if modest, positive association between leverage and firm outcomes is present in the within-firm variation of the data, but is masked by cluster-robust standard errors and by cross-sectional heterogeneity in the pooled specifications. H2 is not supported for either outcome: the CS × AQ interaction is insignificant in every specification for both firm value and ROE, although it is only marginally so ($p = 0.074$) in the static panel GMM model of firm value. Audit quality itself is significant in the pooled OLS model of ROE ($p = 0.006$) and marginally significant in the fixed-effects ($p = 0.081$) and full static panel GMM ($p = 0.055$) models of ROE, but is never significant for firm value, suggesting that audit quality relates more consistently to accounting profitability than to market-based value in this sample. Firm size is the most robust correlate of both outcomes, remaining negative and significant across nearly every specification.

## 5. Discussion

This section interprets the results presented in Section 4 and integrating the empirical results with the theoretical baseline and hypotheses developed in Section 2. Section 5.1 revisits the capital-structure–firm-outcome relationship in light of the estimator contrasts documented above; Section 5.2 interprets the limited moderating role of audit quality; Section 5.3 draws out the broader methodological implications of the cluster-robust versus GMM inference contrast; Section 5.4 discusses the control variables; and Section 5.5 positions the study's findings relative to the wider capital-structure and audit-quality literatures.

### *5.1 Capital Structure, Firm Value, and Profitability Revisited*

Capital structure is essentially unrelated to firm value or ROE under pooled OLS and cluster-robust fixed effects, an insignificant, near-zero coefficient in both models. Once the static panel GMM de-meaning procedure is applied, however, the same coefficient turns positive and statistically significant for both outcomes. This pattern is informative about where the leverage–outcome relationship in this N-11 sample

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ISSN-p: 3006-2284, ISSN-e: 3006-0982
https://insightfuljournals.com/

actually resides. Pooled and cluster-robust estimates are dominated by substantial cross-firm and within-firm noise, consistent with the low overall $R^2$ values (0.001–0.016) reported throughout; the de-meaned GMM procedure, by contrast, isolates the within-firm co-movement of leverage and outcomes and estimates its standard errors from the GMM criterion function rather than from a cluster-robust sandwich formula, and it is under this more efficient within-firm estimator that a positive, significant leverage effect emerges for both firm value ($\beta = 5.59$, $p = 0.029$) and ROE ($\beta \approx 0.0000295$, $p \approx 0.011$–$0.014$). This is more consistent with trade-off and disciplining-effect explanations (Jensen, 1986; Jensen & Meckling, 1976), under which increases in leverage, at the margin, raise firm value and profitability by disciplining managerial discretion and delivering a tax shield, than with the purely negative, agency-cost-dominated relationship documented in some single-country emerging-market studies (e.g., Zeitun & Tian, 2007). At the same time, the magnitude of the effect is small relative to the scale of the outcome variables, and the sensitivity of significance to estimator choice, insignificant under cluster-robust standard errors, significant under GMM standard errors, for numerically identical point estimates, is itself an important methodological finding: it shows that inference about the leverage–outcome relationship in this setting depends materially on how standard errors are computed, not just on which fixed-effects transformation is used.

### *5.2 The Limited Moderating Role of Audit Quality*

With a real, albeit small, direct leverage effect after accounting for audit quality, the next issue is whether that effect depends on audit quality. The key finding of this study is the direct test of the role of audit quality as a moderator of the capital-structure–firm-outcome relationship, which is presented in both outcomes and in both specifications, and which result does not turn up in either specification, in either outcome, in the direct test is not trivial to interpret. This CS × AQ interaction is never significant at conventional levels, and is at the margin of significance in the static panel GMM model of firm value ($p = 0.074$). Section 2.4 mentioned two channels through which audit quality could theoretically moderate the relationship between leverage and the discount: the risk-certification channel - high quality audits should make a high leverage more affordable; and the risk-visibility channel - high quality audits should make the leverage-related risk more visible, and therefore more costly. There are no systematic differences between the values of the interaction coefficient in the pooled OLS and fixed effects models, or between the values of the interaction coefficient in the static panel GMM and small sample GMM models, and the pattern of the coefficients as a whole is consistent with the hypothesis that both channels are subdominant in this sample.

Another tempting suggestion, supported by the institutional-context argument in Section 2.5, is that audit quality, as typically defined in emerging-market research (a Big-4/non-Big-4 indicator; Khurana & Raman, 2004), does not differ significantly between the N-11 countries in terms of certifying power, such that it could meaningfully moderate the association link between leverage and value or profitability. This interpretation is supported by cross-country evidence indicating that the incremental earnings-quality benefit of Big-4 auditors relies on the quality of investor protection in a country (Francis & Wang, 2008; Choi & Wong, 2007). In addition, although audit quality does not moderate the leverage relationship, it does directly (non-interacted) predict ROE, positive, and with statistically significant impact in the pooled model ($p = 0.006$) and marginally so in the fixed-effects model and static panel GMM ($p \approx 0.06$–$0.08$), respectively, indicating that audit quality is more directly linked to accounting profitability, likely because it leads to more conservative and credible earnings reporting, than it is to firm value or to the pricing of leverage risk specifically.

### *5.3 Methodological Implications: Cluster-Robust versus GMM Inference in De-Meaned Panels*

Beyond the substantive hypothesis tests, the estimator contrast documented in Sections 4.2–4.3 carries a broader methodological implication for how capital-structure research is conducted in emerging markets. A key methodological finding of this study is that the choice between cluster-robust standard errors on a fixed-effects (within) model and GMM-based standard errors on the algebraically equivalent de-meaned model can change statistical conclusions even though the point estimates are, by construction, identical. This has a direct bearing on the capital-structure and audit-quality literatures in emerging markets, where many published studies rely on a single standard-error estimator without cross-checking inference against an alternative. The

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ISSN-p: 3006-2284, ISSN-e: 3006-0982
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de-meaning (within-transformation) approach adopted here removes time-invariant, unobserved firm heterogeneity in the same way that a standard fixed-effects estimator does, while avoiding the unstable, near-unit-root behaviour that dynamic lag specifications can introduce in highly persistent corporate-finance panels (a concern documented in dynamic panel GMM settings; Blundell & Bond, 1998). The intraclass correlations reported above in Sections 4.2 and 4.3 ($\rho = 0.510$ for firm value, $\rho = 0.294$ for ROE) confirm that a substantial share of the variance in both outcomes is persistent and firm-specific, reinforcing the importance of a within-firm estimation strategy, while the low overall explanatory power of the models ($R^2$ between 0.001 and 0.016 throughout) is a reminder that capital structure, audit quality, and the included controls account for only a small fraction of the total variation in firm value and profitability in this heterogeneous eleven-country panel.

### *5.4 The Role of Growth and Firm Size*

The control variables in the model also merit brief discussion. Growth is not significantly related to either firm value or ROE in any specification (all $p > 0.19$), in contrast to the standard view that growth opportunities raise expected future cash flows and therefore both market-based value and profitability (Myers, 1977); this null result is consistent across pooled, fixed-effects, and static panel GMM specifications and for both outcomes, suggesting that the growth proxy used here does not capture value-relevant investment opportunities in this sample, or that growth effects are absorbed by firm size and the firm-specific effects removed by de-meaning. Firm size, by contrast, is the single most robust correlate of firm outcomes in this study: it is negative and significant for firm value in the pooled OLS ($p < 0.001$) and static panel GMM ($p = 0.004$) models, and negative and significant for ROE in the pooled OLS ($p < 0.001$), fixed-effects ($p = 0.001$), and both static panel GMM specifications ($p < 0.001$). This is consistent with the idea that larger firms in these markets tend to be more mature and lower-growth, characteristics that can depress both market-based value multiples and accounting returns even as they reduce firm risk (Fama & Jensen, 1983), and is also consistent with evidence that larger emerging-market firms are more likely to select into higher audit quality in the first place (Fan & Wong, 2005), which would tend to work against, rather than for, a spuriously positive size, and outcome relationship.

### *5.5 Summary and Positioning Relative to Prior Literature*

Taken together, the results position this study's findings between two strands of the literature: firm-level, single-country studies that often report significant (and typically negative) leverage–outcome associations (e.g., Zeitun & Tian, 2007), and cross-country evidence emphasizing that capital-structure–outcome relationships are institutionally contingent and estimator-dependent rather than universal (Booth et al., 2001; Deesomsak et al., 2004; Fan et al., 2012). By pooling firms across eleven institutionally diverse N-11 economies, examining both a market-based (FV) and an accounting-based (ROE) outcome, and comparing cluster-robust fixed-effects inference against a static panel GMM de-meaning approach, this study shows that a genuine, positive, but modest within-firm leverage effect on both value and profitability is detectable once firm heterogeneity is properly purged and standard errors are computed via GMM, a relationship that pooled and cluster-robust fixed-effects estimates alone would have missed, while the hypothesized audit-quality moderation remains elusive across every specification and outcome examined.

## 6. Conclusion, Implications, and Limitations

The aim of this study was to measure the relationship between capital structure and two firm outcomes (market-based firm value and accounting-based profitability (ROE)) and to examine the moderating impact of audit quality on the relationship in a panel of firms and firm-years across the N-11 emerging economies from 2014 to 2024. In pooled OLS, firm fixed-effects, cross sectional GMM, and a static panel GMM (de-meaning using a within firm transformation), capital structure is not statistically significant using pooled or cluster-robust fixed-effects estimation but is positive and statistically significant for both firm value and ROE under the static panel GMM de-meaning approach. In any specification, ROE is positively related to audit quality, but not firm value, and both the hypothesized moderating role of audit quality (H2) are not supported in any specification. Firm size is the strongest predictor of firm results, and is consistently negative and significant in nearly all of the models.

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Volume 5 Issue 7, 2026
ISSN-p: 3006-2284, ISSN-e: 3006-0982
https://insightfuljournals.com/

Consequently, theory-wise, for emerging market companies, the results show that the capital-structure theory may indeed have a positive effect on firm value and firm profitability, though the naïve pooled and cluster-robust fixed effect estimates do not support this conclusion, which suggests the importance of both the estimation transformation (within-firm de-meaning) and the standard-error procedure (GMM vs cluster-robust) used to test the capital-structure theory. From both a practical and policy perspective, the results suggest that policymakers in N-11 economies who want to strengthen the link between auditor quality and firm performance should target auditor quality in audit enforcement, instead of auditor identity (e.g., Big-4) and instead of the link between auditor quality and accounting profitability, since the relation between auditor quality and market-based value, or the pricing of leverage risk is weaker.

There are a number of limitations to this study. First, proxies for capital structure, audit quality, and firm outcomes may not fully capture the underlying constructs and future studies may use continuous measures of capital structure (e.g., audit fees), and audit quality (e.g., audit industry specialization, auditor tenure), rather than a simple dummy variable for each of the Big 4 firms. Second, the sensitivity of the statistical inference on the choice of cluster robust standard errors versus GMM standard errors, as illustrated in Section 5.3, is a topic which needs to be further investigated, e.g., by the use of bootstrap standard errors and formally comparing the cluster robust with the dynamic panel GMM specification. Third, the joint analysis of data from eleven countries with different institutional structures could mask the variation across countries; future analysis could be conducted across countries or across regions, or could incorporate country-level indices of institutional-quality along with capital structure and audit quality into the analysis to test the interaction of these factors with institutional quality. Lastly, as in all observational panel studies, care must be taken in interpreting causality and future research may capitalize on exogenous variation in the choice of auditor or leverage, including regulatory variation in the audit requirements, to better identify causality. The results offer N-11 level evidence that the nature and strength of the capital-structure–firm-outcome relationship is sensitive to the level of detail of the unobserved capital-structure–firm-outcome relationship, and that an audit's effectiveness in the context is through accounting profitability and not market valuation.

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**Funding Statement**

No monetary assistance was received by the authors from any grant provider, company, or charity/NGO to carry out the current work on this article.

**Conflict of Interest Statement**

There are no competing interests related to the work that could potentially influence or skew the findings of this study, as declared by the authors.

**Ethical Approval**

This study did not require ethical approval.

**Author Contributions Statement**

**Mahwish Ayub:** Conceptualization, methodology, data curation, formal analysis, and writing – original draft.

**Imran Riaz Malik:** Supervision, validation, and writing – review and editing.

Both authors read and approved the final manuscript.

**Data Availability Statement**

All data supporting this study's findings have been collected from publicly based resources. Financial and corporate governance indicators were sourced from annual statements issued by publicly traded entities and several nationally- and internationally acclaimed financial databases pertaining to those enterprises

Journal of Business Insight and Innovation
Volume 5 Issue 7, 2026
ISSN-p: 3006-2284, ISSN-e: 3006-0982
https://insightfuljournals.com/

situated within the Next Eleven (N-11) economies during the years 2014 through 2024. Requests for any datasets produced or examined throughout the research process can be sent to the contact author. Use of restricted-access proprietary databases may, in certain instances, require a license agreement with the respective database owner.

**References**

Arellano, M., & Bond, S. (1991). Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *The Review of Economic Studies, 58*(2), 277–297. https://doi.org/10.2307/2297968

Baker, M., & Wurgler, J. (2002). Market timing and capital structure. *The Journal of Finance, 57*(1), 1–32. https://doi.org/10.1111/1540-6261.00414

Baltagi, B. H. (2013). *Econometric analysis of panel data* (5th ed.). Wiley.

Becker, C. L., DeFond, M. L., Jiambalvo, J., & Subramanyam, K. R. (1998). The effect of audit quality on earnings management. *Contemporary Accounting Research, 15*(1), 1–24. https://doi.org/10.1111/j.1911-3846.1998.tb00547.x

Blundell, R., & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics, 87*(1), 115–143. https://doi.org/10.1016/S0304-4076(98)00009-8

Booth, L., Aivazian, V., Demirgüç-Kunt, A., & Maksimovic, V. (2001). Capital structures in developing countries. *The Journal of Finance, 56*(1), 87–130. https://doi.org/10.1111/0022-1082.00320

Cameron, A. C., & Miller, D. L. (2015). A practitioner's guide to cluster-robust inference. *Journal of Human Resources, 50*(2), 317–372. https://doi.org/10.3368/jhr.50.2.317

Choi, J.-H., & Wong, T. J. (2007). Auditors' governance functions and legal environments: An international investigation. *Contemporary Accounting Research, 24*(1), 13–46. https://doi.org/10.1506/2734-6T47-2T6E-1VNQ

Claessens, S., & Yurtoglu, B. B. (2013). Corporate governance in emerging markets: A survey. *Emerging Markets Review, 15*, 1–33. https://doi.org/10.1016/j.ememar.2012.03.002

DeAngelo, L. E. (1981). Auditor size and audit quality. *Journal of Accounting and Economics, 3*(3), 183–199. https://doi.org/10.1016/0165-4101(81)90002-1

Deesomsak, R., Paudyal, K., & Pescetto, G. (2004). The determinants of capital structure: Evidence from the Asia Pacific region. *Journal of Multinational Financial Management, 14*(4–5), 387–405. https://doi.org/10.1016/j.mulfin.2004.03.001

DeFond, M., & Zhang, J. (2014). A review of archival auditing research. *Journal of Accounting and Economics, 58*(2–3), 275–326. https://doi.org/10.1016/j.jacceco.2014.09.002

Fama, E. F., & Jensen, M. C. (1983). Separation of ownership and control. *Journal of Law and Economics, 26*(2), 301–325. https://doi.org/10.1086/467037

Fan, J. P. H., Titman, S., & Twite, G. (2012). An international comparison of capital structure and debt maturity choices. *Journal of Financial and Quantitative Analysis, 47*(1), 23–56. https://doi.org/10.1017/S0022109011000597

Fan, J. P. H., & Wong, T. J. (2005). Do external auditors perform a corporate governance role in emerging markets? Evidence from East Asia. *Journal of Accounting Research, 43*(1), 35–72. https://doi.org/10.1111/j.1475-679X.2004.00162.x

Francis, J. R. (2004). What do we know about audit quality? *The British Accounting Review, 36*(4), 345–368. https://doi.org/10.1016/j.bar.2004.09.003

Francis, J. R., & Wang, D. (2008). The joint effect of investor protection and Big 4 audits on earnings quality around the world. *Contemporary Accounting Research, 25*(1), 157–191. https://doi.org/10.1506/car.25.1.6

Frank, M. Z., & Goyal, V. K. (2009). Capital structure decisions: Which factors are reliably important? *Financial Management, 38*(1), 1–37. https://doi.org/10.1111/j.1755-053X.2009.01026.x

Jensen, M. C. (1986). Agency costs of free cash flow, corporate finance, and takeovers. *The American Economic Review, 76*(2), 323–329.

**Journal of Business Insight and Innovation**
**Volume 5 Issue 7, 2026**
**ISSN-p: 3006-2284, ISSN-e: 3006-0982**
**https://insightfuljournals.com/**

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics, 3*(4), 305–360. https://doi.org/10.1016/0304-405X(76)90026-X

Khurana, I. K., & Raman, K. K. (2004). Litigation risk and the financial reporting credibility of Big 4 versus non-Big 4 audits: Evidence from Anglo-American countries. *The Accounting Review, 79*(2), 473–495. https://doi.org/10.2308/accr.2004.79.2.473

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. W. (2000). Investor protection and corporate governance. *Journal of Financial Economics, 58*(1–2), 3–27. https://doi.org/10.1016/S0304-405X(00)00065-9

Modigliani, F., & Miller, M. H. (1958). The cost of capital, corporation finance and the theory of investment. *The American Economic Review, 48*(3), 261–297.

Modigliani, F., & Miller, M. H. (1963). Corporate income taxes and the cost of capital: A correction. *The American Economic Review, 53*(3), 433–443.

Myers, S. C. (1977). Determinants of corporate borrowing. *Journal of Financial Economics, 5*(2), 147–175. https://doi.org/10.1016/0304-405X(77)90015-0

Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics, 13*(2), 187–221. https://doi.org/10.1016/0304-405X(84)90023-0

O'Neill, J. (2001). *Building better global economic BRICs* (Global Economics Paper No. 66). Goldman Sachs.

O'Neill, J., & Stupnytska, A. (2009). *The long-term outlook for the BRICs and N-11 post crisis* (Global Economics Paper No. 192). Goldman Sachs.

Rajan, R. G., & Zingales, L. (1995). What do we know about capital structure? Some evidence from international data. *The Journal of Finance, 50*(5), 1421–1460. https://doi.org/10.1111/j.1540-6261.1995.tb05184.x

Ross, S. A. (1977). The determination of financial structure: The incentive-signalling approach. *The Bell Journal of Economics, 8*(1), 23–40. https://doi.org/10.2307/3003485

Titman, S., & Trueman, B. (1986). Information quality and the valuation of new issues. *Journal of Accounting and Economics, 8*(2), 159–172. https://doi.org/10.1016/0165-4101(86)90016-9

Titman, S., & Wessels, R. (1988). The determinants of capital structure choice. *The Journal of Finance, 43*(1), 1–19. https://doi.org/10.1111/j.1540-6261.1988.tb02585.x

Watts, R. L., & Zimmerman, J. L. (1983). Agency problems, auditing, and the theory of the firm: Some evidence. *Journal of Law and Economics, 26*(3), 613–633. https://doi.org/10.1086/467051

Zeitun, R., & Tian, G. G. (2007). Capital structure and corporate performance: Evidence from Jordan. *Australasian Accounting, Business and Finance Journal, 1*(4), 40–53.