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**Does the Ind AS Moderate the Relationship between Capital Structure and Firm Performance?**

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## **Abstract**

In line with the wide implementation of IFRS around the globe, the significant shift in the Indian accounting system appertained to the Ind AS is expected to have a substantial impact on the firm-level information environment. Nevertheless, the question of if the adoption of such standards moderates the relationship between leverage and firm performance remains unanswered. In this backdrop, we aim to close this research gap employing 3120 firm-year observations from 401 Indian non-financial firms for a period from 2013 to 2022. Notably, we found that the leverage among Indian firms discourages profitability. Further, the adoption of Ind AS negatively moderates the leverage and firm performance association. The findings suggest that the enhanced transparency and the firm's reporting quality dissuade risk-averse investors from investing in highly levered companies. As a result, investors avoid risky investments, and firms must strive to foster their trust and motivation. The conclusion of the present research draws significant implications for management and policymakers while also contributing to the ongoing debate on capital structure and firm performance.

**Keywords:** leverage, IFRS convergence, debt, GMM, investors, information environment, emerging country, India.

**JEL classification:** C33, G32, G41, M48.

## 1. INTRODUCTION

In corporate finance, determining the optimal capital structure (CS) and measuring its influence on firm performance (FP) has become a core issue. Since the pathbreaking work of Modigliani and Miller (MM) (Modigliani & Miller, 1958), the prominence of the financial decision-making process has been the subject of discussion in the academic fraternity (Le & Phan, 2017). However, the extant literature shreds evidence for the failure of the MM theory to establish its presence in corporate finance due to the underlying unrealistic assumptions, including the perfect market and the absence of corporate tax (Abdullah & Tursoy, 2021). Notwithstanding, the MM theory laid a foundation and paved the way for a number of theories, such as agency cost theory, trade-off theory, and pecking order theory, which established the link between CS and its impact on the performance of firms (I. M. M. Pandey, 2001). In every facet, the advocators of such theories have spared no effort in resolving complex financing decisions (Harris & Raviv, 1991). Agency theory (AT) suggests that firms should reduce agency costs of equity and debt to improve their value (Jensen & Meckling, 1976). The trade-off theory (TOT) explains the costs and benefits of borrowing, focusing on a threshold point commonly known as optimal CS (Kraus & Litzenberger, 1973). Finally, the pecking order theory (POT) advises the ladder of preference for the source of finance: Retained earnings, debt, and equity, based on relative benefits and drawbacks (Myers & Majluf, 1984).

Surprisingly, the theoretical frameworks lack the assessment of managerial financing behavior in general, and optimal CS in particular (Abor, 2005). As a result, the theories that describe the influence of leverage on FP are minuscule (Le & Phan, 2017). Additionally, the level of debt differs significantly among the firms and industries (Kochhar, 1996; Talberg et al., 2008), underpinning the role of the management in analyzing the costs and benefits of capital choice for its financial welfare (Vasiliou et al., 2009). Prima facie, the empirical studies in developed and developing continents have documented a significant influence of CS choice on the performance of firms, however, shreds mixed pieces of conclusions (Abdullah & Tursoy, 2021; Abor, 2005; Le & Phan, 2017).

In the backdrop of numerous evidences on the relationship between CS and FP, the changes in financial regimes, such as the adoption of IFRS, play a vital role in enhancing FP (Abdullah & Tursoy, 2021; M. N. et al., 2023) in view of the fact that the IFRS was introduced as a common accounting language to improve transparency, strengthen accountability, contribute to economic efficiency, and help the investors to make informed decisions.<sup>1</sup> Following the global implementation of IFRS, to reap the benefits, the Ministry of Corporate Affairs (MCA)

mandated the implementation of Ind AS in a phase-wise manner starting from FY 2016-2017 (Himanshu & Singh, 2022). The transition from Indian GAAP-based AS to IFRS-based Ind AS has been regarded as one of the significant accounting reforms in India (Almaqtari et al., 2021). Notwithstanding, the existing body of literature documents limited evidence for the moderating role of Ind AS (IFRS converged standards) on the said relationship. To close the gap that exists between interest and evidence, we have used the annual financial data of non-financial firms listed in the Nifty 500 index and examined the CS and FP association along with the moderating role of Ind AS. To the best of our knowledge, this is the first study in an emerging country like India, to assess the impact of Ind AS on CS and FP association. Further, India is considered since it is one of the important emerging nations<sup>ii</sup> and has recently adopted a new accounting approach, i.e., Ind AS.

The existing studies shed light on the improved accounting quality, value relevance of financial reports, and other accounting aspects of the firms. Of which, Latha & Rajashree, (2022) find that the adoption of Ind AS with mandatory auditor rotation resulted in better audit quality for Indian firms. Costa & Gomes, (2022) examined the impact of IFRS convergence on the value relevance of financial statements of Indian companies using the Ohlson model. The model finds that book value per share, earnings, and stock price to be value-relevant during the Ind AS period, i.e., 2018-19 (post-convergence period). A similar conclusion was drawn by Kaur & Yadav, (2020), who document that the value relevance of financial statements increases due to the adoption of high-quality standards such as Ind AS. Saravanan & Firoz, (2022) investigates the impact of Ind AS on the market liquidity in India. The study conducted on 337 firms listed in NSE finds a significant improvement in the market liquidity on account of Ind AS adoption. Adhikari et al., (2021) observed that the accounting quality reduced immediately after the adoption of Ind AS. However, the deterioration reduces as the year passes, implying a learning phase in the Indian context. Meshram & Arora, (2021), in their study, document that the transition to Ind AS significantly enhances the accounting and financial comparability, leading to an improvement in the firm valuation. Consequently, it becomes important to consider the impact of Ind AS while examining the association between CS and FP amongst Indian companies.

The current study differs from the concurrent literature in two ways: First, the extant literature documents the relationship between leverage and FP without considering the importance of Ind AS. Thus, in this research, we examine the moderating role of Ind AS on the leverage and firm performance relationship. Second, the study employs the Generalised Methods of Moments (GMM) regression to tackle the problem of Endogeneity. The existing reverse causality

between the CS and FP causes the problem of Endogeneity (Li et al., 2019) However, prior economic researchers have overlooked this problem (Antonakis et al., 2010; Ullah et al., 2018) Thus, to avoid spurious regression results, the study treats the endogeneity problem using lagged values under the GMM methodology.

## **2. REVIEW OF LITERATURE AND HYPOTHESES DEVELOPMENT**

### **2.1 Theoretical Frameworks**

The determinants of a firm's profitability have been extensively investigated in different nations around the globe (Tsiapa, 2021; Yadav et al., 2022). Amongst, CS choice is one of the important determinants since it significantly impacts the performance of firms (Salim & Yadav, 2012). The relationship between CS and FP has been a subject of debate since the laureates of the Nobel Prize, Modigliani & Miller, (1958), demonstrated that CS tends to have no significant impact on the value of firms. In particular, they argued that irrespective of the debt and equity mix, the firm's value will be impacted by its assets. Though this landmark study suffered from unrealistic assumptions, it opened the gate for contemporary scholars to work further (I. M. M. Pandey, 2001). Many researchers followed the path mapped by MM, and subsequently, the modern theories of CS, such as trade-off theory, agency theory, and pecking order theory, emerged in corporate finance (M. N. et al., 2023).

The trade-off theory stemmed from the debate over MM's second theory; when they added a new ingredient to the original irrelevance theory, i.e., the interest tax shield (Modigliani & Miller, 1963) The theory propounds the idea of an optimal capital policy on the basis of the notion of a trade-off between the tax shield advantage and bankruptcy costs (Kraus & Litzenberger, 1973). The borrowing reduces the taxable income of the firms, while also escalating the probability of insolvency (Detthamrong et al., 2017), given the firms are not profitable to pay off the debt charges (Abdullah & Tursoy, 2021). Thus, the theory explains a firm's external financing choice in line with the optimal capital structure that maximizes the tax shield benefit without worsening the cost of financial distress (Ju et al., 2005).

Focusing on the trade-off point does not mean downplaying the importance of other factors. Consequently, agency costs and information issues become focal points in the firm's financing decisions. Adhering to this, Jensen & Meckling, (1976), proposed agency theory and posited that agency conflicts are likely to arise on account of the separation of ownership and control; where managers exert insufficient work effort or indulge in activities that would benefit their utility rather than maximizing firm value (Berger & Bonaccorsi di Patti, 2006). As a result, the

agency cost of equity arises since the agent fails to act in the best interest of the principal (Dawar, 2014). Consequently, external debt serves as a tool to mitigate such costs by constraining the manager's choice of investment (Myers, 1977). Nevertheless, relying on external debt exacerbates the agency cost of debt, i.e., the conflict of interest between shareholders and creditors due to discrepancies in their common interest (Salim & Yadav, 2012). Thus, the theory has its genesis in the idea that both forms of conflict of interest adversely impact the firm's value. Consequently, the theory postulates that the firms must be chiefly interested in designing a conducive CS that helps to mitigate these agency costs, which per se improves their value.

Interestingly, the pecking order theory does not define CS; instead, enumerates a ladder of preference for CS choice. According to Myers & Majluf, (1984), firms have a distinct preference for internal finance over external finance. The pecking order theory has been opposed to the trade-off theory, and its importance emanates from hierarchical financial decisions (Amare, 2021). The theory states that firms always prefer retained earnings over outside debt and equity sources (Dawar, 2014). When the internal funds are insufficient, firms prefer debt financing over equity sources due to lower information costs associated with debt financing (Vasiliou et al., 2009). However, as a last resort, firms prefer equity financing to fulfill additional investment needs (Abdullah & Tursoy, 2021). Thus, the theory lays a foundation for the financing behavior of the firms based on the marginal costs of each source of finance.

## **2.2 Empirical Evidence**

The groundbreaking work of MM provided the researchers with unprecedented opportunities to explore the theoretical frameworks of CS theories. A plethora of studies have empirically examined the robustness of CS theories, seeking to identify which of them offers the supreme definition for the CS choice of the firms. However, none of the theories do (Abor, 2005; Dawar, 2014; Chadha & Sharma, 2015; Le & Phan, 2017; Abdullah & Tursoy, 2021). The problem of adverse selection of CS extremely impacts the profitability of firms, resulting in a higher degree of uncertainty. As a result, scholars around the globe, recognizing the importance of CS decision-making, have empirically tested the CS and FP relationships using several methods.

Ross, (1977) points out that underperforming firms prefer less debt compared to highly profitable firms since the firms are prone to bankruptcy in the case of an excess amount of debt financing. Berger & Udell, (2006), employing financial information of US

banking firms, examine the impact of leverage on FP. Interestingly, their findings manifested a significant positive impact of leverage on the performance of US banking firms. In particular, they contend that a 1% increase in borrowings leads to a 6% improvement in profitability. Hadlock & James, (2002) find that non-financial firms listed on Nasdaq prefer bank loans over equity financing since they alleviate the problem of asymmetric information and offer higher returns to the firms. From Ghana's perspective, Abor, (2005) developed a study to investigate the influence of leverage on FP, and the findings concluded a significant positive relationship between the firm's ROE and short-term and total debt ratio. However, a negative correlation was observed between ROE and long-term debt ratio. Irrespective of this, the study demonstrates that firms in Ghana heavily rely on debt financing to improve their profitability. Empirical findings of Margaritis & Psillaki, (2010) conclude that highly profitable firms prefer high debt rates. Gill et al., (2011) found positive coefficients for three measures of leverage ratio (short-term debt to total asset, long-term debt to asset, and total asset to total asset) and profitability among 272 firms listed on NYSE for a sample period from 2005 to 2007. Mishra & Dasgupta, (2019), using panel data of 400 firms, employs a two-stage least square method to examine the leverage-performance relationship. The findings of the study indicate a positive impact of debt on FP, implying that returns earned are greater than the cost of borrowing.

Contrary to this, few studies have exhibited a negative impact of debt financing on the performance of firms, specifically in developing and emerging economies. Booth et al., (2001) attempt to assess the association of leverage and FP among ten different cross-sections with different institutional structures. The study empirically concludes that firms borrow more to attain their investment needs, and it adversely impacts their FP. Zeitun & Tian, (2007), for 127 Jordanian companies, employ a random effect model to test the nature of the association between leverage and FP. The results reveal the negative effect of CS on FP, inferring debt financing beyond optimal level reduces the profitability of firms. Abor, (2007) finds a negative correlation between debt and the financial performance of SMEs listed in the Ghana Stock Exchange (GSE). Chadha & Sharma, (2015) identified the same association but for manufacturing firms listed in BSE, India. Further, the authors highlight the relevance of sound CS choice in the Indian context. Le & Phan, (2017), from Vietnam's perspective, investigate the linkage between leverage and accounting and market performance of non-financial firms for a period from 2007 to 2012. The study employed a GMM methodology, an advanced panel regression analysis, that included ROA, ROE, and Torbin's Q ratios as measures of firm performance. They found an inverse connection between borrowings and FP. However, this



relationship intensifies as the firm's growth rate increases because a higher debt rate puts compulsion on managers to forgo fruitful projects and rely upon unprofitable investments. Overall, the researchers argue that due to high dependency on bank loans and lesser development of the bond market in developing and emerging nations, the borrowings negatively drive the FP.

Besides, a few researchers find an insignificant correlation between CS and FP (Negash, 2001; Phillips & Sipahioglu, 2004), supporting the theoretical underpinnings of the MM hypothesis, i.e., leverage does not impact the value of the firms. Further, the extant literature has equally delved into threshold concepts and the asymmetric consequences of debt financing on financial performance. Cheng et al., (2010), using 650 A-shares listed firms from 2001 to 2006, corroborate the existence of threshold effect among Chinese firms and argue that the leverage ratio below 70.4% significantly improves the value of firms, while a ratio beyond the optimal point (70.4%) deteriorates the value of Chinese firms. Similarly, Lin & Chang, (2011) examine the asymmetric relationship between debt ratio and firm value among Taiwanese firms. They employed an advanced threshold panel regression model, and their results indicate that a debt ratio of 9.8% results in higher firm value (Tobin's Q), whereas a debt ratio higher than 33.3% negatively impacts the value of firms. The findings are congruous with the trade-off theory, which proposes that a firm can maximize its value when the benefits of borrowings are parallel with the marginal cost of borrowings (Dawar, 2014) The threshold regression method employed by Ibhagui & Olokoyo, (2018) to examine the role of firm size on the leverage-firm performance relationship, documents that the negative influence of leverage on FP is more eminent among SMEs and the relationship diminishes as the firm grows, irrespective of the debt ratios. Ku & Yen, (2016) document that the leverage and FP relationship changes as the firms move to higher quantiles i.e., a positive leverage coefficient is found for firms in 0.75 and higher quantiles. Das et al., (2022) in an attempt to examine the heterogenous impact of CS on the FP among Bangladesh joint stock companies, employ the quantile regression method for a period from 2007 to 2016, and find that leverage negatively influences the FP. Additionally, a higher negative impact is found among the firms with high profitability ratios, indicating that the excess borrowings negatively drive the performance of firms. Likewise, recently Ghardallou, (2023), assesses the heterogenous relationship between leverage and FP among Saudi Arabia firms. The conclusions of the study reiterate the findings of Das et al., (2022), demonstrating a greater negative effect of borrowings on the performance of highly profitable firms than low profitable firms.

From the Indian perspective, Majumdar & Chhibber, (1999) finds FP and CS relationship to be significantly negative. Dawar, (2014), contributed to the enduring debate on CS by analyzing the impact of CS on FP by employing the S&P BSE 100 index and finds the relationship to be negative. Bandyopadhyay & Barua, (2016) investigates the impact of debt financing on the performance of non-financial firms in India. Further, to tackle the problem of endogeneity, the study employs a two-step difference GMM method, and the findings confirm the negative association between leverage and FP. Pandey & Sahu, (2019) empirically confirms the negative correlation between debt financing and FP among listed manufacturing firms in India. A similar finding has been documented by Farhan et al., (2020). The findings of this study affirm the inverse relationship between CS and FP among 379 service firms listed under BSE. Recently, Tripathy & Uzma, (2022) employed the GMM method to examine the effect of leverage and found a non-positive relationship with the value of 233 manufacturing firms.

Nevertheless, the generalization of, if the adoption of IFRS moderates the relationship between leverage and firm performance, remains un-attempted due to the dearth of studies. However, the evidence does exist in the burgeoning literature, which weighs IFRS as highly value relevant, and transparent (Ahmed et al., 2013; Barth et al., 2008; Chen et al., 2010), expedites an embarked regulatory change in the stock market (Abdullah & Tursoy, 2021). Notably, such transformations are capable of bringing about drastic changes in the key financial indicators of firms, including the overall cost of capital and information asymmetry, specifically in developing economies (Shigufta Hena Uzma, 2016). Unlike many other developed markets, emerging markets represent a characteristic with weak institutional settings, a lack of resources, and weak enforcement mechanisms (Agyei-Boapeah et al., 2020; Ismail et al., 2013). Consequently, in such economies, significant benefits can be expected from standardizing the existing accounting policies and practices (Hasan et al., 2008). Akin to this, to grab the global benefit of IFRS, India converged its erstwhile accounting standards (GAAP) with IFRS and renamed it as Ind AS (Himanshu & Singh, 2022). Accordingly, the extant literature has documented the benefits of Ind AS adoption from several perspectives. Kaur & Yadav, (2020) investigates the value relevance of financial statements of Indian companies and document that financial reporting of the firms becomes more value relevant in the post-Ind AS regime. Meshram & Arora, (2021) demonstrates the positive impact of Ind AS on the accounting and financial comparability of Indian firms. A positive correlation between Ind AS adoption and financial reporting quality was also observed by Almaqtari et al., (2021). Saji, (2022) examines the value relevance of 355 listed firms in India and provides insight that Ind AS enhances the

value relevance of financial statements. Besides, Saravanan & Firoz, (2022) shows that the convergence to IFRS, increases the market liquidity in a country with weaker enforcement i.e., India. Recently, M. N. et al., (2023), attempted to examine the influence of Ind AS on the performance of non-financial firms listed in India. Interestingly, the study concludes that the Ind AS significantly enhances the ROA and ROE of sample firms, implying that a higher transparency and value relevance of financial information, boosts the confidence of stakeholders and inevitably helps to improve the FP.

Therewithal, rule-based accounting standards persuade managers to disclose accurate financial information more frequently. This would induce the confidence of stakeholders and help them to make informed decisions, which ultimately impact the FP (M. N. et al., 2023; Miah, 2021). Further, the Ind AS adoption necessitates alterations in the accounting treatment of certain variables and transactions. For instance, under Ind AS, the treatment of leases, derivatives, preference shares, and convertible shares, differs from previous accounting standards. These changes can impact a firm's reported leverage ratios or interest coverage ratios (Jain & Gupta, 2020). Consequently, the relationship between leverage and firm performance may be influenced. Moreover, the accounting information has been more useful under the Ind AS period, which further influences FP. Against this backdrop, it is worthwhile testing the following two hypotheses, stated in alternative forms:

***H1: Leverage negatively impacts the performance of firms.***

***H2: Ind AS significantly moderates the relationship between leverage and firm performance.***

### **3. RESEARCH DESIGN**

#### **3.1 Sample and Data**

The present study intends to examine the moderating influence of new accounting standards on the linkage between debt financing and firm performance among the listed Indian firms. Accordingly, the study uses a wide panel of 401 non-financial firms listed in the NSE 500 for a sample period of 10 years ranging from 2013 to 2022. The financial firms have been excluded from the sample due to the difference in the definition of CS and reporting standards (Le & Phan, 2017; M. N. et al., 2023; Miah, 2021). Further, the NSE 500 has been considered since they are the prominent sector representing the majority of the Indian stock market.<sup>iii</sup> The financial data have been collected from the CIME Prowess IQ database, a popularly used database for firm-related data (Dawar, 2014). The economic data have been sourced from the

official website of the World Bank. However, after adjusting for extreme values, the final sample consists of 3120 firm-year observations. The data have been set up in panel form to reap the advantages of panel data, including handling multicollinearity, and heterogeneity problems, whereby the efficiency of estimators will be improved (Hsiao & Wise, 2006; Le Thi Kim et al., 2021).

### **3.2 Measurement of variables**

To estimate the impact of CS on FP, the study uses three measures of FP, namely, return on asset (ROA), return on equity (ROE), and Tobin's Q (TobQ). While the former two proxies are popularly used economic channels to measure the accounting performance of firms (Abor, 2005; Le & Phan, 2017; M. N. et al., 2023; Zeitun & Tian, 2007), the latter accounts for the market-based FP (Chadha & Sharma, 2015a; Ibhagui & Olokoyo, 2018; Tripathy & Uzma, 2022). The accounting measures of FP are overwhelmingly dominant in the extant literature; however, the market-based measures represent the FP more accurately than accounting-based measures (Rowe & Morrow, 2009) and are pivotal for investors since such measures conjunct the present value of future cash inflows (Seth, 1990). Consequently, the present research includes both accounting and market-based proxies to gauge the performance of Indian non-financial firms.

The independent variable CS implies the firm's funding structure, succinctly put, the mixture of debt and equity sourced to finance the firm's capital requirements (Abor, 2007) Although several measures have been used to measure the CS, the debt-to-asset ratio has been extensively used in previous studies (Abor, 2005; Le & Phan, 2017; Abdullah & Tursoy, 2021; Margaritis & Psillaki, 2010; M. N. et al., 2023). Thus, to assess the influence that CS has on FP, we have used the total debt to the total asset ratio (TDA). Apart from this, the present study uses a vector of control variables to avoid spurious regression coefficients. In line with the existing studies, to explicitly measure the effect of the independent variable on the firm's performance, a few firm-specific and macroeconomic determinants of FP have been controlled in our regression model (Zeitun & Tian, 2007; Bandyopadhyay & Barua, 2016; Le & Phan, 2017; Miah, 2021; Amare, 2021). The operational description of the variables is presented in Table 1.

### **3.3 Regression Models**

The analysis of longitudinal data, invariably referred to as panel data, is commonly used across several fields of social science research (Baltagi, 2008; Chadha & Sharma, 2015). Increasingly, there has been the ascension of panel data analysis, be it empirical or theoretical. The

exponential growth of panel studies in the subfield of econometrics can be explained by its capacity to handle complex data in a way better than time series or cross-sectional studies (Hsiao & Wise, 2006). Generally speaking, the OLS, Fixed Effect Model (FE), and Random Effect Model (RE) are the dominant approaches employed under panel data analysis (see, Abor, 2005; Chadha & Sharma, 2015b; M. N. et al., 2023; Miah, 2021). However, inherently the OLS estimates become inconsistent and biased, if the underlying assumption of homogeneity (firm-specific effects) is violated (M. N. et al., 2023). In the case of such firm-specific effects, the FE or RE performs better than the OLS model (Baltagi, 2008). Nevertheless, in the presence of heteroscedasticity and serial correlation, FE or RE models are indifferent to the OLS model. Although both models with robust standard errors deal with serial correlation and heteroscedasticity problems, the problem of endogeneity remains unresolved (Abdullah & Tursoy, 2021; Li et al., 2019). Moreover, the firm performance and capital structure decisions are interrelated in a way that the former fosters the borrowing decisions of the firms, and the latter significantly impacts the performance of firms. Consequently, the problem of simultaneity arises since both variables are cotermined, with each affecting the other, leading to a majorly ignored econometric problem, i.e., endogeneity (Le & Phan, 2017). Besides, endogeneity is a matter of serious concern since they are capable of producing biased regression coefficients, and consequently, addressing such issues becomes a priority (Ullah et al., 2018).

Accordingly, the econometricians recommend employing the generalized methods of moments (GMM) regression models to overcome the endogeneity problem and examine the dynamic relationship between the variables (Arellano & Bond, 1991; Roodman, 2009). Apparently, previous studies have applied the GMM technique to assess the influence of debt financing on the performance of firms (Fosu, 2013; Bandyopadhyay & Barua, 2016b; Ku & Yen, 2016; Ghardallou, 2023). The GMM estimates are reliable in the facet of heterogeneity and the problem of autocorrelation (Abdullah & Tursoy, 2021). However, among the set of GMM models, the system GMM surpasses the difference GMM, given a situation where significant gaps exist in unbalanced panel data (Roodman, 2009). Further, the system GMM is more robust than the difference GMM since lagged variables considered under difference GMM fail to carry forward the present information to the future and the system GMM adds the original equation to the system, enhancing the efficiency of the estimators (Arellano & Bover, 1995; Blundell & Bond, 2000; Le & Phan, 2017). Accordingly, in the present research, the two-stage system

GMM has been employed to examine the nature of the relationship between the response variable and the predictor. Our regression models are specified as follows:

$$\Delta ROA_{ij} = \alpha + \beta_1 \Delta Lev_{(t-1)j} + \beta_2 \Delta Size_{ij} + \beta_3 Growth_{ij} + \beta_4 GDP_{ij} + \beta_5 Inflation_{ij} + \beta_6 Ind AS + \beta_7 Ind AS * Lev_{ij} + \varepsilon \quad (1)$$

$$\Delta ROE_{ij} = \alpha + \beta_1 \Delta Lev_{(t-1)j} + \beta_2 \Delta Size_{ij} + \beta_3 Growth_{ij} + \beta_4 GDP_{ij} + \beta_5 Inflation_{ij} + \beta_6 Ind AS_{ij} + \beta_7 Ind AS * Lev_{ij} + \varepsilon \quad (2)$$

$$\Delta Tobin's Q_{ij} = \alpha + \beta_1 \Delta Lev_{(t-1)j} + \beta_2 \Delta Size_{ij} + \beta_3 Growth_{ij} + \beta_4 GDP_{ij} + \beta_5 Inflation_{ij} + \beta_6 Ind AS_{ij} + \beta_7 Ind AS * Lev_{ij} + \varepsilon \quad (3)$$

Where, ROA and ROE are accounting-based measures of FP, and Tobin's Q is market-based measure of FP; The lagged Lev represents CS or Leverage of the firm j at time t; Ind AS is a dummy variable which captures the impact of new accounting standards on the FP, the Ind AS\*Lev is an interaction term used to examine the moderation impact of Ind AS on CS and FP relationship. The operational definitions of the remaining control variables are provided in table 1.

## 4. RESULTS

### 4.1 Unit root test

The unit root test has become a requisite for determining the nature of data and for establishing the real relationship between the variables. Over the past decade, examining the stationary of heterogeneous panel data has garnered a great deal of attention (Abdullah & Tursoy, 2021; Le & Phan, 2017; M. N. et al., 2023; Maddala & Wu, 1999). The researchers have employed commonly used Augmented Dickey Fuller test and Phillips-Perron test to examine the stationary of data. However, the aforementioned tests do not differentiate the unit root from stationary alternatives (Maddala & Wu, 1999). Consequently, to overcome the pitfalls of traditional unit root tests, Levin et al., (2002), suggested a new powerful root test, which assumes common autoregressive length to test the alternative hypothesis that all the series considered in a panel are stationary. Hence, to check the stationary of Nifty 500 data, we have used the Levin test, and the results are documented in table 2. Since the p-values for all the variables are less than 0.05, we reject the null hypothesis, implying that the data is not non-stationary at level. Thus, the results obtained from regression and hypothesis testing can be regarded as valid in the long run.

## 4.2 Descriptive statistics

Table 3 provides a summary of descriptive statistics of Indian non-financial firms listed in the Nifty 500 index. The summary indicates the mean, median, standard deviation, minimum, and maximum values of the variables considered in the study. The average values of ROA and ROE show 7.89% and 14.32% during the period from 2013 to 2022, and the standard deviation varies from -0.03 to 0.21 and -0.04 to 0.38, respectively. These ratios expound the facts that the average performance of Indian companies is lower compared with the companies of other countries: Abor, (2005) observed that the average ROE of Ghana firms was 36% during the period 1998 to 2002; 459.07% (ROE) was documented by Ibhagui & Olokoyo, (2018) for a sample of 101 non-financial firms listed in Nigeria covering the period from 2003 to 2007; 25% (ROE) was reported by Abdullah & Tursoy, (2021) for German non-financial firms. However, a study on Vietnamese firms by Le & Phan, (2017), reports the average ROA and ROE of 6.3% and 10.3%, respectively. These findings corroborate that Indian firms have performed slightly better than Vietnam firms. Further, the mean value of Tobin's Q is 2.86x, which indicates a better valuation of Indian non-financial firms. The independent variable CS is represented by the debt-to-asset ratio. The average CS ratio accounts for 18.6% during the sample period, which is slightly on the lower side compared to other nations: 58.6% in Ghana (Abor, 2005); 51.92% in Vietnam (Le & Phan, 2017), and 73.75% in Nigeria (Ibhagui & Olokoyo, 2018). This may be possible because firms seek to be in the brackets of safe haven by maintaining a lower debt ratio. However, the figure reveals that the debt sources in India have been relatively accessible and highlights the importance of sound debt policy in the CS of Indian companies. On the other hand, the lower leverage ratio elevates the need to motivate the companies to borrow more to enhance their firm value since debts are easily accessible at a cheaper cost. Meanwhile, from Table 3, it is observed that the size of the sample firms ranges from 8.03 to 13.42. This wide dispersion elucidates the vast heterogeneity in terms of total assets among Indian non-financial firms. On an average the firm's growth rate is around 12% with the high standard deviation of 20.3%. The median value of macroeconomic indicators, such as GDP and Inflation in India, was found to be 0.058 and 0.050, certainly. This suggests a moderate level of economic output for the country while there is a moderate increase in inflation level over the time period. These findings provide insights to the understanding of the economic dynamics in India.

### **4.3 Cross-correlation analysis**

The cross-correlation analysis has been reported in table 4. The correlation matrix delves into the bivariate relationship between the variables whereby helps to identify the level of relationship between the variables and ensures the inclusion of appropriate variables to avoid the problem of multicollinearity (Ibhagui & Olokoyo, 2018). From the results, it is evident that there is no high degree of correlation between the variables used. However, a moderate correlation was observed between the ROE, Tob Q, Lev, and the ROA of the firms. Due to the high correlation, to avoid biased regression results, instead of combining all three measures of FP in one regression, we have separately run the regression for each proxy of firm performance. Nevertheless, results show that none of the correlations fall within the problematic range. The highest correlation is found between ROA and ROE, i.e., 65.3%, and is in line with the findings of Abdullah & Tursoy, (2021). The correlation between ROA, ROE, and TobinQ with leverage is found to be -42.7%, -21.8%, and -31%, respectively. The result implies that borrowing is negatively correlated with firm performance. The significant negative correlation between size and FP affirms that the size of the firm negatively drives the profitability of the firms. The growth of the firm shares a positive correlation between both the accounting and market measures of FP. Apart from this, the correlation coefficients of GDP and Inflation with firm performance are significantly positive and negative, respectively. This means that growth in GDP and a decline in the inflation rate favors the performance of Indian firms.

Nevertheless, in the presence of a moderate correlation between the variables, the previous studies suggest an additional test to examine the perfectly correlated predictors using the Variance Inflation Factor (VIF) analysis (Bayrakdaroglu et al., 2013; Craney & Surles, 2002; Singla & Samanta, 2019) Accordingly, we have run the VIF test, and the results are reported in table 4. Since there is no cut-off value exists to determine multicollinearity, the VIF values ranging from 5 to 10 are considered as ideal coefficients (Craney & Surles, 2002). Consequently, our calculated VIF coefficients (are less than 10) confirm the non-existence of linear dependence between the variables. Subsequently, this robust condition allows us to proceed with regression analysis.

### **4.5 Regression analysis**

The regression coefficients generated using the OLS, FE, and REM models are considered to be inconsistent and biased since the variables in the aforementioned models are assumed to be exogenous; however, in reality, few predictors can be correlated with error terms (endogeneity



problem) which requisites the employment of advanced methodologies such as GMM (Abdullah & Tursoy, 2021; Li et al., 2019) In addition, the simultaneous relationship between the CS and FP elevates the problem of endogeneity (Le & Phan, 2017). Therefore, in the present study, the two-step system GMM with robust standard error, developed by Arellano & Boverb, (1995) and Blundell & Bond (2000), has been applied. Besides, it is noteworthy that the GMM models also handle autocorrelation and heteroscedasticity issues (Roadman, 2009).

We have divided the study period into two sub-sample periods i.e., pre-Ind AS period and post-Ind AS period, to assess the significance of IFRS convergence and its interaction effect on the performance of firms. The GMM regression results are provided in Table 5. The regression results outline that the leverage is negatively correlated with the performance of Indian non-financial firms, or the borrowings negatively drives the FP. In particular, one unit increase in borrowing reduces the ROA, ROE, and Tobin's Q of the sample firms by 0.144, 0.233, and 3.710 units, respectively, and the results are significant at 1% level. Hence, the finding supports our first hypothesis (**H1**) i.e., there is a negative linkage between CS and FP among Indian non-financial firms for period from 2013 to 2022.

The negative coefficients for the size variable corroborate that the firm size is negatively related with the FP, implying that 1% addition in total assets would lead to 0.002%, 0.003%, and 0.2317% decline in the ROA, ROE, and Tobin's Q correspondingly. It is evident from the analysis that firm growth, measured by the change in annual sales, is significant and has a positive impact on the ROA and ROE, while negatively impacting Tobin's Q of the firms. This infers that the annual growth in sales enhances the accounting performance of Indian non-financial firms, and conversely, an increase in sales decreases the market performance of firms. The macroeconomic indicators GDP and Inflation shows that favorable GDP and a rise in inflation rate increase the performance of Indian firms. Nevertheless, the results are not highly significant for GDP and insignificant for the inflation rate. Moreover, the lagged dependent variables are highly significant at 99% confidence level, concluding that the present value of the predictor is dependent on the past value.

Interestingly, the Ind AS variable shows positive coefficients. This means that the convergence of Indian GAAP-based accounting standards with IFRS, ceteris paribus, enhances the transparency and comparability of financial statements, which per se, improves the performance of Indian firms. The interaction terms i.e., the combined impact of Ind AS and leverage, are significant and demonstrate that the Ind AS negatively moderates the association

between CS and FP. This deduces that, following the adoption of Ind AS, the borrowings in the Indian context led to a reduction in both the measures of firm performance. To assess the robustness of the regression results, the present research employs systematic split analysis, where the entire dataset is sliced into two sub-samples (on the basis of pre- and post-Ind AS period), and the GMM regression is run on both the sub-samples. The reported results of the split analysis (refer table 6) substantiate the original finding i.e., the adoption of Ind AS weakens the leverage-firm performance relationship (increase in the value of leverage coefficient during post-accounting period) among Indian non-financial firms. Thus, the findings allow us to accept the study's second alternative hypothesis (**H2**) i.e., Ind AS significantly moderates the association between CS and FP.

## 5. DISCUSSION

In this section, we provide answers to our research questions. As stated in the literature section, the aim of the present research is to examine the influence of leverage on the performance of firms. Additionally, we are interested in examining the moderating impact of Ind AS on the linkage between leverage and firm performance. Precisely, we intend to examine if the convergence of IFRS strengthens the relationship leverage-firm performance relationship. The key findings of the study are summarized as follows.

First, the leverage is negatively associated with the performance of Indian non-financial firms. The results found for the Indian listed firms are consistent with the trade-off and agency theories. The trade-off theory suggests that leverage beyond the optimum point causes severe harm to FP (Kraus & Litzenberger, 1973), and the agency theory postulates that the surfeit of borrowings is likely to result in a conflict of interest between lenders and shareholders (Jensen & Meckling, 1976), further elevating the negative influence on FP. In other words, the higher the leverage, the greater the risk of bankruptcy among Indian firms (Kraus & Litzenberger, 1973; Li et al., 2019). Moreover, the excessive cash outflows (interest expenses) and the agency cost of debt (conflict) lead to the suboptimal performance of the firms. Consequently, empirical studies have demonstrated that companies with higher debt portfolios are likely to cause a deleterious impact on the firm's performance (I. M. M. Pandey, 2001; Abor, 2005; Dawar, 2014; Le & Phan, 2017; M. N. et al., 2023). Contrastingly, studies in developed nations have pointed out that borrowing reduces the agency cost of equity and enhances the profitability of firms (Berger & Bonaccorsi di Patti, 2006; Margaritis & Psillaki, 2010; Gill et al., 2011; Abdullah & Tursoy, 2021; Kalash, 2023). However, in developing countries like India, where

the bond market is at an embryonic stage (Neemey & Sahay, 2019), most of the firms depending on bank loans end up paying higher interest expenses which adversely influences the FP (Chadha & Sharma, 2016; Dawar, 2014; M. N. et al., 2023) As a result, we found a negative association between leverage and FP and our result suggests that firms, specifically in developing countries, should regulate their external borrowings.

The positive coefficient for Ind AS implies that the adoption of high-quality accounting standards yields significant improvement in the firm's performance. The convergence of IFRS can be viewed as a signal that Indian firms are conforming to the norms and expectations regarding accounting, auditing, and financial reporting. Thus, such standards enhance the performance of Indian firms. Further, the convergence of IFRS enhances the transparency of financial reports, which further induces the trust and motivation of stakeholders and aids them in making informed investments in the company (Almaqtari et al., 2021; Kaur & Yadav, 2020; Vishnani et al., 2021; M. N. et al., 2023). Furthermore, the adoption of Ind AS opens gates for foreign investors and increases access to external financing (Ball et al., 2000; Leuz & Wysocki, 2008). Thus, the improved confidence of investors positively affects the overall performance of firms. We validate the findings of a few studies that have supported the conclusion that IFRS convergence and FP are positively correlated among European firms (Sullivan, 2006); among Italian firms (Cordazzo, 2013); among Chinese firms (Miah, 2021); and among Southeast Asian firms (Nguyen Minh et al., 2023).

Although the findings of the study contradict the literature that indicates IFRS negatively affect financial performance FP (Major & Marques, 2009; Nepal & Deb, 2023), many contend that such relationship is insignificant and unclear (Pășcan & Țurcaș, 2012; Ofoegbu & Odoemelam, 2018). The findings of the study can be justified by agency theory, which suggests that the IFRS enhances the corporate governance measures (Kateb, 2023), which per se results in the better FP. Thus, our findings demonstrate that developing economies, following the traditional GAAP-based standards, can be significantly benefited by transitioning to IFRS.

The adoption of new accounting standards i.e., Ind AS has significantly impacted the debt and equity components, valuation of assets, and other aspects of the firm's financial statements (Jain & Gupta, 2020). These changes are likely to affect the leverage and profitability contents of the firms. Consequently, it is imperative to probe into the moderating role of Ind AS on the interrelation between the CS and FP of Indian firms. Interestingly the interaction term exhibits a significant negative coefficient, manifesting the signs of a weak association between leverage

and FP during the Ind AS period. This could be due to the perceived benefits of IFRS adoption, specifically in the developing economies (Agyei-Boapeah et al., 2020). Around the globe the adoption of IFRS has resulted in enhanced accounting quality, reporting quality and transparency of reports (Barth et al., 2008; Chalmers et al., 2011; Iatridis, 2010; O Cualain & Tawiah, 2023; Tlemsani et al., 2023). Accordingly, in India, the adoption of Ind AS has proven to be fruitful with regard to better comparability of financial statements (Almaqtari et al., 2021; Kaur & Yadav, 2020; Meshram & Arora, 2021; Saji, 2022; Saravanan & Firoz, 2022). However, enhanced access, quality of financial information, and the disclosure of additional debt information aids stakeholders in making informed decisions. Per contra, the Indian investors are risk-averse and the increase in leverage ratio impels the investors to disinvest in the firm since it entails considerable risks. As a result, the study finds that the post-adoption of Ind AS, the negative influence of leverage on FP becomes more intense. On the one facet, the underdevelopment of capital markets compels the firms to lay their hands on costly bank loans, elevating the risk and adverse impact on FP; on the other hand, the enhanced transparency of financial information guides the stakeholders to withdraw their investment decisions. Thus, our result highlights the importance of capital structure decisions, specifically during the post-convergence period. The present finding supports the conclusion drawn by Abdullah & Tursoy, (2021), who found that the adoption of IFRS negatively moderates the leverage-FP relationship among German firms. Nevertheless, the dearth of studies in the stated context makes the research findings more interesting and probes the researchers around the globe to provide diverse shreds of evidence.

The large size represents the experience of the firm, which helps the firm to get funds easily since the investors are inclined to invest in such firms (Hirdinis, 2019). Although larger firms enjoy economies of scale, excess investments in fixed assets beyond an optimal point cause significant diseconomies of scale (Perold & Salomon, 1991). Further, large firms are often seen facing challenges in managing and coordinating their operations efficiently, which further hinders the performance of firms (Margaritis & Psillaki, 2010; Tripathy & Uzma, 2022). Moreover, large firms are vulnerable to utility maximization and look for discretionary investments (Mishra & Dasgupta, 2019). As a result, our regression result demonstrates a negative linkage between firm size and FP, indicating an excess capital investment and the underutilization of total assets among Indian firms. This negative association is consistent with the previous studies (Berger & Bonaccorsi di Patti, 2006; Mishra & Dasgupta, 2019; Tripathy

& Uzma, 2022; Abdullah & Tursoy, 2021; M. N. et al., 2023), however, contradicts with few studies (Danso et al., 2020; Le & Phan, 2017; Saji, 2022; Yadav et al., 2022).

The findings of the study conclude that firm growth is directly associated with both accounting and marketing measures of FP. A similar finding has been documented in previous studies (Salim & Yadav, 2012; Chadha & Sharma, 2016; Le & Phan, 2017; Abdullah & Tursoy, 2021; Ghardallou, 2023). This implies that an increase in revenue directly impacts the firm's profitability. This is because the higher the sales, the higher will be the profit margin, and thus higher margin enhances the performance of firms (Yadav et al., 2022). The growth in sales is likely to result in a larger market share, economies of scale, and lower cost, which potentially foster the performance of firms (Mansikkamäki, 2023). Thus the finding unfolds the firm's capacity in acquiring a strong customer base, and larger market share which further drifts the market value and the profitability of firms in the long run.

We found that the hike in the macroeconomic indicators such as GDP and Inflation favors the performance of Indian firms. Generally, an increasing GDP rate is cited as a plausible representative of growing economic conditions and stability in the economy (Cheong & Hoang, 2021). This leads to an increase in consumer demand and the profitability of the firms. Moreover, the GDP and FP are interrelated, where both variables are co-determined with each other (Egbunike & Okerekeoti, 2018). Consequently, a positive association between GDP and FP is expected and is pervasive in previous studies (Cheong & Hoang, 2021; Issah & Antwi, 2017; Killins, 2020). Apart from this, the study documents a positive link between inflation and FP. This is possible because a rise in the inflation rate increases the demand and price of goods and services since the customers attempt to protect their purchasing power (Pervan et al., 2019). The effect of inflation on firms' financial performance, on the other hand, depends on a firm's ability to anticipate (Perry, 1992). Further, the inflation rate in India is stable since the standard deviation is significantly lower (0.0195), and this stability certainly projects stable market conditions in the economy. As a result, we found that inflation is positively associated with Indian FP. However, the aforesaid relationship is insignificant among all the measures of FP, implying that there is not enough statistical evidence to support a meaningful association between the inflation and FP.

The findings of our research draw some managerial and practical implications. First, firms can use debt as a source of finance to exploit the benefits of borrowing. However, excessive borrowing and high interest rates negatively drive the performance of firms. As a result, the

management must focus on the costs of borrowing and avoid excessive dependence on debt. Second, the adoption of high-quality standards enhances the performance of firms. Nevertheless, the enforcement mechanism and rule of law in the country further strengthen the quality of Ind AS. Hence, policymakers must be transparent and adopt effective measures to improve the monitoring functions of several parties in the capital market. Finally, the firms should circumvent excessive investment in assets as it leads to diseconomies of scale and brings down the performance of firms. Overall, this is a fresh piece of research, as no previous study in the Indian context has addressed the moderating influence of Ind AS on the association between leverage and firm performance. Thus, while adding new knowledge to the existing body of literature, the findings advise the managers and policymakers to refrain from excess borrowings since investors are risk averse, and increased transparency under Ind AS, introduces certain complexities that exacerbate the negative impact of leverage on firm performance.

## **6. CONCLUSIONS**

The CS and its impact on the performance of firms has become a major concern in developing economies, specifically after the adoption of global accounting standards i.e., IFRS. The adoption of Ind AS led to an increase in the transparency of financial statements while impacting the leverage and other ratios of the firms. On this account, the present study examines the moderating role of Ind AS on the relationship between CS and FP.

The study finds that CS negatively impacts the performance of Indian firms. On the dot, the findings demonstrate that the debt-to-equity ratio is significantly and negatively related to ROA, ROE, and Tobin's Q of the firms. While most of the studies conducted in developed countries contend for the positive impact of borrowing on the FP, our study finds an inverse relationship between borrowing and FP. This could be due to the underdevelopment of capital markets in emerging nations like India. Consistent with the prior studies, our findings reveal that the adoption of Ind AS increases both the accounting and marketing performance of non-financial firms during the period from 2013 to 2022. This may be due to increased transparency and reporting quality, inducing the trust of stakeholders, which ultimately impacts the performance of firms. Nevertheless, the Ind AS negatively moderates the CS and FP relationship, implying that the convergence of Indian erstwhile GAAP-based accounting standards with IFRS, weakens the association between CS and FP. This outlines the fact that investors are risk averse, and additional disclosure of borrowings under Ind AS negatively

drives the performance of firms. Due to dearth of studies, this unique finding provides valuable insights to the existing body of knowledge.

While the study draws managerial implications for management and policymakers, the present research suffers from a few limitations. First, the present study includes only non-financial firms. Future research can include banking firms and SMEs, as the majority of the extant studies have focused on listed non-financial firms. Since the past decade, the importance of a sound banking system for economic development has been constantly emphasized, the studies on the moderating influence of Ind AS on banking firms can draw significant conclusions. Finally, for comprehensive evidence the empirical research should provide evidence on the consequences of IFRS implementation from other emerging countries' perspectives. Thus, cross-country and inter-sectors studies can be conducted, left for future research endeavors.

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## **DECLARATION OF CONFLICT OF INTEREST**

Authors have no conflict of interest to disclose.

## **DATA AVAILABILITY STATEMENT**

The data that support the findings of this study can be availed upon reasonable request with the corresponding author.

## **END NOTES**

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<sup>i</sup> Why was IFRS introduced by the International Accounting Standards Board (IASB)? – Read more: <https://www.ifrs.org/use-around-the-world/why-global-accounting-standards/>.

<sup>ii</sup> India is the fastest growing economy in terms of GDP: <https://www.worldbank.org/en/news/press-release/2023/04/04/indian-economy-continues-to-show-resilience-amid-global-uncertainties>.

<sup>iii</sup> The information about Nifty 500 can be accessed from the official website: <https://www.nseindia.com/products-services/indices-nifty500-index>.

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## APPENDIX

**Table 1: Variable description**

<b>Variables</b>	<b>Operational Definition</b>
<b><i>Regressand: Firm Performance</i></b>	
ROA	Profit After Tax to Total Asset
ROE	Profit After Tax to Total Equity
Tobin's Q	$\frac{\text{Book value debt} + \text{Market capitalisation}}{\text{Total Asset}}$
<b><i>Regressor: Capital Structure</i></b>	
Leverage	Total Debt to Total Asset
<b><i>Moderator</i></b>	
Ind AS*Leverage	Interaction term to examine the moderating effect of Ind AS
<b><i>Control Variables</i></b>	
Size	Ln of Total Assets
Growth	$\frac{\text{Current year sales} - \text{Previous year sales}}{\text{Previous year sales}}$
GDP	Annual change in the GDP percentage
Inflation	Annual change in the Consumer Price Index
Ind AS	Dummy variable where values "0" and "1" is assigned for pre- and post-Ind AS period, respectively.

**Table 2: Unit root test**

<b>Variables</b>	<b>Levin and Lin test</b>	<b>Result</b>
<b>ROA</b>	-26.7608***	There is no unit root
<b>ROE</b>	-36.4286***	There is no unit root
<b>Tobin Q</b>	-16.4564***	There is no unit root
<b>Leverage</b>	-156.348***	There is no unit root
<b>Size</b>	-21.8150***	There is no unit root
<b>Growth</b>	-44.2634***	There is no unit root
<b>GDP</b>	-44.3377***	There is no unit root
<b>Inflation</b>	-32.8570***	There is no unit root

**$H_0$ : Data has unit root or non – stationary**



**Table 3: Summary Statistics**

Variable	Mean	Median	S.D.	Min	Max
<b>ROA</b>	0.0789	0.0761	0.0642	-0.0302	0.2174
<b>ROE</b>	0.1501	0.1432	0.1074	-0.0436	0.3888
<b>TobinQ</b>	2.8630	2.064	2.339	0.4327	8.957
<b>Ind AS</b>	0.5	0.5	0.5	0.000	1.00
<b>Ind AS*Lev</b>	0.0687	0.000	0.1158	0.000	0.3744
<b>Leverage</b>	0.1866	0.1569	0.1608	0.0001	0.5286
<b>Size</b>	10.53	10.49	1.413	8.032	13.42
<b>Growth</b>	0.1220	0.0985	0.2036	-0.2385	0.6407
<b>GDP</b>	0.0456	0.0583	0.0424	-0.0748	0.0781
<b>Inflation</b>	0.0571	0.0504	0.0197	0.0332	0.1002

**Table 4: Cross-correlation matrix**

	ROA	ROE	TobQ	Lev	Siz	Grow	GDP	Infltn	VIF
<b>ROA</b>	1								<b>2.24</b>
<b>ROE</b>	0.653 ***	1							<b>1.77</b>
<b>TobQ</b>	0.407 ***	0.224 ***	1						<b>1.25</b>
<b>Lev</b>	-0.427 ***	-0.218 ***	-0.3111 ***	1					<b>1.27</b>
<b>Siz</b>	-0.133 ***	-0.099 ***	-0.071 ***	0.002	1				<b>1.03</b>
<b>Grow</b>	0.129 ***	0.143 ***	0.074 ***	-0.021 *	-0.114 ***	1			<b>1.05</b>
<b>GDP</b>	0.021	0.003	0.061 ***	0.021	-0.033 *	0.093 **	1		<b>1.12</b>
<b>Infltn</b>	-0.036 **	-0.051 ***	-0.048 ***	0.014	-0.069 ***	0.142	-0.104 ***	1	<b>1.02</b>

\*, \*\*, \*\*\* represents statistical significance at 10%, 5%, and 1% respectively

**Table 5: GMM regression results with robust standard error**

	Dependent: <b>ROA</b>	Dependent: <b>ROE</b>	Dependent: <b>Tobin's Q</b>
<b>Leverage</b>	-0.1448*** (0.0181)	-0.2334*** (0.0522)	-3.7102*** (0.9057)
<b>Size</b>	-0.0027*** (0.0012)	-0.0038*** (0.0021)	-0.2317*** (0.0275)
<b>Growth</b>	0.0448*** (0.0107)	0.0781*** (0.0178)	4.096*** (0.5586)

<b>GDP</b>	0.0148** (0.0167)	0.0074* (0.0348)	10.1326** (2.3809)
<b>Inflation</b>	0.0974 (0.0435)	0.3013 (0.0178)	12.2925 (2.3809)
<b>Ind AS</b>	0.0193*** (0.0050)	0.0587*** (0.0189)	0.5603*** (0.3207)
<b>Ind AS*Leverage</b>	-0.1051*** (0.0287)	-0.1271*** (0.0359)	-3.003* (0.9205)
<b>Constant</b>	0.0859*** (0.0130)	0.1324*** (0.0283)	3.1588*** (0.3968)
<b>L.ROA</b>	0.4859*** (0.0486)		
<b>L.ROE</b>		0.5087*** (0.0310)	
<b>L.Tobin's Q</b>			0.7607*** (0.0408)
<b>Firm Year Observations</b>	3148	3126	3120
<b>AR (1)</b>	0.00	0.00	0.00
<b>AR (2)</b>	0.33	0.76	0.67
<b>Hansen J</b>	0.513	0.304	0.116

\*, \*\*, \*\*\* represents statistical significance at 10%, 5%, and 1% respectively

**Table 6: Results of split analysis (GMM regression with robust standard error)**

	<b>Dependent: ROA</b>		<b>Dependent: ROE</b>		<b>Dependent: Tobin's Q</b>	
	<b>Pre-Ind AS</b>	<b>Post-Ind AS</b>	<b>Pre-Ind AS</b>	<b>Post-Ind AS</b>	<b>Pre-Ind AS</b>	<b>Post-Ind AS</b>
<b>Leverage</b>	-0.094*** (0.0172)	-0.1115*** (0.0121)	-0.063*** (0.0206)	- 0.0974*** (0.0210)	-0.2328* (0.0574)	-0.5895* (0.0452)
<b>Size</b>	-0.0032* (0.0015)	-0.0023** (0.0011)	-0.0019** (0.0042)	-0.0018* (0.0022)	-0.1743* (0.1037)	-0.2798*** (0.0481)
<b>Growth</b>	0.00354** (0.0430)	0.0524*** (0.0110)	0.2718* (0.1467)	0.0724*** (0.0212)	10.7978*** (3.6162)	6.2181*** (0.8247)
<b>GDP</b>	0.115 (0.1868)	0.0196* (0.0163)	0.2900 (0.4896)	0.0085* (0.0329)	7.4404 (13.74)	12.2664*** (0.8403)
<b>Inflation</b>	0.0047 (0.1073)	0.0131 (0.0524)	0.1317 (0.2691)	0.1095 (0.1344)	18.152** (7.7841)	18.049** (3.0169)
<b>L.ROA</b>	0.4869*** (0.0799)	0.4181*** (0.0488)				
<b>L.ROE</b>			0.5779*** (0.07427)	0.4741*** (0.0547)		
<b>L.Tobin's Q</b>					0.7890*** (0.0871)	0.9543*** (0.0731)

<i>Firm Year Observations</i>	1323	1495	1316	1481	1474	1318
<i>AR (1)</i>	0.000	0.000	0.000	0.000	0.004	0.001
<i>AR (2)</i>	0.416	0.960	0.601	0.903	0.120	0.290
<i>Hansen J</i>	0.397	0.515	0.194	0.582	0.408	0.509

*\*, \*\*, \*\*\* represents statistical significance at 10%, 5%, and 1% respectively*