Leverage and corporate performance – the moderating role of corporate governance

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Abstract

Purpose – Drawing on agency theory, this study sheds light on the moderating impact of corporate governance (CG) mechanism on the leverage and performance nexus in the context of Indian firms.

Design/methodology/approach – The analysis is carried out on Business Today-500 companies over a period of 10 years from 2008–09 to 2017–18. Fixed Effect Panel Regression is applied to analyze the data. Further, in order to deal with the issue of endogeneity, system GMM is employed.

Findings – Results indicate that corporate governance strengthens the relationship between leverage and firm performance. Thus, it can be inferred that leverage adversely affects firm performance; however, with the introduction of sound CG systems, the impact of leverage on performance becomes positive.

Originality/value – The current study enriches the existing body of knowledge by computing CG index that represents the prevailing CG system in a company holistically and gauges its impact on the association between leverage and performance. To the best of our knowledge, the present work is an unprecedented one with respect to India.

Keywords Leverage, Corporate governance, Firm performance, Corporate finance

Paper type Research article

1. Introduction

Earlier research studies have examined the association between Capital Structure and firm performance, taking into account firm-specific factors as firm size, credit risk, marketing intensity, etc. The relationship between leverage and business performance has also been observed to be driven by some institutional factors, including legal systems, credit market laws, legal rules etc. In contemporary times, the strategic factors that make a company distinct from its competitors, for instance, corporate governance (CG), are also believed to influence the association between financing decisions and firm performance (Bhatia and Kumari, 2024; Bawuah, 2024; Tulcanaza-Prieto *et al.*, 2024; Fitri and Lastanti, 2024).

Jensen and Meckling (1976) in their groundbreaking agency theory affirm the role of sound CG mechanism in assuaging the agency costs. Such costs arise due to conflict of interest between managers, owners and bond holders. Sometimes, managers diverge from optimal debt ratio that may be either on upside or downside. They may be hesitant to borrow since interest payments reduce the amount of free cash flow they can use for their own advantages, which leads them to choose less-than-ideal leverage (DeAngelo, 2023). This sweeps the value for shareholders as well as enhances the agency costs of debt for existing debt holders resulting from misuse of free cash flows. Conversely, they may raise debt funds abundantly to consolidate the voting power of shareholders (Jensen and Warner, 1988) and also to invest them in risky ventures (Jensen and Meckling, 1976), leading to higher agency costs of debt. Besides this, shareholders too sometimes forego profitable investment opportunities and take sub-optimal investment decisions in order to prevent the distribution of benefits to debt holders

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in the form of fixed interest payments (Myers, 1977). Such actions of shareholders enhance the agency cost of debt arising due to "underinvestment". So in order to restrain risky investments, under-investment or value-destroying behavior in levered firms, there is a necessity to introduce robust CG structures that align the interests of managers, shareholders and debt holders and mitigates agency costs. Effective governance practices curtail the opportunistic behavior of managers' and hence, safeguard the interests of debt holders and shareholders (Saleh and Mansour, 2024). Strong CG frameworks have the potential to oversee company's strategic decisions as debt financing decisions. Thus, by intensifying the positives of debt financing and mitigating its negative connotations, good CG mechanism ensures optimal debt levels in a firm that boosts a firm's value (La Rocca, 2007; Iqbal and Javed, 2017; Tulcanaza-Prieto *et al.*, 2024).

Given the role of CG in driving the relationship between financing choices and firm value, the present study uses an inductive approach and constructs a CG index by clubbing z scores of several CG elements. Thus, the study specifically aims to examine the moderating effect of CG mechanism on the relationship between leverage and performance. For achieving this objective, the study takes a sample of 307 Indian companies during the period of 10 years from 2008–2009 to 2017–2018. The results of the study show a significantly negative relationship between leverage and firm performance. Furthermore, the findings discern a significantly positive moderating impact of CG on the relationship between leverage and performance.

1.1 Contribution of the study

The current study aptly adds to the several vital areas of existing literature pertaining to Capital Structure and firm performance. First, the precise nature of the association between leverage and firm value has remained inconclusive. To resolve such incongruity, the current study examines the conditional role of corporate governance in the relationship between leverage and firm performance. Secondly, the study considers the underpinnings of agency theory in depth that recommends the use of strong corporate governance frameworks for enhancing the effectiveness of debt financing. Thirdly, the study differs from the extant studies that consider individual CG attributes only. This study employs a composite CG index proxying CG mechanism that acts as a robust monitoring tool in leverage decisions and thus presents an entirely novel angle. Fourthly, this study assessing the relationship between leverage and firm performance with its linkage to CG mechanism is in fact a pioneering work in relation to India. Lastly, the current study has tested the robustness of findings by employing GMM which is one of the advanced econometric techniques and hence the results can be better generalized.

The rest of this paper is organized as follows. The review of literature is presented in Section 2. Section 3 discusses the development of a hypothesis. Section 4 exhibits the database and research methodology. Section 5 explicates the empirical results. The results are analyzed and discussed in Section 6. Section 7 concludes the study and outlines the theoretical and practical implications of the study. Section 8 enlists the limitations of current research and gives directions for future research.

2. Related literature

The seminal work by Modigliani and Miller (1958) favors the neutrality of Capital Structure in influencing firm value. However, majority of the subsequent theories as Modigliani and Miller (1963), and trade-off theory by Kraus and Litzenberger (1973), endorse an affirmative relationship between leverage and firm performance owing to tax benefits of leverage. In contrast to these, agency theory explicates a contradictory opinion. Jensen and Meckling (1976) in their agency theory proposed an inverse relationship between leverage and performance due to demarcation of interests between shareholders and debt holders. Sometimes the tendency of shareholders to invest in riskier ventures may result in higher agency cost of debt. Agency cost of debt also increases when shareholders of highly leveraged

companies forego their profitable investment opportunities (Myers, 1977), which weakens the firm's value. However, contrarily, in a later agency hypothesis, Jensen (1986) advocates that the bankruptcy risk accompanying the debt restricts managers from misusing free cash flows and encourages effective utilization of debt money, thus leading to a positive impact of leverage on firm performance.

Similar to theoretical underpinnings, empirical studies also evidence incongruity in the linkage between leverage and firm profitability. Several empirical studies envisage a positive impact of leverage on firm performance. Berger and Di Patti (2006) show an affirmative impact of leverage ratio on profit efficiency of U.S. banks. Likewise, Margaritis and Psillaki (2010) also support a significant positive impact of debt financing on efficiency of French firms. Adesina *et al.* (2015) in a study on Nigerian banks; Doku *et al.* (2019) on banks from Ghana; Abebe and Ali (2023) on cooperative unions from southwest Ethiopia report a noteworthy favorable influence of capital structure on performance.

But contrary to this, numerous studies demonstrate an inverse association between leverage and firm performance. Zeitun and Tian (2007) on companies from Jordan, Chen (2020) on firms based on Ghana, Ahmed and Bhuyan (2020) in case of Australian firms reveal a negative relationship between leverage and firm performance. Majumdar and Chhibber (1999), Dawar (2014), and Chadha and Sharma (2015) with respect to Indian firms; Muhammad *et al.* (2021) on a sample of Italian firms; Boshnak (2023) in the case of Saudi firms report negative relationship between debt financing and firm value.

These mixed findings are perhaps due to avoidance of other factors that influence the connection between leverage and performance. The role of corporate governance in corporate building is much in vogue and under discussion these days (Manna *et al.*, 2019). Manipulations and frauds by the management create a complex and risky business environment that is harmful to all the stakeholders of a business firm (Khalaf *et al.*, 2024). Sound and sustainable governance practices mitigate firm's financial risk and thus serve as a basis for the success of a corporation in this competitive business environment (Mansour *et al.*, 2024; Saleh *et al.*, 2025). Companies are now shifting their focus toward robust governance practices that create value not only for shareholders but also for all stakeholders (Sethi *et al.*, 2023; Saleh and Maigoshi, 2024; Ghosh and Sahu, 2024; Saleh *et al.*, 2025). Few studies have attempted to examine the moderating effect of CG on the relationship between leverage and business performance. Jiraporn *et al.* (2012) report a negative moderating role of CEO dominance on the association between leverage and performance in U.S. firms'. Wahba (2014) illustrates a negative influence of managerial ownership on the linkage between leverage and performance, while Susanti *et al.* (2017) evince a positive one. Pham and Nguyen (2020) observe that board independence diminishes the unpropitious impact of debt financing on accounting performance. Surjandari *et al.* (2024) also report a positive moderating impact of board independence on the relationship between leverage and firm performance in Indonesian firms. Likewise, Pham and Nguyen (2019) notice a positive influence of board size, board independence and state ownership on the leverage-performance nexus in addition to unfavorable effect of CEO duality on leverage-performance relationship. Similarly, Ngatno *et al.* (2021) evidence a positive moderating influence of commissioner size on the relationship between leverage and performance. Other variables, such as board size, ownership concentration and shareholder size, fail to influence the association between leverage and performance. Besides this, Muhammad *et al.* (2021) evince that board size negatively affects the association between leverage and performance, while board independence and managerial ownership generate positive effect. Bhatia and Kumari (2024) discern significant positive moderating influence of board independence, board size and family ownership on the association between leverage and performance. Bawuah (2024) in firms from Sub-Saharan African countries also envisage a significantly positive moderating role of board diversity, gender, board meetings and institutional ownership on the association between total leverage and performance. Furthermore, Iqbal and Javed (2017) in a study on Pakistan firms witness a positive moderating role of CG index on the association between

leverage and performance. Tulcanaza-Prieto *et al.* (2024) affirm that CG index positively alters the association between leverage and firm value in Korean firms.

From the review of literature, it can be seen that studies have taken either a single CG variable or at the most a few of the CG variables selectively. Analysis of a few individual variables does not lead to any concrete conclusion with respect to the holistic effect of CG mechanism in the relationship between leverage and firm performance. Therefore, the current study fills this research gap by gauging the impact of a composite CG index on the relationship between leverage and performance in the context of Indian companies. In India, there is a paucity of literature examining this issue. Thus, in the light of the dearth of studies considering a comprehensive impact of CG mechanism in India, the current paper seeks to investigate the moderating influence of CG mechanism in the relationship between leverage and firm performance.

3. Hypothesis of the study

Debt financing is a double-edged sword. On the optimistic side, debt is the cheapest source of finance. Debt financing also improves firm performance owing to its tax shield advantages. But sometimes its inordinate use increases risk that adversely affects the financial health of firms. Debt usage also leads to agency costs originating from divergence of interests between shareholders and debt holders (Jensen and Meckling, 1976) and agency costs arising due to suboptimal investment decisions by shareholders (Myers, 1977). But it is believed that an effective CG mechanism in a firm ensures better monitoring of managerial actions taken on behalf of shareholders (Mondal and Sahu, 2024) and thus plays a pivotal role in mitigating the agency costs pertaining to the use of debt. Shareholders of firms adhering to good governance norms undertake optimal investments for the benefits of all the stakeholders, resulting in lower agency costs of debt. This leads to enhanced lending by debt holders in well-governed firms at favorable terms, i.e. at lower cost (Tulcanaza-Prieto *et al.*, 2024) leading to increase in the prospective returns. Sound CG structures promote financial optimization by lowering the managerial discretion over the financial resources of a company leading to ideal capital structure. CG mechanism may also lower information asymmetry through equal dissemination of financial information to insiders and outside investors. This impedes the managers from using private information for their own benefit at the cost of outside investors (Pham and Nguyen, 2019). This once again motivates debt holders to lend at a lower cost. Governance also sends positive signal to creditors as it improves the credit rating of firms (Saleh and Mansour, 2024). Sound CG structures in a firm make debt holders believe that their interests are not substituted by the interests of shareholders and managers. They feel more protected in such firms and lend to them at lower cost with less restrictive covenants. In this way, the availability of affordable debt and its prudent deployment helps a firm in value creation process. Thus, effective governance practices aid in improving the performance of corporations.

Some authors, such as La Rocca (2007), Iqbal and Javed (2017), Tulcanaza-Prieto *et al.* (2024), envisage a positive moderating influence of CG on the association between leverage and firm value. However, Zhou *et al.* (2021) in a study on Chinese firms argue that better corporate governance reduces their dependence on debt and consequently improvement in performance. Given the theoretical propositions and empirical evidences, the current study formulates the following hypothesis with respect to Indian firms-

H1. Corporate Governance moderates the association of leverage with the performance of firms.

4. Database and research methodology

4.1 Sample, time period and data sources

A sample of 307 firms is compiled from BT-Business Today 500 list of Indian firms (dated 17 December 2017). Financial and government firms are eliminated from the final list of sampled

companies as these firms have their unique financing models and resources incomparable with those of the other firms in the manufacturing and service sector. Firms with missing information with respect to variables are also removed as missing values minimize the authenticity of the data.

The study was undertaken over 10 years from 2008–2009 to 2017–2018. This is the most recent period in normal times as the world witnessed the COVID-19 pandemic in 2019–20 and 2020–21. India suffered the largest contractions during this abnormal time (Dhingra and Ghatak, 2022). The financing patterns of companies during unusual times cannot be analogous to the standard times. So the time span of the study is restricted to the year 2018.

The data is obtained from the Ace Equity database, which is a large database of more than 38,000 listed and unlisted Indian companies managed by Accord Fintech. This database contains the financial and nonfinancial data published by the firms in their annual reports.

4.2 Variable definition

4.2.1 Dependent variable. Firm performance is represented by Tobin's q, which is calculated as the ratio of market value of equity to book value of equity. This measure explicates the future expectations of firm performance.

4.2.2 Independent variables. Leverage is the independent variable considered in this study, which is calculated as the ratio of long-term debt to net worth (Khan and Jain, 2018). Long-term debt includes secured and unsecured loans. Net worth ratio is the aggregate of share capital, share warrant, total reserves, less miscellaneous expenses not written off.

4.2.3 Moderator variable. In this study, CG index serves as a moderating variable. This variable aggregates several individual CG elements, namely board size, board independence, CEO duality representing board characteristics and domestic promoter ownership, family ownership, foreign ownership and institutional ownership representing ownership structure. It adds the z scores of various CG factors to construct a composite CG index (Zahran *et al.*, 2008; Yoon, 2012).

4.2.4 Control variables. The study incorporates a few control variables in the empirical model to strengthen the consistency of inference and accuracy of analysis. These variables isolate the impact of the primary independent variable on the dependent variable by accounting for extraneous variables that may influence the outcome. Several control variables, namely firm size, age, tax rate, dividend payout ratio, nondebt tax shields, market to book ratio, fixed asset ratio and free cash flows that are theoretically related to the firm performance are considered in the current study. Firm size, represented as the log of market capitalization (Naser *et al.*, 2006) is taken because larger firms are less exposed to the bankruptcy risks owing to their diversified operations that improve their ability to raise cheaper debt and thus better firm value. Age, measured as the natural log of the number of years from the date of incorporation to the date of analysis Detthamrong *et al.* (2017), is controlled because longer existence of a firm in the market improves its reputation in the eyes of creditors who offer debt at prudential rates to established firms. Further, owing to tax implications of debt, tax rate measured as the ratio of tax to profit before tax is also incorporated as a control variable (Avarmaa *et al.*, 2011). Dividend payout ratio, measured as the ratio of dividend per share to earnings per share (Doukas and Pantzalis, 2003) is also introduced in the model as a control variable as consistency in payment of dividends enhance investors' confidence in a firm. DeAngelo and Masulis (1980) state that nondebt tax deductions substitute for the tax shield benefits of debt. Consequently, firms with higher nondebt tax shields are expected to have lower debt. Nondebt tax shields are calculated by dividing the depreciation with total asset ratio (Alnori, 2021). Myers (1977) identifies growth as a significant determinant of leverage. Therefore, Market to book value surrogating the growth calculated by dividing market value of assets with book value of assets (Gyimah *et al.*, 2021) is also taken. The composition of firm's asset also influences the leverage and consequently the performance (Titman and Wessels, 1988). Hence, fixed asset ratio measured by dividing fixed asset with total assets is also

controlled (Alnori, 2021). Firms with huge free cash flows are more vulnerable to agency issues. Therefore, free cash flows measured as operating income before depreciation minus interest, taxes and dividend divided by total assets (Akhtar and Oliver, 2009) are also incorporated in the model as control variable.

4.3 Empirical model specification

4.3.1 Fixed effect panel data regression. In the current study, fixed effect (FE) panel data regression is applied to test the hypothesis.

Model I examine the impact of leverage on performance after controlling some factors, using the regression equation written below:

$$\gamma_{it} = \alpha_{it} + \beta X_{it} + \lambda C_{it} + \mu_{it}$$

Model II evaluates the moderating role of CG mechanism in the leverage-performance nexus through following regression equation:

$$\gamma_{it} = \alpha_{it} + \beta X_{it} + \kappa \text{Capital Structure}_{it} * \text{Moderating variable}_{it} + \lambda C_{it} + \mu_{it}$$

In Model II, the coefficient (κ) of the interaction term of Capital Structure and moderating variable, i.e. CG is used to test the hypothesis following Baron and Kenny (1986) and Aiken *et al.* (1991) in the econometric literature.

4.3.2 System GMM. The study also applies dynamic panel regression model, i.e. system GMM, that incorporates a series of instrumental variables generated by the lagged values of variables.

The general form of the econometric equation for dynamic panel data models is as follows:

Model III- Without Moderation

$$\gamma_{it} = \alpha_{0it} + a_1 \gamma_{it-1+} \beta X_{it} + \lambda C_{it} + \mu_{it}$$

Model IV- With moderation

$$\gamma_{it} = \alpha_{0it} + a_1 \gamma_{it-1+} \beta X_{it} + \kappa \text{Leverage}_{it} * \text{Moderating variable}_{it} + \lambda C_{it} + \mu_{it}$$

In the aforementioned models, the subscripts i and t connotes companies and time. α_{0it} represents constant. a_1 implies the slope of lagged dependent variable. γ_{it-1} shows the lag of dependent variable. β means slope of explanatory variables. γ_{it} represents the firm's performance, X_{it} is a vector of all explanatory variables, C_{it} comprises of the set of control variables such as size, age, tax rate, dividend payout ratio, nondebt tax shields, market to book ratio, fixed asset ratio and free cash flow and μ_{it} represents error terms.

5. Empirical results

Prior to explicating the regression results, it is imperative to have a thorough understanding of some basic statistics such as mean and standard deviation of the variables considered. The descriptive statistics of variables taken in the regression model are given in Table 1 as follows.

In order to determine the correlation between variables considered in the current study, Pearson Correlation analysis is performed and the results are shown in Table 2 as follows.

5.1 Results of fixed effect panel regression

In order to examine the impact of corporate governance on the relationship between leverage and performance, fixed effect regression is applied and the results are presented in Table 3 as follows.

Table 1. Descriptive statistics

Variable	*N*	Mean	Standard deviation
Tobin's *Q*	3,070	3.97	6.74
Leverage	3,070	0.329	9.86
Corporate governance	3,070	0.5	0.5
Size	3,070	7.97	2.20
Age	3,070	39.33	24.54
Tax rate	3,070	22.40	0.16
Dividend payout ratio	3,070	0.29	1.89
Nondebt tax shields	3,070	0.51	0.17
Market to book value	3,070	5.16	0.10
Fixed asset ratio	3,070	0.44	0.40
Free cash flow	3,070	0.15	2.07

Source(s): Authors' own calculations

Table 3 indicates that leverage casts a negative influence on firm performance, significant at 1% level in both Model I and Model II. Also in both of the regression models, corporate governance is observed to be posing a significantly positive impact on firm performance at 10% level. Further in Model II, it is evinced that the negative influence of Capital Structure on firm performance is positively moderated by Corporate Governance at 1% level of significance. Additionally, Model I captures 46.53% variation and Model II reports 54.96% variation in the performance as suggested by the value of within R^2.

5.2 Results of dynamic panel data regression

System GMM is applied in order to deal with the problem of endogeneity that may arise due to the simultaneity issue between leverage and performance and also for checking the robustness of the results in fixed effect regression models. The results of system GMM are depicted in Table 4 below:

The results in Model III indicate that leverage casts a negative and significant influence on firm performance at 1% level. Corporate governance quality is observed to pose a positive impact on performance, significant at 5% level.

Model IV exhibits the moderating impact of Corporate Governance quality on the relationship between leverage and performance. It is evident that leverage affects the performance of firms negatively significantly at 1% level. This negative influence is moderated by the positive effect of Corporate Governance mechanisms at 5% significance level.

The findings are quite consistent with respect to the significant moderating role of CG index on the relationship between Capital Structure and performance in fixed effect models.

6. Analysis and discussion

The results in all the models reveal that leverage has a negative and significant influence on the performance of Indian firms. This implies that Indian firms are not able to avail the positives of debt deployment. A preliminary rule of debt usage is that the rate of return should be higher than the cost of debt financing; otherwise, debt would hamper firm value. As per World Bank Statistics (2023), the average interest rate on loans in India during 2008–2009 to 2017–2018 that is the period of the current study, stood quite high at 10.06%. This seemed to have raised the cost of debt financing and reduced the profitability of firms relying greatly on debt as a source of finance. In addition, nonperforming assets (NPAs) is a serious problem amongst financial institutions in India (Business Standard, 2018). As suggested by the World Bank

Table 2. Pearson correlation

Variable name	TQ	LEV	CG	Size	Age	TR	DPR	NDTS	M to BV	FAR	FCF	VIF	1/VIF
TQ	1												
LEV	−0.06	1										1.01	0.98
CG	0.02	−0.001	1									1.07	0.93
Size	0.26	−0.12	0.10	1								1.28	0.77
Age	0.01	−0.02	0.03	0.15	1							1.06	0.94
TR	0.005	−0.02	0.01	−0.01	0.01	1						1.00	0.99
DPR	0.007	−0.002	−0.009	0.019	0.02	0.004	1					1.00	0.99
NDTS	0.06	0.11	0.19	−0.08	−0.02	0.003	0.003	1				1.05	0.95
M to BV	0.42	−0.06	−0.01	0.09	0.01	0.002	0.006	−0.006	1			1.07	0.93
FAR	0.20	0.47	0.05	−0.14	−0.01	−0.007	−0.001	0.24	−0.00	1		1.07	0.93
FCF	0.02	−0.08	0.06	0.26	0.04	0.04	−0.002	−0.01	0.01	−0.05	1	1.05	0.95

Note(s): TQ = Tobin's *Q*, LEV = Leverage, TR = Tax rate, DPR = Dividend payout ratio, NDTS = Nondebt tax Shields, M to BV = Market to book value ratio, FAR = Fixed asset ratio, FCF = Free cash flow ratio

Source(s): Authors' own calculations

Table 3. Results of fixed effect panel regression – corporate governance as moderator

Independent variable	Dependent variable TQ (Model I) (Without moderator)	TQ (Model II) (With moderator)
Constant	−6.9***	−4.74
Leverage	−0.025***	−0.82***
Leverage*CG index		0.82***
CG index	0.11*	0.32*
Size	0.73***	0.60***
Age	0.65	−0.38
Tax rate	−0.00003	−0.00007
Dividend payout ratio	−0.0045	1.32e−06
Nondebt tax shields	0.536	0.56
Market to book value	0.246***	0.331***
Fixed asset ratio	3.78***	3.16***
Free cash flow	−0.11***	−0.10**
Fixed effects	Yes	Yes
Year effects	Yes	Yes
F-statistics	217.54***	279.50***
Within R^2	46.53	54.96
Wooldridge test for autocorrelation F(1,306)	18.85	18.85
p value	0.00	0.00

Note(s): ***, **, * mean *p* value is significant at 1%, 5% and 10% level of significance

Source(s): Authors' own calculations

statistics, NPAs to gross loan ratio in India increased from 2.7% in 2011 to 9.5% in 2018. The accelerating levels of NPAs, along with soaring bankruptcy rates, seemed to have escalated the cost of debt. Though in 2016, Insolvency and Bankruptcy Code was passed to curb rising NPAs, but this reform encountered numerous teething problems, especially extremely slow legal process to address the issues (Bhatia and Kumari, 2024). Ultimately, the law failed to be implemented as intended, and lenders were reluctant to lend money. Even if they lent, it was at a very high cost due to the inadequate protection of creditor rights. As a result, the benefits that firms received from using debt were subordinated to the increased cost of lending. Another prominent reason as demonstrated by many researchers is the issue of information asymmetry that Indian firms face (Matta *et al.*, 2022). Unequal dissemination of information between insiders and outside investors make equity shareholders reluctant to invest in the firms. Therefore, the firms have to depend more on external debt. Lenders exploit the situation and lent at exorbitant prices leading debt to leave a bad impact on performance. Our findings asserting the negative influence of debt on performance of firms coincide with empirical studies undertaken over decades (Zeitun and Tian, 2007; Ahmed and Bhuyan, 2020; Boshnak, 2023). Even with specific reference to India, our results are commensurate with the findings of Dawar (2014), Chadha and Sharma (2015), Rajamani (2021) and Bhatia and Kumari (2024). However, our findings fail to corroborate with Berger and Di Patti (2006), Margaritis and Psillaki (2010), Adesina *et al.* (2015), Doku *et al.* (2019), Abebe and Ali (2023). None of these studies have been undertaken in Indian settings, so perhaps differences in statutes and regulations, the development of debt market, the extent of disclosure and information asymmetry and other corresponding factors have led to contradictory findings.

The findings also exhibit that CG mechanism positively fortifies the adverse relationship between leverage and firm performance. This leads to the acceptance of H1 in case of Indian firms. The results suggest that strong CG structures in Indian firms mitigate the negative

Table 4. Results of system GMM – moderating role of corporate governance

Independent variable	Dependent variable Firm performance (Model III) (Without moderator)	Firm performance (Model IV) (With moderator)
L.I. TQ	0.23*	0.24**
Leverage	−0.38***	−0.9***
Leverage*Corporate governance		0.35**
Corporate governance	0.28**	0.42***
Size	0.26**	0.26***
Age	−0.28	−0.34
Tax rate	−0.003	−0.003
Dividend payout ratio	0.026	−0.02
Nondebt tax shields	0.165**	0.12**
Market to book value	0.405***	0.40***
Fixed asset ratio	4.15*	4.2**
Free cash flow	−0.659	−0.298
Constant	−10.49***	−6.50***
N	2,762	2,762
Year dummies	Yes	Yes
AR1	0.00	0.00
AR2	0.40	0.10
Sargan/Hansen	0.177	0.176

Note(s): ***, ** and * represent the significance level at 0.01, 0.05 and 0.10, respectively
Source(s): Authors' own calculations

effects of leverage on financial performance. In India, SEBI incorporated Clause 49 in the Listing Agreement in February 2000 with an objective to raise governance standards among listed companies. The clause prescribes that the board of a listed company having an executive chairman must comprise of at least 50% independent directors and in case of company with a nonexecutive chairman, at least one-third of board must include independent directors. The clause also provides for the establishment of shareholders grievance committee in order to resolve their problems and provide them with better protection. SEBI revised the clause in October 2004 and placed a focus on improving the quality of corporate disclosures in order to better protect the interests of the investors. It also enhanced the role and responsibilities of board members to make them more accountable for their activities. In order to further strengthen the role of independent directors on the board, SEBI amended clause 49 in April 2008 and prescribed 50% independent directors' rule to all the companies irrespective of the fact that the chairman was executive or nonexecutive. Even New Companies Act, 2013 encourages a higher standard of corporate governance in Indian firms through revised CG guidelines. The Act has strengthened the provisions related to CG with respect to the board and ownership structure. The Act has taken a step forward from SEBI's Clause 49 and made it mandatory for every listed public company to have at least one-third of total number of directors as independent directors. Independent directors play a vital role in resolving agency conflicts between managers, shareholders and debt holders. They keep a close eye on the unauthorized practices by firm insiders and thus encourage rational investment of borrowed funds leading to improved firm performance. They develop good rapport with external parties over time and thus assist firms in raising funds at a lower cost. Thus, reduction in agency costs as well as the arrangement of resources at a lower cost due to the presence of independent directors, help in extenuating the adverse impact of debt financing on performance. Companies Act also stresses the relevance of optimal board size and prescribes the minimum

and maximum number of directors on board of a company in order to ensure better governance. A company must appoint a minimum of three directors on board of a public company and the size can be enhanced up to 15 directors. Larger board size, having diverse knowledge and expertise, facilitates prudent and optimal use of debt funds, especially in an emerging economy like India, where interest rates are exorbitant, but the formal capital market is still not well established and the firms have to resort to banks for debt financing. Also, Section 241 of the Companies Act allows minority shareholders to file a suit and seek justice in the National Company Law Tribunal in case of oppression and mismanagement of the corporate affairs by majority. This is very much desirable for a developing country like India, where share ownership is largely controlled by families. Sometimes, dominant shareholders do not take care of the interests of other stakeholders. The act also imposes fiduciary responsibilities requiring chief executive officers (CEO) of the companies to act in the best interests of all the stakeholders of the company. In order to comply with such duties, CEO's actively monitors the activities and hence avoid conflict of interests (Saleh *et al.*, 2024). Thus, these rigorous governance provisions in the act prevent misuse of autonomy and thus protect the common interests of both shareholders and debt holders. This leads to reduction in agency issues and better investment decisions; thereby improving firm performance. The findings pertaining to the positive moderating impact of corporate governance on the leverage-performance nexus are consistent with the underpinnings of agency theory. In line with the propositions of agency theory given by Jensen and Meckling (1976), sound CG practices lower the agency conflicts between shareholders, debt holders and managers. Effective CG systems monitor and discipline the managers and thus ensure prudent use of borrowed funds that ultimately leads to improved firm performance. The findings further coincide with the agency theory proposed by Myers (1977). The adoption of effective CG structures mitigates the agency costs of debt arising due to underinvestment by the shareholders. Thus, optimal investment of debt funds leads to better firm performance. The findings of the study coincide with the empirical work of La Rocca (2007), which proposed a positive moderating impact of corporate governance on the relationship between leverage and performance. The results are also in line with Iqbal and Javed (2017), who envisaged significantly positive moderating impact of corporate governance on the relationship between leverage and performance on manufacturing firms from Pakistan. The results further support the findings of a study by Tulcanaza-Prieto *et al.* (2024), which stated that CG mechanism diminishes the negative influence of debt on firm value of Korean firms. The findings are also in line with the study by Fitri and Lastanti (2024) that underscore the importance of sound governance practices in maintaining firm value of Indonesian firms. The results are however in contradiction to a study by Zhou *et al.* (2021), which affirms that improvement in CG quality reduces reliance of Chinese firms on debt, which in turn improves their performance, especially in business downturns.

7. Conclusion

The current study ascertains the impact of leverage on the financial performance of top Indian firms during 2009–2018. The study also investigates whether CG mechanism in firms moderates the relationship of leverage with firm performance. The results of regression show that, in general, leverage has a direct negative influence on the financial performance of Indian firms. But the moderating impact of Corporate Governance mechanism on the relationship between Capital Structure and firm performance alters the results to become significantly positive.

7.1 Theoretical implications

The results of the current study affirm the dominance of Agency theory in Indian firms as far as the moderating role of CG mechanism is concerned. Adherence to sound governance minimizes the agency conflicts between shareholders, debt holders and managers. Good

governance mechanisms also prevent the sub-optimal investment by shareholders. Thus, ideal investment of debt funds by the managers as per the directions of the shareholders leads to a reduction in the detrimental impact of debt financing on the financial performance of Indian firms.

7.2 Practical implications

The study also presents certain policy implications for the corporate managers, investors, creditors, regulatory authorities, the government and researchers. First, it is recommended to the managers to use debt wisely in their organization. They must undertake cost-benefit analysis of debt before deploying it as a source of finance. Managers of levered firms should strictly follow the statutory guidelines given by SEBI and MCA to improve governance structure and thus optimize firm value.

Secondly, the investors must consider the effectiveness of CG mechanisms before investing in highly levered firms as robust governance practices turn leverage into higher returns.

Thirdly, Creditors should evaluate the governance quality of a firm before taking a lending decision as firms with better governance systems are less likely to default at higher debt levels.

Fourthly, regulatory authorities such as SEBI and MCA too must ensure compliance with governance provisions by the corporate houses. For instance, firms must comply with the requirements related to the minimum number of independent directors and the board size. Similarly, the proportion of promoters and family owners should be increased in the boardrooms of Indian firms that aid in preventing agency conflicts between managers and shareholders whose identity coincides, i.e. shareholders are the managers as well.

Fifthly, government must take initiatives to establish a formal secondary market for bonds to encourage both domestic and foreign investments in the bond market of the country. This shall help firms to avail the benefits of cheaper debt.

Last but not least; researchers should work in collaboration with economists and portfolio managers so that a comprehensive and robust conclusion with respect to the impact of debt usage in performance is established over the years.

8. Limitations and suggestions for future research

Though the current study scrutinizes the moderating impact of CG on the relationship between leverage and performance of Indian firms, it is a novel one in the context of India, yet it suffers from some limitations. First, the study considers many board and ownership structure variables to calculate the CG index, yet some other important CG factors like audit committee, board meetings, managerial ownership, board age, board tenure, etc. can be taken while formulating the index in future studies. Secondly, the study restricts itself to the year 2017–2018 as the world witnessed the impact of the COVID pandemic thereafter. A comparative study of the pre- and post-COVID times can be undertaken to check the impact of debt on performance in normal versus abnormal times. Lastly, similar work can be carried out on a sample from other developing nations as it would help to assess if the findings can be generalized with respect to all emerging countries.

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