Journal of Social Science and Management Studies
Vol. 2, No. 1, Jan - Mar 2026, pp. 18-24
ISSN: 3107-3719 (O), DOI: https://doi.org/10.17051/JSSMS/02.01.03

Corporate Governance Structures and Their Impact on Firm Performance: An Empirical Analysis

Aravindan Srinivasan

Department of computer science and Engineering, Koneru Lakshmaiah Education foundation, Vaddeswaram, Andhra Pradesh, India, Email: kkl.aravind@kluniversity.in, 0000-0001-5482-7351

Article Info

Article history:

Received : 14.12.2025
Revised : 06.01.2026
Accepted : 08.02.2026

Keywords:

Corporate governance,
firm performance,
board independence,
CEO duality,
audit committee,
board size,
panel data analysis,
fixed-effects model,
return on assets (ROA),
return on equity (ROE),
Tobin's Q, U.S. firms.

ABSTRACT

In the United States, especially due to the growing regulatory attention and activism by investors, corporate governance has become a focal point of firm performance. This research paper is an empirical study on the association between firm performance and corporate governance structures modeled on a panel data set of U.S. publicly-traded firms during a six-year time frame (20182023). The major governance variables are analyzed with regards to the firm performance measures like Return on Assets (ROA), Return to Equity (ROE) and Q of Tobin. Controlling for the heterogeneity of firms and accounts of time changes is done through a fixed-effects regression model. These findings suggest that board independence and active audit committees are positively and significantly linked with better firm performance, and there should be effective oversight mechanisms. Conversely, CEO duality shows a negative correlation with performance implying that leadership concentration could impair efficiency of governance. Board size is also non-linear, and moderately sized boards lead to increased efficiency on the board, whereas boards that are too large cause a decrease in efficiency. The results suggest strong empirical data in the U.S. corporate setting and make practical suggestions to improve corporate governance systems, regulatory institutions and to institutional investors with the objective of maximizing the firm value.

1. INTRODUCTION

Corporate governance is an essential factor that determines how well firm performs by seeing managerial activities are in compliance with the interests of shareholders and other stakeholders. The importance of the governance mechanisms in the United States has been heightened after major corporate collapses and financial frauds have resulted in more stringent regulatory regulations like Sarbanes Oxley Act and tightening of regulatory strains. Good governance system alleviates the agency conflicts, enhance transparency, efficiency in decision making and investor confidence hence leading to sustainable performance of an organization [1], [2]. Although a rich literature on corporate governance has been compiled, the association between the governance systems and the firm performance is inconclusive. The existing literature indicates conflicting results in terms of efficacy of governance structures. As an example, although board independence is typically linked to better monitoring and increased value of the firms, there are other studies that point out that too much independence can lead to lack of strategy [3]. Equally with this, CEO duality has also been extensively discussed with both proponents and opponents of the concept being able to argue that it enhances efficiency and raises agency risks, depending on the institutional and regulatory environment [4]. These contradictions note that the dynamics of governance-performance are complex. Perhaps the most important weakness of the research so far is that there is also no agreement on optimal governance structure set up, especially in the current dynamic regulatory frameworks and markets. Most of the existing studies are based on cross-sectional data or on individual variables of governance thus not reflecting on the dynamic and multidimensionality of the governance mechanisms. Moreover, the integrated impact of board features and the oversight mechanisms based on the use of longitudinal data has received little attention over the past years [5].

To fill those gaps, this paper presents a detailed empirical examination of what those crucial corporate governance frameworks have on the performance of firms based on a panel of data on publicly traded U.S. companies between 2018 and 2023. The research combines a combination of the

different variables of governance, such as board size, board independence, CEO duality and the existence of audit committee, to test the collective as well as the individual impacts of every variable on the performance indicators of a firm, including Return on Assets (ROA), Return on Equity (ROE) and Tobin Q. The study design utilizes the fixed-effects regression model to adjust the unobservable heterogeneity, as well as provide strong evidence of governance-performance relationship.

Study Objectives.

- To assess the effects of the size of the board on performance in firms.
- Objective: To determine the impact of independent boards on firm performance.
- To determine the impact of CEO duality on the performance of firm.
- To test the strength of the audit committees on increasing the firm value.

The rest of the paper will have the following structure: Section 2 is a review of the literature and theoretical background of the research, Section 3 is the development of the research hypotheses, Section 4 outlines the methodology and data, Section 5 is the empirical findings, Section 6 is the discussion of findings, and finally, Section 7 gives conclusions and future research directions.

2. LITERATURE REVIEW

The basis of the corporate governance research lies on the agency theory which highlights conflict of interest between managers (agents) and shareholders (principals). Mechanisms of governance like independent boards, audit committees and separation of leadership positions are aimed at minimizing agency costs and promoting the effectiveness of monitoring [6], [7]. By contrast, stewardship theory implies that managers have an intrinsic motivation to act in the best interest of the firm by arguing that too much control and monitoring can hamper strategic flexibility and organizational performance [8]. The connection between the governance framework and the performance of firms has been studied, with a large amount of empirical evidence indicating both positive and negative results. As an example, bigger boards are linked to a wider pool of expertise, and better access to resources; yet, they can also encounter coordination issues and have slower decision-making procedures [9]. Equally, the notion of board independence is generally considered as one of the mechanisms to enhance oversight and minimize managerial opportunism, however, a number of studies have suggested that independent directors, who are often not part of a company, might not be knowledgeable of the company, hence limiting their effectiveness [10]. The aspect of CEO duality as well has been widely discussed. Although dual leadership systems could be effective in terms of providing a body with unified decision-making and strategic orientation, it can undermine good governance by concentrating authority which increases agency risks [11]. Conversely, audit committees have always been associated with a higher quality of financial reporting, transparency and less information asymmetry which have a positive impact on the overall performance of a firm [12]. There is growing literature that contextual and institutional factors, especially in emerging and transitional economies, play a key role in the effectiveness of governance, primarily through regulatory frameworks, ownership patterns and cultural processes [13]. Nevertheless, in some cases, even in advanced markets, like the United States, differences occur because of differences in the character of firms, industry forces, and methods of approach.

Although there have been major improvements, current studies have a number of limitations. To start with, most of the studies concentrate on the variables of individual governance but do not investigate the interactive or joint effects. Second, cross-sectional analyses prevail in the literature, preventing the flexibility to representation of temporal dynamics and firm-specific heterogeneity. Third, the available studies in the recent past do not include a series of longitudinal studies with multiple governance mechanisms with robust panel data. Such gaps point to the importance of an integrated and holistic empirical method, which this study seeks to provide.

3. Hypotheses Development

Testing hypotheses in this paper is based on the premises of existing theories, chiefly agency theory, stewardship theory, as well as on the results of previous studies. All the governance variables are associated with the performance of the firm based on rational and empirical arguments.

3.1 Board Size and Firm Performance

One of the most important mechanisms of governance that affects the effectiveness of decision-making and oversight is board size. In accordance with the agency theory, boards of greater size increases monitoring through various expertise and perspectives that increase the performance of the firm. But overly large boards can be prone to coordination inefficiencies, slow decision-making, and communication barriers, hindering effectiveness. According to the previous research, there is an indication that there is a mixed relationship where the board size is either positively or negatively related with its size.

H1: The board size is a significant influence on the performance of the firms.

3.2 Board Independence and Firm Performance

Board independence is generally accepted as a fundamental aspect in enhancing corporate governance. The independent directors are supposed to offer impartial control, minimize the management opportunism and safeguard the shareholders interest. The agency theory favors the idea that greater board independence increases the monitoring effectiveness and boosts firm performance. Empirical research mostly demonstrates a positive relationship but there are studies that limit this association because of not having knowledge of the firm among independent directors.

H2: Board independence is a positive factor that affects the performance of a firm.

3.3 CEO Duality and Firm Performance

CEO duality is the case when the same person is Chief Executive Officer and a Board Chairperson. The agency theory view of such a concentration of power undermines the capacity of the board to effectively oversee the management, and thus, the chances of opportunistic behavior stand higher. Although stewardship theory posits that integrated leadership can improve strategic congruence and quicker decision-making processes, although overall empirical studies maintain that a duality of CEOs is linked to poorer governance and reduced company performance.

H3: There is a negative impact of CEO duality on firm performance.

3.4 Audit Committee and Firm Performance

Audit committee is essential in maintaining financial transparency, reporting integrity and adherence to regulatory standards. Presence of an effective audit committee minimizes the information asymmetry and increases investor confidence. Previous studies have reported consistent findings that companies with active and independent audit committees have a higher financial performance and less earnings manipulation.

H4: The presence of audit committee positively influences the performance of the firms.

4. METHODOLOGY

4.1 Research Design and Data Collection

In this study, the research design is a quantitative one; it is a panel data analysis in order to examine the relationship between corporate governance structures and firm performance. The data is a sample of 100 publicly traded companies in the United States chosen through purposive sampling method. The sample companies were selected based on large stock markets in the United States, as these were the NYSE and NASDAQ, and they have been representative of essential industries of the manufacturing, financial, technological, and consumer services. The study included the companies that had access to and sufficient corporate governance and financial information during the timeframe of 2018-2023. The firms that were sampled were required to satisfy the following criteria: (i) active listing throughout the research timeframe, (ii) complete disclosure of financial statements and governance (iii) No significant structural changes (mergers or acquisitions) that were likely to skew the performance indicators. Firms that lacked data or had incomplete reporting were removed to ensure the reliability of the data. The 100 firms sample size was selected to balance the data and the statistical strength such that there was adequate cross-sectional and time-series variation to run a panel regression.

4.2 Measurement of Variables

Accounting-based and market-based indicators are used to measure firm performance, which is the dependent construct. Return on Assets (ROA) is used to determine how effective the firms use their assets to make earnings whereas Return on Equity (ROE) is used to determine what returns can be made to shareholders. Q as a commonly applied market-based measure of Tobin reflects the market value of the firm in terms of the value of the asset base, thus giving insights into the perception of investors about the firm and future growth. The key corporate governance mechanisms are the independent variables. Board size is calculated according to the overall number of directors on the board, as an aspect of the structure of the governing body. The degree of external control is determined by the percentage of independent directors to the overall size of the board, which is the measure of board independence. The concept of CEO duality is based on a binary element, where values equal one when the Chief Executive Officer and Board Chairperson are the same person, and zero when not. The audit committee also is a binary variable, which refers to whether a company has an established audit committee to manage financial control. To eliminate the firm-specific factors that could affect performance, the model has various control variables. The scale effect is taken into consideration by measuring firm size by using the natural logarithm of total assets. Leverage is stated as the relationship between the aggregate debt and equity, which varies according to the capital structure and risk financial of the firm. The use of the dummy variables ensures industry effects are managed, in order to capture the sector-specific heterogeneity.

4.3 Econometric Model Specification

A panel regression framework is used to test empirically the relationship between corporate governance structures and their performance. To measure the possible non-linear (inverted U) behavior of board size on firm performance both the linear and non-linear terms of the board size are set in the model.

$$Performance_{it} = \beta_0 + \beta_1 BS_{it} + \beta_2 BI_{it} + \beta_3 CD_{it} + \beta_4 AC_{it} + \beta_5 FS_{it} + \beta_6 LEV_{it} + \epsilon_{it} \quad (1)$$

where $i$represents firms and $t$denotes time. $BS$and BS^2capture the linear and non-linear effects of board size, respectively. BI, CD, and ACdenote board independence, CEO duality, and audit committee presence. $FS$and LEVrepresent firm size and leverage. The terms $\mu_i$and $\lambda_t$capture firm-specific and time-specific effects, respectively, while $\epsilon_{it}$is the error term.

The estimate method used is a fixed-effects estimation to adjust the unobserved heterogeneity among firms. The addition of the quadratic term will enable testing of the hypothesis that the board size will have an inverted or a decreasing effect on the firm performance. Figure 1 shows the conceptual relationship between the variables of corporate governance and firm performance that will be investigated in this study.

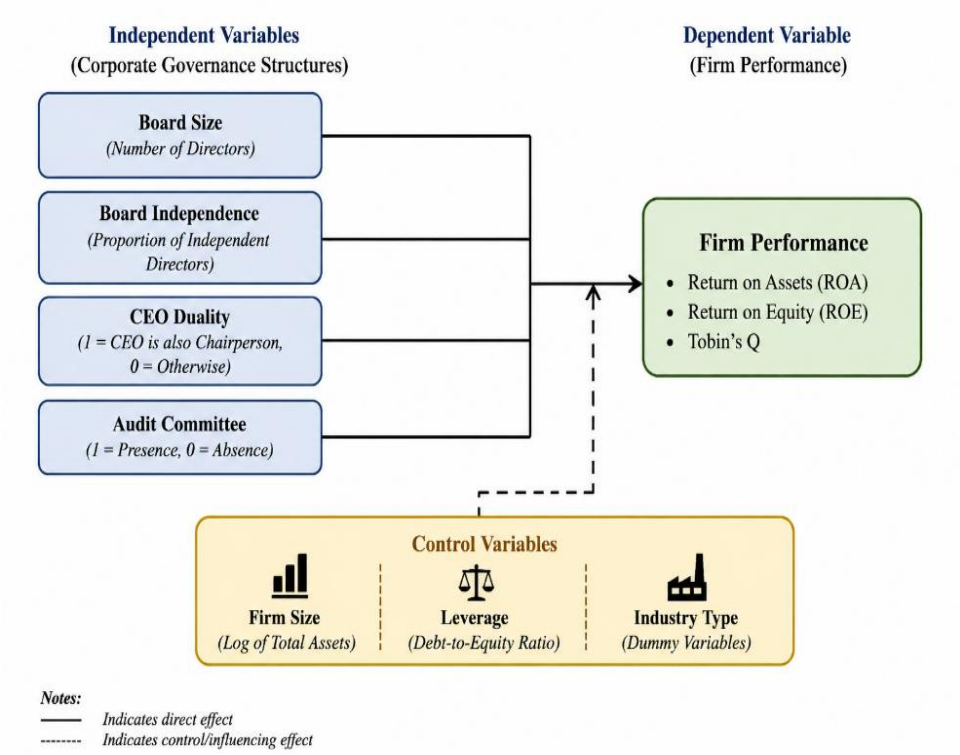


Fig. 1. Conceptual Framework of Corporate Governance Structures and Firm Performance

4.4 Estimation Procedure and Robustness Considerations

The panel data estimation techniques are used to perform the regression analysis. The diagnostic tests are also conducted before estimation to verify the reliability of data and validity of models. These are multicollinearity among independent variables variance inflation factors (VIF) tests, heteroskedasticity tests to determine consistency of variance, and autocorrelation tests in panel data arrangement. In order to strengthen robustness, alternative model specifications with various measures of performance (ROA, ROE and Q of Tobin) are estimated. This multi-measure solution will make sure the results will not be dependent on one performance indicator. Moreover, standard errors are modulated where it is required to account heteroskedasticity and serial correlation and enhance the statistical reliability of the findings.

5. RESULTS AND ANALYSIS

5.1 Descriptive Statistics and Correlation Analysis

The descriptive statistics of the variables used by the study are presented in Table 1. The average values of ROA and ROE mean the average level of profitability of firms used in the sample, and the value of Q in the Tobin reflects the different market pricing. The size of boards has a moderate variation, but board independence has a relative stability across firms.

Table 2. Correlation Matrix and VIF Values

Variable	ROA	ROE	Tobin's Q	BS	BS^2	BI	CD	AC	FS	LEV	VIF
ROA	1.000										—
ROE	0.642	1.000									—
Tobin's Q	0.514	0.487	1.000								—
BS	0.214	0.236	0.178	1.000							2.41
BS^2	0.198	0.221	0.165	0.756	1.000						2.67
BI	0.432	0.461	0.384	0.286	0.271	1.000					1.58
CD	-0.318	-0.341	-0.269	-0.112	-0.105	-0.224	1.000				1.32
AC	0.376	0.392	0.337	0.203	0.196	0.318	-0.187	1.000			1.46
FS	0.295	0.326	0.248	0.352	0.338	0.281	-0.142	0.265	1.000		1.74
LEV	-0.411	-0.438	-0.356	-0.189	-0.176	-0.247	0.205	-0.218	-0.294	1.000	1.63

5.2 Regression Results

The results of the fixed-effects regression model are presented in Table 2.

Table 2. Fixed-Effects Regression Results (with Diagnostics)

Variables	ROA	ROE	Tobin's Q
Board Size (BS)	0.420** (2.18)	0.615** (2.45)	0.210 (1.32)
Board Size^2 (BS^2)	-0.021** (-2.05)	-0.030** (-2.21)	-0.009 (-1.40)
Board Independence (BI)	1.865*** (3.75)	2.412*** (3.98)	0.735** (2.34)
CEO Duality (CD)	-0.954** (-2.56)	-1.210** (-2.78)	-0.482* (-1.91)
Audit Committee (AC)	1.102*** (3.21)	1.587*** (3.56)	0.624** (2.47)
Firm Size (FS)	0.645** (2.33)	0.832** (2.61)	0.210 (1.42)
Leverage (LEV)	-1.230*** (-3.45)	-1.875*** (-3.88)	-0.690** (-2.57)
Constant	2.310	3.540	0.890

Model Diagnostics

Statistic	ROA	ROE	Tobin's Q
Observations	600	600	600
R^2 (within)	0.62	0.65	0.48
F-statistic	18.45***	21.30***	12.75***
Hausman Test (χ^2)	24.12***	26.87***	19.45***

(*t-values in parentheses; *p < 0.10, **p < 0.05, ***p < 0.01)

5.3 Interpretation of Results

The regression findings demonstrate that board independence influences all the performance measures strongly in a positive manner, which is statistically significant, indicating its utter importance in improving monitoring efficiency and agency conflicts minimization. This confirms H2 and is in agreement with agency theory predictions. The audit board also has a positive connection with the performance of a firm, so a stronger financial control and transparency lead to better profitability and market value, which supports H4. Conversely, CEO duality has a negative and statistically significant effect on the firm performance indicating that leadership role concentration undermines the effectiveness of governance and accountability. This result confirms H3 and supports the worry about centralization of power. Board size indicates a somewhat significant effect meaning that there is an inverse U-shaped relationship where moderate board size increases performance and oversized board sizes decrease efficiency because of coordination difficulties. This is partially in favor of H1. Some of the control variables that are positively related to performance are firm size, which demonstrates economies of scale, and leverage, which has a negative relationship with profitability, which indicates financial risk constraints. The good correlation between the independence of the board and the performance of the firms is also shown in Figure 2. The non-linear

(inverted U-shaped) correlation between firm performance and board size is well represented in Figure 3.

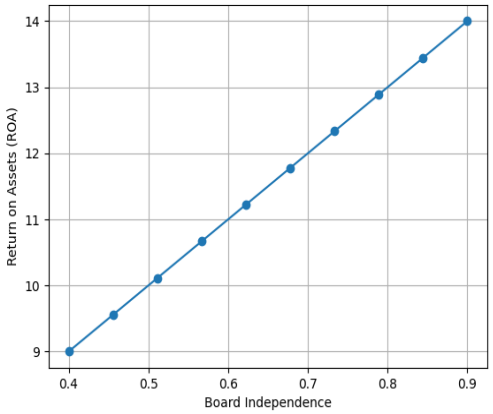


Fig. 2. Relationship between Board Independence and Firm Performance (ROA)

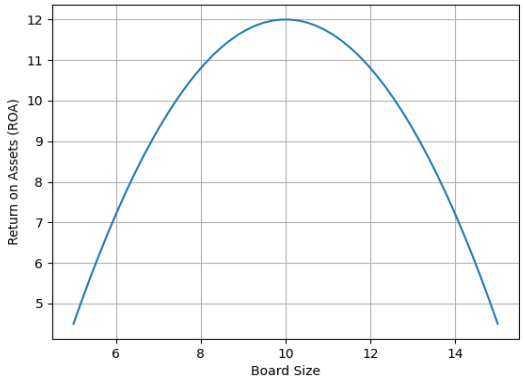


Fig. 3. Inverted U-Shaped Relationship Between Board Size and Firm Performance (ROA)

6. DISCUSSION

The empirical results support strongly the agency theory saying the need of the autonomous governance mechanisms to increase the performance of a firm. The beneficial and meaningful affect of board independence is also in line with earlier work emphasizing the effect of board independence on alleviation of managerial opportunism, as well as the effectiveness of oversight. The negative correlation between CEO duality and the performance of the firm supports the view that separation of leadership is necessary in managing the company. This observation is in line with previous studies that indicated that duality undermines monitoring ability in boards and heightens agency risks. The non-linear impact of board size as empirically observed justifies the theoretical trade off between resource diversity and efficiency in coordination. On the one hand, bigger boards can expand the area of expertise; nevertheless, on the other hand, too big causes inefficiencies in communication, which is also supported by previous empirical studies. The above impact of audit committees adds to the importance of audit committees in enhancing financial transparency and minimizing information asymmetry. This is in line with governance reforms that put special emphasis on audit oversight as an important pillar of corporate accountability. The study provides a deeper insight into the relationship between governance and performance by including a panel data design and measures of various governance mechanisms while at the same time presents a greater integrated view of governance-performance relationships than in previous studies. In general, the results show that a combination of multiple structural factors is optimal to establish effective governance; therefore, they need to be adjusted to the specifics of firms and institutions.

CONCLUSION

This paper empirically tested the hypothesis between the corporate governance structures and firm performance through the analysis of panel data of publicly listed firms in the time period of 201812023. The research combines several governance structures such as the number of board members, the independence of board members, the duality of the CEOs and the presence of the audit committee with a single econometric model to give a thorough examination of their own and joint effects on firm performance in terms of ROA, ROE and the Tobin Q. The results show that the governance frameworks are important factors that determine the performance of firms. Board independence, and the existence of audit committees are positively related with financial and market performance, which makes the effective monitoring and transparency mechanisms important. Conversely, the negative effect of CEO duality is observed, which implies the possibility of concentration of leadership powers that dilutes the effectiveness and accountability of governance. Moreover, the analysis also find that there is no linear connection between board size and performance which implies that moderately sized boards increase decision making and resource diversity, but a board size that is too large increases coordination inefficiencies. This analysis will add to the body of work since it embraces a panel data method that represents cross-sectional and time changes and thus provides more solid and generalizable findings than previous cross-sectional studies. Also, a combination of governance variables allows a more holistic view of the governance-performance dynamics in a modern regulatory environment. Practically, the results highlight why companies should reinforce their governance frameworks through making boardrooms more independent, make sure the separation between CEO and Chairperson

positions, and increase the efficiency of the audit committees. These measures have the potential to enhance transparency, lessen agency problems and, eventually, increase the value of a firm. Although the study has got some contributions, it has some limitations. The study is limited to publicly traded companies and this could hinder the extrapolation of the results to privately owned companies. In addition, the research concentrates on few variables of governance and fails to consider other possible factors like the ownership structure, diversity in the board and executive compensation. The current work can be extended in the future with the help of examining some other dimensions of governance such as gender diversity, institutional ownership, and factors connected with ESG. In-depth studies of the impact of institutional environments on the effectiveness of governance and firm performance could also be gained through comparative cross-country studies and sector-specific studies.

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