# CORPORATE GOVERNANCE AND FIRM PERFORMANCE: THE CASE OF PAKISTAN

**Aysha Sami Latif**
Assistant professor at University of Peshawar Pakistan
Email: ayeshasami@uop.edu.pk

**Faisal Khan**
Assistant professor at Bath Spa University Academic Centre, UAE
Email: faisal@bathspa.ae

**Abstract:** Contemporary interest in corporate governance is related to extenuate the conflicting interests of firm managers and firm owners, known as the agency problem. Due to economic crisis around the world this area has received much attention from the last three decades. The objective of this study is set to investigate that which corporate governance mechanisms can mitigate the agency problem and resultantly improve the firm performance in Pakistan. The robustness of results is also checked through various identified models. The corporate governance mechanisms examined in this study include insider shareholding, blockholding, institutional shareholding, board independence, reliance on external labor market and use of debt. Results are based on 18-year data (2004-2021) of 300 non-financial firms listed on the Pakistan Stock Exchange (PSX). Due to endogeneity between governance mechanisms and firm performance relationships were estimated through two-stage least square (2SLS) regression. Together, study found that blockholding, institutional shareholding and use of debt are effective corporate governance mechanisms in constraining agency problem and their presence enhances the firm performance.

**Keywords:** Corporate governance mechanisms, Endogeneity, Firm Performance, Pakistan Stock Exchange

## 1. INTRODUCTION

In the corporate world, separation of ownership and management creates agency problem. Jensen & Meckling (1976) stated that when the ownership and control are separate there is greater tendency that managers pursue their own selfish strategies. Murphy (1985) also argued the same that managers for their own empire building and to ensure their employment in the firm for long time may invest in non-value maximizing projects. Shleifer & Vishny (1997) defined corporate governance as the ways which ensure investors of getting return on their investments. Corporate governance reduces

discretionary spending and selfish strategies by the managers and through bringing the objectives of shareholders and managers in line ensures the suppliers of finance get returns on their funds (Coles, McWilliams, & Sen, 2001). According to agency theory good corporate governance can enforce managers to work for the best interest of shareholders and can realign the interests of shareholders and managers.

Corporate governance mechanisms used to control agency problems are insider shareholding (Ali, Qiang, & Ashraf, 2018), blockholding (Huang & Lu, 2020), institutional shareholding (Latif & Abdullah, 2015), board independence (Pucheta-Martínez & Gallego-Álvarez, 2020), reliance on external labor market (Fama, 1980), use of debt (Mishra & Dasgupta, 2019), director stock ownership (Bhagat and Bolton, 2019) and board size and number of meetings (Danoshana, & Ravivathani, 2019). Prior studies such as Agrawal & Knoeber (1996) and Wang, Abbasi, Babajide & Yekini (2020) have shown concern over the endogeneity between corporate governance mechanisms and firm performance. These studies have found endogeneity between governance mechanisms and firm performance that is not only firm's performance is dependent on governance mechanisms but also governance mechanisms are dependent on firm performance.

Corporate governance is crucial to expand private sector and to inspire investors' confidence (Alduais, Alsawalhah, & Almasria, 2023). Good governance can help the developing economy of Pakistan to improve investment climate and stimulate economic growth. Mixed findings related to governance mechanisms and firms' performance are observed around the globe (Wang, Abbasi, Babajide, & Yekini, 2020). In Pakistan, studies have been conducted on the area with multiple periods and sample of firms and their results show mixed findings. For encouraging corporate governance in Pakistan, it is necessary to find out how these mechanisms are related with performance of Pakistani firms. In Pakistan there is no published work on this area that is based on 18 years' data and considers all these six governance mechanisms, investigated in this study. Moreover, this study applied multiple models to check the robustness of results and is unique to answer the studies with mixed findings. Further this study is conducted in an economy with familial dimensions and political instability and has greater policy implications.

This study sets the objectives as to examine the presence of endogeneity between governance mechanism and firm performance and to investigate the impact of corporate governance mechanisms (insider shareholding, blockholding, institutional shareholding, board independence, reliance on external labor market and use of debt) on performance of firms listed on the PSX.

## 2. LITERATURE REVIEW

Berle & Means (1932) were first to spotlight the consequences of separation of ownership and control. They argued that with the growth of companies the number of shareholders has also increased, and an individual shareholder takes less interest in the daily affairs of a firm. As a result of these least-interested parties, the managers and board of directors, manage the companies' resources for their own advantage. Jensen & Meckling (1976) stated that agents are engaged to perform services on behalf of their

principals and for this some decision-making authority is delegated to these agents. They further argued that in this agency relationship if both the parties want to maximize their utility then probability of agent not working in the interest of principal increases. Shleifer & Vishny (1997) suggested that managers can expropriate in many ways including transferring and stealing money from the firm, perks, empire building, inappropriate investment, management entrenchment, nepotism and insider trading and to increase its value, firm must reduce agency costs. They also argued that corporate governance protects the rights of stakeholders and investor's willingness to invest in a firm is related to the extent of protection provided to the investor.

Insider shareholding is an effective mechanism to align the interests of shareholders and managers (Morck, Shleifer & Vishny, 1988). They found that Tobin's Q increases when board ownership is between 0-5 percent and falls when ownership rises from 5 percent to further 25 percent and again rises when ownership rises beyond 25 percent. They argued that due to increase in board ownership interests of the two parties converge and Tobin's Q increases. The reason behind decline in Tobin's Q is entrenchment of management. Ali, et al., (2018) conducted study to find the impact of ownership structure on the firm performance. Results of their study revealed that increase in management shareholdings affect the market value of a firm positively in China. They explained it as that the management shareholdings depict the presence of high profit opportunities of a firm therefore, investors are willing to pay more prices as premium amounts. On the basis of above arguments, the first hypothesis of this study is:

H1:     Insider shareholding is positively related with performance of firms

One of the tested corporate governance mechanisms is blockholding. Shleifer & Vishny (1986) suggested that blockholders have incentives in monitoring the actions of management of the firm and their presence enhances the performance of firm. Zeckhauser & Pound (1990) argued that self-serving behavior of management is expensive for the shareholders and the only productive role large shareholders can play is of a monitor. Huang & Lu (2020) found that firms with more blockholders experience improved performance and such firms have less variable capital expenditures and R&D investment. On the basis of this discussion the second hypothesis for this study is:

H2:     Blockholding is positively related with performance of firms

Shleifer & Vishny (1986) argued that institutional investors have reasons, ability and opportunity to discipline and influence management to act for the best interests of shareholders. Sakawa & Watanabel (2020) in their study to examine the impact of institutional shareholders on firm performance found that institutional investors effectively perform monitoring role in Japanese corporations. They also showed that their monitoring role strengthens the firms through sustainable performance and higher growth opportunities. On the basis of these findings the third hypothesis for this study is drawn as:

H3:     Institutional ownership is positively related with performance of firms

Independent board is found to closely monitor the firm and do efforts to mitigate the agency problems which improves firm performance. Saat, karbhari, Heravi & Nassir (2011) found that board independence enhances performance of firm. They further found that performance enhances even more when an independent director holds the position of a chairman. Independent board chairman uses his authority in organizational processes and feel greater freedom when executive management is absent from board and can freely challenge management decisions when these are not in line with interest of the owners. Pucheta-Martínez & Gallego-Álvarez (2020) also found that board independence improves firm performance and increases shareholders' wealth. Based on the above discussion fourth hypothesis for this study is:

H4:     Board independence is positively related with firms' performance

Fama (1980) argued that managerial labor market helps to reduce the agency cost by disciplining the managers. The external labor market exerts pressure on the firm to compensate managers on the basis of their performance. Whenever firms do not reward their managers for their performance properly then they lose their managers and the first managers who leave are the best ones who get opportunity easily. Thus, to create their reputation in the labor market managers perform well in firm. Jensen (1986) has the similar argument that existence of external labor market reduces agency cost and thus increases the firm performance. Based on above arguments, the fifth hypothesis is drawn as:

H5:     Performance of firms increases with the reliance on external labor market

Jensen (1986) noted that debt increases the efficiency of the firm and prevents managers from wasting the resources of the firms on low-return projects. With the increase in debt the investment in high-risk projects also increases as an attempt to cover the payments of interest. Therefore, there is an incentive for the lenders to improve the monitoring and reduce the agency costs. Mishra & Dasgupta (2019) found that in frontier economies, debt increases the firm performance. They have explained this positive relationship as the debt using firms optimize the balance between tax shied and bankruptcy costs. Also, use of debt acts as a disciplinary device, to increase the cash flows to service debt. They argued that debtholders closely monitor the firms as their stake is involved in the firm and utilize their rights attached to this stake. Therefore, managers get very few opportunities to involve in low-value projects. Based on above discussion sixth hypothesis for this study is:

H6:     More use of debt positively affects the performance of firms

Null hypotheses are drawn as no relationship between corporate governance mechanisms and firm performance.

## 3. METHODOLOGY AND DATA

### 3.1. Sample and Data Sources

For this study, we initially aimed to include the entire population of all non-financial firms. However, due to data availability issues, our sample size was reduced to 300 firms. Minimum criterion for any company to be included in the final sample is the availability of at least 10 years' complete data. Time period spans from 2004 to 2021. Ownership, governance and financial data are obtained from the annual financial reports of the firms. Data related to share prices are obtained from the website of the PSX. This approach ensured that we had a robust dataset for our analysis, despite the initial limitations in data availability

### 3.2. Models Specification for Governance Mechanisms and Firm Performance

Econometric models for the governance mechanisms are first developed. These models are auxiliary to the firm performance and are to be used when the mechanism/s is/are found to be endogenous. The choice of any of these mechanisms depends on the choice of other mechanisms (Agrawal & Knoeber, 1996) therefore, each mechanism is taken as explanatory variable to the variable being measured.

#### 3.2.1. Insider shareholding (POD)

The choice of POD depends on firm specific factors (Agrawal & Knoeber, 1996). These factors can be the cost of such shareholding, which arise due to holding undiversified portfolios. If these costs are high, then the percentage of insider shareholding is expected to be low. LASSET and $\sigma_i$ are used to represent that cost. Machold, Huse, Minichilli & Nordqvist (2011) used number of directors (NOD) to explain the ownership of directors in the company. It is expected to have positive relationship between NOD and POD as the cost of undiversified portfolios can be reduced if these are diversified among large number of insiders.

$$POD_{it} = b_{0i} + b_1 PTEN_{it} + b_2 PINST_{it} + b_3 OBOARD_{it} + b_4 FSHC_{it} + b_5 \left(\frac{D}{V}\right)_{it} +$$
$$b_6 \sigma i_{it} + b_7 LASSET_{it} + b_8 NOD_{it} + e_{it} \qquad (1)$$

Where, POD is measured as a percentage of equity owned by directors, PTEN is blockholding measured as a percentage of equity owned by owners of 10 percent or more equity, PINST represents institutional shareholding measured as a percentage of equity owned by institutions, OBOARD represents board independence measured as a percentage of outside directors on board, FSHC represents CEO human capital measured in number of years CEO has worked as CEO of the firm, D/V represents use of debt measures by the division of book value of debt by market value of the firm, $\sigma_i$ represents income variability measured as standard deviation of net incomes of the firm, LASSET represents size of firm measured as natural log of total assets of the firm, NOD represents board size measured number of directors on board.

### 3.2.2. Blockholding (PTEN)

The study expects blockholding to be negatively related to the LASSET and $\sigma_i$, due to the same phenomenon of cost of undiversified portfolios. Zeckhauser & Pound (1990) argued that outside monitoring becomes less effective if technology used becomes more specific to the firm. RDAI is used as a proxy of firm-specific technology and this study expects it to be negatively related to the PTEN.

$$PTEN_{it} = b_{0i} + b_1 POD_{it} + b_2 PINST_{it} + b_3 OBOARD_{it} + b_4 FSHC_{it} + b_5 \left(\frac{D}{V}\right)_{it} +$$
$$b_6 \sigma i_{it} + b_7 LASSET_{it} + b_8 RDAI_{it} + e_{it} \qquad (2)$$

Where, RDAI represents industry R&D measured as average research and development (R&D) expenditures in industry of the firm.

### 3.2.3. Institutional shareholding (PINST)

Elyasiani, Jia, & Mao (2010) showed positive association between NINSTI and PINST because increasing number of institutions in an industry may attract other institutions. D'souza, Ramesh & Shen (2010) found that firm size has strong positive effect on institutional ownership as the stocks of large firms are with finer information and less costly to trade.

$$PINST_{it} = b_{0i} + b_1 POD_{it} + b_2 PTEN_{it} + b_3 OBOARD_{it} + b_4 FSHC_{it} + b_5 \left(\frac{D}{V}\right)_{it} +$$
$$b_6 NINSTI_{it} + b_7 LASSET_{it} + e_{it} \qquad (3)$$

Where, NINSTI represents industry institutional owners measured as average number of institutional investors in industry of firm.

### 3.2.4. Board independence (OBOARD)

Large size of the firms is the indicator of complex operations that necessitates a great degree of oversight and monitoring by the board. Therefore, LASSET is expected to be positively related with OBOARD. Baker & Gompers (2003) suggested that board composition is dependent on the R&D expenditures. Moreover, the jobs available in the market for the board also affect the board composition.

$$OBOARD_{it} = b_{0i} + b_1 POD_{it} + b_2 PTEN_{it} + b_3 PINST_{it} + b_4 FSHC_{it} + b_5 \left(\frac{D}{V}\right)_{it} +$$
$$b_6 LASSET_{it} + b_7 RDAI_{it} + b_8 JOBs_{it} + e_{it} \qquad (4)$$

Where, JOBs represents alternative job opportunities measured as number of firm in the industry of that firm.

### 3.2.5. Reliance on external labor market (FSHC)

Following Agrawal & Knoeber (1996) this study inversely measures reliance on external labor market with the CEO's human capital (firm-specific experience). Hamori & Kakarika (2009) found that increasing number of employers (JOBs) in the market rely on the external labor market to hire CEOs. Therefore the number of employers is to be positively related with reliance on external labor market. By this FSHC is expected to be negatively related to number of employers as the CEO spends more time in a firm they acquire more firm-specific expertise and also due to age factor they might not be hired by the new employers.

$$FSHC_{it} = b_{0i} + b_1 POD_{it} + b_2 PTEN_{it} + b_3 PINST_{it} + b_4 OBOARD_{it} + b_5 \left(\frac{D}{V}\right)_{it} + b_6 JOBs_{it} + e_{it} \tag{5}$$

### 3.2.6. Use of debt (D/V)

Kurshev & Strebulaev (2007) found positive relation between size of the firm and leverage. They explained this relation as size can be used as proxy of probability of default and larger firms hardly liquidate or fail. Next, negative relation between cash flow return (CR) of the firm and use of debt is expected because provision of internal funds is alternative to the use of debt.

$$\left(\frac{D}{V}\right)_{it} = b_{0i} + b_1 POD_{it} + b_2 PTEN_{it} + b_3 PINST_{it} + b_4 OBOARD_{it} + b_5 FSHC_{it} + b_6 LASSET_{it} + b_7 CR_{it} + e_{it} \tag{6}$$

Where CR represents cash flow return measured as operating cash flow divided by market value of the firm.

### 3.2.7. Firm performance (Tobin's Q)

Morck, et al. (1988) suggested that Tobin's Q is related to RDA and ADVA. Offenberg (2010) argued that many researchers found inverse relation between value of firm and its size. This inverse relationship is because of size discount, which is inability of shareholders of large firms to minimize agency costs. The estimated values rather the observed values of mechanisms are to be used to predict the following equation if the mechanism/s is/are found to be endogenous with Q.

$$Q_{it} = b_{0i} + b_1 POD_{it} + b_2 PTEN_{it} + b_3 PINST_{it} + b_4 OBOARD_{it} + b_5 FSHC_{it} + b_6 \left(\frac{D}{V}\right)_{it} + b_7 RDA_{it} + b_8 ADVA_{it} + b_9 LASSET_{it} + e_{it} \tag{7}$$

Where, Q is measured as market value of the firm divided by book value of assets, RDA represents firm's R& D measured as R&D expenditure of the firm divided by book value of assets, ADVA represents firm's advertising measured as advertising expenditures of a firm divided by book value of assets of the firm.

### 3.2.8. Structured equations

For the 2SLS regression structured equations of endogenous variables are as follows:

$$POD_{it} = b_{0i} + b_16i_{it} + b_2LASSET_{it} + b_3NOD_{it} + b_4RDA_{it} + b_5ADVA_{it} + e_{it} \text{ (a)}$$

$$PTEN_{it} = b_{0i} + b_16i_{it} + b_2LASSET_{it} + b_3RDAI_{it} + b_4RDA_{it} + b_5ADVA_{it} + e_{it} \text{ (b)}$$

$$PINST_{it} = b_{0i} + b_1NINSTI_{it} + b_2LASSET_{it} + b_3RDA_{it} + b_4ADVA_{it} + e_{it} \qquad \text{(c)}$$

$$OBOARD_{it} = b_{0i} + b_1LASSET_{it} + b_2NOD_{it} + b_3LOB_{it} + b_4RDA_{it} + b_5ADVA_{it} + e_{it}$$
(d)

$$FSHC_{it} = b_{0i} + b_1JOBs_{it} + b_2RDA_{it} + b_3ADVA_{it} + b_4LASSET_{it} + e_{it} \qquad \text{(e)}$$

$$\left(\frac{D}{V}\right)_{it} = b_{0i} + b_1LASSET_{it} + b_2CR_{it} + b_3RDA_{it} + b_4ADVA_{it} + e_{it} \qquad \text{(f)}$$

From the above structured equations only endogenous equations are estimated and used to estimate the Tobin's Q (equation 7).

## 4. RESULTS AND DISCUSSION

### 4.1. Descriptive Statistics

Descriptive statistics are presented in Table 2. It can be seen that mean value of insider shareholding is 16.7 percent with maximum value of 98.4 percent. Mean value of institutional ownership in firm is 21.4 percent.

*Table 1: Descriptive statistics of variables*

|  | POD | PINST | PTEN | OBOARD | FSHC | D/V | Q | LASSET | ADVA | RDA |
|---|---|---|---|---|---|---|---|---|---|---|
| Mean | 0.167 | 0.214 | 0.424 | 0.578 | 6.953 | 0.429 | 1.231 | 22.533 | 0.013 | 0.001 |
| Std. Dev. | 0.225 | 0.199 | 0.285 | 0.261 | 5.701 | 0.292 | 1.601 | 1.524 | 0.033 | 0.006 |
| Minimum | 0.000 | 0.000 | 0.000 | 0.000 | 1 | 0.000 | 0.100 | 14.460 | 0.000 | 0.000 |
| Maximum | 0.984 | 0.967 | 0.942 | 1 | 20 | 0.975 | 16.610 | 26.642 | 0.220 | 0.060 |
| No. of Observations | 4,600 | 4,600 | 4,600 | 4,600 | 4,600 | 4,600 | 4,600 | 4,600 | 4,600 | 4,600 |

Blockholding ranges from 0 to 94.2 percent with mean value of 57.8 percent. It indicates that a typical firm has blockholding half of the ownership stake, which confirms concentration of ownership in Pakistani corporate culture. FSHC has mean value of 6.9 years and its high value indicates that firms normally do not rely on the external labor market. On average firms have debt financing up to 43 percent. Tobin's Q of an average firm is 1.231 showing that market value of the firm is more than the book value of its assets. On average firms have advertisement expenditures 1.3% and R&D 0.1% of their assets.

### 4.2. Correlation Analysis

The correlation between variables is presented in Table 3. No strong correlation is seen between variables but their signs have much importance. Results show that Tobin's Q is positively correlated with PINST and PTEN while it negatively correlated with POD, OBOARD, FSHC and D/V.

*Table 2: Correlation analysis*

|        | POD    | PINST  | PTEN   | OBOARD | FSHC   | D/V    | Q      | LASSET | ADVA   | RDA   |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------|
| POD    | 1.000  |        |        |        |        |        |        |        |        |       |
| PINST  | -0.277 | 1.000  |        |        |        |        |        |        |        |       |
| PTEN   | -0.642 | -0.029 | 1.000  |        |        |        |        |        |        |       |
| OBOARD | -0.158 | 0.016  | 0.120  | 1.000  |        |        |        |        |        |       |
| FSHC   | 0.247  | -0.099 | -0.190 | -0.111 | 1.000  |        |        |        |        |       |
| D/V    | 0.232  | -0.069 | -0.274 | -0.182 | 0.053  | 1.000  |        |        |        |       |
| Q      | -0.123 | 0.257  | 0.193  | -0.080 | -0.060 | -0.288 | 1.000  |        |        |       |
| LASSET | -0.237 | 0.072  | 0.149  | -0.083 | -0.216 | -0.106 | -0.103 | 1.000  |        |       |
| ADVA   | -0.017 | -0.052 | -0.127 | 0.044  | -0.076 | -0.233 | -0.326 | -0.189 | 1.000  |       |
| RDA    | -0.004 | -0.067 | -0.138 | -0.067 | -0.077 | -0.099 | -0.033 | -0.054 | -0.005 | 1.000 |

POD is positively correlated with the FSHC and D/V that shows that more the insider shareholding less will be the reliance on external labor market and debt financing increases. POD and OBOARD are negatively correlated that shows increased insider shareholding decreases number of outside members on board. PINST is positively correlated with OBOARD that shows the monitoring role of institutional investors. PTEN is negatively correlated with FSHC and D/V.

### 4.3.2SLS Regression Estimates

At first endogeneity is checked between the corporate governance mechanisms and firm performance. The value of Chi-Square – P-Value of Hausman test was 0.979, 0.433, 0.361, 0.979, 0.128 and 0.000 for POD, PTEN, PINST, OBOARD, FSHC and D/V. The null hypothesis of no endogeneity is rejected in case of D/V only that means there is reverse causality between D/V and Tobin's Q.

Table 4 represents the 2SLS regression results of corporate governance mechanisms on firm performance. The coefficient of insider shareholding is insignificant and by this null hypothesis is accepted that there is no relationship of insider shareholding and firm performance. The second hypothesis is accepted as blockholding is positively related with firm performance in 2SLS estimates at significance level of 0.000. This finding is consistent with the findings of Huang & Lu (2020). Large shareholders have large stakes in the company and for this they play productive role to align the interests of the managers and shareholders. The existence of large shareholders thus reduces the agency problems and improves the performance of the firm.

*Table 3: 2SLS regression estimates of corporate governance mechanisms on firm performance*

| Independent Variables | Dependent Variable = (Q) (Standard Errors) |
|---|---|
| | Estimates from 2SLS |
| POD | 0.481 |
| | (0.416) |
| PTEN | 1.924*** |
| | (0.351) |
| PINST | 2.760*** |
| | (0.353) |
| OBOARD | -0.225 |
| | (0.282) |
| FSHC | -0.014 |
| | (0.011) |
| D/V | 3.098*** |
| | (0.956) |
| LASSET | -0.232** |
| | (0.347) |
| RDA | 0.060 |
| | (0.111) |
| ADVA | 20.873*** |
| | (2.714) |
| Constant | -0.916** |
| | (0.443) |
| Prob > F | 0.000 |
| Number of Observations | 4,560 |
| R-Squared | 0.2232 |

꞉꞉꞉  Standard errors in parenthesis.

***$p < .01$, **$p < .05$, *$p < .10$

Institutional shareholding is positively related with Tobin's Q in 2SLS regression estimates at significance of 0.000 level. Third hypothesis is accepted that implies firms with greater institutional shareholding are better performers. This finding is consistent with Sakawa & Watanabel (2020) as they found positive significant relationship between number of institutional investors and percentage of equity owned by them with firm performance.

The coefficient of OBOARD is negative but insignificant that shows no relationship between OBOARD and Tobin's Q. Klein (1998) argued that outsiders may lack understanding of the corporate strategy and operational expertise of insiders therefore, in their presence firm does not progress. The coefficient of FSHC is negative

but insignificant. The null hypothesis of no relationship between reliance on external labor market and firm performance is thus accepted. The reason can be that in Pakistan, the founders of firms are usually the CEOs of firms and firms do not rely on external labor market to hire any new CEO as it can be seen in table 2 that maximum value of FSHC is 20 years.

Use of debt is positively related with firm performance at significance level of 0.001. Sixth hypothesis is accepted as more use of debt positively affects the performance of a firm. This finding is consistent with Mishra & Dasgupta (2019) as they found that greater use of debt leads to better performance of the firm. Debt was also found to be endogenous with firm performance. This is obvious that creditors willingly lend money to profitable firms as they also need security of their funds. Therefore, the use of debt is dependent on the performance of the firm and better a firm will perform, more amount creditors will willingly lend to that firm. On the other hand, use of debt is determined by the apprehension about the unscrupulous behavior by management. Good performing firms have funds and those funds are required to be optimally utilized and for optimal utilization of funds firms need good monitors. Use of debt reduces the management control over cash flows and investment in low-return projects and thus improves the efficiency of a firm.

### 4.4.Robustness Checks

To check the robustness of the results this study also estimated (1) pooled OLS regression, assuming that there are no firm fixed effects, (2) pooled OLS with year dummies, assuming that years might have effect on market value, (3) Fama and McBeth regression, because majority of the ownership data has little variation in the data set, this makes a cross-sectional regression a good candidate as an analysis tool. Fama and McBeth regression is a two-step procedure, in first step regression coefficients are estimated each year using cross-sectional data and in second step yearly regression coefficients are averaged.

Coefficients of blockholding and institutional shareholding are significant at 1% level of significance in all the four regressions. That shows blockholders and institutional investors better monitor the management of a firm that leads to good firm performance. The coefficient of board independence is insignificant in 2SLS, but it is negatively significant in pooled and Fama and McBeth regressions. This shows that outside members of board have low familiarity with the firm's internal affairs and their presence leads to poor firm performance. The coefficients of use of debt is positively significant in 2SLS estimates while negatively significant in pooled regression estimates, the reason can be the reverse causality between use of debt and firm performance that is not captured in pooled regression. It can be seen in column 3 that none of the year dummies are significant that shows no time effect on market value of firms.

*Table 4: Robustness checks*

| | Dependent Variable = (Q) | | | |
| | (Standard Errors) | | | |
| | (1) | (2) | (3) | (4) |
| VARIABLES | 2SLS | Pooled OLS | Year Dum. | Fama & McBeth |
|---|---|---|---|---|
| POD | 0.481 | 0.838*** | 0.894*** | -3.064 |
| | (0.416) | (0.315) | (0.316) | (3.560) |
| PTEN | 1.924*** | 1.172*** | 1.234*** | 1.298** |
| | (0.351) | (0.240) | (0.240) | (0.538) |
| PINST | 2.760*** | 2.402*** | 2.412*** | 2.139*** |
| | (0.353) | (0.265) | (0.266) | (0.676) |
| OBOARD | -0.225 | -0.849*** | -0.871*** | -1.125*** |
| | (0.282) | (0.191) | (0.208) | (0.259) |
| FSHC | -0.014 | -0.019** | -0.017* | -0.138 |
| | (0.011) | (0.009) | (0.009) | (0.111) |
| D/V | 3.098*** | -1.162*** | -0.976*** | 2.135* |
| | (0.956) | (0.180) | (0.189) | (2.961) |
| LASSET | -0.232** | -0.109*** | -0.101*** | -0.116** |
| | (0.347) | (0.034) | (0.034) | (0.049) |
| RDA | 0.060 | -0.066 | -0.039 | -3.123 |
| | (0.111) | (0.083) | (0.084) | (4.111) |
| ADVA | 20.873*** | 12.481*** | 12.886*** | 49.823 |
| | (2.714) | (1.548) | (1.549) | (31.427) |
| Year Dummy | | | 0.582 | |
| | | | (0.530) | |
| Constant | -0.916** | 3.513*** | 3.393*** | 3.418** |
| | (0.443) | (0.828) | (0.890) | (1.343) |
| | | | | |
| Observations | 4,560 | 4,555 | 4,555 | 4,555 |
| R-squared | 0.223 | 0.273 | 0.288 | 0.452 |

Standard errors in parenthesis.

***p< .01, **p< .05, *p< .10

## 5. CONCLUSION

Corporate governance controls and mechanisms are premeditated to lessen the inefficiencies that arise from moral hazards in the agency context. These controls help to align the conflicting interests of managers and owners and thus improve performance of firms. This study examined the relationship between six corporate governance mechanisms and firm performance. Among the mechanisms use of debt was found to be endogenously determined with the firm performance. The 2SLS estimates showed that blockholding, institutional shareholding and use of debt are effective in increasing firm performance while insider shareholding, board independence and reliance on external labor market are found to have no impact on firm performance.

There are several limitations to our study. The scope was constrained by the number of corporate governance variables available due to data limitations. Future research could incorporate additional factors, such as audit, remuneration, and nomination committees, as well as director networks, when such data becomes available. Since all data was manually collected from annual reports, this study focused on the 300

firms for the period from 2004-2021. Future studies could expand this research by including more firms and extending the timeframe. Additionally, this study primarily relies on secondary data; future research could enhance our findings by conducting in-depth interviews, questionnaires, or case studies to gain deeper insights into corporate governance practices and their impact on firm performance.

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