

CORPORATE GOVERNANCE AND FIRM GROWTH: AN EMPIRICAL STUDY OF PUBLIC SECTOR ENTERPRISES

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ABSTRACT

Corporate governance is defined as a mechanism adopted to exercise the power or govern the public corporation. Corporate failure across the world braced the significance of corporate governance practices. Guidelines were issued in respect of composition of board and committees, also conduct of their meetings along with number of disclosures. In this study, the researcher made an attempt to identify the impact of corporate governance variables on the growth and earnings of the Central Public Sector Enterprises of India. Present study includes board structure (board size, board meeting, numbers of independent directors and proportion of board interlocks) and ownership structure (promoter's ownership, institutional ownership and foreign ownership) as corporate governance variables. Corporate growth is measured through assets growth; EPS measures firm earnings and ROA measures firm performance. Using panel data of 24 Maharatna and Navratna status Central Public Sector enterprises for the period of ten years from 2009-10 to 2018-19, it revealed that presence of independent directors on firm board, foreign ownership, board size, board meetings, promoter's ownership and firm size enhances organisation's performance, growth and earnings, however, proportion of board interlocks, institutional ownership and leverage lessens the same. Apart from contributing to the existing body of knowledge in India, the findings of the present study will assist the policy makers to determine the possible changes and evaluating the present corporate governance guidelines effectiveness.

Keywords: Corporate Governance, PSUs, Board Structure, Ownership Structure, Panel Data.

INTRODUCTION

Corporate governance is defined as “the relationship between the investor, the management team and the board of directors” (Levitt, 2002). It assists in aligning the interest of management and shareholders (Grant, 2003). It has been in practice from 1900 since the emergence of limited liability companies, a form of organisation (Ahmad & Omar, 2016) but the term appeared during the 1970s (Cheffins, 2013) following the saving and loan crisis. Further, in 21st century major economies of the world were shaken by the collapse of prominent entities like Enron (US), WorldCom (US), Baring Bank (UK), Polly Peck (UK), Parmalat (Italy), Tyco (Switzerland) and many

others (Ahmad & Omar, 2016) provided the impetus for framing practices for Good Corporate Governance.

In corporate form of organisation, shareholders are known as principals and managers, who are professional, are known as agent. Shareholders are the real owner of the organisation but control and power lies in the hands of managers, which causes agency problem. Corporate governance mechanism is adopted to reduce the agency cost (Weir *et al.*, 2002). There are two types of mechanism according to agency theory to resolve principle-agent problem: internal mechanism and external mechanism. Internal mechanism of governance includes board structure and ownership structure (Kalsie & Shrivastav, 2016) and external control includes market control (Weir *et al.*, 2002).

Agency theory dominates the corporate governance theoretical research (Daily *et al.*, 2003) and view board composition as a way to mitigate the agency cost. Baysinger & Butler (1985) stated that “board of directors is only one of many institutional arrangements that have been invented for controlling agency cost”. As per theories, such as agency theory and resource dependency theory, large size board is more effective than small board. Whereas, stewardship theory view small board size is effective. Therefore, agency and resource dependency theory favours positive relationship between board size and performance; on the other hand, stewardship theory favours negative relation (Kalsie & Shrivastav, 2016). Similarly, in case of board independence, agency theory and resource dependency theory favours appointment of outside directors while stewardship theory support the domination of insiders directors on the board of organisation (Muth & Donaldson, 1998).

Resource dependency theory is based on the postulate that firm should pursue outside directors if they are “valuable, unique and hard to imitate managerial resources” and interlocking assists in exchanging information across entities, provide input for firm decision making and securing more resources (Peng *et al.*, 2015).

In India, corporate governance becomes prominent in 1990s in the event of corporate scandals and scams that hit the capital market. In 1996, CII set up a committee under the headship of Mr. Rahul Bajaj and issued the voluntary corporate governance code. Furthermore, committees were set up such as: Birla committee by SEBI, Naresh Chandra committee by Ministry of Corporate Affairs, Naryana Murthy committee by SEBI and J J Irani committee by

Ministry of Corporate Affairs. Corporate governance codes drawn from committees finding were highly influenced from the practices adopted in USA and UK.

Present paper attempted to contribute in the existing body of knowledge in India through focusing on the public sector (general government and public corporations) which contributes 18.9 per cent in the total GVA in 2017-18¹. Paper focuses on internal mechanism of corporate governance such as board size, board independence, board meeting as well as board interlocking.

REVIEW OF LITERATURE

Board of directors are the representative of shareholders and one of the organisational mechanisms that mitigate the agency cost and align the interest of management with those of shareholders. Board performs the advising and monitoring function. Directors whether they are insiders or outsiders provides advice, access to information and various resources under advisory function. Monitoring function includes supervision and disciplining management teams and better performed by outsider directors. Being decision-making group, size of the board influences efficacy of decision and its process (Dwivedi & Jain, 2005). Further board size has its effect on other parameters such as compensation, presence of independent directors’ diversity and others (Katti & Raithatha, 2018).

Ideal board size and its influence over corporate performance have been issue of debate in emerged and emerging economies, however, existing literature showed mixed results. Yermack (1996), studied a sample of 452 companies and reported the inverse effect of board size (as measured by market based performance measure Tobin’s Q). In an analysis, of 504 companies of India for the financial years 1994-95, Kathuria & Dash (1999) found negative relationship of board size with accounting performance measure based on ROA. Guest (2009) also found that large board size adversely impacted the firm share return, tobin’s Q and profitability after conducting a study on 2746 listed firm of UK from 1981 and 2002. Similarly, Ujunwa (2013) studied 122 Nigerian firm between 1991 and 2008 to identify the association of board size with the firm value, and concluded that accounting performance measure based on ROA has unfavourable relation with board size. Ees *et al.*, (2003), studied 94 listed companies of

¹ National Account Statistics 2019

Netherlands for the year 1996 and reported that under the two-tier board system, magnitude of supervisory board has unfavourable influence on firm performance. An analysis, of 799 companies across 22 countries during 2002, Dahya *et al.* (2008) documented the adverse impact of board size on Tobin's Q. In his study of 164 companies listed on BSE for the years 1997-98 and 2002-03, Garg (2007) showed that the board size has adverse relation with Tobin's Q, ROA, stock return minus returns on market return and sales to assets ratio. He further indicated that optimal size of board must be six. Similarly, Jensen (1993) suggested the optimal board size to be of seven or eight and Lipton & Lorsch (1992) indicated the eight or nine directors to be ideal board size.

Regarding the positive association of board size with firm performance, Pearce & Zahra (1992) documented that firms with large board size have a superior performance (ROA, ROE, EPS, NPM) by studying 119 industrial companies of US for the period between 1983-89. In addition, Kiel & Nicholson (2003) examined the 348 Australian companies and found that board structure has link with corporate performance. Their result indicated that there was positive effect of board size on market as well as accounting performance measure based on Tobin's Q and ROA, respectively. Chauhan & Pasricha (2010) examined the association between the board size on firm value, by using a sample of 34 pharmaceutical and IT companies of India over the 2001-02 to 2006-07 period and found that large board size increases the firm value. Also, Farooque *et al.* (2020) studied 452 Thai companies and concluded that board size has significant power to explain variation in market based performance measures. Ghazali (2020) examined 742 Malaysian companies during 2013 and documented that large board size favourably influences firm value. Alodat *et al.*, (2021) studied 81 companies of Jordan during 2014-18 and identified that large board size improves ROE and Tobin's Q.

Large board size suffers from few disadvantages such as lack of co-ordination which lead to slow decision making, lack cohesion, biased performance evaluation, however, it reduced the chance of CEO domination, pool the larger talent in terms of experience, knowledge and resources. As per the agency theory, large board size leads to high agency cost and ineffective monitoring of the board and firm (Kao *et al.*, 2019). Although the findings of the previous studies on the relationship between board size and firm performance showed the mix result.

According to the agency theory, expansion of board size beyond a certain limits may results in unfavourable effect on the performance of firm.

Another internal control mechanism of corporate governance is the presence of independent directors on the board. Depending on the theories of corporate governance, researchers finding were diverse on the board independence and corporate performance with association. Agency theory argued that the board primary role is to perform the monitoring and controlling function over the management team in order to safeguard shareholders' interest, to reduce the agency cost and to ensure that managers didn't act for their personal interest over the company's interest. In consonance with agency theory, independent directors, who are unaffiliated to an organisation can perform the monitoring function effectively because of their independence from management team and therefore, can add value to an organisation. Similarly, resource dependency theory relates to the advising function of board rather than monitoring function and believes that technical knowledge, expertise, business experience, skills and qualifications of independent directors may provide an access to critical resources available in external environment and eventually add value to an organisation.

Board independence improves corporate value; Sami *et al.* (2011) indicated that existence of outside directors on board increased accounting performance (ROA and ROE) and firm value (as measured by Tobin's Q), studying companies listed on Shenzhen Stock Exchange over the period of 2001-04. Müller (2014) examined the impact of independent directors appointment, by using a FTSE-100 companies over the period of 2010-11 and found that addition of independent directors enhances the operating performance of an organisation. In addition, Mashayekhi & Bazazb (2008) examined the effect of appointment of outside directors on the corporate performance in the Iran for the period of 2005-2006, using a sample of 240 listed companies. Their findings concluded that outside directors has favourable influence on corporate performance (as measured by ROA, ROE and EPS). In sharp contrast to above, stewardship theory states that higher proportion of inside directors on board is linked to better performance of an organisation because these directors are well equipped with the information of day to day activities and working of an organisation along with its specific as well as valuable knowledge. Outside directors depend on the inside directors for the information required in concern of effective

evaluation of manager's performance. Some studies found negative relation between board independence and firm value. For example, Kiel & Nicholson (2003) studied 348 Australian companies and investigated the influence of inside directors presence on corporate value and concluded that inside directors presence has favourable influence on market value of firm. In their analysis of Korean companies after the event of Asian Financial Crisis, Choi *et al.* (2007) documented that higher proportion of outside directors has positive effect on Tobin's Q. In addition, Rashid (2018), studied 135 listed companies of Bangladesh during 2006-11 and found that board independence has no relation with market as well as with accounting performance measures. Kao *et al.*, (2019) studied Taiwan companies for 18 years and found that board independence improves financial performance of firm. Moreover, Farooque *et al.* (2020) studied 452 Thai companies and concluded that board size has significant power to explain variation in market based performance measures. Ghazali (2020) examined 742 Malaysian companies during 2013 and documented that large board independence unfavourably influences firm value. Alodat *et al.*, (2021) studied 81 companies of Jordan during 2014-18 and identified that presence of independent directors on board improves ROE and Tobin's Q.

Board meetings are the requisite for effective decision making and monitoring functions. When board meets frequently, directors are more likely to perform their tasks in superior harmonization and in alignment with the interest of the shareholders (Lipton & Lorsch, 1992). Arora & Sharma (2016) reported the positive association of board meeting with firm value, after studying 1922 manufacturing companies of India during the years from 2001 to 2010. However, board meeting involves cost in form of directors' fee, travelling charges and managerial time (Vafeas, 1999). Rodriguez-Fernandez *et al.* (2014), studied 121 listed Spanish companies and presented an inverse relationship between board meeting and accounting measure of performance. Moreover, 28 listed manufacturing companies of Sri Lanka were studied for the year 2001 and 2011 and Velnampy (2013) identified an insignificant relation of board meeting with corporate performance. Also, Farooque *et al.* (2020) studied 452 Thai companies and concluded that board meetings have significant power to explain variation in market based performance measures. Ghazali (2020) examined 742 Malaysian companies during 2013 and documented that large board meetings favourably influences firm value. Alodat *et*

al. (2021) studied 81 companies of Jordan during 2014-18 and identified that conduct of high number of board meeting improves ROE and Tobin's Q.

Another board structure component is proportion of interlocks in relation to its board size. A sample of 131 Saudi Arabia firms during 2016 were studied and Hamdan (2018) identified that higher number of interlocking on board enhances firm value, in case number of interlocks lies between 1 to 6. In addition, Pombo & Gutiérrez (2011) indicated that degree of board interlocks has positive relation with firm return on assets, after studying listed companies of Colombia for ten years from 1996 to 2006. Likewise, 348 Australian companies were studied during 1996 and Kiel & Nicholson (2003) detected a weak positive association of board interlocks with corporate performance.

Ownership structure is important determinant of corporate governance. Ownership structure is represented by promoters' ownership, institutional ownership and foreign ownership.

Promoters' ownership: "Promoter(s), in general, is a (are) person(s) who are involved in incorporation and organization of a corporation" (Mishra & Kapil, 2017). Shleifer & Vishny (1986) argued that agency cost could be reduced by largest ownership group due to their controlling ability and therefore, enhances firm value. Similarly, Jensen & Meckling (1976) stated that high ownership concentration resulted in the better alignment of interest of managers and shareholders, hence firm value will enhance. Consistent with this view, Mishra & Kapil (2017) studied 391 listed companies in India for the years 2010-2014 and found the relation of promoters ownership with firm value to be significant and positive. Also in their study of 176 listed companies of India for the year 2008-09, Kumar & Singh (2013) found positive but significant association between promoters' ownership and firm performance.

Institutional ownership: It is defined as the proportion of firm's share being held by the institutional investors i.e. banks, financial institutions and mutual funds. Chung & Zhang (2011) stated that institutional investors have large stake in companies which provide them stronger incentive for monitoring of the management. Institutional investors assist in mitigating the requirement for external monitoring through the transfer of information to shareholders (Alipour, 2013). There is positive relationship between institutional ownership and firm value, according to efficient monitoring hypothesis. Consistent with this view, Leng (2004), studied 77

Malaysian companies from 1996-1999 and identified the influence of institutional ownership on firm performance but significant. Moreover, 95 listed companies were studied for the period 2009-2013, Yasser & Mamun (2017) showed that the presence of institutional shareholders enhances firm value. Furthermore, analysing a sample of 60 listed companies of Iran for the period 2005-2009, Alipour (2013) documented the presence of institutional shareholders enhances corporate performance. Kao *et al.* (2019) found that institutional ownership has favourable impact on firm value, with a sample of 10151 Taiwan firm-year observations from 1997-2015. Mishra & Kapil (2017) also revealed that institutional ownership favourably influences corporate value in India, using a sample of 391 listed firms over the 2010-2014 period.

On the other hand, as per the strategic alignment hypothesis, there is inverse relationship between institutional ownership with the firm value. Supporting evidence provided by, Li *et al.*, (2006) indicated that existence of institutional investors has indirectly influenced the firm value in Hong Kong, using a sample of 433 listed companies for 1996-1998 period. Alodat *et al.*, (2021) studied 81 companies of Jordan during 2014-18 and indicated that existence of institutional investors improves ROE and Tobin's Q.

Foreign ownership is defined as the proportion of organisation's shares held by foreign institutions. Chen *et al.*, (2005) argued that foreign investors may effectively perform their monitoring function due to their weak relation with insiders. Prior studies indicated that companies disclosure levels in annual reports significantly improve in case shareholding of foreign investor is substantial (Haniffa & Cooke, 2002) (Ghazali, 2010).

Divers studies reinforce the above argument, such as, Bolbol *et al.*, (2005) found the positive relation of foreign ownership with market measure, after studying 304 firms belonging to various Arab countries for the years 2000-2002. Similarly, a study of 95 Pakistani companies for the years 2009-2013, Yasser & Mamun (2017) reported the favourable influence of foreign ownership on EPS and Tobin's Q. Furthermore, analysing a sample of 87 Malaysian corporations for the period 2001, Ghazali (2010) showed that foreign investors has positive impact on firm performance. Kao *et al.*, (2019) documented the direct link between foreign ownership and firm value, after studying a sample of 10151 Taiwan firm-year observations from 1997-2015. Dwivedi & Jain (2005) also suggested that foreign investors has favourable impact on corporate value in India for the period

1997-2001, studied 341 listed companies. Choi *et al.*, (2007) used a Korean dataset and find that the existence of foreign ownership has enhances firm value, after studying a 1834 firm-year observation for the year 1999-2002. Sami *et al.*, (2011) found that foreign ownership directly determine the firm value of China's listed firms. Alodat *et al.*, (2021) studied 81 companies of Jordan during 2014-18 and indicated that existence of institutional investors improves ROE and Tobin's Q. Few studies such as Farooq *et al.*, (2022) and Mishra *et al.*, (2021) developed Corporate Governance Index (CGI) and identified that there is positive link of CGI with various performance measures.

RESEARCH METHODOLOGY

Data

Secondary data were used to achieve the objective of the present study. Data for the corporate governance variables were collected from the annual reports of the company and financial data were obtained from CMIE Prowess database.

Sample

The present study used a sample of 24 Central Public Sector Enterprises accorded with the status of Maharatna and Navratna for a period of 10 years from 2009-10 to 2018-19. Due to unavailability of financial as well as governance data resulted in contraction of final sample to 21 companies.

Model

Following equations represented the model of the study:

$$\begin{aligned} ROA_{it} = & \beta_0 + \beta_1 \text{Board size}_{it} + \beta_2 \text{number of independent directors}_{it} \\ & + \beta_3 \text{Board meeting}_{it} + \beta_4 \text{Proportion of interlocks}_{it} \\ & + \beta_5 \text{institutional shareholding}_{it} + \beta_6 \text{promoters' shareholding}_{it} \\ & + \beta_7 \text{foreign shareholding}_{it} + \beta_8 \text{Firm age}_{it} + \beta_9 \text{Firm size}_{it} \\ & + \beta_{10} \text{Leverage}_{it} + \beta_{11} \text{Sales growth}_{it} + \beta_{12} \text{Current ratio}_{it} + \varepsilon_{it} \end{aligned}$$

$$\begin{aligned} EPS_{it} = & \beta_0 + \beta_1 \text{Board size}_{it} + \beta_2 \text{number of independent directors}_{it} \\ & + \beta_3 \text{Board meeting}_{it} + \beta_4 \text{Proportion of interlocks}_{it} \\ & + \beta_5 \text{institutional shareholding}_{it} + \beta_6 \text{promoters' shareholding}_{it} \\ & + \beta_7 \text{foreign shareholding}_{it} + \beta_8 \text{Firm age}_{it} + \beta_9 \text{Firm size}_{it} \\ & + \beta_{10} \text{Leverage}_{it} + \beta_{11} \text{Sales growth}_{it} + \beta_{12} \text{Current ratio}_{it} + \varepsilon_{it} \end{aligned}$$

$$\begin{aligned} \text{Assets growth}_{it} \\ = & \beta_0 + \beta_1 \text{Board size}_{it} + \beta_2 \text{number of independent directors}_{it} \\ & + \beta_3 \text{Board meeting}_{it} + \beta_4 \text{Proportion of interlocks}_{it} \\ & + \beta_5 \text{institutional shareholding}_{it} + \beta_6 \text{promoters' shareholding}_{it} \\ & + \beta_7 \text{foreign shareholding}_{it} + \beta_8 \text{Firm age}_{it} + \beta_9 \text{Firm size}_{it} \\ & + \beta_{10} \text{Leverage}_{it} + \beta_{11} \text{Sales growth}_{it} + \beta_{12} \text{Current ratio}_{it} + \varepsilon_{it} \end{aligned}$$

Where,

ROA_{it} is return on assets, EPS_{it} is earning per share, $\text{Assets growth}_{it}$ is assets growth; and ε_{it} is the error term.

Independent Variables

In the present study, the key predictor variables are board size, number of independent directors, board meeting, institutional ownership, promoters' ownership and foreign ownership.

Dependent Variables

Present study includes ROA, EPS and assets growth as the proxies of financial performance for the selected companies.

Control Variables

Apart from its board structure and ownership structure variables, the corporate performance is influenced by other explanatory variables and to avoid any spurious relationship between governance variables and corporate performance, it is customary in literature to control the effect of these explanatory variables.

ANALYSIS AND INTERPRETATION

Data collected for the study from 2009-10 to 2018-19 were analyzed using descriptive statistics, correlation and regression analysis.

Table 1: Descriptive Statistics

| Variable | Mean | Median | S.D. | Min | Max |
|--------------------------|--------|--------|-------|--------|-------|
| Board Size | 11.9 | 12.0 | 3.28 | 4.00 | 19.0 |
| Number of IDs | 5.00 | 5.00 | 2.40 | 0.00 | 10.0 |
| Board Meetings | 10.6 | 10.0 | 3.21 | 5.00 | 22.0 |
| Proportion of interlocks | 0.715 | 0.750 | 0.209 | 0.0625 | 1.10 |
| Institutional Ownership | 12.6 | 12.0 | 6.00 | 0.00 | 29.3 |
| Foreign Ownership | 9.22 | 6.35 | 7.71 | 0.00 | 28.8 |
| Promoters' Ownership | 68.2 | 67.7 | 13.7 | 0.00 | 100 |
| Firm Age | 3.76 | 3.81 | 0.312 | 3.04 | 4.23 |
| Firm Size | 10.7 | 10.8 | 1.17 | 7.95 | 12.8 |
| Leverage | 0.260 | 0.203 | 0.233 | 0.00 | 0.876 |
| Current Ratio | 2.63 | 1.53 | 5.31 | 0.200 | 51.6 |
| Sales Growth | 0.0813 | 0.0845 | 0.171 | -0.566 | 0.952 |
| EPS | 23.2 | 16.5 | 31.0 | -84.5 | 146. |
| ROA | 8.27 | 6.09 | 14.9 | -23.1 | 136. |
| Assets growth | 8.41 | 8.21 | 10.7 | -30.6 | 42.8 |

Source: Author's Calculation

Table 1 presents the descriptive statistics for key variables. In terms of board structure, an average size of the firm board is 11.9 directors while the minimum number is 4 and maximum is 19. The average firm has 5 independent directors on their board; while, the minimum number of independent directors in our sample is zero and maximum are 10. This revealed that firms have presence of outsiders on their board. The average number of board meeting is 10.6 and the median is 10. Minimum level of board meeting held is 5 and maximum number is 22 implying that sampled firms comply with the minimum requirement of 4 meeting to be held during a financial year. Average 71.5 per cent director on the board of sample firm has directorship on other companies' board, while the minimum is 6 per cent and maximum is 110 per cent. With respect to ownership, average institutional ownership in the sample companies is 12.9 per cent, while median is 12 per cent. The maximum institutional ownership is 29.3 per cent and minimum is zero in the sample companies. The average foreign ownership is 9.22 per cent, with a maximum of 28.8 per cent and minimum of zero ownership. Sampled firms have average of 68.2 per cent of promoters' ownership, with maximum of 100 per cent and minimum of zero per cent holding. Performance variables indicate that an average firm assets rise at the rate of 8.41 per cent and experienced a median of 8.21 per cent. The minimum rate of growth for sampled firm is -30.6 per cent and maximum is 42.8 per cent. The average firm experiences ROA of 8.27 per cent and EPS of 23.2 per cent.

Table 2: Correlation Analysis

| | BS | No.of ID | BM | PIL | ISH | FSH | PSH | LA | LS | Lev | CR | Sales Growth | EPS | ROA | Assets growth |
|--------------------------|---------|----------|---------|---------|---------|---------|--------|---------|---------|---------|-------|--------------|--------|-------|---------------|
| Board Size | 1 | | | | | | | | | | | | | | |
| Number of IDs | .889** | 1 | | | | | | | | | | | | | |
| Board Meetings | .026 | .092 | 1 | | | | | | | | | | | | |
| Proportion of interlocks | -.329** | -.347** | .108 | 1 | | | | | | | | | | | |
| Institutional Ownership | -.038 | -.038 | -.194** | -.152* | 1 | | | | | | | | | | |
| Foreign Ownership | -.335** | -.264** | .067 | .305** | -.018 | 1 | | | | | | | | | |
| Promoters' Ownership | .236** | .210** | .029 | -.125 | -.588** | -.554** | 1 | | | | | | | | |
| Firm Age | .323** | .200** | -.115 | -.219** | .086 | -.468** | .209** | 1 | | | | | | | |
| Firm Size | -.100 | -.093 | .495** | .349** | -.078 | .206** | -.163* | -.005 | 1 | | | | | | |
| Leverage | -.494** | -.311** | .307** | .170* | -.011 | .222** | -.149* | -.321** | .525** | 1 | | | | | |
| Current Ratio | -.129 | -.075 | .046 | .093 | -.131 | .107 | .101 | .009 | .052 | .169* | 1 | | | | |
| Sales Growth | .047 | .130 | .047 | .164* | -.102 | .082 | .014 | -.096 | .087 | .073 | -.033 | 1 | | | |
| EPS | -.006 | -.036 | -.165* | .087 | -.166* | .272** | -.060 | .058 | -.002 | -.209** | .017 | .111 | 1 | | |
| ROA | .079 | .086 | .097 | -.146* | -.266** | -.058 | .261** | .072 | -.194** | -.328** | .057 | .044 | .249** | 1 | |
| Assets Growth | .046 | .118 | .229** | .219** | -.233** | .231** | .000 | -.133 | .242** | .151* | .079 | .211** | .236** | -.057 | 1 |

*Significant at the 0.10 level

**Significant at the 0.05 level

*** Significant at the 0.01 level

Source: Author's Calculation

Table 2 presents the correlation matrix amongst the key variables of the study. With respect to board structure, board size is positively related with number of independent directors, promoters' ownership, firm age and negatively related with proportion of interlocking, foreign ownership and leverage. Number of independent directors is positively related with promoters' ownership, firm age and negatively related with proportion of interlocking, foreign ownership and leverage. Board meeting is positively correlated with firm size, leverage, assets growth and negatively correlated with institutional ownership and EPS. Proportion of interlocking is positively correlated with foreign ownership, firm size, assets growth and negatively correlated with institutional ownership, firm age and ROA. In terms of ownership structure, institutional ownership is negatively related with promoters' ownership, EPS,

ROA and assets growth. Foreign ownership is positively correlated with firm size, leverage, EPS, assets growth and negatively correlated with promoters' ownership and firm age. Promoters' ownership is positively correlated with firm age, ROA and not correlated with assets growth. With respect to control variables, firm age is positively correlated with board size, number of independent directors, promoters' ownership and negatively correlated with proportion of interlocking, foreign ownership and leverage. Firm size is positively correlated with board meeting, proportion of interlocking, foreign ownership, leverage, assets growth and negatively correlated with promoters' ownership and ROA. Leverage is positively related with board meeting, proportion of interlocking, foreign ownership, firm size and negatively related with board size, number of independent directors, promoters' ownership, firm age, EPS and ROA.

Table 3: Regression Analysis for ROA

| | Pooled OLS | | Fixed Effect Model | | Random Effect Model | |
|-----------------------------|----------------------|------------|----------------------|------------|----------------------|------------|
| | Coefficient | Std. Error | Coefficient | Std. Error | Coefficient | Std. Error |
| Const | 53.6703** (0.022) | 23.2504 | 115.804* (1.706) | 67.866 | 51.9945* (0.1788) | 29.0736 |
| Board Size | -23.2441*** (-2.851) | 8.15392 | -15.1979 (-1.570) | 9.68143 | -15.7124* (-1.838) | 8.54664 |
| Number Of Ids | 1.3516 (1.475) | 0.91661 | 0.811423 (0.8368) | 0.96964 | 0.770232 (0.8571) | 0.898597 |
| Board Meetings | 1.0601*** (3.15) | 0.33659 | -0.155802 (-0.4711) | 0.33072 | 0.350279 (1.07) | 0.327425 |
| Proportion Of Interlocks | -14.8042*** (-2.830) | 5.23161 | -17.3053*** (-3.152) | 5.49075 | -19.1653*** (-3.784) | 5.06476 |
| Institutional Ownership | -0.400840* (-1.806) | 0.22192 | -0.168734 (-0.6673) | 0.25285 | -0.342830 (-1.505) | 0.22772 |
| Foreign Ownership | 0.164299 (0.9109) | 0.18036 | 0.257799 (0.6846) | 0.37657 | 0.141236 (0.6149) | 0.229704 |
| Promoters' Ownership | 0.169284 (1.458) | 0.1161 | 0.0211522 (0.1294) | 0.16341 | 0.122317 (0.9237) | 0.132427 |
| Firm Age | 0.717786 (0.197) | 3.64374 | 14.412 (0.7656) | 18.8241 | 0.133241 (0.02648) | 5.03128 |
| Firm Size | 0.0999176 (0.8418) | 1.18698 | -10.2910** (-2.128) | 4.83538 | 0.0873908 (0.05663) | 1.54316 |
| Leverage | -34.7916*** -5.649 | 6.15838 | -25.7594** (-2.458) | 10.4789 | -26.5173*** (-3.759) | 7.05498 |
| Current Ratio | 0.194727 (1.096) | 0.17773 | 0.178733 (1.122) | 0.15927 | 0.170143 (1.049) | 0.162176 |
| Sales Growth | 6.82687 (1.242) | 5.49467 | 0.762667 (0.1562) | 4.88114 | 4.45773 (0.9013) | 4.94584 |
| R Square | | 0.29714 | | 0.14419 | | 0.264525 |
| F-Statistics | | 6.94028 | | 7.63146 | | 40.5377 |
| Durbin Watson Value | | 1.27023 | | 1.89116 | | 1.89116 |
| Hausman Test $X^2 = 41.675$ | | | | | | |

Source: Author's calculation

Note: T-ratio is reported in parentheses

Table 3 documents the results of Pooled OLS regression, fixed effect model and random effect model where dependent variable is ROA. R square reveals the explanatory power of the model. Results imply that R square is 29.71 per cent in case of Pooled OLS, 14.42 per cent in fixed effect model and 26.45 per cent in random effect model. Result of Hausman test implies that fixed effect model is appropriate in comparison with random effect model in estimating ROA. The findings reveal that

proportion of interlocks has significant negative association with ROA at 1 per cent level of significance implying that higher number of interlocks in relation to its board size has unfavorable influence on returns of an organization. Similarly, firm size and leverage at 5 per cent level of significance are negatively influencing the ROA. Other board structure and ownership structure variables are not significantly explaining the variation in ROA.

Table 4: Regression Analysis for EPS

| | Pooled OLS | | Fixed Effect Model | | Random Effect Model | |
|-----------------------------|----------------------|------------|----------------------|------------|----------------------|------------|
| | Coefficient | Std. Error | Coefficient | Std. Error | Coefficient | Std. Error |
| Const | -3.1250 (-0.06274) | 49.8067 | 336.094** (522) | 133.271 | 88.6552 (1.301) | 68.1329 |
| Board Size | -18.5123 (-1.060) | 17.4672 | -48.611** (-2.557) | 19.0117 | -31.9832* (-1.807) | 17.7007 |
| Number Of Ids | 1.02606 (0.5226) | 1.96355 | 3.08 1.618 | 1.90411 | 1.83339 (1.005) | 1.82373 |
| Board Meetings | -1.9238*** (-2.668) | 0.72104 | -1.1205* (-1.725) | 0.64945 | -1.2664* (-1.944) | 0.65165 |
| Proportion Of Interlocks | -8.04486 (-0.7178) | 11.2071 | -36.8613*** (-3.419) | 10.7823 | -28.6217*** (-2.828) | 10.1205 |
| Institutional Ownership | -1.13394** (-2.385) | 0.47539 | -0.6909 (-1.392) | 0.49652 | -1.04362** (-2.257) | 0.46248 |
| Foreign Ownership | 1.37461*** (3.558) | 0.38637 | 1.8061** (2.442) | 0.73947 | 1.20086** (2.295) | 0.52317 |
| Promoters' Ownership | -0.0659907 (-0.2653) | 0.24871 | 0.5749* (1.792) | 0.32089 | 0.4208 (1.483) | 0.28367 |
| Firm Age | 15.0588* (1.929) | 7.80557 | -35.0143 (-0.9472) | 36.9654 | -1.0645 (-0.08534) | 12.4737 |
| Firm Size | 4.86361* (1.913) | 2.54274 | -7.5872 (-0.7990) | 9.49537 | 2.26743 (0.5483) | 3.777 |
| Leverage | -45.3782*** (-3.440) | 13.1924 | -24.122 (-1.172) | 20.5777 | -39.3959*** (-2.582) | 15.2566 |
| Current Ratio | 0.00643 (0.01689) | 0.38072 | 0.01079 (0.03451) | 0.31277 | -0.0655589 (-0.2063) | 0.31785 |
| Sales Growth | 18.2738 (1.552) | 11.7706 | 6.09094 (0.6354) | 9.58524 | 7.67557 (0.7922) | 9.68866 |
| R Square | | 0.2486 | | 0.20379 | | 0.14216 |
| F-Statistics | | 5.43151 | | 9.12073 | | 38.2454 |
| Durbin Watson Value | | 0.79492 | | 1.57193 | | 1.57193 |
| Hausman Test $X^2 = 33.214$ | | | | | | |

Source: Author's calculation

Note: T-ratio is reported in parentheses

Table 4 reported the governance variables affecting the earning of PSUs. Results indicate that 24.86 per cent variation in EPS is explained by board structure and ownership structure variables along with the control variables under Pooled OLS regression, 20.37 per cent under fixed effect model and 14.21 per cent under random effect model. Significance of Hausman test value indicates that fixed effect model is appropriate over random effect model. Board size and board meetings have significant negative association with EPS at 5 per

cent and 10 per cent significance level, respectively. Similarly, proportion of interlocks has significant negative association with EPS at 1 per cent significance level implying that higher proportion of interlocks on board inversely effects the earnings of an organization. On the other hand, promoter's ownership and foreign ownership are positively influencing the EPS. Presence of independent directors on the board and institutional ownership are not significantly explaining the variation in earnings.

Table 5: Regression Analysis for Assets Growth

| | Pooled OLS | | Fixed Effect Model | | Random Effect Model | |
|------------------------------|------------------------|------------|----------------------|------------|---------------------|------------|
| | Coefficient | Std. Error | Coefficient | Std. Error | Coefficient | Std. Error |
| Const | -10.1219 (-0.5742) | 17.6288 | 171.718*** (3.072) | 55.9035 | -3.91393 (-0.2008) | 19.4928 |
| Board Size | -1.54614 (-0.2501) | 6.18244 | 4.33091 (0.5431) | 7.97491 | -2.37084 (-0.3656) | 6.48403 |
| Number Of Ids | 1.15443* (1.661) | 0.69499 | 0.417841 (0.5231) | 0.79872 | 1.23437* (1.741) | 0.70908 |
| Board Meetings | 0.284816 (1.116) | 0.25521 | 0.676055** (2.482) | 0.27243 | 0.354773 (1.357) | 0.26138 |
| Proportion Of Interlocks | 7.56385* (1.907) | 3.96669 | -0.152787 (-0.03378) | 4.52291 | 7.18059* (1.775) | 4.04554 |
| Institutional Ownership | -0.292691* (-1.739) | 0.16826 | -0.0774716 9-0.3720) | 0.20828 | -0.268609 (-1.527) | 0.17596 |
| Foreign Ownership | 0.269535* (1.971) | 0.13675 | 0.155933 (0.5027) | 0.31019 | 0.232588 (1.520) | 0.15306 |
| Promoters' Ownership | -0.00080536(-0.009149) | 0.08803 | -0.139467 (-1.036) | 0.13461 | 0.0126918 (0.1335) | 0.09508 |
| Firm Age | 0.306674 (0.111) | 2.76274 | -73.4401*** (-4.736) | 15.506 | -1.74224 (-0.5520) | 3.15607 |
| Firm Size | 0.62466 (0.6941) | 0.89999 | 9.58801** (2.407) | 3.98306 | 0.86724 (0.8647) | 1.00298 |
| Leverage | 3.16763 (0.6784) | 4.66939 | -2.23322 (-0.2587) | 8.63179 | 0.449042 (0.08892) | 5.04989 |
| Current Ratio | 0.0437083 (0.3244) | 0.13476 | -0.0607453 (-0.4630) | 0.1312 | 0.0241723 (0.1801) | 0.13421 |
| Sales Growth | 6.81701 (1.636) | 4.16615 | 3.95786 (0.9844) | 4.02076 | 5.81821 (1.412) | 4.12053 |
| R Square | | 0.2139 | | 0.25172 | | 0.20953 |
| F-Statistics | | 4.467 | | 4.44 | | 44.0494 |
| Durbin Watson Value | | 1.50138 | | 1.90812 | | 1.90812 |
| Hausman Test $X^2 = 59.9631$ | | | | | | |

Source: Author's calculation

Note: T-ratio is reported in parentheses

Table 5 shows the results of the regression analysis where regress and is assets growth. Under Pooled OLS regression, 21.39 per cent variation is explained by governance variables, 25.17 per cent under fixed effect model and 20.95 per cent under random effect model. Significance of Hausman test value implies that fixed effect model is appropriate than random effect model. Board meeting and firm size have significant positive association with assets growth at 5 per cent level of significance. While, firm age has significant negative association with assets growth at 1 per cent level of significance. Other board structure and ownership structure variables are not the determinants of assets growth during the period under study.

CONCLUSION

The present study aims to explore the influence of corporate governance variables on the growth and earnings of 24 Central Public Sector Enterprises of India for the period of ten years from 2009-10 to 2018-19. Corporate performance is measured by ROA, EPS and assets growth. Board size and proportion of interlocks on board have significant association with ROA and EPS. While, board meeting has significant positive association with assets growth and EPS has significant association with foreign ownership and promoters' ownership. Number of independent directors on board of an organization has insignificant association with performance and growth variables. Firm size and firm age have unfavorably influenced the growth and ROA of the firm, respectively. However, Firm size has favorable influence on firm growth and leverage has adversely influence the return on assets. The study will contribute in enhancing the existing body of knowledge in the context of PSUs in India. The findings of the study will assist the policy makers and managers in evaluating the state of corporate governance in PSUs and its influence on their performance, earnings and growth.

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