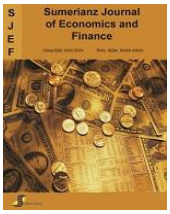
Sumerianz Journal of Economics and Finance, 2020, Vol. 3, No. 11, pp. 189-193
ISSN(e): 2617-6947, ISSN(p): 2617-7641
Website: https://www.sumerianz.com
DOI: https://doi.org/10.47752/sjef.311.189.193



Original Article Open Access

Impact of Firm Performance on Corporate Governance Quality: The Case of Nigerian Manufacturing Firms

R. A. Akinsokeji*
Department of Economics, Adeyemi College of Education, Ondo, Ondo State, Nigeria
Email: akindele.olawale78@gmail.com

E. O. Ogunleye
Department of Economics, Ekiti State University,Ekiti State, Nigeria
Email: edward.ogunleye.eksu.edu.ng

O. O. Akindele
Department of Economics, Adeyemi College of Education, Ondo, Ondo State, Nigeria
Email: akindeleoo@aceondo.edu.ng

Article History
Received: September 25, 2020
Revised: October 27, 2020
Accepted: November 2, 2020
Published: November 4, 2020

Abstract
In this study, the reverse impact of firm corporate performance on board structure is empirically examined using a large cross section of 50 manufacturing firms in Nigeria. The study makes a divergence from previous studies by noting that such a reverse effect is possible and examining this effect of performance on board structure in Nigeria. The panel data estimation technique is employed on the pooled data for the firms over a ten-year period (2004-2013) and estimation is performed using four measures of firm performance and two measures of board structure. The results show that there is actually reverse impact of firm performance on board structure although the effect is quite weak. The only performance variable that exerts significant impact on board structure (board size and independence) is earnings per share and, to a lesser degree profit margin. Moreover, firm size is shown to be an essential factor in explaining the general behavior of firm performance and also the pattern of effect of such performance on the board structure. The analyses clearly showed that firm size is itself a strong positive factor in improving firm performance and also tends to improve the effect of high performance on board structure across the firms.
Keywords: Nigeria; Firm performance; Corporate governance; Board structure; Panel model.

1. Introduction
The conflict between remote shareholders and knowledgeable managers of firms has become prominent in modern organizational theory (Van Ees *et al.*, 2003). These modern business practices bring more attention to corporate governance where the long-run conditions of the firm are situated. Although effective corporate governance has been identified to be critical to all economic transactions especially in emerging and transition economies (Dharwardkar *et al.*, 2000), market institutional conditions that reduce informational imperfections and facilitate effective monitoring of agents, at varying levels of agency interactions, impinge on the efficiency of investment (Kyereboah-Coleman, 2007). The advocates of corporate governance asserts, if a company is paying more attention to safeguard the interests of its owners, then resources of the firm will be employed in such a manner that maximize shareholders' return (Gompers *et al.*, 2003). A number of studies have been conducted in Nigeria to investigate the effect of corporate governance on firm's performance. These studies have shown quite a number of interesting results although the general direction has been a positive relationship between corporate governance and firm performance. That the firm performance can influence the pattern of corporate governance, especially as it relates to board structure has not been an issue of strong consideration. Indeed, according to our limited review of literature found not a single study conducted in case of Nigeria to assess the relationship between firm's performance and its specific corporate governance mechanism. This is the main aim of this study: to investigate the impact of firm performance on board structure in Nigeria using manufacturing sector.

2. The Literature
Previous studies conducted to investigate the impact of board size on firm performance observed inconsistent relationship between prior year firm's performance and board size and hence not concluding. For example, Alexander *et al.* (1993) asserted that larger boards are preferable for smaller firms. Yermack (1996) suggested that decline in prior year firm's performance will reduce the board members in coming years, because the outside director are expected to be removed from board, due to their high salaries. Similarly; Pearce and Zahra (1992) and Davis (1990) observed that prior year firm's performance is positively linked with few insiders and smaller boards. Their inconsistent results indicated that there is still need of further research to study the impact of prior year firm's performance on board size of firm in subsequent years. So, following hypothesis is developed to capture the impact of prior year's firm performance on board size of subsequent years.

*Corresponding Author

Probably the most widely discussed question regarding boards is, does having more outside directors increase corporate performance? A number of papers have addressed this question using several methods. The first method has been to examine contemporaneous correlations between accounting measures of performance and the proportion of outside directors on the board. MacAvoy *et al.* (1983), Hermalin and Weisbach (1991), Mehran (1995), Klein (1998), and Bhagat and Black (2000) all report insignificant relationships between accounting performance measures and the fraction of outside directors on the board. A second approach, suggested by the work of Morck *et al.* (1988), is to use Tobin's Q as a performance measure, the idea being that it reflects the "value added" of intangible factors such as governance. Hermalin and Weisbach (1991) and Bhagat and Black (2000) use this approach and find, as with accounting performance measures, that there is no noticeable relationship between the proportion of outside directors and Q. Finally, Bhagat and Black (2000) examine the effect of board composition on long-term stock market and accounting performance. Once again, they do not find any relationship between board composition and firm performance. Overall, there is little to suggest that board composition has any cross-sectional relationship to firm performance.

An important issue to consider when evaluating these studies is the endogeneity of board composition. Hermalin and Weisbach (1998), suggest that poor performance leads to increases in board independence. In a cross-section, this effect is likely to make firms with independent directors look worse, because this effect leads to more independent directors on firms with historically poor performance. Both Hermalin and Weisbach (1991) and Bhagat and Black (2000) have attempted to correct for this effect using simultaneous-equation methods.

In particular, these papers lagged performance as an instrument for current performance. Still, even correcting for endogeneity in this manner, there does not appear to be an empirical relationship between board composition and firm performance.

Mitton (2002), investigated the impact of prior year firm's performance on subsequent year firm's corporate governance mechanism. They used board size, CEO–Chairman combined structure and audit expenditure as a firm level corporate governance mechanism. The panel data of fifty two companies listed on Karachi Stock Exchange covering the period from 2006 to 2010 was used for this study. Their results revealed that prior year firm's performance has positive relationship with board size but negative relationship with audit expenditure. Furthermore, any change in prior year firm's performance causes change in CEO duality.

3. Empirical Analysis

3.1. Descriptive Statistics

Descriptive statistics show the summary of data and other basic characteristics within the series. The (unconditional or ordinary) correlation analysis is conducted on the data for the board structure variables (since the interactions with performance variables will be explicitly demonstrated in the regression estimates). The correlation matrices for the variables of board structure in the study are reported in table 1 below [note that CEO status as a variable is left out in the matrix because virtually all the firms have CEO and board chairmanship separate]. Board size and board composition are highly correlated (79 percent), indicating that board size and composition tend to move *interdem*; increasing board size invariably indicates rising inside members in the board. Apparently, it seems to be more feasible for the firms to stake in more internal members in the board than external members. For the independence of the board, the correlations with both board size and composition is quite weak and actually negative. Larger boards do not necessary imply more independence and increasing inside membership does not relate to the independence of the board. As it actually turns out, larger boards move in opposite direction with more independence of the board.

Table-1. Correlation Matrix for Board Structure

	BS	**BCOMP**
BCOMP	0.79	
BIND	-0.04	-0.05

The correlations among the variables are described in scatter plots and correlation equations below. Figure 1 shows that board size and board composition have positive relationship with a strong positive slope. Figure 2 also confirms the negative relationship between board size and board independence among the sampled firms in the study.

Fig-1. Board Size and Board Composition

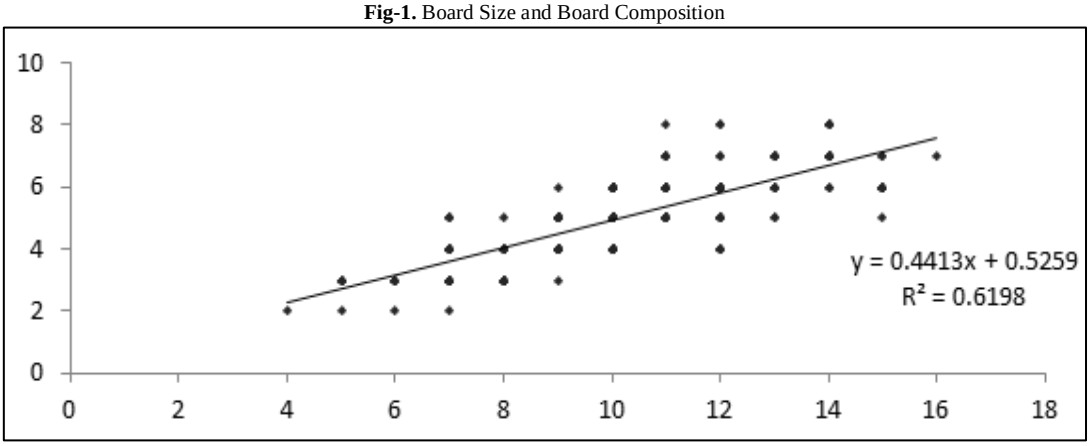
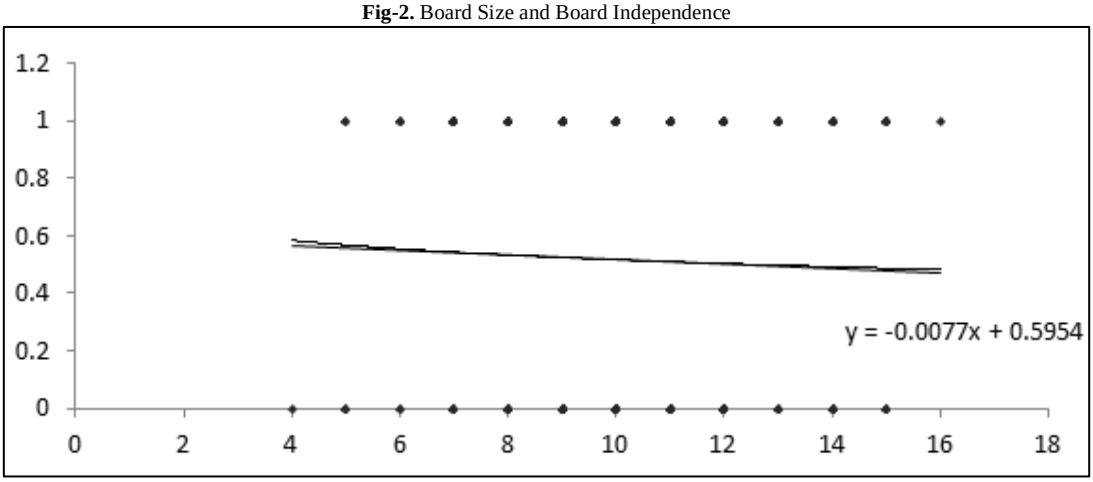


Fig-2. Board Size and Board Independence



3.2. Impact of Firm Performance on Board Structure

In this section, we explore the reverse effect of firm performance indicators on the structure of the board. In this regard, the dependent variables in the models are board size, board composition and board independence. The same set of data is used for the estimations.

3.2.1. Impact of Firm Performance on Board Size

In Table 2 the results for the impact of firm performance on board size is reported. Only the coefficient of EPS passes the significance test among the firm performance variables. The coefficient of the variable is positive and suggests that higher levels of earnings per share will lead to larger board sizes. This implies that firms with larger earnings in the market for shareholders tend to appoint more board members, perhaps to help save-guard the good earnings ion their shares. All the other performance variables fail the significance test at the 5 percent level, indicating that most of the performance indicators do not affect the size of board membership among the manufacturing firms.

Table-2. Firm Performance and Board size

	OLS	***Fixed Effects***	***Random Effects***
Constant	-1.48	-1.48	-1.44
ROA_{t-1}	0.43***	-0.01	0.04
ROE_{t-1}	0.15	0.11	0.11
PRM_{t-1}	-0.25	-0.17	-0.20
EPS_{t-1}	0.44***	0.21**	0.24***
DEBT	0.09	0.19**	0.20***
SIZE	0.57***	0.64***	0.63***
R^2	0.33	0.88	0.31
Adj. R^2	0.31	0.86	0.30
F	18.70	52.7	17.8
Hausman Test Summary			

3.2.2. Impact of Firm Performance on Board Composition

In the result, reported in Table 3. below, the effect of firm performance on board composition is shown. It should be noted that in the previous estimations, board composition did not have meaningful contribution to firm performance. Hence in this result, firm performance variables all fail the significance test at the 5 percent level, suggesting that the pattern of board composition does not respond to the level or rate of performance of the

manufacturing firms. Only the debt structure and the size of the firm matters in terms of board composition among the firms. The relevance of the debt variable in this estimates underscores the fact that outside directors would tend to be more in the board for firms that are highly leveraged with debt.

Table-3.

Explanatory Variable	**With Control for Size**		
	OLS	***Fixed Effects***	***Random Effects***
Constant	-3.17	-3.67***	-1.00
ROA	0.03	0.03	0.02
ROE_{t-1}	-0.07	-0.07	0.03
PRM	0.10	0.08	0.17
EPS_{t-1}	0.10	0.11	-0.04
DEBT	0.10	0.08	0.16**
SIZE	0.46***	0.50***	0.32***
R^2	0.25	0.76	0.18
Adj. R^2	0.24	0.72	0.16
F	13.3	22.6	8.3
Hausman Test Summary			

3.2.3. Impact of Firm Performance on Board Independence

In Table 4, the impact of firm performance on board independence is shown. The results show that profit margin and earnings per share a very important for board independence. While profit margin seems to promote independence of the board, earnings per share tend to inhibit it. This result is rather ironical since it was earlier found that board independence tends to improve EPS. This result now shows that though board independence promotes EPS, EPS on the other hand tends to inhibit board independence. Indeed, better performing firms in the market tend to have more interference on the board than less performing ones. The other performance indicators in the model fail the significance test.

Table-4. Firm Performance and Earnings per Share

Explanatory Variable	**With Control for Size**		
	OLS	***Fixed Effects***	***Random Effects***
Constant	0.07	1.89**	0.07
ROA	0.00	0.06	0.00
ROE_{t-1}	-0.04	-0.08	-0.04
PRM	0.09*	0.10	0.09*
EPS_{t-1}	-0.04**	-0.14***	-0.04**
LEV	0.02	0.00	0.02
SIZE	0.03	-0.06	0.03
R^2	0.19	0.13	0.13
Adj. R^2	0.15	0.12	0.10
F	1.17	1.05	1.05
Hausman Test Summary			

4. Conclusion

In this study, the reverse impact of firm corporate performance on board structure was empirically examined using a large cross section of 50 manufacturing firms in Nigeria. The study makes a divergence from previous studies by noting that such a reverse effect is possible and examining this effect of performance on board structure in Nigeria. The argument is that since firm performance can respond to board structure changes, such changes could also be explained by how well a firm is performing. The panel data estimation technique was employed on the pooled data for the firms over a ten-year period (2004-2013) and estimation was performed using four measures of firm performance and four measures of board structure. Empirical analysis conducted show that there is actually reverse impact of firm performance on board structure although the effect is quite weak. The only performance variable that exerts significant impact on board structure (board size and independence) is earnings per share and, to a lesser degree profit margin.

In line with the findings of other studies like Chidambaran *et al.* (2007), Kajola (2008) and Uche (2004), the findings in this study showed that the relationship between governance, observable and unobservable firms characteristics and corporate performance is intricate and may not be amenable to just one directional analysis nor any single governance measure or firm characteristics. Therefore considering the relationships as reverse may be optimal for firm operators that are forward-looking.

Moreover, firm size is an essential factor in explaining the general behavior of firm performance and also the pattern of effect of such performance on the board structure. The effect of size was observed by controlling for it in the board structure estimations. The analyses clearly showed that firm size is itself a strong positive factor in improving firm performance and also tends to improve the effect of high performance on board structure across the firms.

Finally, this study mentions issues of efficiency of boards in passing. In this regard, future research could seek for methods to test the efficiency of mechanism of board of directors, or how to build a model of effective board and establish mechanism of corporate governance, in order to operate a better firm performance, more than just limit in testing correlation between them.

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