

Board Composition and Value-Added Performance in an Emerging Securities Market: Panel Evidence from Kenya

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Abstract: This study investigates the role of board composition in influencing value-added performance for firms in the Nairobi Securities Exchange (NSE) using the fixed effects panel data methodology. Using a sample of 456 firm-year observations obtained from 38 firms for the years 2003 to 2014, we find evidence that board gender diversity ($\beta = 0.0737$; $p = 0.0265$) and board size ($\beta = 0.0934$; $p = 0.0000$) positively and significantly influence value-added performance. However, board independence ($\beta = -0.0830$; $p = 0.0015$) is found to significantly but negatively affect value-added performance. Based on this evidence, we conclude that board gender diversity and board size are significant positive predictors of value-added performance while board independence is a pertinent negative predictor of value-added performance. We therefore recommended that the listed firms increase their board sizes and number of women in their boards but reduce the number of non-executive directors if they seek to compete in the globalised markets.

Keywords: Board Composition, Value-added Performance, Panel Data, Nairobi Securities Exchange.

INTRODUCTION

The Nairobi Securities Exchange is the single major open capital market in Kenya from which listed firms gain access to long-term finance [1] with the listed firms contributing about 26% of gross domestic product (GDP) in 2013 alone [2].

Increased local and foreign investments have made the bourse to grow in terms of market capitalisation from KES 700.99 billion in December 2003 to KES 1921.61 billion in December 2014 representing an annual average growth of 17.4% during the twelve years. This increase is attributed to the increase in the number of listed firms from 50 to 66 in the same period [3]. Despite the important contribution to Kenya's GDP, financial performance of the listed firms has generally remained poor [4]. For example, during the period 2003 to 2014, Unilever Tea (K) Ltd, Access Kenya, CMC Holdings, BOC, Carbacid, Uchumi, A. Baumann, Rea Vipingo and Hutchings Biemer were either delisted or suspended from the bourse [3], representing 21.4% of initially listed firms. This indicates poor value addition.

Globally, the focus of management of firms is gradually shifting from profit generation to value addition [5] since firms that are value-added oriented have been shown to be more competitive [6]. The need to understand value-added financial performance drivers has therefore been enhanced especially for firms in developing countries like Kenya which seek to compete in the increasingly competitive business world. Moreover, firms in emerging markets such as the Nairobi Securities Exchange (NSE) face challenges of

increased debt levels, declining profits, unregulated board compositions and a stifling economic environment, all which threaten value addition [2]. Additionally, the firms are relatively small and less diversified as compared to those in the developed economies which exposes them to shocks emanating from uncertainty of policy and macroeconomic environment. Prior research has shown that value addition depends on both macro-economic factors such as firm industry and firm specific factors such as board composition and financial leverage.

Board composition refers to the mechanism instituted by firms to achieve a balance and a mix of skills in the highest management body of the firm which seeks to ensure efficiency and effectiveness of the monitoring function of the board over a company's top management [7]. In recent years, firms the world over have been pressured by institutional investors and shareholders to appoint directors with different backgrounds and expertise under the assumption that greater diversity in board composition leads to less insular decision-making and improved financial performance. In Kenya, the Capital Markets Authority (CMA) Guidelines on corporate governance practices by listed companies direct that boards of the listed firms should compose effective and all-inclusive independent

directors with diverse skills. The Guidelines offer both prescriptive and non-prescriptive approaches to board composition elements in order to provide flexibility and innovative dynamism to corporate governance practices by the listed firms. Notwithstanding, board size, board independence and board size should be structured to ensure board effectiveness [8].

The fundamental role of the board of directors as a critical component of a good corporate governance system has given rise to a great deal of research investigating the relevance of board composition elements. Despite this, theoretical literature remains inconclusive on the effect of board composition on financial performance. For instance, resource dependency theorists favour larger boards and more women in boards to increase the pool of expertise available to organizations hence improving financial performance [9]. However, larger boards may become less effective at monitoring management due to increased decision-making time [10]. According to agency theorists, board independence creates an effective monitoring and control system over management to minimize agency costs which enhances firm financial performance [11]. Despite this, inside directors are better placed to interrogate management proposals [12]. Moreover, the presence of women in boards is desirable since it brings about better understanding of the market place and increases creativity and innovativeness [13]; but women are risk-averse and highly heterogeneous groups communicate less frequently which would therefore lead to sub-optimal investment decision-making hence negatively impacting firm financial performance [14].

Empirical evidence demonstrates conflicting results that however indicate a possibility of board composition influencing firm financial performance. While some studies [10, 15, 16 and 17] show that board size has a positive significant effect on firm financial performance, the studies notably focus on accounting-based financial performance measures such as Return on Assets (ROA) and Return on Equity (ROE) which don't measure value creation abilities of the firms. Moreover, either conveniently selected samples which introduces bias or cross-sectional data are used implying that the cause-effect is not effectively established. Other studies [11, 18, 19, and 20] establish a negative significant relationship between board size and firm financial performance. However some focus on family controlled firms while others use the pooled OLS methodology indicating that the long-run effect of board size on value-added performance is not established. Elsewhere, no significant relationship between board size and financial performance is established in a study focusing on insurance firms [21] and another one which used pooled OLS [22]. None of these studies focuses on value-added financial

performance measures. The present study differs from all the empirical studies mentioned since it uniquely sought to establish how board size affects value-added performance for an emerging market using a longer panel.

The effect of board independence of financial performance has also received considerable attention empirically with some studies showing that a larger proportion of non-executive directors in the board enhances firm performance [10, 23]. However, the studies sample listed banks in Indonesia therefore their findings cannot be generalised to other populations. Other researchers establish a negative significant relationship between board independence and firm performance [11, 21, 24, 25, and 26]. Even with these novel evidences, these studies are based on limited samples indicating that their findings are cautiously interpreted. Differences however exist between the smaller and less-diversified firms in NSE and those in the more developed securities exchange that are studied in some of the studies. The long-run effect of board independence across listed firms in an emerging market such as the NSE has not been established.

Gender representation in boards has been shown to vary by country with those countries where affirmative action is already in place having a higher representation of female directors [27]. Despite this, there seems to be inconsistent evidence in scientific research on the effect of board gender diversity in influencing firm financial performance with some studies reporting that the market does not reward or punish firms that have included more female directors in their boards [24, 27, and 28]. On the other hand, other studies give evidence that gender diversity positively and significantly explains why firms differ in financial performance [11, 21 and 22]. However, studies in Kenya study commercial banks indicating that firms from other sectors are not studied and therefore the findings are non-generalizable while others uses OLS to analyse data. The use of OLS does not allow for the control of unobserved firm effects. Additionally, all these studies use accounting-based financial performance measures. Therefore, the effect of board gender diversity on value-added performance has not been established in the context of all listed firms in the NSE.

The reviewed empirical evidence demonstrates plausible but inconsistent relationships between board composition elements and value-added performance. However, none of the studies has incorporated value-based performance measures for all listed firms in emerging economies such as Kenya. Consequently, the effect of board composition on value-added performance of firms in the Nairobi Securities Exchange has not been established. Therefore this study

sought to answer the following pertinent question: Are board composition elements of board gender diversity, board independence and board size responsible for the poor financial performance of the firms listed in the NSE?

MATERIAL AND METHODS

The research adopts the quantitative paradigm and since the cause and effect relationship between quantitative variables is sought, we adapt a correlational research design. The target population comprised all the 64 firms listed in the Nairobi Securities Exchange as at December 2014. Data is collected from annual financial reports of thirty eight firms whose complete data for the period January 2003 to December 2014 was available giving a sample of 456 firm-year observations. The data is collected from audited published annual financial statements available in the NSE Handbooks. Public listed companies are selected due to the central role they play in the economy of Kenya and are therefore a representative sample of firms in Kenya.

The research is limited to the period January 2003 to December 2014. Selection of the base year 2003 was informed by three main reasons. Firstly, it coincided with the beginning of the new administration of National Rainbow Alliance Coalition (NARC) which initiated wide financial reforms in Kenya after the 24 years rule of Kenya African National Union (KANU). The financial reforms affected the NSE which was put under new corporate scrutiny. Secondly, the new government increased access to credit. Thus, the performance of firms was expected to reflect better economic risk and sovereign risk environments as well as improved access to funding due to the wider range of financing instruments available to businesses. Thirdly, this was the year in which the CMA Guidelines on corporate governance practices by listed companies in Kenya on board composition came into operation. The effect of the Guidelines was therefore expected to be reflected in the board compositions of the firms hence the selection of the base year.

To ensure panel data validity, the research items in the study are evaluated in terms of face, content and construct validity by using expert opinions of four professional financial analysts. Data reliability is tested using the Augmented Dickey-Fuller (ADF) unit root test. The Jarque-Bera (JB) test of normality, Variance Inflation Factors (VIF) test for multicollinearity and the Breusch-Godfrey Serial Correlation Lagrange Multiplier (LM) test for autocorrelation are conducted to ensure that the data is suitable for regression analysis. Heteroscedasticity is not tested for since it is not considered a serious problem for panel data [29].

The following panel data regression model is mathematically tested:

$$VAIC_{it} = \beta_0 + \beta_1BSZ_{it} + \beta_2BIND_{it} + \beta_3BGDIV_{it} + \beta_4FSIZ_{it} + \beta_5FLAG_{it} + \beta_6TANG_{it} + \mu_i + \varepsilon_{it}$$

- Where;
- β_0 : The intercept,
- β_j : The regression coefficients,
- BSZ_{it} : Board Size of firm *i* during time *t*;
- $BIND_{it}$: Board Independence for firm *i* during time *t*;
- $BGDIV_{it}$: Board Gender Diversity for firm *i* during time *t*;
- $FSIZ_{it}$: Firm Size of firm *i* during time *t*;
- $FLAG_{it}$: Firm Age of firm *i* during time *t*;
- $TANG_{it}$: Asset tangibility of firm *i* during time *t*;
- $VAIC_{it}$: Value-added intellectual capital coefficient (VAIC) for firm *i* in time *t*
- μ_i : The unobservable individual heterogeneity,
- ε_{it} : The idiosyncratic disturbance term assumed to have a mean of zero and constant variance.

Firm size, firm age and asset tangibility are used as control variables.

RESULTS

Descriptive results of the study variables are presented in Table 1 below.

Table – 1: Descriptive Statistics on Study Variables

Statistic	BGDIV	BIND	BSIZ	FAGE	FSIZ	TANG	VAIC
Mean	0.129	0.774	9.030	60.136	0.499	0.408	3.080
Maximum	0.385	0.900	15.00	113.00	2.488	0.973	6.610
Minimum	0.000	0.500	4.000	8.000	0.020	0.000	1.078
Std. Dev.	0.145	0.084	2.627	24.223	0.460	0.341	1.053
Skewness	7.434	-0.970	0.078	0.2067	1.371	0.049	0.630
Observations	456	456	456	456	456	456	456

The mean board gender diversity is 0.129 with a maximum and minimum of 0.385 and 0.000 respectively. Since gender diversity is measured as the percentage of women in a board in a particular financial year, it implies that on average, the listed firms in NSE

had a board gender diversity of 12.9%. This value compares unfavourably with board gender diversity reported in an earlier study [28] of 7%. But this compares favourably with other reported figures [26] of 14% among listed firms in the NSE. However, this

value is far much higher than that reported for Kuwait (2.7%), Oman (2.3%), Bahrain (1.0%) and United Arab Emirates (0.8%) [23]. The difference in the values reported could arise from national differences in affirmative action, in samples and panel data lengths used in the different studies. Since the guidelines on corporate governance practices by listed companies in Kenya compel listed firms to have at least a third of their directors as directors, it implies that the listed firms have not met this directive since the board gender diversity is consistently below 30%.

Mean board independence is 0.774 with the highest and lowest being 0.900 and 0.500 respectively. In line with prior studies [4, 22 and 26], board independence is operationalized as the proportion of non-executive directors in the board of directors in a particular financial year. The guidelines on corporate governance practices by listed companies in Kenya compel listed firms to have at least a third of their directors as non-executive directors. The results presented indicate that listed firms have met this directive. The skewness figure of -0.970 shows that most have board independence proportions that are higher than the mean of 0.774. The reported findings are in tandem with values reported for listed firms in East Africa stock exchanges of 0.734 [28]. However, the value is lower than that of 85% reported for USA firms [24]. This generally implies that boards of listed firms in the NSE are independent.

Mean board size is 9.030 with maximum and minimum of 15.00 and 4.00 respectively. Board size is measured by the number of directors attending board meetings in a particular financial year in line with previous studies. The value obtained in this study compares favourably with previous reported values of a mean board size of 9 with a maximum of 16 and a minimum of 3 for firms listed in security exchanges in East Africa [28]. The value is however much higher when compared with the mean board size of 6.5 reported for listed firms in New Zealand [22]. The skewness value of 0.078 obtained shows that most listed firms have board sizes oscillating around the mean board size of 9, which implies that most of the firms prefer board sizes of about 9 members.

The mean firm age for listed firms in the NSE is found to be 60.136 years with the oldest and youngest

firms being 113 and 8 years respectively. Firm age is operationalized as the number of years of the firm since incorporation. The mean firm age value obtained in the present study is consistent with prior research [26, 28] that reported of 59 years and 57 years respectively albeit with different samples and panels. Firms that are over 50 years have been in existence for long and are therefore stable enough since they have survived the cyclical cycles [28]. The mean value for firm age obtained therefore shows that most firms most firms are stable.

In line with prior studies [15, 19], firm size is measured by the ratio of sales to total assets with a value of 1.00 indicating that sales equal total assets. The mean firm size value obtained of 0.499 shows that firms on average have sales that are half their total assets. However, the largest firm has sales equalling to 2.488 times the total assets while the smallest firm has sales equalling to 0.020 of total assets. This implies that listed firms in the NSE are small-sized.

Values obtained for mean, maximum and minimum asset tangibility for listed firms in the NSE are 0.408, 0.973 and 0.00 respectively. In tandem with prior studies [1, 28] asset tangibility is operationalized as the ratio of non-current assets to total assets. This implies that across the sample of listed firms in the NSE, 40.8% of the assets are non-current and about 59.2% are current. The wide difference between the firms with high tangibility ratios of 97.3% and those with low tangibility ratios of 0.00% indicate that some firms have high levels of non-current assets while others have high levels of current assets.

Performance of firms in the present study is measured by Value-Added Intellectual Capital (VAIC) [29]. Mean VAIC across the whole sample of firms listed in the NSE is shown to be 3.080. This implies that every unit capital employed by firms listed in the NSE creates a value equivalent to 3.080 units in total capital. The value obtained is slightly higher than that reported for listed firms in Poland of 2.8515 [30] and that of 2.063 for listed firms in Malaysia [30]. This shows that effectiveness of intellectual capital of listed firms in Kenya seems to be higher than for both Polish and Malaysian firms.

Table-2: Relationship between Board Composition and Value-added Performance

Dependent Variable: VAIC Included Observations: 456				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	3.4997	0.5365	6.5231	0.0000
BGDIV	0.0737	0.0211	0.2193	0.0265
BIND	-0.0830	0.0726	-3.1965	0.0015
BSIZ	0.0934	0.0190	4.9066	0.0000
FSIZ	-0.0291	0.1054	-0.2762	0.0783
FAGE	0.0054	0.0020	2.6796	0.0076
TANG	-0.4124	0.1447	-2.8512	0.0046
R-Squared	0.1528			
Adj. R-Squared	0.1412			
S.E. of Reg.	0.9758			
F-Stat.	13.494			
Prob. (F-Stat)	0.0000			

Fixed effects panel data regression results show a weak positive significant effect of board gender diversity on firm financial performance measured by VAIC ($\beta = 0.0737$; $p = 0.0265$). This implies that all other factors held constant, a unit increase in board gender diversity results in a significant increase of 7.37% in value-added financial performance. This is consistent with empirical literature [11, 21 and 22] which proposes a positive significant effect of board gender diversity on firm financial performance. The results therefore reveal that firms could differ in performance based on the number of women in their boards, with those with more women outperforming those with less women.

Additionally, the regression results shows that board independence affects firm financial performance negatively but significantly, ($\beta = -0.0830$; $p = 0.0015$) implying that a unit increase in board independence leads to a significant reduction in value-added performance by 8.30%. This conjecture is in tandem with prior literature [11, 21, 24 and 26]. This implies that increasing independent directors is an impediment to value addition. Independent directors prefer conservative business strategies in order to protect shareholders which in the end may lower firm financial performance [22].

Moreover, it is revealed that board size is positively and significantly associated with firm financial performance measured by VAIC ($\beta = 0.0934$; $p = 0.0000$) implying that a unit increase in board size leads to a 9.34% significant increase in value-added performance of the listed firms which is consistent with prior findings [10, 15, 16 and 17] which seem to confirm that firms with large board sizes have operational advantages leading to higher value-addition.

The value of R squared derived indicates that the board independence and the control variables collectively predict 15.28% of value-added performance in the listed firms.

CONCLUSIONS

Based on the findings of the study, three conclusions and their respective recommendations can be drawn and proposed. First, board gender diversity is a positive significant predictor of firm value-added performance. It is therefore recommended that firms listed in the NSE strive to increase the number of women in their boards.

Second, board independence is a significant negative predictor of value-added performance. Firms listed in the NSE are therefore advised to reduce the number of non-executive directors in their boards if they seek to increase the value-addition capacities of the firms.

Lastly, board size is a pertinent positive predictor of value-added performance. Firms in the NSE are advised to increase their board sizes.

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