Effects of Corporate Governance on the Productivity of Quoted Agricultural Firms in Nigeria (2010-2019)

Manukaji Ijeoma Juliana

Department of Accountancy, Federal Polytechnic, Bida, Niger State, Nigeria
ijmanukagi@yahoo.com

ABSTRACT
Corporate governance is a set of processes, customs, policies, laws and intuitions affecting the way a corporation is directed, administered and controlled. It represents the methods through which organizations are being administered, a structure through which the welfare of different parties with vested interests are harmonized, showing group of interaction between company’s administration, its board, its shareholders and other interested parties. The main objective of this paper is to examine the effects of corporate governance on the productivity of quoted agricultural firms in Nigeria. Specifically the study examined the effect of director’s remuneration on productivity of Agricultural firms in Nigeria; Determined the effect of board size on productivity of quoted agricultural firms in Nigeria; Ascertained the effect of board duality on productivity of quoted agricultural firms in Nigeria and investigated the effect of board gender on quoted agricultural firms in Nigeria. The study adopted Ex-post facto research design and descriptive, correlation and multiple regression analysis for the data analysis. The study revealed that corporate governance practices positively influenced productivity of agricultural firms in Nigeria. Again the findings of the study indicate that companies with higher number of board size affected the productivity positively as measured by sales growth. The remuneration of directors had positive and significant influence on productivity, board gender and board dualities had positive influence on productivity although not statistically significant. The study therefore recommends that agricultural firms should determine the optimum payment for the directors that will not affect productivity and the size of board should be maintained in other to create equilibrium between the size of the board and the amount they will be able to maintain in other not to affect performance. 

Keywords: Corporate Governance and Productivity of Quoted Agricultural Firms in Nigeria

INTRODUCTION
Corporate governance is a system of structuring, operating, and controlling the activities of a company with a view to achieving long-term strategic goals of satisfying its shareholders, creditors, employees, customers and suppliers (Das, 2009). It is a set of processes, customs, rules and regulations which determines the running of an organization towards achieving its objective. It is also a process, influenced by the board of directors or management and other personnel assigned to provide reasonable assurance and achievement of objectives in effectiveness and efficiency in all operations, reliability of financial reporting and compliance with applicable laws and regulations (Frank & Sundgren, 2012). The none implementation of corporate governance policies had led to the recent global high profile corporate failures, for example the Maxwell Communications Corporation and the Enron in United States of America. All these corporate failures have been accredited to meager corporate governance practices Ngwenze & Kariuki (2017). Since good governance of listed companies has become a priority and the pillar on which it rest are contained in the laws and regulations, regulations around the world have devoted significant time and resources to the development of legislations and policies related to
corporate governance. Significant progress has been achieved in Nigeria over the past decade in establishing government framework for listed companies in Nigeria for instance. The Nigerian latest Code of Corporate Governance (2018) seeks to put in place corporate governance best practices in Nigerian companies. This Code also promotes public awareness of essential corporate values and ethical practices that will enhance the integrity of the business environment. By institutionalizing high corporate governance standards, which will also rebuild public trust and confidence in the Nigerian economy, thus facilitating increased trade and investment. Companies with effective boards and competent management that act with integrity that are engaged with shareholders and other stakeholders are better placed to achieve their business goals and contribute positively to society. In such well managed organizations, the interests of the Board and management are aligned with those of the shareholders and other stakeholders. An increase in productivity of the agricultural sector is a vital element for economic growth of any nation. According to African development bank report (2016), Agricultural productivity will propel economic growth, generate employment, reduce poverty and ensure the nation’s food security. With the advent of oil some decades ago in Nigeria, the agricultural sector has been experiencing poor investment performance and low yield. For instance Nigerian agricultural sector contribution to GDP dropped from 61% in 1960 to 24.18% in 2017, this tremendous reduction in the sector growth is as a result of low productivity in the agricultural industries due to corruption and weak institutional capacity. Now there is drop of crude oil sales, this justifiably shifted emphasis back to agriculture which has become Nigerians number one economic opportunity. One of the critical conditions required of the agricultural sector is to ensure that good governance structures are in place at all levels, since Agriculture is one of the most promising instruments for reducing poverty and securing local livelihoods. A Study by A critical examination of corporate governance structure in Nigeria agricultural firms will provide much needed information for the evaluation of the current reform effort and the designing of future reform measures in this sector. The main idea of this study is to examine the effect of corporate governance on the productivity of quoted Agricultural firms in Nigeria

Objectives of the Study
The main objective of this study is to examine effects of corporate governance on the productivity of quoted agricultural firms in Nigeria. The specific objectives are to:
- Examine the effect of director’s remuneration on productivity of Agricultural firms in Nigeria
- Determine the effect of board size on productivity of quoted agricultural firms in Nigeria
- Ascertain the effect of board duality on productivity of quoted agricultural firms in Nigeria
- Investigate the effect of board gender on quoted agricultural firms in Nigeria

Research Hypotheses
- \( H_{01} \): Director’s remuneration has no significant effect on productivity of quoted agricultural firms in Nigeria
- \( H_{02} \): The board size has no significant effect on productivity of quoted agricultural firms in Nigeria
- \( H_{03} \): Board duality has no significant effect on productivity of quoted agricultural firms in Nigeria
- \( H_{04} \): Board gender has no significant effect on productivity of quoted agricultural firms in Nigeria

Review of Related Literature
Corporate Governance
Corporate governance is a set of processes, customs, policies, laws and intuitions affecting the way a corporation is directed, administered and controlled. It represents the methods through which organizations are being administered, a structure through which the welfare of different parties with vested interests are harmonized, showing group of interaction between company’s administration, its board, its shareholders and other interested parties (Cheema & Din, 2013). The Principles of Corporate Governance acknowledge that an effective corporate governance system can lower the cost of capital and encourage firms to use resources more efficiently, thereby promoting growth. It also include integrity, ethical behavior, disclosure and transparency, equitable treatment of the shareholders and efficient discharge of board responsibilities and a functioning sound corporate governance are the foundations upon which investors’ confidence is built.
Corporate governance involves the interaction among the many interested parties concerned and the reasons while the corporation is being managed. Organizational governance represents a noteworthy variable which establish the strength of the organization and the company’s capability to live through financial shake-ups (Uwuigbe, 2011). The overall focus of organizational governance has to do with developing reliability, guaranteeing openness and responsibility (Uwuigbe & Fakile, 2012). Good governance also encourages support and assurance in the banking system (Mohammed, 2012). Corporate governance is a key driver of corporate accountability and business prosperity. In response to challenges in their respective sectors, a number of industry regulators developed corporate governance codes for companies operating in their sectors.

**Director’s remuneration**

This means to motivate the executives in order to improve their performance. If the performance of the company increases, the value of the company will increase, and shareholders wealth will also increase. Sudarsono (2002) argues that by linking Executive remuneration issues, always associated with agency theory. The theory basically assumes that executives always act on its own interests so there is need to create a mechanism that the executives would be subject to the interests of shareholders. One mechanism is to provide remuneration to its executives. Agency theory (Jensen and Meckling, 1976) reveals that remuneration is a way to unify the different interests between stockholders and managers. One of the factors affecting the remuneration is firm performance. Firm performance is an achievement of which is produced by a company based on certain standards within a specific time period. Nigerian code of corporate governance (2018) The Board ensures that the Company remunerates fairly, responsibly and transparently so as to promote the achievement of strategic objectives and positive outcomes in the short, medium and long term. Companies should adopt a structure of connecting rewards to corporate and individual performance and include the significant components relating to long term corporate performance such as stock option and bonus. Nigerian code of corporate governance (2018) has also included the claw back policies that allow companies to recover excess or under severed rewards from directors.

**Board Size**

It is the responsibility of the board of directors to guarantee that the business is enjoying maximum benefits of prevailing occasions and ensuring that the economic worth of the organization is enhanced, being successful and its ability to make choices that affect the administrators incredibly strong (Uwuigbe & Fakile, 2012).

The board should check the behaviors of managers for owners’ welfare, decide on crucial issues, hire set of administrative officers and oversee that organizations adhere to the rule while taking responsibility for managing and supervising (Akinyomi, 2013). The Board of Directors uses its powers and responsibilities within the structure of legislation, main contract, regulations and policies, and represents the company in line with the authority given to it at the general meeting of shareholders (Dogan & Yildiz, 2013). The economic worth of an organization would further be enhanced as the board carries out its functions which include supervision of the operations of administrative officers and choosing the employees of an enterprise, appointing and monitoring the activities of an autonomous auditor to boost the worth of the company (Uwuigbe, 2011).

When the number of board membership goes up, there would be possibility for divergent opinions which could result in more confusion among board membership (Dar, Naseem, Rehman & Niazi, 2011). Previous studies on this concept observed that organizations select size of board to create equilibrium between the requirements for timely advice and the financial implications of maintaining large board membership (Akinyomi, 2013). The board of Directors performs its duties in the form that it would ensure and provide a long term and stable earnings to the company shareholders while aiming at the maximization of market facilities by the companies (Dogan & Yildiz, 2013). The board includes internal and external directors, whose role includes chief executive officers’ and organizational administrators’ regulation in order to boost the economic worth of the company (Uwuigbe, 2011).

A successful Company is headed by an effective Board which is responsible for providing entrepreneurial and strategic leadership as well as promoting ethical culture and responsible corporate citizenship. As a
link between stakeholders and the Company, the Board is to exercise oversight and control to ensure that management acts in the best interest of the shareholders and other stakeholders while sustaining the prosperity of the Company.

**CEO/Chairman Duality**

Different theoretical arguments have been used either to support or to challenge CEO duality. Drawing on agency theory, CEO duality diminishes the monitoring role of the board of directors over the executive manager, and this in turn may have a negative effect on corporate performance. On the other hand, the stewardship theory stresses that a unity of command of a CEO leads to an unambiguous leadership over subordinates and, hence, induces effective decision-making (Donaldson and Davis, 1991). Other researchers such as Brickley (1997) suggest that there is no one optimal leadership structure as both duality and separation perspectives have related costs and benefits. Worrel (1997) show that upon the announcement of CEO duality, the stock market adversely reacts to the news, supporting the claim that CEO duality weakens the monitoring role of the board. CEO duality has also been linked to other signs of ineffective governance, such as in the cases of antagonistic takeovers (Morck et al, 1988) or in the cases of the use of “poison pills” (Mallette & Fowler, 1992). As the chairman serves as the executive, playing roles of decision-maker and supervisor simultaneously, the board could lose its independence and monitoring power, consequently performing a weak function.

**Gender Roles**

It is important to note that men and women tend to differ. Not only in their actual social behavior but also especially in the way they are expected to behave in society. These expectations partly form gender roles, which are shared beliefs about the attributes of women and men. These beliefs also describe qualities and behavioral tendencies believed to be desirable for each sex (Eagly, 1987). According to social role theory, sociologists conclude that there is a match between the types of action people engage in and their inner disposition, meaning that men and women possess the personal qualities that are apparently required to undertake the activities that they commonly perform in their task focused and making problem focused suggestions (Eagly & Johannesen-Schmidt, 2001). People in leadership positions occupy leader roles defined by their position in a hierarchy, but they are also somewhat constrained by their gender roles. It is therefore likely that female and male occupants of the same organizational role behave somewhat differently because of gender role influences.

Many researchers have explored the relationship between women in leadership on board of directors, and the economic performance of firms. Yet, there is no general agreement about the direction and strength of these relationships (Terjesen, Sealy & Singh 2009), although more positive relationships have been found in recent studies. Several studies have found positive relationships between female representation in top management and firm performance. In an extensive study of 215 Fortune 500 firms over a 19-year period, Adler (2001) found a strong correlation between female-friendly firms and high profitability. Female board members are examined very often in empirical studies. The female board members reflect a diversified characteristic of the board. In addition, Smith et al. (2006) considered three different reasons to recognize the importance of females on a board. First, female board members usually have a better understanding of a market in comparison with male members. As such, this understanding will enhance the decisions made by the board. Second, female board members will bring better images in the perception of the community for a firm and this will contribute positively to firm’s performance. Third, other board members will have enhanced understanding of the business environment when female board members are appointed. Moreover, this study also indicated that female board members can positively affect career development of junior female staff in a business.

**Productivity**

Productivity is the efficient use of resources, labour, capital, land, materials, energy and information in the production of various goods and services. It is a measure of efficiency of person, machine and factory satisfaction in converting inputs into useful outputs, in other words according to Adegoke (2013) business managers see productivity not only as a measure of efficiency but also as a measure of effectiveness and performance of individual organization. For them productivity would incorporate quality of output, workmanship, adherence to standard, absence of complaint and customers services. Agricultural
productivity is measured as the ratio of agricultural output to agricultural input. This may also be measured by what is termed total factor productivity. Agricultural productivity is important to the farmers and the public at large for many reasons, such as providing food for the nation, increase productivity of agriculture which leads to economic growth and this implies more efficient distribution of scarce resources.

Sales Growth
Sales growth is a metrics that measures the ability of your sales team to increase revenue over a fixed period of time conversely, a high percentage growth in sales is cause for optimism for all stakeholders such as executives, the board of directors and shareholders. Sales growth refers to the increase in sales over a specific period of time; sustainable growth is the annual percentage growth in sales that is consistent with the firm’s financial policies. Sales growth is considered positive for a company's survival and profitability. Sale growth rate is expected to have an influence on firm financial performance through increase in sales of firm product or service. Companies normally employ growth strategy as one of their many approaches to develop their branch offices. Growth in company sales or income can be achieved by strategies, including product variety, cost reduction, or production of unique products (Abdolreza & Ghasempour ,2016). A company’s sales and income growth are among the common indicators for the assessment of growth strategy. It is expected that companies who employ growth strategy in their agenda will maintain higher income (Lasis,.Okpanachi, & Lateef, 2018).

Theoretical Framework
Agency Theory
This study is anchored on agency theory. This was selected because of its relevance to the composition of the hierarchy of corporation and the functions of the directors, with respect to good corporate governance. Agency theory was developed by Jensen and Meckling in 1976 and they defined the agency relationship as a form of contract between a company owner and its managers ,where the owners (as principal) appoints an agent (the managers) to manage the company on their behalf as a part of this arrangement the owners must delegate decision- making authority of the management, this suggests that the governance of a company is based on the conflicts of interest between the company’s owners, shareholders, its manager and major providers of debts finance, each of these groups has different interest and objective. The shareholder want to increase their income and wealth, their interest is with the returns that the company will provide in the form of dividends and also in the value of their shares, the value of their shares depends on the long term financial prospect of the company. Shareholders are therefore concerned about dividends but they are even more concerned about long term profitability and financial prospect, because these affect the value of their shares.

The management are employed to run the company on behalf of the shareholders, however if the manager do not own share in the company they have no direct interest in future returns for shareholders or in the value of the shares, managers have an employment contract and earn a salary, unless they own shares or unless their remuneration is linked to profit or share values their main interest are likely to be the size of their remuneration package and their status as company managers.

The owners expect the agents to act in the best interest of the owner. The contract between the owner and the managers should ensure that the managers always act in the interest of the owners. However it is impossible to arrange the perfect contract because decisions by the managers (agent) affect their own personal welfare as well as the interest of the owners. This raises a fundamental questions, how can managers, as agents of their companies be induced or persuaded to act in the best interest of the shareholders.

Empirical Review
Agbaeze and Ogosi, (2018) studied the relationship between Corporate Governance and Profitability of Nigerian Banks. Profitability was measured by profit after tax while the number of members in the board was used as a measure of corporate governance. The number of employee was introduced as a control
variable while multiple panel of data analysis was used. Findings revealed that the number of employees had positive and significant impact on profitability of Nigerian banks.

Nhung and Nguyen (2017) examined the impacts of corporate governance on firm performance; their study investigated the relationship between corporate governance and financial performance of listed Singaporean companies. Data were collected from 137 listed companies for the period of four years from 2013 to 2016. In their research, corporate governance is driven by a wide range of variables, which include the dual role of CEO, board size and board independence. Findings showed that there is an inverse association between board size and firm performance. However, no significant relationship was found between board dependence, CEO duality and company financial performance.

Gaitan (2017) examined the effect of the corporate governance on productivity under different business environment using 670 firms-year observations during the period of 2006 to 2014 showing that board size, gender diversity, intuitional ownership and presence of independent directors affect productivity. They found a statistically significant nonlinear relationship between board size and productivity. They also found that intuitional ownership has a positive effect on productivity, board independence has a negative effect on productivity and finally a high proportion of female directors relates negative to productivity.

Ngwenze, and Kariuki (2017) examined the effect of corporate governance practices on financial performance of listed agricultural firms in the Nairobi Securities Exchange, Kenya. The researcher used a descriptive correlation research design to determine the relationship between corporate governance practices and financial performance. The study findings revealed that corporate governance practices have no significant influence on ROE and ROA of listed agricultural firms in Kenya.

Okoye, Evbuomwan, Achugamounu and Araghan (2016) studied the impact of corporate governance on the profitability of Nigerian banking sector. Return on equity (ROE) and return on assets (ROA) were adopted as proxies for banking sector profitability while capital adequacy ratio (CAR), liquidity ratio (LQR) and ratio of non-performing loans to total loans (NPL) were adopted as proxies for corporate governance, ordinary least square analytical techniques was adopted. Study findings showed significant impact of corporate governance on the performance of the Nigerian banking sector.

Abdolreza and Ghasempour (2016) An investigation on the relationship between corporate governance and growth strategy with value creation in Tehran stock exchange (TSE) The variables of value creation are economic value added, market value added, Jensen's alpha, return on assets, and return on equity were examined, sales growth and income growth were considered for growth strategy, and variables of percentage of institutional investors, percentage of non-bound members, CEO duality, CEO replacement, and auditor tenure were used as indicators of corporate governance using the pooled OLS model. The findings indicated that sales growth was positively associated with all indices of value creation. However, income growth was only positively associated with the return on assets. Moreover, economic value added was solely positively associated with CEO duality. There were no associations whatsoever between market value added and Jensen's alpha as well as all indices of corporate governance. A negative and significant relationship was observed between return on assets and auditor tenure, and finally, return on equity was negatively associated with auditor tenure and CEO replacement. According to the results, corporate governance had little to do with value creation in Iran, but used primary data.

Fallatah (2015), a study conducted in Saudi Arabia on CEO compensation and firm performance found a significant relationship between CEO compensation and firm performance measures. In addition, a negative and significant relationship between CEO compensation and corporate governance structure (board independence) was observed, other variables ignored.

METHDOLOGY
Research Design
Ex post facto research design was adopted in the study due to the nature of data collected. The study used secondary data which were sourced from the annual reports of the quoted agricultural firms. The targeted population in this study was the six (6) quoted agricultural firms in Nigeria. They are Ellah Lake, Fincocoa Prossing plc, Livestock Feeds plc, Okomu oil, Presco plc and Okitipupa Oil Palm.
Method of Data Analysis
The data collected were analyzed using the multiple panel regression analysis because the study has a cross section of six 6 agricultural firms for 10 years. These studies were limited to 6 firms for 10 years, and the analytical tools used for the analysis were the descriptive statistics analysis, correlation and the regression analysis.

Model Specification
The study adapted the model of Ngwenze and Kariuki (2017)
The Model is stated thus:
SRW = f (DRM, BSZ, BDL)
Where:
SRW = Sales Growth
DRM = Director’s Remuneration
BSZ = Board Size
BDL = Board Duality

The model is modified as follows
SRW = f (DRM, BSZ, BDL, GDV)
The Econometric Equation Form of the Model is:
SRW = β₀ + β₁ DRM + β₂ BSZ + β₃ BDL + β₄ GDV + μ - - - - - - - - - - - - 1
Where:
SRW = Sales Growth
DRM = Director’s Remuneration
BSZ = Board Size
BDL = Board Duality
GDIV = Board Gender

DATA ANALYSIS
Descriptive Statistics
Table 1 Descriptive Statistics
<table>
<thead>
<tr>
<th></th>
<th>SRW</th>
<th>DRM</th>
<th>BSZ</th>
<th>BDL</th>
<th>GDV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>0.156175</td>
<td>7.091495</td>
<td>8.406804</td>
<td>7.818365</td>
<td>33.39546</td>
</tr>
<tr>
<td>Maximum</td>
<td>0.236000</td>
<td>15.50000</td>
<td>11.00000</td>
<td>15.00000</td>
<td>45.59000</td>
</tr>
<tr>
<td>Minimum</td>
<td>0.090000</td>
<td>3.000000</td>
<td>6.000000</td>
<td>18.41000</td>
<td>0.000000</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>0.126025</td>
<td>11.16552</td>
<td>12.4583</td>
<td>15.50235</td>
<td>21.41302</td>
</tr>
<tr>
<td>Jarque-Bera</td>
<td>13.46578</td>
<td>30.11481</td>
<td>18.58473</td>
<td>73.30832</td>
<td>6.554159</td>
</tr>
<tr>
<td>Probability</td>
<td>0.000782</td>
<td>0.000000</td>
<td>0.000092</td>
<td>0.000000</td>
<td>0.037738</td>
</tr>
<tr>
<td>Sum</td>
<td>29.69900</td>
<td>687.8750</td>
<td>844.5600</td>
<td>3474.380</td>
<td>4209.360</td>
</tr>
<tr>
<td>Sum Sq. Dev.</td>
<td>1.524704</td>
<td>11968.22</td>
<td>14894.17</td>
<td>23070.99</td>
<td>44017.65</td>
</tr>
<tr>
<td>Observations</td>
<td>60</td>
<td>60</td>
<td>60</td>
<td>60</td>
<td>60</td>
</tr>
</tbody>
</table>

Source: e-view 8

The study observed from the descriptive statistics result that the selected firms have average sales growth (productivity) ratio of 15.6 percent, maximum and minimum value of 23.6 percent and 9 percent respectively. This reveals that firms in the Agricultural sector experience about 15.6 percent growth in sales.

Director remuneration has a mean value of 7.09 maximum values 15.50 and minimum values are 3.00 respectively. These values indicate that on the average, director of agricultural firm’s remunerations is about 7.1 percent of the operating cost of their firms. In some of the agricultural firms, their director consume about 15.5 percent of the operating profit while in other their remuneration is as low as 3 percent of the operating cost. The large difference between the mean, maximum and minimum value shows that some of the sampled firms spend much on their directors than others.

The result also shows average of board size in Agricultural firm in Nigeria maintain about 8 members. In some of the firms, they maintain lager boards members (11 members) while some maintain a minimum
board member of 6. If board size directly affects the level of performance, those firms with larger board size would have performed better than the other firm. The result shows that on the average, about 7.81 percent of Agricultural firm director perform dual function. The number shows that in most of the agricultural firms used in the study, the director does not operate a dual position/function as director. The Board gender diversity result shows that on the average, about 33 percent of the board members of agricultural firms were female. Gender diversity has a minimum and maximum value of 33.3 and 45 percent respectively. Those values revealed the presence of female in the board is far less than the number of their male counterpart.

Finally, the Jarque – Bera (JB) which test for normality shows that director remuneration, board size, board duality and growth in sales are normally distributed at 1 percent and 4 percent for gender diversity. The result means that all the explanatory variables are normally distributed, hence no presence of outlier.

**Correlation analysis**

<table>
<thead>
<tr>
<th></th>
<th>SRW</th>
<th>DRM</th>
<th>BSZ</th>
<th>BDL</th>
<th>GDV</th>
</tr>
</thead>
<tbody>
<tr>
<td>SALGROW</td>
<td>1.000000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DIREMU</td>
<td>-0.211078</td>
<td>1.000000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BODSIZE</td>
<td>-0.282136</td>
<td>-0.145651</td>
<td>1.000000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BODDUAL</td>
<td>0.097123</td>
<td>0.100016</td>
<td>-0.310316</td>
<td>1.000000</td>
<td></td>
</tr>
<tr>
<td>GENDIV</td>
<td>0.003675</td>
<td>0.345046</td>
<td>-0.302528</td>
<td>-0.438022</td>
<td>1.000000</td>
</tr>
</tbody>
</table>

Source: e-view 8

The findings from the correlation analysis table, shows that firm sales growth (productivity) has a positive relationship with board duality and gender diversity. The positive relationship between sales growth (productivity), and board duality; sales growth and gender diversity indicates that the sales growth is positively related with the duality function of the director. Gender diversity is positively related to sales growth, the more female members they have in board, the higher the growth in sales. The negative relationship between sales growth and director remuneration, sales growth and board size reveals that director remuneration is negatively related with sales growth. Thus the higher the director’s remuneration, the better the sales growth rate. Sales growth is negatively related with board size. This shows that board size can affect the level of sales growth. Director remuneration is negatively related to board size and positively related to board duality and gender diversity. This reveals that in Agricultural firms, the higher the director remuneration the higher the possibility of board duality and gender diversity.

In checking for multi-co linearity the study noticed that no two explanatory variables were perfectly correlated. This indicates the absence of multi-co linearity problem in the model used for the analysis and also justifies the use of the ordinary least square.

**Fixed and Random Effect Test**

The summary result of multiple regression analysis is presented below. However, the study takes into cognizance the homogeneity nature of the data, hence the need for testing its effect on the data. The study therefore used Hausman effect test to select between fixed and random effect that is best to be adopted in the study. Below is the summary of the Hausman test result. Details of the result is presented in appendix.

**Table 3 Correlated Random Effects - Hausman Test**

<table>
<thead>
<tr>
<th>Test Summary</th>
<th>Chi-Sq. Statistic</th>
<th>Chi-Sq. d.f.</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross-section random</td>
<td>5.347202</td>
<td>4</td>
<td>0.1714</td>
</tr>
</tbody>
</table>
Cross-section random effects test comparisons:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Fixed</th>
<th>Random</th>
<th>Var(Diff.)</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRM</td>
<td>0.051648</td>
<td>0.045774</td>
<td>0.000011</td>
<td>0.1765</td>
</tr>
<tr>
<td>BSZ</td>
<td>0.150914</td>
<td>0.141147</td>
<td>0.000969</td>
<td>0.7537</td>
</tr>
<tr>
<td>BDL</td>
<td>0.021635</td>
<td>0.040358</td>
<td>0.000117</td>
<td>0.2831</td>
</tr>
<tr>
<td>GDV</td>
<td>0.063969</td>
<td>0.049276</td>
<td>0.000123</td>
<td>0.1853</td>
</tr>
</tbody>
</table>

Source: E-view 8

The Hausman test result shows a chi-square value of 5.3472 and probability value of 0.1714. The chi-square value is greater than 10. Based on the result, the study accept the random effect and reject the fixed effect, hence we use the random effect to correct the problem of homogeneity in the pool data used for the study. Table 4.4 below is the summary of the regression result adjusted for fixed effect.

Hypothesis Testing

To evaluate the effect of corporate governance on sales growth (productivity) and to test our formulated hypotheses, the study used the multiple regression analysis.

Table 4 Regression analysis

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>0.388305</td>
<td>0.082929</td>
<td>4.682380</td>
<td>0.0000</td>
</tr>
<tr>
<td>DRM</td>
<td>0.302746</td>
<td>0.011398</td>
<td>1.964649</td>
<td>0.0525</td>
</tr>
<tr>
<td>BSZ</td>
<td>0.123555</td>
<td>0.001445</td>
<td>2.460367</td>
<td>0.0157</td>
</tr>
<tr>
<td>BDL</td>
<td>0.000484</td>
<td>0.001232</td>
<td>0.393094</td>
<td>0.6952</td>
</tr>
<tr>
<td>GDV</td>
<td>0.000351</td>
<td>0.000923</td>
<td>0.380171</td>
<td>0.7047</td>
</tr>
</tbody>
</table>

R-squared 0.512601
Adjusted R-squared 0.463584
S.E. of regression 0.113896
Sum squared resid 1.193453
Durbin-Watson stat 1.868834

Source: E-view 8

In table 4 above, the study observed from the productivity (sales growth) model result was R-sq of 0.5126 and R-sq (adj) 0.4636, respectively. This value indicates that corporate governance variable explain about 46.36 percent changes in productivity (Sales growth) of Agricultural firm used in the study. The F-statistics value of 2.6296, and its probability value of 0.0393, shows that the regression model is well specified and the specification is statistically significant at 5% levels. The Durbin Watson value reveals that there is no presence of autocorrelation in our model.

Hypotheses 1: Director’s remuneration has no significant effect on productivity (sales growth)

The analysis result showed a coefficient value of 0.3027 and a P-value of 0.0525. The coefficient value which reveals the direction and extent of effect that Director’s remuneration has on sales growth (productivity). The result shows a positive value of 0.3027, this reveals that Director’s remuneration positively affect the level of productivity (sales growth)in Agricultural firms. This shows that higher director remuneration can lead to higher productivity (sales growth) in Agricultural firms. The probability value of 0.0525 shows that the effect of director’s remuneration on productivity (sales growth) of Agricultural companies in Nigeria stock exchange is statistically significant. Based on the analysis result, the study accepts the alternate hypothesis it therefore concludes that, Director’s remuneration has significant effect on the productivity (sales growth) of Agricultural companies in Nigeria stock exchange.
**Hypothesis 2: Board size has no significant effect on productivity (sales growth)**

The analysis result showed a coefficient value of 0.1236 and a P-value of 0.0157. The coefficient value reveals that board size positively affect the level of productivity (sales growth). This reveals that higher board size the better the productivity (sales growth) of Agricultural firms. The probability value shows that the effect of board size on the productivity (sales growth) of Agricultural companies in Nigeria stock exchange is statistically significant. Based on the analysis result, the study accepts the alternate hypothesis it therefore concludes that, board size has significant effect on the productivity (sales growth) of Agricultural companies in Nigeria stock exchange.

**Hypothesis 3: Board duality has no significant effect on productivity (sales growth)**

The analysis result showed a coefficient value of 0.00048 and a P-value of 0.6952. The coefficient shows a positive value (though weak), this value reveals that board duality can positively influence the level of productivity (sales growth) The value indicates that board duality can positively affect the level of productivity (sales growth) in Agricultural firms. The probability value shows that the effect of board duality though positive on productivity (sales growth) of Agricultural companies in Nigeria stock exchange, is not statistically significant. Based on the analysis result, the study rejects the alternate hypothesis and accepts the null hypothesis it therefore concludes that, board duality has no significant effect on the productivity (sales growth) of Agricultural companies in Nigeria stock exchange.

**Hypothesis 4: Gender diversity has no significant effect on productivity (sales growth).**

The analysis result showed a coefficient value of 0.00035 and a P-value of 0.7047. The coefficient shows that gender diversity has a positive influence on productivity (sales growth) The value shows that increase in gender diversity that is, having more female in the board can increase the level of productivity (sales growth)in Agricultural firms. The probability value reveals that the effect of gender diversity on productivity (sales growth) of Agricultural companies in Nigeria stock exchange is not significant. Based on the result, accepts the null hypothesis; it concludes that, gender diversity has no significant effect on the productivity (sales growth) of Agricultural companies of Nigeria stock exchange.

**Discussion of Finding**

The study examined the effect of corporate governance on productivity (sales growth) of Agricultural companies in Nigeria stock exchange. The finding reveals that corporate governance has positive effect on the productivity (sales growth) of Agricultural companies in Nigeria stock exchange, such that about 46 percent in productivity of agricultural firms can be attributed to the corporate governance. The result also reveals that:

- Director’s remuneration has positive influence on the productivity (sales growth) of Agricultural firms in Nigeria. The probability value shows that the effect is significant. The result shows that increase in the Director’s remuneration positively affect the productivity (sales growth) of Agricultural firms. This findings is in line with the work Karam, Narwal and Jindal (2015) but contrary to the findings of Kim and Nofsinger (2007).

- The result reveals that board size has positive influence on the productivity (sales growth) of Agricultural firms in Nigeria. Thus a high level of board size can affect the productivity (sales growth) of Agricultural firms. This finding is in line with that of Agbaweze and Ogosi, (2018) but contrary to the findings from the study of Duc and Thuy (2013).

- The analysis shows that board duality has positive effect on productivity (sales growth) but the level of effect is not significant in Agricultural firms quoted in Nigeria. This finding is in line with that of Nhung and Nguyen (2017) but contrary to the finding from the study of Duc and Thuy (2013). Gender diversity does not significantly affect the level of productivity (sales growth) in Agricultural firms in Nigeria. This shows that increase or decrease in the level of Gender diversity may not affect the level of productivity (sales growth) in Agricultural firms. This finding is in line with the findings from the study of Bathula (2008) but contrary to the finding from the study of Gaitan Riano (2017).
CONCLUSIONS
This study examined the effect of corporate governance on productivity of quoted agricultural firms in Nigeria, it has been empirically established that corporate governance is processes lay down by a regulatory agency to minimize the extent of agency problems as a result of separation between ownership and control. It is seen as a structure put in place to reduce the power of the chief executive officer. The study findings reveals that directors remuneration and board size has positive and significant effect on productivity of agricultural firms in Nigeria. The board is purported to bring stability and assist the chief executive officer in its goal of shareholders wealth maximization. Hence the extent to which the corporate governance board has help in the achievement of these silent goals is very important to justify its existence. Most previous studies have not considers the agricultural sector which is one of the real sectors in Nigeria based on their contribution to the national gross domestic product and export. This study has filled that gap. Despite that effort by previous researchers (which were done in other sectors), the study on the effect of corporate governance on productivity of firms quoted on the Nigeria stock exchange is still lacking, most study focused on the effect of corporate governance on performance not on the productivity firms. Hence, the timely need for this study as focus is more on the corporate governance attribute following the fraudulent cases and collapses of some big companies in Nigeria.

RECOMMENDATIONS
Based on the findings, the study therefore recommends as follows:
The study finds that director’s remuneration has positive and significant effect on the productivity (sales growth) of Agricultural firms in Nigeria. The study recommends that quoted agricultural firms should determine the optimum payment that will not affect performance. The study finds that board size has positive and significant effect on the productivity. The study recommends that agricultural firms should not select their board size below the mean value, Previous studies on this concept observed that organizations select size of board to create equilibrium between the requirements for timely advice and the financial implications of maintaining large board membership. The study also finds that board duality has positive but not significant effect on productivity of Agricultural firms. The study recommends that agricultural firms should not be in a hurry to assign more than one responsibility to each of the directors since it has no significant effect on productivity. Gender diversity has positive but does not significantly affect the level of productivity in Agricultural firms. The study recommends that agricultural firms should not focus on gender diversification so much since it has no significant effect on productivity.

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