Equity Incentives, Executive Compensation, and Real Activity Management: Panel Data Evidence from Quoted Nigerian Firms

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ABSTRACT
The main inspiration for the present research study is to empirically investigate equity incentives and executive compensation and how they affect real activity management in quoted industrial goods firms in Nigeria. The dependent variable that is real activity management was determined using Roychowdhury models, while the independent variables were proxied by executive stockholdings, bonuses, and fixed salaries. Cross-sectional data were sourced from the audited financial statements of the firms. The Ordinary Least Square (OLS) method of co-integration, unit root, and Granger causality tests were used to determine the extent to which equity incentives and executive compensation affect real activity management. After cross-examination of the validity of the pooled effect, fixed effect, and random effect, the study accepts the random effect model. Model two found that the independent variables explain only 6.9 percent variations on the real activity management. The beta coefficient found that executive stockholdings, bonuses, and fixed salaries have a positive effect on real activity management. The study concludes that equity incentives and executive compensation do not have any significant effect on real activity management of quoted industrial goods firms in Nigeria. From the findings we recommend that the policymakers need to provide adequate regulation on the determination of equity incentives of the directors of listed companies; this will reduce the negative effect of ownership concentration for directors and the overbearing influence of directors in annual general meetings.

Keywords: Executive Compensation, Equity Incentives, Real Activity Management, Panel Data, Industrial goods Firms, Nigeria

1.1 INTRODUCTION
International Financial Reporting Standard distinguishes between the accounting treatments for share-based payment transactions of equity-settled versus cash base. Increased competition adds special concern and is considered a problematic issue. It is a must for firms to find alternative solutions to increase performance and be efficient (Kang and Kim, 2017). Executive compensation and equity incentives payment seems to present a paradox in terms of giving a contribution to firms. Its use may relate to some firms’ characteristics and it may represent important and relevant information to owners and management. The negative side regarding the use of share-based payment related to an opportunistic behavior that may be replaced once potential users of this incentive remuneration plan are aware of the benefits of its use when appropriate. Equity compensation allows the employees of the firm to share in the profits via appreciation and can encourage retention, particularly if there are vesting requirements. Equity compensation has been used by many public companies and some private companies. Recently launched
firms may lack the cash or want to invest cash flow into growth initiatives, making equity compensation an option to attract high-quality employees.

Theoretically, an agency relationship is established when a principal delegates a decision making responsibility in a firm to an agent. Although a natural and inevitable stage in the evolution of the corporation, the resulting separation of ownership from control leads to an agency conflict, because the controlling managers, whose actions are unobservable, may be tempted to pursue their personal goals when running a company. Such a moral hazard behavior may take a variety of forms, including overconsumption of perquisites, diversion of corporate resources and exertion of insufficient effort. This problem, recognized already by Smith et al. (2004) and described in greater detail in Berle and Means (1932), is at the core of the two central theoretical frameworks for studying executive ownership and compensation. The first line of research approaches the agency problem by contemplating managerial equity claims in the context of the ownership structure of the firm. Jensen & Meckling (1976) compare the behavior of a manager when she owns 100% of equity claims of the firm to the situation when she sells off a portion of these claims to outside shareholders. Within this framework, the manager’s fractional ownership represents a measure of the severity of the agency conflict.

Earnings management can be classified into two categories by accruals management and real activities manipulation. Real activity-based earnings management relates to actions on the part of a firm’s management personnel that deviate from normal business practices in an attempt to meet target earnings (Roychowdhury, 2006). Practices of real activity management result from managers’ action that has the opportunity to manage the selling point of assets because a gain is recognized on the income statement at the time of sale as the difference between the net book value and the current market value. Real activity manipulation perspectives have received much more research interest, motivated by Graham et al. (2005), which provides survey results that chief executive officers have a preference for using real activities to manage earnings because accrual-based earnings management is likely to be detected by regulatory scrutiny and chief executive officers can diversify that risks by using both accruals and real activities. Recent empirical shreds of evidence show that firms use multiple real activities to avoid reporting annual losses, such as giving price discounts to temporarily boost sales, overproducing to report a lower cost of goods sold, and reducing discretionary

### 1.2 Statement of the Problem

There is a high presence of agency conflict and agency cost in the Nigeria business environment which can negate the objective of equity incentives and executive compensation. For instance, the Economic and Financial Crime Commission versus Mrs. Cecilia Ibru, former Chief Executive Officer (CEO) of the acquired Oceanic bank Plc pleaded guilty of 191 billion depositors’ funds (Lucky, 2017). The attitude of managers does not only contradict relevant sections of the law such as Companies and Allied Matter Act 1991 as amended and Bank and Other Financial Institutions Act 1991 as amended but violate the code of corporate governance and serve as determinants of corporate bankruptcy and collapse.

The agency theory assumes that the monitoring mechanisms can lead to an alignment of interest between the manager and shareholders and reduce opportunistic behavior resulting from the divergence of interests (Alves, 2012). However, Oladejo and Oluwaseun (2014) and Ogwueeka and Udoudoh (2018) opined that there have been observable insufficient incentive plans in modern organizations culminating in low employee remuneration in many countries, especially a developing one like Nigeria. Allen et al. (2018) and Zhang (2018) identified that executives have resorted to sharp practices and agency issues due to improper remuneration by the firm. One of the mechanisms, which can reduce the agency problem, is the system of managerial compensation, especially equity-based remuneration. The salary incentive mechanism is an important measure to ease the principal-agent problem which is caused by the separation of ownership and management rights, but it also causes the opportunistic behavior of some executives, that is, executives will take the behavior of earnings management to obtain more payments. Dechow and Skinner (2000) state that the increased use of stock-based compensation has motivated managers to manage earnings, as they are interested in taking full advantage of the increase in stock price which is related to key accounting information like earnings.
1.3 Aim and Objectives of the Study

This study aims to investigate the relationship between equity incentives, executive compensation, and real activity management in industrial goods firms listed on the Nigeria Stock Exchange. The specific objectives of the study are to:

i. assess the relationship between stockholdings offered to managers and real activity management in quoted industrial goods firms in Nigeria.

ii. establish the relationship between bonuses offered to managers and real activity management in quoted industrial goods firms in Nigeria.

iii. determine the relationship between fixed salaries of managers and real activity management in quoted industrial goods firms in Nigeria.

1.4 Research Questions

The following are the research questions for the study:

1. What is the relationship between executive stockholdings and real activity management in quoted industrial goods firms in Nigeria?

2. What is the relationship between bonuses and real activity management in quoted industrial goods firms in Nigeria?

3. How do fixed salaries relate to real activity management in quoted industrial goods firms in Nigeria?

1.5 Research Hypotheses

The following are the formulated hypotheses for the study:

H₀₁: There is no significant relationship between executive stockholdings and real activity management in quoted industrial goods firms in Nigeria.

H₀₂: There is no significant relationship between bonuses and real activity management in quoted industrial goods firms in Nigeria.

H₀₃: There is no significant relationship between fixed salaries and real activity management in quoted industrial goods firms in Nigeria.

2.0 Literature Review

2.1 Theoretical Framework

2.1.1 The Principal Agency Theory

The Principal agency theory provides a structure for managing/classifying principal/agent relationships using the contract mechanism for which one party principal hires the agent for purposes of assigning responsibility to the agent (Jensen and Meckling, 1976; Eisenhardt, 1989). For example, shareholders acting as principal hires the manager to manage the day to day running of a business organization. While the principal and agent are expected to be dealing in cooperative activity, they will also likely have different goals and differing behaviors toward risk. Thus, in the process of their relationship, the principal and his agent will have problems related to their relationship. This problem is referred to as the agency problem. Agency relationships exist at every level of an organization. Any employee can assume the role of the agent while the employee’s supervisor assumes the role of the principal on behalf of the shareholder. In the case of the chief executive, the board of directors assumes the role of the principal. Agency theory provides a theoretical basis for investigating the influence of contract incentives and information asymmetry on accounting decisions. Such accounting decisions include, but are not limited to, determining the amount and timing of certain period ending accruals in situations where contractual outcomes explicitly depend on reported accounting numbers. While the structure of bonus incentives is meant to deal with risk and effort issues, Watts and Zimmerman (1986) also suggest that there are unexpected consequences related to bonus incentives. Such consequences include biasing managers’ accounting decisions and misinforming the principal on his activities. Etengu and Kwerigira (2016) advocated that in order to lessen the costs associated with the agency, organizations can employ incentive schemes for managers in an attempt to compensate them monetarily in the interests of the shareholder. According to them, such schemes characteristically comprise strategies whereby top executives achieve
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shares, possibly at a considerable amount, consequently bring into line the financial interests of executives with those of owners.

2.1.2 The Positive Accounting Theory

The positive Accounting theory attempts to formulate an accounting theory by focusing on the predictive nature/ability of a particular method of reporting an event that would be of use to the user. The positive accounting theory can best be explained by the assertions of Jensen and Meckling (1976) who proposed the "development of a positive theory of accounting which will explain why accounting is what it is, why accountants do what they do, and what effects these phenomena have on people and resource utilization". This theory is based on the proposition that the organization's managers, shareholders, regulators, and other stakeholders make rational decisions and that they attempt to maximize their utility. The positive accounting theory is opposite to the normative approach and attempts to explain why accounting procedures and policies are as they are, whereas the normative approach attempts to prescribe the accounting procedures and policies to be implemented.

Under the positive accounting theory, managers will choose from among permitted accounting choices to produce a "picture" of the firm they want to communicate with stakeholders. The information communicated by management will be affected by three possible circumstances which include: (a) the extent to which executive pay structure comprises bonuses based on the firm's earnings (b) the extent to which the firm is leveraged (in debt) and how related the debt is to the earnings of the firm and (c) the extent to which the firm assesses its political, litigation and publicity risks. These circumstances as enumerated above give rise to the Political Cost Hypothesis; Debt Equity Hypothesis and the Bonus Plan Hypothesis.

2.2 Conceptual Framework

2.2.1 Real Activity Management

Real earnings management occurs when managers intentionally make operating decisions that have actual cash flow implications with the goal of altering reported earnings. For example, a firm may offer price discounts and offer more flexible credit terms to customers to boost sales revenues temporarily. The normal level of production costs is estimated by employing the following model.

\[ PROD_t = COGS_t + \Delta INV_t, \]

Estimating the model:

\[ \frac{PROD_t}{A_{t-1}} = \beta_0 + \beta_1 \frac{S_t}{A_{t-1}} + \beta_2 \frac{\Delta S_t}{A_{t-1}} + \beta_3 \frac{\Delta S_{t-1}}{A_{t-1}} + \epsilon_t \]

Where:

- \( PROD_t \) = Production costs in year t, which is the sum of cost of goods sold (COGS_t) and the change in inventories (\( \Delta INV_t \)).
- \( A_{t-1} \) = Total assets in year \( t-1 \),
- \( S_t \) = Total sales at the end i.e. year t,
- \( \Delta S_t \) = \( S_t - S_{t-1} \), i.e sales in period t - 1 minus sales in period t - 1,
- \( \Delta S_{t-1} \) = \( S_t - S_{t-2} \), i.e sales in period t - 1 minus sales in period \( S_{t-2} \),
- \( \beta_0, \beta_1, \beta_2, \beta_3, \text{ and } \beta_4 \) = Parameters to be estimated, namely the betas,
- \( \epsilon_t \) = Residuals in year t.

The abnormal production cost is the actual production minus the “normal” production. This can be determined by employing estimated coefficient from the corresponding industry-year model and the firm-year’s sales and lagged assets. The abnormal production cost model is as shown below:

\[ abnPROD_t = \frac{PROD_t}{A_{t-1}} \beta_0 - \beta_1 \frac{S_t}{A_{t-1}} - \beta_2 \frac{\Delta S_t}{A_{t-1}} - \beta_3 \frac{\Delta S_{t-1}}{A_{t-1}} \ldots \ldots \]
The cash flow from operating activities is measured as a linear function of sales and the changes in sales in the current period. This is given as follows;

\[
\frac{CFO_t}{A_{t-1}} = \beta_0 + \beta_1 \frac{1}{A_{t-1}} + \beta_2 \frac{S_t}{A_{t-1}} + \beta_3 \frac{\Delta S_t}{A_{t-1}} + \epsilon_t
\]

Where:
- \(CFO_t\) = The cash flows from operating activities in year \(t\),
- \(A_{t-1}\) = Total assets in year \(t - 1\),
- \(S_t\) = Total sales in year \(t\),
- \(\Delta S_t\) = \(S_t - S_{t-1}\), ie sales in period \(t\) minus sales in period \(t - 1\),
- \(\beta_0, \beta_1, \beta_2, and \beta_3\) = Parameters to be estimated, namely the betas,
- \(\epsilon_t\) = Residuals in year \(t\).

The abnormal cash flow from operating activities is the actual cash flow from operating activities minus the “normal” cash flow from operating activities. This is determined by the estimation of coefficients from the corresponding industry-year model and the firm-year’s sales and lagged assets. The abnormal cash flow from operating activities is as expressed below:

\[
abnCFO_t = \frac{CFO_t}{A_{t-1}} \beta_0 - \beta_1 \frac{1}{A_{t-1}} - \beta_2 \frac{S_t}{A_{t-1}} - \beta_3 \frac{\Delta S_t}{A_{t-1}}
\]

From these equations, we can calculate the real-activity based earnings management thus:

\[
REM = \text{Abnormal Cash-flows from operations} + \text{abnormal production costs}
\]

Where:
- \(REM\) = Real Activity Earnings Management
- Abnormal Cash-flow = Actual Cash flow – Normal Cash Flow
- Abnormal production costs = Actual Production Cost – Normal Production Cost

It is also pertinent to state here that the actual cash flow from operations and actual production costs are derived directly from the financial reports prepared by the company.

### 2.2.2 Equity Incentives

Equity-based compensation and incentives are provided essentially by granting executives stock options and shares. Although the value of such incentives tied to the share price, these equity instruments may differ in several important respects, including the right to receive dividends, the presence of incentives to take risks and accounting treatment. For the study, equity incentives include executive stockholdings and Bonuses. Below we define these measures operationally.

#### 2.2.3 Executive Stockholdings

Executive stockholdings as long-term equity compensation packages for executives come mostly in the equity stocks or its derivative. Equity compensation provides a strong incentive because it is based on the relationship between the value of the award and the performance of a company’s stock price. As the value of the company increases, the value of the equity increases, providing an incentive for the executive to strive to increase the company’s success and boost its market value. Long-term compensation is an incentive payment made, usually in other than cash, for an executive’s efforts over a period of longer than one year. Executive stock holdings will be derived based on the following ratio as proposed by Bergstresser and Philippon (2006) and de Vos and Wang (2010):

\[
EXSH_{it} = \frac{EXSH_{it}}{(EXSH_{it} + BONU_{it} + FSAL_{it})}
\]

Where:
- \(EXSH_{it}\) = Executive Stock Holdings of the CEO of firm \(i\) in year \(t\)
2.2.4 Performance-based Bonuses
Employee stock options are contracts that give the employee the right to buy a share of stock at a pre-determined “exercise” price for a pre-determined term. Most employee stock options expire in ten years and are granted with an exercise price equal to the market price on the date of grant. Typically, a grant of stock options cannot be exercised immediately, but only over time; for example, 25 percent might become exercisable in each of the four years following the grant.

In addition to stock options, another form of short-term compensation often used as an incentive for employees to perform better is performance-based bonuses. These are essentially often tied to deliverables like a higher sale, higher profits, lower operating costs, etc. A bonus is any financial compensation, reward, or return over and above the normal expectations of the recipient. A bonus can be given to a company’s employees and executives, prospective employees, or shareholders. The bonus may also be offered to employees as a reward for some exceptional work that has been done and completed. A performance bonus is offered when a project, quarter, or year has successfully been completed; when a team or employee goes above and beyond the required job responsibilities; or when special recognition is to be given to an employee. The bonus can be given to an individual, a team, a department, or everyone in the company according to each entity’s contribution.

Many firms have an annual bonus structure built into employees’ contracts and in the event that the firm achieves a certain milestone, the profit will be shared among the employees who participated in achieving it. Not all bonuses are offered as an incentive or a reward. Some bonus payments made out to employees are not earned and are given only because the individual is part of the company. In this study, our interest is on those types of bonuses that are offered only to top management and executives which are not usually paid in cash but in cash equivalents such as stock options or other forms of equity. These types of bonuses are often substantial in size depending on the level of performance. Bonuses awarded to managers were derived based on the basis of the following ratio as proposed by Bergstresser and Philippon and de Vos and Wang (2010):

$$BONU_{it} = \frac{BONU_{it}}{(EXSH_{it} + BONU_{it} + FSAL_{it})}$$

Where:
- $EXSH_{it}$ = Executive Stock Holdings of the CEO of firm i in year t
- $BONU_{it}$ = Bonus-incentives of the CEO of firm i in year t
- $FSAL_{it}$ = Fixed Salaries of the CEO of firm i in year t

2.2.5 Fixed Salaries
Salary is the fixed amount of money or compensation paid to an employee in return for work performed for the employer. Salary is normally paid at fixed intervals, usually monthly. Salary is typically determined by comparing market pay rates for people performing similar work/role in similar industries in the same geographical area. Salary is also determined by leveling the pay rates and salary ranges established by an individual employer. Salary is also affected by the number of people available to perform a specific job in the employer's employment locale. Thus, the salary will be affected by market forces in an open economy. Although fixed salaries do not have much relation to management performance, most incentives are based on a fixed salary. Fixed salaries of managers will be derived based on the basis of the following ratio as proposed by Bergstresser and Philippon (2006) and de Vos and Wang (2010):

$$FSAL_{it} = \frac{FSAL_{it}}{(EXSH_{it} + BONU_{it} + FSAL_{it})}$$

Where:
EXSH$_{it}$ = Executive Stock Holdings of the CEO of firm i in year t
BONU$_{it}$ = Bonus-incentives of the CEO of firm i in year t
FSAL$_{it}$ = Fixed Salaries of the CEO of firm i in year t

2.3 Empirical Review

Chou and Chan (2018) investigated the impact of CEO characteristics on real activities manipulation achieved by changing the normal operational decisions purposely using a sample of 73 banking institutions with SIC code 6020, 6035 and 6036 during the period 2004 to 2007. Their results present a negative relationship between real earnings management (REM) and some CEO characteristics, including CEO tenure, the directorship on the audit committee and the level of diligence as well. High CEO compensation is found to increase the real earnings management while the levels of pay-performance sensitivities have different influences on it at banks with CEO high (HPPS) and low (LPPS) pay-performance-sensitivity respectively. CEO experiences turn out to have a positive effect on earnings management at HPPS banks and a negative effect on LPPS. CEO power has a significant influence on HPPS bank’s REM but it is not supported in LPPS banks. Holding other directorship has a significantly positive effect on earnings management at HPPS while it is not at LPPS bank. On the contrary, the CEO’s meeting attendance and total compensation have positively affected REM at LPPS but they are not at HPPS. Lastly, they astonishingly found that only CEO experience and profession have a significant moderate effect on the bank’s REM after the financial crisis of 2008, however, all CEO characteristics have significant impacts on the bank’s earnings management before the crisis. They concluded that experienced CEOs are easy to window-dressing financial statements when facing a serious financial crisis.

Nelson and Rahim (2018) examined earnings management's influence on directors’ remuneration. Taking a calculation of the empirical evidence of earnings management, firm performance, and directors’ remuneration, the study was able to demonstrate that pay-performance is not influenced by earnings management. Data for the study were extracted from the annual reports of 678 non-financial public listed companies in Malaysia from 2009-2011 giving rise to final 2021 observations. The findings highlighted that earnings management played no role in determining the directors’ remuneration. However, the findings documented a significant and positive association between the directors’ influence and the directors’ remuneration. This study contributes to the growing literature by providing evidence which demonstrates that pay-performance was not directly influenced by earnings management but by the influence of the executive directors. More importantly the study documents even under strong governance, Malaysian listed firms are influenced by the executive directors.

Kim et al. (2018) studied CEO and outside director equity compensation: Substitutes or complements for management earnings forecasts. The study was aimed at examining how chief executive officers' equity compensation and that given to the outside directors affect management earnings forecasts and to also ascertain the relationship between these officers as concerns their compensation. The researchers carried out the investigation by using data for CEO and director compensation and management earnings forecasts from 2006 to 2011. The results of their findings showed that equity compensation has a positive relationship with various measures of disclosure quality including management forecast likelihood, management forecast frequency, and management forecast accuracy and also the incentive mechanism involving equity compensation of chief executive officers and the monitoring mechanism related with equity compensation of directors act as proxies for each other in adding to the frequency of management forecasts and management update.

Ines (2017) examined the effect of discretionary accruals and governance mechanisms in the occurrence of financial statement fraud. The sample consists of 250 annual reports spanning from 2006 to 2010 for listed French companies, which 45 detected fraudulent companies by the Financial Market Authority (AMF). Their findings revealed that discretionary accruals have a positive effect on corporate fraud when distinguishing between positive discretionary accruals (aggressive accounting policy) and negative discretionary accruals (conservative accounting policy); they provide evidence that aggressive accounting manipulation increases the likelihood of financial statement fraud. By contrast, conservative accounting
policy is negatively associated with corporate fraud. Additionally, the outside director and ownership concentration are the most significant variables of governance to explain corporate fraud. Debnath (2017) attempted to analyze the nature and extent of earnings management practices and also to assess the impact of the firm’s growth and performance on earnings management through discretionary accruals estimation in India. The study uses a cross-sectional modified Jones model to estimate discretionary accruals, a proxy for earnings management. The researcher used a sample of 756 firm-year observations from the non-financial corporate sector from 2007 to 2015, using a fixed-effect model. The findings of the study confirmed that there is an existence of earnings management practices across the Indian non-financial firms under study, which followed a mixed trend. The findings further showed that the growth of the firm is positively associated with discretionary accruals while performance is negatively correlated. Nonetheless, among the other control variables viz; the firm's size and age were also found statistically significant influencing variables.

Li and Kuo (2017) in a study on CEO equity compensation and earnings management: The role of growth opportunities, obtained the firm characteristics and CEO compensation data of the United States of America non-financial companies from Compustat and exec-comp respectively. The study final sample comprised 6063 firm-year observations of 1487 distinct firms from 2005 to 2009. They identified firm’s growth opportunity determined by the Book-to-Market ratio as an organizational environmental factor and used the panel threshold model to examine whether the firm growth opportunity variable was capable of moderating this positive relation. Their results revealed that, for firms with relatively low growth potential, equity incentives motivate managers to manipulate earnings. They maintained that as firm growth opportunities arrive at certain thresholds, equity pay can successfully lessen the agency problem inherent with earnings management. They found that their results still hold and become even more pronounced for the financial crisis period.

Fabrizi and Parbonetti (2017), using a sample of quarterly observations from US firms over the period 2003-2010, analyzed the impact of CEOs’ equity incentives, risk-based incentives, and career concerns on decisions related to the earnings game. Their findings indicated that CEOs trade off the various earnings game strategies according to their incentives. Particularly, they also found that CEOs with high equity incentives and high career concerns take on less in real activity manipulations as compared to executives with low incentives, and they are prone to substituting real earnings management with accrual-based earnings management and/or guiding analysts’ expectations. Apart from the above analysis and findings, the researchers also analyzed the economic impact of using real earnings management instead of accrual-based earnings management or guiding analysts’ expectations, to meet/beat targets. Their results here indicated that real activity manipulation is associated with lower future market performance. They opined that CEOs appear to understand and anticipate this effect, and when equity incentives and career concerns support their interests with those of shareholders, they keep away from resorting to real earnings management.

Moradi et al (2015) studied the analysis of incentive effects of managers’ bonuses on real activities manipulation relevant to future operating performance. In doing this, the researchers carried out their investigation into three stages. Foremost, they investigated the relationship between managers’ bonuses, accrual earnings management, and real earnings management. Secondly, they examined if the management has any penchant for earnings management techniques to increase its bonuses and in the end, the researchers investigated the likely effects of earnings management on the future operating performance of the firms. Their study sample was made up of compositional data from 2006 to 2012 study periods. Their findings showed that there is a negative relationship between real earnings management and managers’ bonuses. It was discovered that managers have a preference to use accrual earnings management to receive more bonuses. The results also indicated that real earnings management will decrease the performance of the firms in the future and conversely that increased in the managers’ bonuses relates to the enhancement of the performance of the firm in the future. They concluded that managers are not ignorant of the negative effects of real earnings management on the future performance of the firm. Furthermore, they stated that managers have a preference to get better the performance of the
firm to secure their bonuses especially when the management of accruals is inhibited by their lack of ability.

Marilyn (2014) examined the association between earnings management and CEO compensation during the period 2004 to 2013. He focused on the “option and incentive” component of CEO compensation and the use of real earnings management and accrual-based earnings management. The period of examination excluded the year 2008, as it was the cut-off point that divides the sample period in a pre- and post-crisis sample. The study sample consisted of 84 individual U.S. Fortune 500 firms (756 firm-year observations) which had CEO compensation data and financial data available. He got his data from the ExecuComp and Compustat database in Wharton Research Data Services (WRDS). The findings indicated a positive association between “option and incentive” compensation and the financial crisis. The study also showed that there is no significant (negative/positive) association between (real-/accrual-based) earnings management and the financial crisis and that there is a positive association between real earnings management and CEO compensation.

Chu and Song (2012) investigated the inter-relationship between executive compensation, earnings management, and over-investment. Using a sample of 196 Malaysian public listed firms, the findings show a positive endogenous relationship between executive compensation and over-investment. Measuring equity compensation in incentive ratio, for each percent of over-investment, one percent improvement in share prices will increase 23% of executive directors’ equity value. Over-investment, however, leads to a decline in executive directors’ equity value in large shareholders controlled firms. Also, one percent of over-investment can explain 12% of earnings management. Nevertheless, earnings management does not explain the executive directors’ compensation. In summary, aligning over-investment with executive compensation schemes has implied that the existing compensation is insufficient for executive directors to align their interests with the objective to maximize shareholders' value.

3.0 MATERIALS AND METHODS

The study employed the ex-post factor research design which entails the utilization of historical/past data to forecast future trends employing econometric or analytical techniques. This form of research design is reliable as it provides objective estimates of study variable relationships free from subjective errors. Thus, the Ex-Post Facto Design was considered to be the right research design for the study. The population of the study consists of all the industrial goods companies quoted on the Nigeria Stock Exchange.

Secondary data were used in this study. All necessary data were sourced directly from the audited annual financial statements of the various sampled companies on the Nigeria Stock Exchange Annual reports and Fact-books. The study covered a period of eleven financial years beginning from 2007 to 2018 accounting years giving a 154 firm-year observation. As stated above, the data for the study are from secondary sources hence the method of data collection was historical data survey from annual reports of the concerned organizations. The study used multiple regression defined as an equation with one dependent variable and more than one independent variable. The Ordinary Least Square (OLS) method of co-integration, unit root, and granger causality tests were used to determine the extent to which equity incentives and executive compensation affect real activity management. After cross-examination of the validity of the pooled effect, fixed effect, and random effect, the study accepts the random effect model. The test instruments in the OLS are the T-statistics and probability values which were used to test the significance of variables and the overall significance of the regression respectively. Other test instruments also employed were the Durbin Watson test which was used to test the presence or absence of autocorrelation between and among the explanatory variables and the coefficient of determination (R-Square) used to test the percentage variation of the dependent and the independent variables.
3.1 Model Specification

\[ REC_{it} = f(EXSH_{it}, BONU_{it}, FSAL_{it}) \]

Converting the above mathematical form to econometric form by the application of the constant term, coefficient and error term, the above models are represented as;

\[ REC_{it} = \alpha_0 + \alpha_1 EXSH_{it} + \alpha_2 BONU_{it} + \alpha_3 FSAL_{it} + \mu_{it} \]

Pooled regression specification

\[ RAM = \alpha_0 + \alpha_1 EXSH_{it} + \alpha_2 BONU_{it} + \alpha_3 FSAL_{it} + \epsilon_{it} \]

Fixed Effect Model Specification

\[ RAM_{it} = \alpha_0 + \alpha_1 EXSH_{it} + \alpha_2 BONUS_{it} + \alpha_3 FSAL_{it} + \epsilon_{it} + \sum_{i}^{n} 1 \alpha_i idum + \epsilon_{it} \]

Random effect model specification

\[ RAM_{it} = \alpha_0 + \alpha_1 EXSH_{it} + \alpha_2 BONUS_{it} + \alpha_3 FSAL_{it} + \epsilon_{it} + \mu_{it} + \epsilon_{it} \]

Where

REAC = Real Activity Management

EXSH = Executive compensations

BONU = Bonuses

FSAL = Fixed salaries

\( \mu_{it} = \) Error Term

4.0 ANALYSIS AND DISCUSSION OF FINDINGS

Table 4.1. Extract of Descriptive Statistics of the Variables under Consideration

<table>
<thead>
<tr>
<th>Variables</th>
<th>REAC</th>
<th>EXSH</th>
<th>BONU</th>
<th>FSAL</th>
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</thead>
<tbody>
<tr>
<td>Mean</td>
<td>26.29253</td>
<td>37.14653</td>
<td>39.64630</td>
<td>6.649156</td>
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<td>Std. Dev.</td>
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<td>37.64472</td>
<td>38.29722</td>
<td>12.39917</td>
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<td>0.000000</td>
<td>0.000000</td>
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<tr>
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<tr>
<td>Kurtosis</td>
<td>2.934368</td>
<td>1.597471</td>
<td>1.611700</td>
<td>10.70447</td>
</tr>
</tbody>
</table>

Source: Extracted from E-view 10, 2019

The mean values of real activity management, executive stockholdings, bonuses, and fixed salaries are 26.29253, 37.14653, 39.64630, and 6.649156 respectively, the minimum or least value in these series is 0.000000 while the highest value is 99.90000. The deviation from the mean is 12.80402. The skewness values are, -0.076646, 0.447849, 0.479373, and 2.624551 respectively. We know that skewness measures the degree of asymmetry of the series. From the series it is seen that real activity management is
negatively skewed, it has long left tail, lower value below the sample average. FSAL is leptokurtic; REAC, EXSH, and BONU are all platykurtic (flattened-curve), lower values below the sample average.

Table 4.1.2: Extract of Panel Correlation Matrix Results

<table>
<thead>
<tr>
<th>Variables</th>
<th>REAC</th>
<th>EXSH</th>
<th>BONU</th>
<th>FSAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>REAC</td>
<td>1.000000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EXSH</td>
<td>0.036317</td>
<td>1.000000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BONU</td>
<td>0.210911</td>
<td>-0.513125</td>
<td>1.000000</td>
<td></td>
</tr>
<tr>
<td>FSAL</td>
<td>0.253747</td>
<td>0.033332</td>
<td>-0.164219</td>
<td>1.000000</td>
</tr>
</tbody>
</table>

Source: Extracted from E-view 10, 2019
The results demonstrated that EXSH, BONU, and FSAL had a positive relationship with REAC as in the coefficient of 0.036317, 0.210911, and 0.253747 implying an increase in EXSH, BONU, and FSAL REAC will bring about an increase in REAC.

Table 4.1.3: Panel Unit Root Test at First Difference 1(1)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Test Methods</th>
<th>Coefficient</th>
<th>Prob.</th>
<th>Cross-section</th>
<th>Obs</th>
</tr>
</thead>
<tbody>
<tr>
<td>REAC</td>
<td>Levin, Lin &amp; Chu t*</td>
<td>-10.2695</td>
<td>0.0000</td>
<td>14</td>
<td>112</td>
</tr>
<tr>
<td></td>
<td>ADF - Fisher Chi-square</td>
<td>100.588</td>
<td>0.0000</td>
<td>14</td>
<td>112</td>
</tr>
<tr>
<td></td>
<td>PP - Fisher Chi-square</td>
<td>203.944</td>
<td>0.0000</td>
<td>14</td>
<td>126</td>
</tr>
<tr>
<td>EXSH</td>
<td>Levin, Lin &amp; Chu t*</td>
<td>-11.6695</td>
<td>0.0000</td>
<td>14</td>
<td>112</td>
</tr>
<tr>
<td></td>
<td>ADF - Fisher Chi-square</td>
<td>131.751</td>
<td>0.0000</td>
<td>14</td>
<td>112</td>
</tr>
<tr>
<td></td>
<td>PP - Fisher Chi-square</td>
<td>206.693</td>
<td>0.0000</td>
<td>14</td>
<td>126</td>
</tr>
<tr>
<td>BONU</td>
<td>Levin, Lin &amp; Chu t*</td>
<td>-17.0644</td>
<td>0.0000</td>
<td>14</td>
<td>112</td>
</tr>
<tr>
<td></td>
<td>ADF - Fisher Chi-square</td>
<td>114.359</td>
<td>0.0000</td>
<td>14</td>
<td>112</td>
</tr>
<tr>
<td></td>
<td>PP - Fisher Chi-square</td>
<td>189.744</td>
<td>0.0000</td>
<td>14</td>
<td>126</td>
</tr>
<tr>
<td>FSAL</td>
<td>Levin, Lin &amp; Chu t*</td>
<td>-19.7916</td>
<td>0.0000</td>
<td>14</td>
<td>112</td>
</tr>
<tr>
<td></td>
<td>ADF - Fisher Chi-square</td>
<td>102.444</td>
<td>0.0000</td>
<td>14</td>
<td>112</td>
</tr>
<tr>
<td></td>
<td>PP - Fisher Chi-square</td>
<td>211.472</td>
<td>0.0000</td>
<td>14</td>
<td>126</td>
</tr>
</tbody>
</table>

Source: Extracted from E-view 10, 2019
This study adopted four test statistics to test the stationarity of the variables within the study periods. From the table above, all the variables are stationary at first difference and the probability coefficient of the variables is less than the critical value of 0.05 at a 5 percent level of significance. This implies that the null hypotheses are rejected.
4.4 Equity Incentives, Executive Compensation and Real Activity Management

Table 4.4.1: Test Between the Fixed and the Random Effect

<table>
<thead>
<tr>
<th>Effects Test</th>
<th>Statistic</th>
<th>d.f.</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Redundant Fixed Effects Tests</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cross-section F</td>
<td>23.584274</td>
<td>(13,137)</td>
<td>0.0000</td>
</tr>
<tr>
<td>Cross-section Chi-square</td>
<td>180.939580</td>
<td>13</td>
<td>0.0000</td>
</tr>
<tr>
<td><strong>Correlated Random Effects - Hausman Test</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equation:Untitled</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test Summary</td>
<td>Chi-Sq. Statistic</td>
<td>Chi-Sq. d.f.</td>
<td>Prob.</td>
</tr>
<tr>
<td>Cross-section random</td>
<td>2.090485</td>
<td>3</td>
<td>0.5538</td>
</tr>
</tbody>
</table>

Source: Extracted from E-View 10, 2019

The question of which model is more appropriate FEM or REM is very difficult to answer. Judge et al (1980) made a few suggestions that are related to the context of the data, and its environment besides the correlation between error component and regressions. If it is assumed to be uncorrelated, random effects may be appropriate, whereas if correlated, fixed effects are unbiased and then are more appropriate. The Hausman (1978) specification test can be used to determine the appropriate method either fixed or random-effects models. However, econometricians seem to be united generally that the random-effects model is more appropriate to be used if individual intercepts are drawn randomly from a large population. By contrast, the FEM is more appropriate in the case of focusing on specific sets of the firms. An important test for model specifications is to decide whether the FEM or REM is more appropriate Maddala, (2001). The null hypothesis is that the residuals in the random effects (REM) are uncorrelated with the regressions and that the model is correctly specified. From the table above, the fixed effects on the cross-section Redundant Fixed Effect- Likelihood Ratio, the P-value is 0.5538 indicating that the effects are not significant. Select the random effect and perform the Correlated Random Effects-Hausman test, testing the random effects model against the fixed effects model. The null hypothesis, in that case, is that both tests are consistent estimators and the random-effects model is efficient. Under the alternative hypothesis, only the fixed effect is consistent. Since the p-value is 0.5538, the null hypothesis is not rejected and, therefore, the random-effects model is to be preferred.

Table 4.4.2: Multiple Regression Result of Pooled Effect Model at OLS for Model 2

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t. Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>16.48696</td>
<td>2.315324</td>
<td>7.120799</td>
<td>0.0000</td>
</tr>
<tr>
<td>EXSH</td>
<td>0.073970</td>
<td>0.029626</td>
<td>2.496819</td>
<td>0.0136</td>
</tr>
<tr>
<td>BONU</td>
<td>0.124721</td>
<td>0.029505</td>
<td>4.227072</td>
<td>0.0000</td>
</tr>
<tr>
<td>FSAL</td>
<td>0.317807</td>
<td>0.078264</td>
<td>4.060719</td>
<td>0.0001</td>
</tr>
</tbody>
</table>

\[ R^2 = 0.164670, \text{ Adj } R^2 = 0.147963; \text{ DW } = 0.697641 \]

Source: Extracted from E-View 10, 2019
Table 4.4.3: Multiple Regression Result of Fixed Effect Model at OLS for Model 2

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t. Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>21.27787</td>
<td>1.950904</td>
<td>10.90667</td>
<td>0.0000</td>
</tr>
<tr>
<td>EXSH</td>
<td>0.049294</td>
<td>0.046636</td>
<td>1.057007</td>
<td>0.2924</td>
</tr>
<tr>
<td>BONU</td>
<td>0.069480</td>
<td>0.030233</td>
<td>2.298151</td>
<td>0.0231</td>
</tr>
<tr>
<td>FSAL</td>
<td>0.064506</td>
<td>0.072599</td>
<td>0.888516</td>
<td>0.3758</td>
</tr>
</tbody>
</table>

R² = 0.742017, Adj R² = -0.7118875; DW = 2.086667

Source: Extracted from E-View 10, 2019

Table 4.4.4: Multiple Regression Result of Random Effect model at OLS for Model 2

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t. Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>20.95186</td>
<td>3.434472</td>
<td>6.100459</td>
<td>0.0000</td>
</tr>
<tr>
<td>EXSH</td>
<td>0.048987</td>
<td>0.039331</td>
<td>1.245510</td>
<td>0.2149</td>
</tr>
<tr>
<td>BONU</td>
<td>0.074398</td>
<td>0.027538</td>
<td>2.701628</td>
<td>0.0077</td>
</tr>
<tr>
<td>FSAL</td>
<td>0.085929</td>
<td>0.070612</td>
<td>1.216925</td>
<td>0.2255</td>
</tr>
</tbody>
</table>

R² = 0.068962, Adj R² = 0.050341; DW = 1.920252

Source: Extracted from E-View 10, 2019

Based on Hausman test output as shown in appendices in the main work and also in table 4.4.5, the probability value is 0.5538; this is greater than 0.05 significant level, we do not reject the null hypothesis that random effect model is more appropriate than fixed-effect model in assessing the impact of the explanatory variables on the response variable (REAC). The random effect output on the above table as derived from the regression of REAC on EXSH, BONU, and FSAL presented an intercept of 20.95186 which implies that REAC is 20.95186 when the independent variables (EXSH, BONU, and FSAL) are zero. The table shows that EXSH and FSAL have positive coefficients of 0.048987 and 0.085929 and are statistically insignificant as their p-values are greater than 5 percent significant level. It means that as EXSH and FSAL increase, REAC also increases at 4.8987 and 8.55929 percent. However, BONUS has a positive and significant relationship with REAC as its probability value of 0.0077 is less than 0.05. Furthermore, the increase in BONUS will result to increase in REAC. The coefficient of determination of 6.8962 percent reveals that the criterion variables only explain 6.8962 percent variation in REAC.

Table 4.4.5: Fixed and Random Effect Comparison

<table>
<thead>
<tr>
<th>Variable</th>
<th>Fixed</th>
<th>Random</th>
<th>Var(Diff.)</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXSH</td>
<td>0.049294</td>
<td>0.048987</td>
<td>0.00062</td>
<td>0.9902</td>
</tr>
<tr>
<td>BONU</td>
<td>0.069480</td>
<td>0.074398</td>
<td>0.000156</td>
<td>0.6935</td>
</tr>
<tr>
<td>FSAL</td>
<td>0.064506</td>
<td>0.085929</td>
<td>0.00285</td>
<td>0.2042</td>
</tr>
</tbody>
</table>

Source: Extracted from E-View 10, 2019

The table above discloses the variance difference among the study variables; the variables are all statistically not significant in the three models. This implies that there is a statistical difference between the fixed and the random effect models for the independent variables as formulated in the regression model.
Table 4.4.6 Pedroni Residual Cointegration Test for Model 2
Series: REAC EXSH BONU FSAL

<table>
<thead>
<tr>
<th></th>
<th>Statistic</th>
<th>Prob.</th>
<th>Weighted Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panel v-Statistic</td>
<td>-0.631305</td>
<td>0.7361</td>
<td>-1.501387</td>
<td>0.9334</td>
</tr>
<tr>
<td>Panel rho-Statistic</td>
<td>2.037497</td>
<td>0.9792</td>
<td>1.362846</td>
<td>0.9135</td>
</tr>
<tr>
<td>Panel PP-Statistic</td>
<td>-3.328266</td>
<td>0.0004</td>
<td>-4.678575</td>
<td>0.0000</td>
</tr>
<tr>
<td>Panel ADF-Statistic</td>
<td>-1.660862</td>
<td>0.0484</td>
<td>-3.659619</td>
<td>0.0001</td>
</tr>
</tbody>
</table>

Alternative hypothesis: individual AR coefs. (between-dimension)

<table>
<thead>
<tr>
<th></th>
<th>Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group rho-Statistic</td>
<td>3.085871</td>
<td>0.9990</td>
</tr>
<tr>
<td>Group PP-Statistic</td>
<td>-7.411305</td>
<td>0.0000</td>
</tr>
<tr>
<td>Group ADF-Statistic</td>
<td>-3.620618</td>
<td>0.0001</td>
</tr>
</tbody>
</table>

Source: Extracted from E-View 10, 2019
The results of the cointegration test proved that the variables are cointegrated as the probability coefficients of the variables are less than 0.05, we do not reject the alternative hypotheses that there is the presence of a long-run relationship between the dependent and the independent variables.

Table 4.4.7 Pairwise Granger Causality Test for Model 2

<table>
<thead>
<tr>
<th>Null Hypothesis:</th>
<th>Obs</th>
<th>F-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXSH does not Granger Cause REAC</td>
<td>126</td>
<td>0.17753</td>
<td>0.8376</td>
</tr>
<tr>
<td>REAC does not Granger Cause EXSH</td>
<td></td>
<td>1.30231</td>
<td>0.2757</td>
</tr>
<tr>
<td>BONU does not Granger Cause REAC</td>
<td>126</td>
<td>1.54724</td>
<td>0.2170</td>
</tr>
<tr>
<td>REAC does not Granger Cause BONU</td>
<td></td>
<td>2.07962</td>
<td>0.1294</td>
</tr>
<tr>
<td>FSAL does not Granger Cause REAC</td>
<td>126</td>
<td>0.02975</td>
<td>0.9707</td>
</tr>
<tr>
<td>REAC does not Granger Cause FSAL</td>
<td></td>
<td>1.33592</td>
<td>0.2668</td>
</tr>
<tr>
<td>BONU does not Granger Cause EXSH</td>
<td>126</td>
<td>7.92953</td>
<td>0.0006</td>
</tr>
<tr>
<td>EXSH does not Granger Cause BONU</td>
<td></td>
<td>2.48480</td>
<td>0.0876</td>
</tr>
<tr>
<td>FSAL does not Granger Cause EXSH</td>
<td>126</td>
<td>3.19383</td>
<td>0.0445</td>
</tr>
<tr>
<td>EXSH does not Granger Cause FSAL</td>
<td></td>
<td>2.49153</td>
<td>0.0870</td>
</tr>
<tr>
<td>FSAL does not Granger Cause BONU</td>
<td>126</td>
<td>3.02850</td>
<td>0.0521</td>
</tr>
<tr>
<td>BONU does not Granger Cause FSAL</td>
<td></td>
<td>0.72723</td>
<td>0.4853</td>
</tr>
</tbody>
</table>

Source: Extracted from E-View 10, 2019
Evidence from the results in the table shows that there is no causal relationship between executive stockholdings and real activity management, there is a causal relationship between bonuses and executive stockholdings and no causal relationship between bonuses and executive stockholdings. In summary, there is no causal relationship from the dependent to the independent variables and from independent to the dependent variable.
5.0 DISCUSSION OF FINDINGS

5.1 Executive Stockholdings and Real Activity Management

Research question one and hypothesis were to examine the relationship between executive stockholdings and real activity management in quoted industrial goods firms in Nigeria. The finding proved a regression coefficient found that executive stockholdings have a positive and insignificant relationship with real activity management in quoted industrial goods firms in Nigeria. The beta coefficient of 0.048987 as a parameter for executive stockholdings proved that a unit increase on the variable will lead to a 4.9 percent increase in real activity management of the quoted industrial goods firm in Nigeria. However, the hypothesis formulated was tested using the t-statistics and the probability coefficient from the random effect model validated by the Hausman test. The t-statistics of 1.245510 is greater than the critical value of ± 1.080 at 9 degrees of freedom and the probability coefficient of 0.2149 is greater than the critical value of 0.05 at 5 percent level of significance which implies that there is no significant relationship between executive stockholdings and real activity management in quoted industry goods firms within the periods covered in this study. The insignificant effect of executive stockholdings on real activity management in quoted industrial goods firms in Nigeria implies that an increase or decrease in the variable will not have any meaningful effect on the dependent variable. The positive effect of executive stockholdings on the real activity management in quoted industrial goods firms conformed to a-priori expectations of the results as we expected a positive relationship between the variables. The positive effect of executive stockholdings on real activity management confirms the empirical findings of Ines (2017); Kim et al. (2018) and Debnath (2017). Our finding is also in agreement with the empirical work of Marilyn (2014) who found a positive association between real earnings management and CEO compensation. However, the findings of this research study are not in tandem with the empirical work of Chou and Chan (2018) who found a negative relationship between real earnings management (REM) and some CEO characteristics, including CEO tenure, the directorship on the audit committee and level of diligence as well.

5.2 Bonuses and Real Activity Management

Empirical findings from research question two and hypothesis substantiated evidence of a positive and significant relationship between bonuses and real activity management in quoted industrial goods firms in Nigeria. The beta coefficient of 0.074398 as a parameter for bonuses proved evidence that a unit increase on the variable will lead to a 7.4 percent upsurge on real activity management in quoted industrial goods firms in Nigeria. The significant effect of bonuses on real activity management in quoted industrial goods firms in Nigeria implies that an increase or decrease in the variable will have a meaningful effect on the dependent variable. The positive effect of bonuses on real activity management in quoted industrial goods firms in Nigeria is confirming our a-priori expectation of the results as we expected a positive relationship between the variables. The positive effect of bonuses on real activity management is in tandem with the principal agency theory as the interest of the shareholders (principals) and managers (agents) are protected. The positive effect of executive stockholdings on real activity management confirms the empirical findings of Ines (2017); Kim et al. (2018) and Debnath (2017). Our finding is also in agreement with the empirical work of Marilyn (2014) who found a positive association between real earnings management and CEO compensation. However, the findings of this research study are not in tandem with the empirical work of Chou and Chan (2018) who found a negative relationship between real earnings management (REM) and some CEO characteristics, including CEO tenure, the directorship on the audit committee and level of diligence as well. However, the study is in tandem with the empirical work Kim et al. (2018) who found that equity compensation has a positive relationship with various measures of disclosure quality including management forecast likelihood, management forecast accuracy and also the incentive mechanism involving equity compensation of chief executive officers and the monitoring
mechanism related with equity compensation of directors act as proxies for each other in adding to frequency of management forecasts and management update.

### 5.3 Fixed Salaries and Real Activity Management

Findings from research question three and hypothesis which was formulated to examine the relationship between fixed salaries and real activity management in quoted industrial goods firms in Nigeria proved that there is a positive but insignificant relationship between fixed salaries and real activity management in quoted industrial goods firms Nigeria. The beta coefficient of 0.085929 as a parameter for fixed salaries proved that a unit increase on the variable will lead to an 8.5 percent increase in real activity management in quoted industrial goods firms in Nigeria. The t-statistics of 1.216925 is greater than the critical value of ± 1.080 at 9 degrees of freedom and the probability coefficient of 0.2255 is greater than the critical value of 0.05 at 5 percent level of significance which implies that there is no significant relationship between fixed salaries and real activity management in quoted industrial goods firms in Nigeria within the periods covered in this study. The insignificant effect of fixed salaries on real activity management of the firms implies that an increase or decrease in the variable will not have any meaningful effect on the dependent variable. The positive effect of fixed salaries on real activity management of the firms conforms to our a-priori expectations of the results as we expected a positive relationship between the variables. The positive effect of fixed salaries on real activity management is in line with the principal agency theory. The findings are in tandem with the empirical work of Chu and Song (2012) who found a positive endogenous relationship between executive compensation and over investment. The positive effect of the variables also agrees with the findings of Nelson and Rahim (2018) that there is a significant and positive association between the directors’ influence and the directors’ remuneration.

### 5.4 CONCLUSIONS

From the findings of this study, it is inferred that:

i. That there is no significant relationship between executive stockholdings and real activity management in quoted industrial goods firms in Nigeria.

ii. That there is a significant relationship between bonuses and real activity management in quoted industrial goods firms in Nigeria.

iii. That there is no significant relationship between fixed salaries and real activity management in quoted industrial goods firms in Nigeria.

### 5.5 RECOMMENDATIONS

Based on the findings from this study, the following recommendations are proffered:

i. Following the negative effect of the variables, it is recommended that stakeholders and regulators should critically analyze the corporate governance of the executives in the firms.

ii. Based on the negative effect of the variables, it recommended that institutional shareholding should be encouraged because of the role that it plays in constraining executives to act in a manner that favors the firm.

iii. It recommended that there should be a defined salary structure of the executive directors of the quoted industrial goods firms; this will reduce the pressure on the profitability of the quoted manufacturing firms.

### REFERENCES


