COMPARISON OF EARNINGS QUALITY IN GOVERNMENT LINKED AND NON-LINKED QUOTED FIRMS IN NIGERIA

Adewumi Ademola Adeniran¹, Eniola Omoniyi Jacob², and Adebayo Isaac Adesodun³

¹Department of Accountancy, Federal Polytechnic, Ile-Oluji, Ondo State.
²Department of Accounting, Joseph Ayo Babalola University, Ikeji Arakeji, Osun State.
³Department of Accounting, Ekiti State University, Ado Ekiti, Ekiti State.

Abstract
The aim of this study is to undertake comparison of earnings quality (EQ) in listed government linked companies (GLC) and non-GLC’s in Nigeria. The study made use of earnings persistence (EPRED), Discretionary accruals (DACC), earnings predictability (EPRED) as measures for EQ. Thirty companies made up of fifteen GLC’s and Non-GLC’s respectively. Longitudinal research design was employed for the study with data covering the period from 2009-2018. The study's findings show that GLC’s have larger mean discretionary accruals than non-linked firms, implying that the discretionary accruals dimension of EQ is poorer in GLC’s than in non-linked firms. Earnings tend to be more persistent for GLC’s than for non-linked firms, implying that the earnings persistence component of EQ is stronger in GLC’s. Finally, earnings are more predictable for GLC’s than for non-linked firms, suggesting that the earnings predictability component of EQ is stronger in GLC’s than in non-linked firms. Overall, the study disproves the hypothesis of no significant difference in EQ between GLC’s and non-linked firms in Nigeria. The study recommends the demand to demand more transparency in operations of GLC’s.

Keywords: Earnings quality, discretionary accruals, earnings persistence, earnings predictability

1. Introduction
Earnings are incredibly significant since they represent indicators for assessing a company’s performance. The EQ is also an essential feature of financial reporting systems; it is thought to promote stock markets efficiency, consequently investors and other users of financial statements particular about high-quality financial reporting data. Furthermore, the EQ is critical for both investment and contract objectives (Schipper & Vincent, 2003) As a result, standard-setters aim to create financial reporting standards that increase the EQ and many recent developments in auditing, corporate governance, and institutional reforms seek to achieve a similar goal. Since the idea of EQ is multifaceted, numerous attempts have been made to make it more exact and give a theoretical framework and this continues to evolve.

Both scholars and investors are interested in understanding EQ as part of financial reporting behaviour in GLC’s and Non-GLC’s. Researchers have looked at the notion of GLCs and there are distinct definitions of what it means to be a GLC. For example, Ramrez and Tan (2003) in a widely referenced IMF report, propose that a firm is a GLC if a government-owned holding
company is a large stakeholder with at least 50% percent or more of the voting shares of the company (Ramrez & Tan, 2003). Prior research has shown that GLC have varying EQ with Non-GLC due to variances in institutional parameters.

According to the political interference hypothesis, governments “grabbing hands” may lead managers/bureaucrats in government-linked firms to manipulate earnings in order to conceal "tunnelling" or political expropriation of corporate resources. As a result, the government has more incentives to syphon off corporate assets and expropriate other shareholders for political gain. To conceal the expropriation, the government may instruct management to alter earnings, resulting in poor accounting data. Furthermore, GLC's may have fewer incentives to enhance the accuracy of their financial reporting since they have access to preferential funding through political ties. This may not be the case for non-government-affiliated businesses with no form of political support.

On the one hand, Liu and Yung (2011) claimed that the political cost and protection of the state could “mitigate the pressure on managers to manipulate firm-specific information though the empirical evidence on this matter is inconclusive. While Liu et al. (2014) and Ding et al. (2007) documented that government linked firms manage their earnings more frequently and have poorer earnings quality than non-government linked firms, Chen, Firth, Gao and Rui (2011) and Liu and Yung (2011) have pointed out in their separate studies that compared to their private counterparts, government linked firms have significantly lower level of earnings management. In the Nigerian environment, several studies such as, Usman and Yero (2012), Hassan (2013), Fodio, Ibikunle and Oba (2013), Hassan and Bello (2013), Hassan and Farouk (2014), Omoeye and Eriki (2014), Junaida and Abdulrahmen (2014), Ibadin and Dabor (2015) and Eze (2017) have examined earnings quality, in non-linked firms, but to the best of the researcher’s knowledge, no known study has attempted a comparative analysis of earning quality of government linked and non-linked firms and this study addresses this gap.

2. Literature Review

2.1. Conceptual Review

2.1.1. Earnings Quality

Richardson, Sloan, Soliman and Tuna (2001) also defined earnings quality on the basis of the level of stability of current earnings in future periods. They believed that earnings that were more stable had more quality. Penman (2003) believed that earnings quality means that earnings forecast quality of current reported earnings. Regarding existent difficulty in operating earnings quality, researchers used different criteria for measuring this variable. Indexes that have been used more in research for measuring earnings quality include accrual items quality, earnings stability and earnings forecast ability (Soghra & Vakilifard, 2015). Chan, Jegadeesh and Lakonishok (2006) defined the quality of earnings as the degree to which reported earnings affected operating fundamentals of an entity. This measure of quality captures the ability of reported earnings to predict future performance of entity. Penman and Zhang (2002) also defined earnings quality from the perspective of analysis as reported earnings before
extraordinary, reported income statement that is a good indicator of future earnings. However, Teets (2002) defined earnings quality as accounting earnings that reflected information about the value of a company. Francis, LaFond, Olson, and Schipper (2004) classified seven earnings quality attributes into either accounting-based or market-based attributes. They characterized accrual quality, persistence, predictability, and smoothness as accounting-based attributes because these are measured using accounting information only, whereas value relevance, timeliness, and conservatism are referred to as market-based attributes since these are based on the relationship between accounting earnings and returns.

2.1.2 Measures of Earnings Quality
Earnings quality is considered a multidimensional concept and recent empirical research evaluates it by considering various earnings attributes. There are three commonly used measures of earnings quality; persistence, predictability and accrual quality (Dechow, Ge & Schrand, 2010; Abdelghany, 2005)

(i). Accrual Quality
The difference between cash from operating and recorded earnings generated by business indicates accrual quality (Desai, Krishnamurthy and Venkatarama, 2006). Likewise, an error in estimating the accrual has also been used in measuring its quality (Jing, 2007 and Johnston, 2009). So far, the first method which focused on magnitude and the second focus on error on estimating accrual are commonly used as proxy for earnings quality (Desai, et al 2006). The large value obtained from each method implies poor earnings quality and small value obtained from each method indicates high quality earnings. Many studies empirically employed this model to study the relationship between earnings quality of firms (Aboody, Hughes & Liu, 2005; Francis, Lafond, Olsson & Schipper, 2005; Ball & Shivakumar, 2006; Larcker, Richardson & Tuna, 2007; Kim & Qi, 2010; Dechow, Ge & Schrand, 2010).

(ii). Persistence (EPSIS)
Persistence of the reported earnings is a commonly used index of earnings quality. It is measured by the sustainability of the reported earnings of firm (Penman & Zhang 2002; Francis, et al. 2004). Earnings which are more persistent are more sustainable and of high quality; likewise, earnings which are less persistent are more transitory and considered to be of lower quality (Penman & Zhang 2002; Francis et al. 2004). Earnings persistence is associated with stability, sustainability, and recurrence of earnings over time. This attribute can be defined as the systematic behaviour of earnings, and persistent earnings are viewed as desirable because they recurred (Francis et al., 2004). It is defined as the slope coefficient estimated from a first-order autoregressive model AR (1)) for annual earnings.

(iii). Predictability (EPRED)
Predictability of earnings represents the ability of the reported earnings to predict a future component of operating income (Penman & Zhang, 2002). The higher ability to predict future earnings indicates a high earnings quality and the poor ability to predict future earnings indicates
a poor earnings quality. This attribute is measured based on the variance of the earnings shocks, where higher variance implies lower predictability. We used the square root of the error variance from Eq. (1) in earnings persistence above. Large (small) values of predictability imply less (more) predictable earnings. Earnings that are more predictable are considered higher quality earnings. Earnings predictability has been measured with this method which was proposed initially by Lipe (1990) and by other researchers such as Francis et al. (2004), Cascino et al. (2010), Gaio (2010) and Kousenidis et al. (2013), among others.

### 2.2 Empirical Review

Studies examining earnings quality in government linked firms are not so adequate as compared with those that examine quoted firms broadly without recourse to if the firms are government linked or not. However, we shall examine some of the available studies in this regard. Ding, Li and Wu (2018) using a moderated mediation model, investigate the effects of government affiliation on real earnings management of privately held firms in China between 1998 and 2012. The study employed the multiple regression analysis in examining the effects of government affiliation on the performance and real earnings management of privately held firms in China. The findings suggest that politically affiliated firms are more likely than non-affiliated firms to engage in real activities to manipulate earnings.

Ang and Ding (2006) investigate the governance structure of Government linked firms (GLC) in Singapore under the control of Temasek Holdings, the government investment holdings entity. They compare the financial and market performance of all GLCs and non-GLCs listed on the main board of the Singapore Exchange over an 11-year-period from 1990 to 2000 using regression analysis. Findings from their research show that GLCs on average exhibit higher valuations than those of the non-GLCs in many performance measures.

Hong and Xiaofei (2015), study empirically investigate the earnings management of Chinese central state-owned enterprises (SOEs). The Chinese central SOEs are closely and controlled by the central government, well-funded, super-sized national champion conglomerates that monopolize the key strategic industries domestically and compete aggressively overseas. Consistent with the predictions of the Alignment Effects that high-level state ownership reduces SOEs’ firm level incentives for earnings management, the study found that the central SOEs involve in less earnings management than non-SOE in general.

Harymawan, Iman and Nowland, John (2016) examined how the earnings quality of politically connected firms is affected by changes in political stability and government effectiveness in a developing country. This study uses a sample of 2,073 firm-year observations from 349 firms listed on the Indonesian Stock Exchange from 2003 to 2012 to examine how political stability and government effectiveness affect the earnings quality of politically connected firms, relative to non-politically connected firms. This study finds that politically connected firms show higher earnings quality. Based on the review above, the study hypothesis is presented below.
**H1: There is no significant difference in earnings quality in government linked and non-linked quoted firms in Nigeria**

### 2.3. Theoretical Framework
#### 2.3.1 Agency Theory
Agency theory was developed by Jensen and Meckling (1976). Jensen and Meckling (1976) defined agency relationship as a contract under which the principal engage another person or the agent to perform some service on their behalf which involves delegating some decision-making authority to the agent. If both parties to the relationship are utility maximizes, there is good reason to believe that the agent will not always act in the best interests of the principal. The principal can limit divergences from his interest by establishing appropriate incentives for the agent and by incurring monitoring costs designed to limit the irregular activities of the agent. Without effective control procedures, such decision managers are more likely to take actions that deviate from the interests of residual claimants. Individual decision agents can be involved in the management of some decisions and the control of others, but separation means that an individual agent does not exercise exclusive management and control rights over the same decisions (Fama & Jensen, 1983). Consequently, considering financial reporting quality, corporate governance mechanisms can be viewed as set of instruments put in place by the agent to ensure that managers do not purse their own interest via earnings management at the detriment of reporting quality. Agency theory provides the framework for discussing earnings quality both in government linked firms and non-government linked firms. The theory brings out a clear exposition of the actions of some managers which are not in consonance with the actions they were to take, assuming shareholders’ wealth maximization objective is pursued. Agency theory is applicable to the government linked firms (Jensen & Meckling, 1976) and has been used to explain issues related to financial reporting in previous public sector studies (Bradbury & Scott, 2015; Jensen, 2005). Explaining agency relationships in the public sector is more complex than in the private sector as there are several levels of relationship.

### 3. Methodology
This study employed an ex-post causal research design. The study utilizes a sample of 15 government linked firms and 15 non-linked firms quoted on the Nigerian Stock Exchange. The simple random sampling was used for the selection. The data was retrieved from corporate annual reports of the sampled companies for 2010-2018 financial years. Descriptive statistics and correlation analysis was employed in the data analysis. The measures for earnings quality used in the study includes the modified Jones discretionary accrual Model measure, earnings persistence measure and earnings predictability measure. The Modified Jones discretionary accrual (DISCC) model is designed to eliminate the conjectured tendency of the Jones Model to measure discretionary accruals with error when discretion is exercised over revenue recognition. In the modified model, nondiscretionary
accruals are estimated during the event year (the year in which earnings management is hypothesized) specified as:

\[ NDA_t = \alpha_1(1/A_{t-1}) + \alpha_2[(\Delta REV_t - \Delta REC_t) / A_{t-1}] + \alpha_3(PPE_t / A_{t-1}) \]  

(i)

where: \( \Delta REC_t \) = net receivables in year \( t \) less net receivables in year \( t - 1 \), and the other variables are as in equation (2.3). It is important to note that the estimates of \( \alpha_1, \alpha_2, \alpha_3 \) were those obtained from the original Jones Model, not from the modified model.

Earnings persistence (EPSIS) is associated with stability, sustainability, and recurrence of earnings over time. This attribute can be defined as the systematic behavior of earnings, and persistent earnings are viewed as desirable because they recur (Francis et al., 2004). It is defined as the slope coefficient estimated from a first order autoregressive model AR (1)) for annual earnings.

\[ X_{j,t} = \epsilon_{j,t} + \epsilon_{j,t-1} + v_{j,t} \]  

(ii)

where \( X_{j,t} \) and \( X_{j,t-1} \) are firm \( j \)'s earnings in year \( t \) and \( t - 1 \), respectively, and coefficient, \( \epsilon_{j,t} \) captures firm \( j \)'s persistence of earnings. Values of \( \epsilon_{j,t} \) close to one imply highly persistent earnings, while values of \( \epsilon_{j,t} \) close to zero imply highly transitory earnings. Persistent earnings are viewed as higher-quality earnings.

Predictability of earnings (EPRED) is measured based on the variance of the earnings where higher variance implies lower predictability. We used the square root of the error variance from Eq. (1) in earnings persistence above. Large (small) values of predictability imply less (more) predictable earnings. This measure is like what is used by other studies (Cascino et al. 2010; Gaio 2010; and Kousenidis et al. 2013).

4. Results and Discussion

Table 1: Descriptive statistics

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Maximum</th>
<th>Minimum</th>
<th>Std. Dev.</th>
<th>Jarque-Bera</th>
<th>Prob</th>
</tr>
</thead>
<tbody>
<tr>
<td>DISCC</td>
<td>0.0634</td>
<td>4.2037</td>
<td>-2.1575</td>
<td>0.323982</td>
<td>40.4915</td>
<td>0.00</td>
</tr>
<tr>
<td>EPSIS</td>
<td>0.219</td>
<td>0.73474</td>
<td>-2.2000</td>
<td>170.743</td>
<td>44.5634.6</td>
<td>0.00</td>
</tr>
<tr>
<td>EPRED</td>
<td>1.2077</td>
<td>91.6776</td>
<td>-0.3486</td>
<td>724.4367</td>
<td>170.6296</td>
<td>0.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Maximum</th>
<th>Minimum</th>
<th>Std. Dev.</th>
<th>Jarque-Bera</th>
<th>Prob</th>
</tr>
</thead>
<tbody>
<tr>
<td>DISACC</td>
<td>1.0986</td>
<td>0.293</td>
<td>-0.489</td>
<td>0.11977</td>
<td>17.61849</td>
<td>0.000</td>
</tr>
<tr>
<td>EPSIS</td>
<td>0.6100</td>
<td>0.2342</td>
<td>-0.2912</td>
<td>0.093384</td>
<td>9.679922</td>
<td>0.004</td>
</tr>
<tr>
<td>EPRED</td>
<td>0.0008</td>
<td>0.1435</td>
<td>-0.07567</td>
<td>0.023054</td>
<td>864.4833</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Source: Researchers compilation (2019), ( ) are standard errors; { } are p-values, * sig at 5%

For firms non-government linked firms, the descriptive statistics of the data is presented in table 1 above. As observed, the average discretionary accruals is 0.063 with maximum and minimum values of 4.2036 and -2.1575 respectively and with Jacque-bera value of 40.4915 and p-value of 0.00. The average earnings persistence estimate is about 0.219 with maximum and minimum values of 0.734 and -2.2000 respectively with a standard deviation of 170.743. The Jacque-bera
value of 44.56 and p-value of 0.00 indicates the unlikelihood of outliers in the series. The mean value for earnings predictability stood at -1.2077 with maximum and minimum values of 91.6776 and -0.3486 respectively with a standard deviation of 724.436. The Jacque-bera value of 170.629 and p-value of 0.00 indicates the unlikelihood of outliers in the series.

For government-linked firms, the average discretionary accruals is 1.0986 with maximum and minimum values of 0.293 and -0.489 respectively. The average earnings persistence estimate is about -0.0016 with maximum and minimum values of 0.234 and -0.2912 respectively with a standard deviation of 0.0934. The mean value for earnings predictability stood at 0.0008 with maximum and minimum values of 0.144 and -0.076 respectively with a standard deviation of 0.0231. The average EPSIS is about 0.6100 with a maximum value of 0.234 and minimum value of -2912 respectively. The standard deviation showing the dispersion of the data about the mean is quite low at 0.933.

Table 2: Pearson Correlation Matrix

<table>
<thead>
<tr>
<th></th>
<th>DISCC</th>
<th>EPSIS</th>
<th>EPRED</th>
</tr>
</thead>
<tbody>
<tr>
<td>DISCC (Gov. non-linked firms)</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPSIS</td>
<td>0.00177</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>EPRED</td>
<td>0.00098</td>
<td>0.7203</td>
<td>1</td>
</tr>
<tr>
<td>DISACC (Gov. Linked Firms)</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPSIS</td>
<td>-0.798</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>EPRED</td>
<td>-0.57</td>
<td>0.6166</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: Researchers compilation (2019)

The correlations between the earnings quality measures reveals that for government non-linked firms, DISCC and EPSIS are positively correlated though weak at r=0.0018 and also, DISCC and EPRED are positively correlated though also weak at r=0.00098. The correlation between EPSIS and EPRED is positive and strong at r=0.7283. For government linked firms, DISCC and EPSIS are negatively correlated and strong at r=-0.798 and, DISCC and EPRED are positively correlated though also strong at r=0.57. The correlation between EPSIS and EPRED is positive and strong at r=0.6167. In conclusion, it appears that the correlations between earning quality measures are stronger in government linked firms than in non-linked firms.

Table 3: Comparison of Earnings Quality

<table>
<thead>
<tr>
<th></th>
<th>Government linked firms</th>
<th>Non-linked firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>DISACC</td>
<td>1.0986</td>
<td>0.063409</td>
</tr>
<tr>
<td>EPSIS</td>
<td>0.6100</td>
<td>0.219</td>
</tr>
<tr>
<td>EPRED</td>
<td>0.0008</td>
<td>1.2077</td>
</tr>
</tbody>
</table>

Source: Researchers compilation (2019)

The result in table 3 reveals that the mean discretionary accruals for government linked firms is higher (1.0986) than that for non-linked firms (0.0633) and this suggest that discretionary
accruals dimension of earnings quality could be lower in government linked firms than non-linked firms. The finding is in tandem with Ding, Li and Wu (2018), using a moderated mediation model and found that politically affiliated firms are more likely than non-affiliated firms to engage in real activities to manipulate earnings and a similar outcome was identified by Chen at al.’s (2009). Hong and Xiaofei (2015) study also found that central SOEs engage in more earnings increasing management. However, for Nigeria, there is no empirical evidence to the best of the researcher’s knowledge that has examined the issue with government linked firms with which this finding could be compared. However, in cases where government holds a very high ownership all almost totally owned, Hong and Xiaofei (2015), finds that in such cases especially like it is in central state-owned enterprises (SOEs) in China, the SOEs are closely and controlled by the central government, well-funded, super-sized national champion conglomerates that monopolize the key strategic industries domestically and compete aggressively overseas and consistent with the predictions of the Alignment Effects that high-level state ownership reduces SOEs’ firm level incentives for earnings management. Hong and Xiaofei (2015) found that in such cases, SOEs involve in less earnings management than non-SOEs in general.

Persistence of the reported earnings is a commonly used index of earnings quality. It is measured by the sustainability of the reported earnings of firm (Penman & Zhang 2002; Francis, et al. 2004). Earnings persistence is associated with stability, sustainability, and recurrence of earnings over time (Francis et al., 2004). Table 4.3 results reveal that earnings tend to be more persistent for government linked firms (0.6100) than for non-linked firms (0.219) and this suggest that earnings persistence dimension of earnings quality could be higher in government linked firms than non-linked firms. Our finding is supported by findings of Goldman, Rocholl, and So (2011) for U.S. government linked firms. The major reason for the persistence of earnings for such companies is because they were more likely to experience an increase in the value of government procurement contracts. If this holds true, it suggests that those affiliated with the government are more likely to receive government contracts that can generate sustainable revenues and hence earnings could be more persistent in government linked firms

On the other hand, predictability of earnings represents the ability of the reported earnings to predict a future component of operating income (Penman & Zhang, 2002). The higher ability to predict future earnings indicates a high earnings quality and the poor ability to predict future earnings indicates a poor earnings quality. Large (small) values of predictability imply less (more) predictable earnings. Earnings that are more predictable are considered higher quality earnings. Table 4.3 reveal that earnings tend to be more predictable for government linked firms (0.0080) than for non-linked firms (1.207) and this suggest that earnings predictability dimension of earnings quality could be higher in government linked firms than non-linked firms. On the overall, the study rejects the hypothesis of no significant difference in earnings quality between government linked firms and non-linked firms in Nigeria.

5. Summary and Conclusion
Earnings quality is one of the most important characteristics of financial reporting systems. High quality is said to improve capital market efficiency; therefore, investors and other users are interested in high-quality financial accounting information. The focus of the study is a comparison of earnings quality in government linked and non-linked quoted firms in Nigeria. Discretionary accruals (DACC), earnings predictability (EPRED) and earnings persistence (EPRED) are used as measures for earnings quality. The study employed a sample size of thirty companies consisting of fifteen firm linked to government i.e. where state ownership exist listed on the NSE and then firms without government linkage. The longitudinal research design was employed for the study with data covering the period from 2010-2018. Secondary data was employed for the analysis and the descriptive statistics was employed. Findings of the study reveals that the mean discretionary accruals for government linked firms is higher than that for non-linked firms and this suggest that discretionary accruals dimension of earnings quality could be lower in government linked firms than non-linked firms. Earnings tends to be more persistent for government linked firms than for non-linked firms and this suggest that earnings persistence dimension of earnings quality could be higher in government linked firms than non-linked firms. Finally, earnings tend to be more predictable for government linked firms than for non-linked firms and this suggest that earnings predictability dimension of earnings quality could be higher in government linked firms than non-linked firms. On the overall, the study rejects the hypothesis of no significant difference in earnings quality between government linked firms and non-linked firms in Nigeria. The study recommends that there is the need to improve earnings quality of both for government linked and non-linked firms.

References


