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# **Bank Earnings Smoothing During Mandatory IFRS adoption in Nigeria**

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# **Bank Earnings Smoothing During Mandatory IFRS adoption in Nigeria**

## **Abstract**

We examine the extent of bank earnings smoothing during mandatory IFRS adoption in Nigeria, to determine whether mandatory IFRS adoption increased or decreased income smoothing among Nigerian banks. We find that the mandatory adoption of International Financial Reporting Standards (IFRS) is associated with lower earnings smoothing among Nigerian banks, which implies that Nigerian banks do not use loan loss provisions to smooth reported earnings during the mandatory IFRS adoption period. We find evidence for earnings smoothing via LLP during voluntary IFRS adoption. Earnings smoothing is not significantly associated with listed and non-listed Nigerian banks during voluntary and mandatory IFRS adoption. Overall, the findings indicate that mandatory IFRS adoption improves the informativeness and reliability of loan loss provisions estimate by discouraging Nigerian banks from influencing loan loss provisions for earnings smoothing purposes during the mandatory IFRS adoption. The findings of this paper are relevant to the debate on whether IFRS reporting improves the quality of financial reporting among firms in Nigeria. The implication of the study is that IFRS has higher accounting quality than local GAAP in Nigeria as it improves the quality and informativeness of accounting numbers (LLPs and earnings) reported by Nigerian banks during the period examined.

Keywords: Loan Loss Provisions, Discretionary Accruals, Income Smoothing, Earnings Management, Nigeria, Banks, IFRS.

JEL Classification: G21, G28.

## 1. Introduction

We investigate whether banks in Nigeria use loan loss provisions (LLPs) to smooth reported earnings during mandatory IFRS adoption period. Nigeria goes through several phase of economic/financial recessions for which banks must keep high loan loss provisions. IFRS in Nigeria also require conservative (or high) provisioning to mitigate loan losses, yet the effect of loan loss provisions for bank income smoothing under mandatory IFRS in Nigeria has not been examined. The financial reporting council of Nigeria (FRCN) require listed firms to comply with International Financial Reporting Standards (IFRS) from 2012. Nigeria has a recognised stock exchange and adopted mandatory IFRS in 2012, but the impact of mandatory IFRS on the use of bank provisions to smooth income among Nigerian listed firms compared to unlisted firms is unclear. Therefore, our curiosity leads us to investigate bank earnings smoothing via loan loss provisions during mandatory IFRS adoption period.

Firms' adherence to IFRS is claimed to discourage earnings manipulation and enhance transparency in financial reporting. Ball et al (2003) argue that adopting high quality standards can be a necessary condition for high quality information, but not necessarily a sufficient condition. Van Tendeloo and Vanstraelen (2005) suggest that the ability of IFRS to improve financial reporting quality may depend on enforcement quality, implying that voluntary IFRS adoption and mandatory IFRS adoption can have dissimilar impact on financial reporting quality. This study tests Ball et al (2003)'s claim that IFRS adoption leads to high financial reporting quality, by investigating the earnings smoothing behaviour of banks in Nigeria during mandatory IFRS adoption.

Earnings smoothing studies are important because information about earnings affects investors' decisions on resource allocation, and investors prefer earnings stability than abnormal (or surprise) earnings. LLP studies are also important because the information about loan loss provisions reported in bank financial statements reflect top management's prediction of the losses they expect to incur on the loan portfolio of the bank and the size of bank provisions can have a direct impact on the interest income of banks; therefore, decisions about the level (or size) of bank provisions is important to bank managers for credit risk management purposes. Standard-setters, on the other hand, are concerned about the quality of reported LLP estimates in bank financial reporting because overstated and understated LLP estimates can distort the informativeness and value-relevance of LLP estimates which can mislead investors when making investment decisions. Finally, bank regulators in Nigeria also require banks to keep sufficient LLPs to mitigate expected losses. Motivated by these concern, we focus on LLPs - a significant bank accrual, and investigate whether mandatory IFRS adoption influenced banks' use of LLP to smooth reported earnings.

Earnings smoothing has been studied in several developed and developing contexts (see, Ahmed et al., 1999; Lobo and Yang, 2001; Leventis et al, 2011), and report conflicting findings. Among Nigerian studies, Yahaya et al (2015), Ali (2015) and Ahmed et al (2014) did not directly test for earnings smoothing during mandatory IFRS adoption period in their analyses. In contrast to these studies, we test the income smoothing hypothesis during the mandatory IFRS adoption period and focus on LLP as the income smoothing tool. We also examine the extent of earnings smoothing for listed banks compared to non-listed banks because the capital market accounting literature argue that a firm's relation with the capital market can create incentives for managers to manipulate reported earnings to signal private information to the market or to meet the expectations of capital market participants such as investor analysts and shareholders (Healy and Palepu, 1993). Hence, it is important to investigate the financial reporting behaviour of publicly traded or listed banks.

The incremental contribution of our study over Yahaya et al (2015) is that we directly test for income smoothing during mandatory IFRS adoption in Nigeria. Our research design focusses on the period after mandatory IFRS adoption to avoid the impact of the 2008 financial crisis and also to avoid the impact of the after-shock<sup>1</sup> of the crisis from affecting the validity of our inferences. Moreover, a direct test for bank income smoothing behaviour during mandatory IFRS adoption is needed to understand whether the level of enforcement (which was absent during the voluntary period) possibly played a key role for less or greater income smoothing in the mandatory IFRS adoption period. Also, a direct test for income smoothing during mandatory IFRS can provide insight to understand whether banks took advantage of the voluntary adoption window in order to engage in diverse forms of earnings management (e.g. big-bath EM or income smoothing EM to write-off future losses to the current period) in anticipation of the mandatory IFRS adoption window when it would be more difficult for them to do so. Using a sample of 23 banks in Nigeria, inference is based on the statistical relationship between LLP and earnings before loan loss provisions and tax. The findings indicate that Nigerian banks do not use LLP to smooth income during mandatory IFRS adoption while there is evidence for income smoothing via LLP during voluntary IFRS adoption. However, we did not find evidence for income smoothing among listed banks both during the voluntary and mandatory IFRS adoption periods. The findings suggest that mandatory IFRS adoption discouraged earnings smoothing during the period examined.

Our study contributes to the accounting quality literature that examine the role of better accounting standards for high financial reporting quality (see Ball et al, 2003; Van Tendeloo and Vanstraelen, 2005, etc). This study contributes to this debate by examining whether the adoption of high quality standards like IFRS in Nigeria is associated with high financial reporting quality. Two, the findings contribute to the earnings management literature by showing that IFRS rules can discourage earnings management practices that take the form of earnings smoothing in a developing country context, which implies that the enforcement of mandatory accounting rules can have positive effects for higher financial reporting quality in developing countries. Three, our study contributes to the banking literature that examine the factors that influence the extent of earnings smoothing by banks. Our findings show that earnings smoothing by banks is reduced by mandatory IFRS adoption, thus improving the reliability and informativeness of LLP estimates.

Furthermore, the findings are relevant to the policies of the Central Bank of Nigeria who require banks to adopt a counter-cyclical provisioning system. Our findings confirm that provisioning among Nigerian banks during the period of analysis was not procyclical with fluctuation in the economic cycle. Finally, assuming one objective of adopting IASB's IFRS by the Financial Reporting Council of Nigeria (FRCN) is to improve earnings quality by reducing the opportunities for earnings manipulation, the findings in this paper indicate that the Financial Reporting Council of Nigeria (FRCN) has achieved this objective.

The remainder of this paper proceed as follows. Section 2 and 3 presents the conceptual framework and literature review, respectively. Section 4 presents the research design and the data while Section 5 discusses the findings and Section 6 concludes.

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<sup>1</sup> The Central Bank Governor confirm that the 2007-2009 global financial crisis did not have an immediate impact on Nigerian banks but rather had an after-shock effect on Nigerian banks between 2009 to 2010 which contributed to the removal of the CEOs of 5 major Nigerian banks due to irresponsible bank management practices.

## **2. Conceptual Framework**

### **2.1. Loan Loss Provisions**

Loan loss provision or provision for loan loss is an amount set aside by lending institutions to cover for expected losses on the loan portfolio of lending institutions. Banks are required to set aside provision for loan loss because bank lending often give rise to credit risk if borrowers are unable to repay the principal and/or interest on the loan facility issued to them due to unfavourable economic conditions and related factors (Ozili and Outa, 2017). To mitigate credit risk, banks will set aside an amount as a cushion to absorb expected loss on its loan portfolio and this amount is referred to as loan loss provisions (LLPs) or provisions for bad debts; therefore, loan loss provision estimate is a credit risk management tool used by banks to mitigate expected losses on bank loan portfolio (Wall and Koch, 2000). However, because loan loss provision directly affects interest income of banks, there are concerns that bank managers can influence the level of bank provisions for other contractual reasons rather than credit risk management.

### **2.2. Earnings Smoothing**

Earnings smoothing, on the other hand, is the practice of reporting smooth profits over time so that reported earnings are never too high or too low. Investors and investor analysts often consider fluctuation in bank profit or earnings as a negative signal for banks' future performance because they don't like earning surprise (or abnormal earnings), implying that investors prefer stable profits over time (Watts and Zimmerman, 1986). Also, abnormal fluctuation in banks' profits (or losses) can compel regulators to investigate the financial records of banks due to the regulated nature of the banking industry (Ozili, 2017a). Therefore, bank managers' awareness of these expectations would provide incentive for the manager to smooth his income to avoid sending a negative signal to investors and regulators regarding the bank's prospects. The extent of income smoothing by a bank manager would also depend on existing accounting regulations and the accounting number used to achieve income smoothing, among other factors (Leventis et al, 2011; Ahmed et al, 2013; Balla and Rose, 2015). For instance, loan loss provision is well-documented in the literature as a tool used by banks to smooth reported earnings, however, the extent of earnings smoothing is also influenced by disclosure rules.

## **3. Literature Review**

### **3.1. IFRS and Disclosure Quality**

Adopting IFRS by firms is claimed to discourage earnings manipulation and enhance transparency in financial reporting. Ball et al (2003) argue that adopting high quality standards can be a necessary condition for high quality information, but not necessarily a sufficient one. Van Tendeloo and Vanstraelen (2005) suggest that the ability of IFRS to improve financial reporting quality may depend on enforcement quality, implying that voluntary IFRS adoption and mandatory IFRS adoption can have dissimilar impact on financial reporting quality. Strict disclosure regulation like IFRS can provide monitoring to discourage the manipulation of reported earnings by firms if the appropriate level of enforcement is ensured. In the literature, the impact of IFRS adoption on the manipulation of reported accounting numbers remain a highly debated topic although the expectation is that IFRS adoption will reduce the incentive for managers to use accruals to manipulate earnings (Leuz and Verrecchia, 2000; Ashbaugh, 2001; Ashbaugh and Pincus, 2001; Leuz et al, 2003). For instance, Van Tendeloo and Vanstraelen (2005) examine whether voluntary IFRS adoption is associated with lower earnings management among firms in Germany. They find that voluntary IFRS do not impose a significant

constraint on earnings management, measured by discretionary accruals. On the contrary, adopting IFRS increased the magnitude of discretionary accruals.

IFRS is not adopted universally in all countries, some developing countries prefer to retain their local GAAP due to uncertainties about the impact of IFRS on accounting disclosure quality while other countries do not adopt IFRS clearly because they do not have a recognised stock exchange which would require IFRS rules for listed firm if they had a stock exchange. Developing country studies that examine the impact of IFRS on the value relevance of accounting numbers document mixed conclusion for the impact of IFRS on the value relevance of accounting numbers. For instance, Ismail et al (2013) find that IFRS adoption is associated with higher earnings quality among Malaysian firms while Agyei-Mensah (2013) finds that the implementation of IFRS improves the quality of accounting disclosure among firms in Ghana. Outa et al (2017) in a 520-firm year observation in Kenya show that converged and revised IFRS provide value-relevant accounting information. In contrast, Chebaane and Othman (2013) find that mandatory IFRS adoption did not reduce the extent of earnings management among firms in South Africa and Turkey. Ozili (2015) investigate Nigerian banks and their period of analysis was during the voluntary IFRS adoption period. Ozili (2015) find that Nigerian banks use loan loss provisions to smooth reported earnings. Thus, the question on whether mandatory and voluntary IFRS improves the value relevance of reported accounting numbers in African countries is highly debated in the literature.

### 3.2. Regulatory environment and IFRS in Nigeria

After the 2008 financial crisis, the Central Bank of Nigeria provided a set of guidelines for credit impairment (i.e. LLPs) for banks in 2010. The guidelines require Nigerian banks to comply with IFRS and BASEL's provisioning rules. Regarding IFRS in Nigeria, the FRCN require listed firms to comply with IFRS effective from 2012 with the expectation that firms' adherence to IFRS will enhance transparency in financial reporting. Under IFRS, loan loss provisioning guidelines are set out by IAS 39 and loan loss provisions should be estimated using the incurred loss provisioning model and then charged as an expense to the income statement. After adopting IFRS in Nigeria, IFRS' incurred loss model received criticism due to its procyclical effect during economic cycle fluctuations because it allows banks delay provisions until it is too late.

Accordingly, the Central Bank of Nigeria (CBN) stepped in and called for Nigerian banks to adopt a dynamic or counter-cyclical provisioning system although Nigerian banks already adopted Basel's provisioning rules that require general provisions and reserves to be included as a core portion of bank Tier 1 capital. A dynamic provisioning system is expected to eliminate the procyclical behaviour of bank provisions (Lobo and Yang, 2001; Bikker and Metzmakers, 2005). Although the CBN did not specify any procedure to guide banks in adopting the dynamic provisioning system, the CBN advocates the adoption of the expected credit loss model in IFRS 9 in 2018. Currently, bank provisions in Nigeria are influenced by a combination of IFRS rules and prudential regulation (Basel) rules, thus making the Nigerian context, a unique context, relative to other African country contexts. For instance, in Zimbabwe, the Central Bank require all Zimbabwean banks to adopt the new IFRS 9 rules for loan loss provisioning, and the new IFRS 9 rules replaces all previous accounting rules for loan loss provisioning. In Uganda, the banking regulator wants Ugandan banks to adopt only the 'expected credit loss' provisioning model of IFRS 9 and retain other part of the existing accounting rules.<sup>2</sup>

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<sup>2</sup> BOG Governor's Speech

[https://www.bou.or.ug/bou/bou-downloads/speeches/GovernorsSpeeches/2018/Jan/Governor-Speech-UBA-Dinner\\_Jan-2018.pdf](https://www.bou.or.ug/bou/bou-downloads/speeches/GovernorsSpeeches/2018/Jan/Governor-Speech-UBA-Dinner_Jan-2018.pdf)

### 3.3. LLP and IFRS

Some studies examine whether accounting disclosure rules improves the quality of accounting numbers in financial reports. For instance, Leuz and Verrecchia (2000), Ashbaugh (2001), Ashbaugh and Pincus (2001), Leuz et al. (2003) show that firms that adopt IFRS exhibit lower earnings management due to strict enforcement of IFRS disclosure regulation. Ismail et al. (2013) investigate the differences in earnings quality of Malaysian companies after the adoption of IFRS-based accounting standards referred to as FRS. They find that firms report lower levels of earnings management after IFRS adoption and conclude that IFRS adoption is associated with higher quality of reported earnings. Sellami and Fakhfakh (2014) examine whether mandatory IFRS adoption improves the earnings quality of listed companies in France. They find that the absolute value of discretionary accruals is significantly reduced six years after the mandatory adoption of IFRS and conclude that mandatory IFRS improves earnings quality in the French context. Agyei-Mensah (2013) find that the implementation of IFRS improve the quality of accounting disclosure in Ghana. Chebaane and Othman (2013) find that mandatory IFRS adoption does not reduce the level of earnings management in emerging markets among firms in South Africa and Turkey.

Other studies report mixed conclusion for the impact of IFRS on bank earnings management using loan loss provisions (e.g. Leventis et al. 2015; Ozili, 2015; Yahaya, 2015; Ali, 2015). For instance, Leventis et al. (2011) investigate the influence of IFRS on managerial incentives to smooth income and manage capital using LLP. In their study, they note that some banks adopted IFRS earlier than other banks and posit that early-adopter banks may have different incentive and motivation for adopting IFRS compared to late-adopter banks. Leventis et al. (2011) find evidence for income smoothing among early and late adopter banks. Ashraf et al. (2013) examine whether changes in accounting standards and prudential regulatory regime affect the use of loan loss provisions to smooth income or to manage earnings. They find that banks under a principles-based accounting standard regime are more likely to exhibit lower level of earnings management via LLPs compared to banks under a rule-based accounting regime.

Among Nigerian studies, Yahaya et al. (2015) investigate the effect of IFRS adoption on earnings management among listed deposit money banks in Nigeria. They focus on how the change in the recognition and measurement of banks' LLP affects earnings management behaviour. They examine 15 listed banks pre-IFRS (2004-2008) and post-IFRS (2009-2013). They observe that earnings increased slightly but the increase is not statistically significant. Although Yahaya et al. (2015) recognise that some (not all) Nigerian listed banks adopted IFRS immediately after the 2008 financial crisis, they did not specify whether the post-IFRS period (2009-2013) they examine was voluntary or mandatory IFRS adoption<sup>3</sup>. Ali (2015) investigate whether banks in Nigeria manage earnings via LLPs, and find evidence for earnings management; however, the study did not examine the impact of disclosure regulation on earnings management. Ozili (2015) examine income smoothing among Nigerian banks without distinguishing between voluntary and mandatory IFRS adoption. Our study, in contrast, improves on the above studies by undertaking a direct test for earnings smoothing in the three years after the mandatory IFRS adoption date (2012).

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<sup>3</sup> The mandatory IFRS adoption date was to be effective from January 1st of 2012 and the lack of clarity in their study makes it difficult to understand what their result capture.

### 3.4. Hypothesis Development

Loan loss provision (LLP) is a significant accrual in the banking industry and is known to be subject to earnings manipulation by bank managers. Wall and Koch (2000) state that, in some period, bank managers have incentives to overstate LLPs to reduce high earnings and to understate LLPs to increase low earnings, and this behaviour is referred to as income or earnings smoothing behaviour, hence, the income smoothing hypothesis (Benston and Wall, 2005). When LLPs are used to manipulate earnings in this way, it reduces the informativeness and the reliability of loan loss provision estimates. From regulators' standpoint, Greenawalt and Sinkey (1988) demonstrate that when bank earnings are up, it makes sense to regulators for banks to provision some of those earnings in anticipation for loan losses during bad years - the notion of saving for a rainy day. Therefore, when earnings are low, banks will draw up from the provision or reserves to cover for actual loan losses. Skala (2015) test this claim in his study of bank income smoothing among Central European banks. Skala (2015) find that Central European banks use loan loss provisions to smooth their income stream as a strategy to save for the rainy day and this behaviour is pronounced during periods of high earnings. Wetmore and Brick (1994) examine 82 US banks from 1986 to 1990 and did not find evidence to support the income smoothing hypothesis. Similarly, Ahmed et al. (1999) and Kim and Kross (1998) document evidence for capital management but not income smoothing in the post-Basel period relative to the pre-Basel period. Anandarajan et al. (2007) demonstrate that if smoothed earnings help to reduce the stock price fluctuation, then listed banks will have some incentive to smooth income to minimise stock price fluctuation and the volatility of stock return. Anandarajan et al. (2007) find that listed banks engage in income smoothing than non-listed banks in Australia.

Recent studies such as Leventis et al (2011) observe that European listed banks use LLPs to smooth income but this behaviour is significantly reduced after the mandatory IFRS adoption. Ozili (2015) investigate banks in Nigeria. After controlling for the impact of Basel regulation on LLP, Ozili (2015) find evidence for income smoothing, capital management and procyclical LLP behaviour during the voluntary, not mandatory, adoption of IFRS in Nigeria. Kar (2017) investigate 1294 microfinance institutions in 103 countries from 1996 to 2013 and find that microfinance institutions use LLPs for income smoothing purpose. Ozili (2017a) examine whether the way African banks use LLPs to smooth earnings is influenced by capital market motivations and the type of auditor and find that listed African banks use LLPs to smooth earnings to a greater extent compared to non-listed African bank for capital market reasons while income smoothing via LLP is not reduced among African banks that have a Big 4 auditor. Abdul Adzis et al (2016) investigate the impact of IAS 39 on income-smoothing among banks in Hong Kong and find that Hong Kong banks engage less in income-smoothing activity after they comply with IAS 39. Ozili and Outa (2017) in a survey of recent studies find that managerial discretion in provisioning is strongly linked to income smoothing, capital management, signalling, tax management and other objectives. They conclude that there exists some interaction between LLPs and existing prudential, accounting, institutional, cultural, religious, tax and fiscal frameworks which differ across countries. Therefore, we predict:

H1: A positive relationship between loan loss provisions and earnings, indicative of income smoothing

For listed firms, we follow Kar (2017), Ozili (2017a) and Leventis et al (2011). Leventis et al (2011) and Kar (2017) show that banking income smoothing through LLPs are reduced after IFRS and IAS39 adoption, respectively. Taken together, we expect that mandatory IFRS adoption should reduce the extent of income smoothing among listed Nigerian banks compared to non-listed banks, provided that the appropriate level of enforcement is ensured. Thus, we hypothesize that:

H2: Earnings smoothing via LLP by listed banks is reduced during mandatory IFRS adoption period, compared to non-listed firms.

Banking studies demonstrate that LLPs play an important role in reinforcing the current state of the economic cycle (e.g. Laeven and Majnoni, 2003; Bikker and Metzmakers, 2005; Bouvatier and Lepetit, 2008). For instance, Borio et al (2001) find a strong negative relationship between bank provisioning and the business cycle for 10 OECD countries while Laeven and Majnoni (2003) and Beatty and Liao (2009) observe that banks delay the timing of LLPs until recessionary periods set in, implying procyclical provisioning behaviour. Olszak et al (2017) investigate the determinants of the procyclicality of LLPs for a large sample of banks in the European Union during 1996 to 2011, and find that LLPs in large, publicly-traded and commercial banks, as well as in banks reporting consolidated statements, are more procyclical; however, restrictive capital standards and better investor protection are linked with weakened procyclicality of LLP. Ozili (2017b) investigate the discretionary provisioning behaviour of Western European banks and observe that the LLPs of Western European banks are procyclical with economic conditions, as indicated by the negative and significant relationship between LLPs and GDP growth rate. These studies argue that when banks enter recessionary periods, the rational response of bank managers is to decrease lending and increase LLPs. Increased provisioning during a recession would decrease bank profit and deplete bank capital, thus, reinforcing the current recession. If the recession is sustained, bank capital may be completely wiped out. Therefore, we predict that:

H3: LLPs are procyclical during mandatory IFRS adoption

## 4. Methodology and Data

### 4.1 Research Design

The baseline model employed to estimate the relationship between bank earning and loan loss provisions is similar to Anandarajan et al (2007), Peterson, Ozili and Thankom (2018), Curcio and Hasan (2015), Skala (2015) and Ozili (2017a&b) and is specified below as:

$$LLP_{i,t} = \beta_0 + \beta_1 NPL_{i,t} + \beta_2 LOAN_{i,t} + \beta_3 SIZE_{i,t} + \beta_4 EBTP_{i,t} + \beta_5 \Delta GDP_j \\ + \beta_6 LISTED_i + \beta_7 LISTED_i * EBTP_{i,t} + e_{i,t}.$$

Where

$\beta_0$  = intercept.

$LLP_{i,t}$  = ratio of loan loss provisions to total assets for bank i at year t.

$EBTP_{i,t}$  = ratio of earnings before taxes and provisions to total assets for bank i at year t.

$LOAN_{i,t}$  = change in gross loan outstanding for bank i at year t.

$NPL_{i,t}$  = ratio of non-performing loan to gross loans for bank i at year t.

$SIZE_{i,t}$  = natural logarithm of total asset for bank i at year t.

$\Delta GDP_t$  = real gross domestic product growth rate at year t.

$LISTED_i$  = dummy variable that take the value of '1' for listed banks and '0' for non-listed banks.

LISTED\*EBTP = dummy variable that capture whether there is a significant difference in the income smoothing behaviour of listed banks relative to non-listed banks. The presence of time-invariant dummy 'LISTED' indicate that OLS regression estimator is a more appropriate estimation technique to estimate the above relationship because OLS estimator capture the impact of time-invariant variables (Gujarati and Porter, 2009).

e = error term.

To test the income smoothing hypothesis, a significant and positive sign on the EBTP coefficient is commonly indicative of income smoothing through loan loss provisions while a negative sign on the EBTP coefficient would lead to the rejection of the income smoothing hypothesis indicating that Nigerian listed banks do not use LLP to smooth earnings during the period examined.

The dependent variable is the ratio of loan loss provisions to total assets. The explanatory variables include EBTP, NPL, LOAN and  $\Delta$ GDP. The earnings smoothing variable (EBTP) is the ratio of earnings before tax and provisions to total asset. Non-performing loans (NPL) and loan growth (LOAN) are proxies to capture the riskiness of bank loan portfolio and contemporaneous credit risk, respectively. Non-performing loans (NPL) reflect the credit quality of the loan portfolio of banks and a positive sign on the NPL coefficient is expected because banks will increase loan loss provisions when they expect high loan defaults (Beaver and Engel, 1996). Loan growth (LOAN) is a proxy for contemporaneous credit risk (Lobo and Yang, 2001; Laeven and Majnoni, 2003), and a positive sign on the LOAN coefficient would indicate that bank provisions increase as loan supply increases due to credit risk concerns while a negative sign on LOAN coefficient would indicate improved quality of incremental loans (Lobo and Yang, 2001).

The use of natural logarithm of total assets (SIZE) as a proxy for bank size is common among studies in the literature (Kilic et al., 2012; Curcio and Hasan, 2015, Ozili, 2017b&c, etc.). Large banks are considered to have higher levels of business activities and may set aside higher provisions to commensurate for their high business levels relative to smaller banks (Anandarajan et al, 2007). Although a positive sign is expected for the SIZE variable, the empirical literature report mixed coefficient sign for this variable (e.g. Kilic et al. 2012; Ozili, 2015). LISTED dummy variable allow us to test whether listed banks report less or more provisions compared to non-listed banks whereas the interaction term 'LISTED\*EBTP' test whether listed banks use LLPs to smooth earnings than non-listed banks during the period of mandatory IFRS adoption. Finally, we use real gross domestic product growth rate ( $\Delta$ GDP) to control for bank provisioning that depend on the state of the economic cycle. To capture the effect of economic cycle changes on the income smoothing, we include gross domestic product growth rate as a control variable in the model following the approach of Laeven and Majnoni, 2003; Bikker and Metzemakers, 2005; Bouvatier and Lepetit, 2008, Skala, 2015; Ozili, 2017a&b), and we expect a negative relationship between LLPs and change in gross domestic product growth rate, indicating evidence for procyclical loan loss provisioning.

### 3.2. Data

The data in our study are limited to Nigeria banks. During the period 2012 to 2014, the banks in our sample possessed 89.2 per cent of the assets in the Nigerian banking industry. Regarding our sample period 2012 to 2014, there are two main rationale for the choice of sample period. First, the sample period allows us to effectively focus on bank reporting behaviour during the period immediately after mandatory IFRS adoption and to avoid possible contamination from other events such as the recession that Nigeria experienced in 2015 and 2016 which could bias our result because LLPs of banks tend to be too high during recessions. Second, by using this narrow sample period, we avoid the impact of the

2008 financial crisis and also avoid the impact of the after-shock<sup>4</sup> of the crisis from affecting the validity of our inferences. In contrast to other studies that use data from Nigerian Stock Exchange Fact Book, we obtain pooled cross-section and time series data of individual banks' balance sheet items from the Van Dijk Bankscope database. This allow us to control for the quality of bank financial reporting and to avoid errors associated with hand-collected data. All annual bank data have December 31 year-ends. The resulting final sample yields 23 sample banks that have data on loan loss provisions and other crucial variables for 3 years. The 23-bank sample contains 12 listed banks and 11 non-listed banks.

[Table 1]

## 5. Results

### 5.1. Descriptive Statistics and Correlation

Table 2 provides a summary of the descriptive statistics. The mean LLP is 0.7% for the full sample and is 0.8% and 0.5% for listed and non-listed banks respectively, implying that listed banks report higher LLPs compared to non-listed banks during the mandatory IFRS period. NPLs are, on average, 5.06% of gross loans. Furthermore, NPLs of 'listed' and 'non-listed' banks are 4.76% and 5.51%, respectively and suggest that listed banks experience fewer NPLs compared to non-listed banks, implying that listed Nigerian banks have better credit quality than non-listed banks. This may also indicate improved credit risk management by listed Nigerian banks in Nigeria. On average, LOAN is 27.26% for the full sample while listed banks record lower growth in loans of 23.33% relative to non-listed banks that record 31.44%. This suggest that listed banks do not rely solely on loan-based source of funds, indicating that listed banks have substantial interest in non-loan source of income. Also, the total assets (SIZE) of listed banks (15.45) is larger relative to non-listed banks (15.12), indicating that listed banks are larger than non-listed banks in Nigeria. Panel A reports the Pearson correlation and the associated p-values. In Panel A, LLPs are negative and significantly correlated with EBTP indicating that Nigerian banks do not appear to increase loan loss provisions as earnings increases. Finally, LLPs are insignificantly correlated to  $\Delta$ GDP.

[Table 2]

[Panel A]

### 5.2. Regression Results: Full Sample

Table 3 report the regression result for the pooled bank sample. EBTP is the variable of interest. EBTP coefficient is negative and insignificant in Column 1. The result remains the same after applying robust standard error correction in Column 2. Further, we apply bank fixed effects to control for bank-specific heterogeneity, i.e. unobservable differences across banks in Column 3 and EBTP coefficient remain negative and significant, indicating that Nigerian banks do not use LLPs to smooth reported earnings during the period the mandatory IFRS period. There are two possible reasons for this result. One, could

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<sup>4</sup> The Central Bank Governor confirm that the 2007-2009 global financial crisis did not have an immediate impact on Nigerian banks but rather had an after-shock effect on Nigerian banks between 2009 to 2010 which contributed to the removal of the CEOs of 5 major Nigerian banks due to irresponsible bank management practices.

be that in the post-mandatory IFRS period, bank managers selectively choose alternative accounting numbers to manage earnings with the expectation that regulators cannot see through earnings management based on those accounting numbers (Zang, 2011). Hence, accruals (such as LLPs) might not be widely used by Nigerian banks to smooth earnings during the mandatory IFRS period. Two, improved or strong enforcement of mandatory IFRS may have restrained banks from using loan loss provisions to smooth reported earnings.

For the control variables in Column 1 and 2, LOAN coefficient reports the expected sign, indicating improved quality of incremental loans. As expected, NPL coefficient is positively significant, implying that Nigerian banks increase provisions when they expect problem loans. As expected, SIZE coefficient reports a positive sign implying that larger banks keep more provisions.  $\Delta$ GDP coefficient is positive but not significant and the positive sign is inconsistent with the evidence of procyclical provisioning documented in Ozili (2015).

[Table 3]

### 5.3. Additional Analysis

#### 5.3.1. Listed versus Listed Banks

The Financial Reporting Council of Nigeria (FRCN) require listed Nigerian banks to mandatorily adopt IFRS in 2012 while non-listed banks were not mandatorily required to adopt IFRS. We divide the full sample into listed and non-listed bank sub-samples to detect whether there is a significant difference in the use of LLP for income smoothing purposes by listed and non-listed Nigerian banks. We run separate regression for each sub-sample. EBTP is the variable of interest. The result is reported in Column 1 and 2 in Table 4. The result in Column 1 do not show evidence for income smoothing among listed banks in Nigeria, thus, we conclude that listed banks in Nigeria do not use loan loss provisions to smooth income during mandatory IFRS adoption. Our findings are similar to the findings of Leventis et al (2011) who find that the European listed banks exhibit less income smoothing via LLP after the implementation of mandatory IFRS. For non-listed banks, Column 2 report that non-listed banks do not use provisions to smooth income during mandatory IFRS adoption period. Overall, the insignificant signs for EBTP coefficient in both sub-samples indicate that listed and non-listed Nigerian banks did not use provisions to smooth earnings during mandatory IFRS adoption period. This implies that mandatory IFRS adoption improves the informativeness of loan loss provision estimates by discouraging banks from using LLPs to smooth earnings during the period possibly signalling strict enforcement of IFRS in the post 2012 period.

#### 5.3.2. Interaction Analysis: Listed vs Non-Listed Banks

Next, we note that the above sub-sample analysis reduces the degree of freedom in the regression estimation. We, therefore, use the full bank sample and employ a binary dummy 'LISTED' which take the value of 1 if a bank is listed and zero if the bank is not listed. The binary dummy, LISTED, is then interacted with EBTP to detect whether there is a significant difference in the income smoothing behaviour of listed banks relative to non-listed banks. The result is reported in Column 3 in Table 4. LISTED coefficient is positive but not significant to draw any meaningful inference. LISTED\*EBTP coefficient is negative and insignificant, implying that there is no significant difference in the income smoothing behaviour of listed banks relative to non-listed Nigerian banks during mandatory IFRS adoption. This finding is inconsistent with Anandarajan et al. (2007) who find that listed banks in Australia use provisions more aggressively than non-listed banks.

[Insert Table 4]

### 5.3.3. Robustness Check

First, we adjust the analysis to control for concerns that Nigerian banks possibly began adjusting their financial reporting to conform to the new IFRS requirement as early as 2011 because Nigerian banks were given one-year notice to prepare for mandatory IFRS adoption prior to 2012. Accordingly, we expand the sample period to include all 2011 bank-year observations (2011 to 2014), and then re-run all regression models. The result is reported in Table 5. The results do not change significantly and EBTP coefficient is not significant in all estimation. The analysis is robust to earlier conclusion that Nigerian banks, and listed banks, do not use LLPs to smooth income during the period of mandatory IFRS adoption.

[Insert Table 5]

### 5.3.4. Income Smoothing during Voluntary IFRS adoption

Next, we address the concern for the need to compare bank income smoothing via LLP during the voluntary IFRS adoption period (2009 to 2011) and the mandatory IFRS adoption period (2012 to 2014). Accordingly, we re-run the estimations and the regression results are reported in Table 6. In Column 1 and 2 of Table 6, EBTP coefficient is positively significant for the full sample, indicating that Nigerian banks use LLPs to smooth reported earnings during the period of voluntary IFRS adoption but this result was not significant for listed banks in column 3. This suggests that banks smooth income in the years preceding the mandatory IFRS adoption. However, there is no evidence for income smoothing via LLPs among listed banks during voluntary IFRS adoption. This result does not support Ozili (2015) who find that listed banks use LLPs for bank income smoothing, capital management and signalling during voluntary IFRS adoption period.

[Insert Table 6]

## 6. Conclusion

This study examined whether banks use LLP to smooth bank earnings during mandatory IFRS adoption period in Nigeria. We use similar methodology in the literature (Anandarajan et al, 2007; Curcio and Hasan, 2015; Skala, 2015 and Ozili, 2017a&b) to test for income smoothing. The findings indicate that Nigerian banks do not use LLP to smooth income during mandatory IFRS adoption while there is evidence for income smoothing via LLP during voluntary IFRS adoption. However, we find no evidence for income smoothing among listed banks both during the voluntary and mandatory IFRS adoption periods. We conclude that the level of enforcement following the mandatory adoption of IFRS discouraged banks from using LLPs to smooth earnings during the 3 years after mandatory IFRS adoption, thus, improving the quality and informativeness of LLP estimates among Nigerian banks during the period examined.

**The implication of the study** is that IFRS has higher accounting quality in Nigeria because it discouraged earnings smoothing during the period examined. Our findings do not suggest that Nigerian banks do not smooth earnings during mandatory IFRS adoption rather we show that LLP estimates are not used to smooth earnings during this period. Nigerian bank managers may rely on other accounting numbers to smooth reported earnings rather than LLPs.

Therefore, one recommendation for future research is to identify other accounting numbers that banks might use to smooth reported earnings during mandatory IFRS period. Future studies can investigate alternative accounting numbers used by banks to smooth earnings apart from loan loss provisions. Another recommendation for further study is to investigate the effect of investor protection and institutional quality on the extent of income smoothing in Nigerian banks. Finally, future studies can examine the impact of Basel 3 on the association between LLP and bank earnings. Basel 3 require banks to keep larger LLP, therefore, it would be interesting to understand how this requirement affect banks' incentive to smooth earnings.

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## Tables

Bank Scope	No of Banks	No of Banks
Nigerian Banks	46	
Less: Banks without data up to 2014	(18)	
Banks with available data from 2011 to 2014.	28	
Less: Nigerian Banks with missing values	(5)	
Final Bank Sample	23	
Listed Banks		12
Non-Listed Banks		11
Total		23

### Panel A: Correlation Matrix: Full Sample

All variables remain as previously defined. \*\*\*, \*\* and \* represent significance at the 1%, 5% and 10% level, respectively. P-values reported in parenthesis

Variable	LLP	EBTP	$\Delta$ GDP	LISTED	LOAN	NPL	SIZE
LLP	1.000						
EBTP	-0.222* (0.080)	1.000					
$\Delta$ GDP	0.093 (0.467)	-0.009 (0.941)	1.000				
LISTED	0.118 (0.357)	0.013 (0.918)	-0.003 (0.981)	1.000			
LOAN	-0.121 (0.344)	0.151 (0.236)	0.049 (0.699)	-0.086 (0.504)	1.000		
NPL	0.516*** (0.000)	-0.206 (0.105)	0.068 (0.599)	-0.067 (0.602)	0.076 (0.552)	1.000	
SIZE	-0.118 (0.355)	0.247 (0.051)	0.033 (0.799)	0.189 (0.138)	-0.138 (0.282)	-0.429*** (0.000)	1.000

<b>Table 2: Summary of Descriptive statistics</b>						
Table 1 report the descriptive statistics obtained from 23 Nigerian bank samples. Data cover the period 2011 to 2014.						
Variables	Full Sample		Listed (i)		Non-Listed Banks (ii)	
	Mean	S.D	Mean	S.D	Mean	S.D
LLP	0.007	0.008	0.008	0.011	0.005	0.005
NPL	5.059	5.428	4.756	4.658	5.510	6.362
LOAN	27.265	26.332	23.330	14.939	31.437	34.348
EBTP	0.027	0.017	0.027	0.018	0.026	0.016
SIZE	15.453	1.015	15.762	0.703	15.122	1.203
*S.D = Standard Deviation, * Diff of Mean = Difference of Means						

<b>Table 3: Main Regression: Full Sample</b>			
Regressions are estimated using pooled ordinary least square (OLS) estimator. T-statistics are reported in parentheses with ***, **, and * indicating 1%, 5%, and 10% significance level, respectively.			
Variables	(1)	(2)	(3)
C	-0.018 (-0.89)	-0.018 (-1.22)	0.332 (1.46)
EBTP	-0.059 (-1.03)	-1.03 (-1.35)	-0.099* (-1.86)
NPL	0.0009*** (4.51)	0.0009* (1.70)	0.0008 (1.02)
LOAN	-0.00005 (-1.16)	-0.0005 (-1.52)	-0.00001 (-0.34)
SIZE	0.001 (1.03)	1.03 (1.29)	-0.022 (-1.45)
ΔGDP	0.0006 (0.52)	0.52 (0.67)	0.003 (1.66)
Bank Fixed Effect?	No	No	Yes
Adjusted R <sup>2</sup>	25.74	25.74	55.95
F-statistic	5.30***	5.30***	4.03***
Column (1) - regression do not include White's robust standard error correction Column (2) - regression include White's robust standard error correction. Column (3) – regression include bank fixed effect			

Table 4. Regression: Listed and Non-Listed Banks

Regressions are estimated using ordinary least square (OLS) estimator. Column 1, 2 and 4 include White's robust standard error correction. All variables remain as previously defined. LISTED\*EBTP measure whether there is a significant difference in the provisions-based income smoothing behaviour of listed bank relative to non-listed banks. T-statistics are reported in parentheses with \*\*\*, \*\*, and \* indicating 1%, 5%, and 10% significance level, respectively.

Variables	Listed	Non-Listed	Interaction
	(1)	(2)	(3)
C	0.021 (0.79)	-0.029 (-1.64)	-0.022 (-1.38)
EBTP	-0.032 (-0.43)	-0.043 (-1.08)	0.016 (0.27)
NPL	0.002** (2.18)	0.0004*** (3.97)	0.0009* (1.76)
LOAN	-0.00002 (-0.32)	-0.00002 (-1.21)	-0.00006 (-1.55)
SIZE	-0.002 (-0.91)	0.002 (2.05)	0.001 (1.18)
ΔGDP	0.002 (1.01)	0.0004 (0.45)	0.0008 (0.82)
LISTED			0.006 (1.31)
LISTED*EBTP			-0.127 (-1.39)
Adjusted R <sup>2</sup>	50.61	15.72	26.45
F-statistic	7.97	2.01	4.19

Table 5. Regression: Adjusted Sample Period (2011-2014)

All Regressions are estimated using panel OLS estimator. All regression includes White's robust standard error correction. T-statistics are reported in parentheses with \*\*\*, \*\*, and \* indicating 1%, 5%, and 10% significance level, respectively.

Variables	Full Sample	Full Sample	Listed	Non-Listed	Interaction
	(1)	(2)	(3)	(4)	(5)
C	-0.012 (-0.70)	0.672** (2.21)	0.056 (1.67)	-0.033 (-2.01)	-0.008 (-0.43)
EBTP	0.043 (0.63)	-0.057 (-0.93)	0.123 (1.25)	-0.038 (-1.03)	0.026 (0.41)
NPL	0.001* (1.92)	0.0008 (1.18)	0.002** (2.63)	0.0004*** (4.71)	0.001* (1.97)
LOAN	-0.00007* (-1.97)	0.000002 (0.04)	-0.00003 (-0.65)	-0.00003* (-1.82)	-0.00007** (-2.07)
SIZE	0.001 (0.89)	-0.044** (-2.20)	-0.004* (-1.76)	0.002** (2.73)	0.0007 (0.59)
ΔGDP	-0.00005 (-0.05)	0.005** (2.28)	0.0005 (0.29)	0.0001 (0.15)	-0.00007 (-0.06)
LISTED					0.002 (0.73)
LISTED*EBTP					0.025 (0.24)
Bank Fixed Effect?	No	Yes	No	No	No
Adjusted R <sup>2</sup>	15.59	59.75	33.30	18.41	14.96
F-statistic	3.62	5.05	4.99	2.35	2.79

Table 6: Regression for Voluntary IFRS adoption (2009 to 2011)			
Regressions are estimated using pooled ordinary least square (OLS) estimator. T-statistics are reported in parentheses with ***, **, and * indicating 1%, 5%, and 10% significance level, respectively.			
Variables	(1)	(2)	(3)
C	0.423* (2.27)	0.423** (2.72)	0.502* (2.34)
EBTP	0.598** (2.62)	0.598* (1.90)	6.138 (1.80)
NPL	0.002 (0.95)	0.002 (0.94)	0.001 (0.27)
LOAN	-0.001* (-1.97)	-0.001 (-1.73)	-0.0002 (-0.31)
SIZE	-0.023* (-2.14)	-0.023** (-2.71)	-0.036* (-2.39)
ΔGDP	-0.009* (-2.21)	-0.009 (-1.62)	-0.008 (-1.39)
LISTED			0.129 (1.64)
LISTED*EBTP			-5.823 (-1.64)
Bank Fixed Effect?	No	No	Yes
Adjusted R <sup>2</sup>	30.34	30.34	33.99
F-statistic	2.05	2.04	1.88
Column (1) - regression do not include White's robust standard error correction Column (2) - regression include White's robust standard error correction. Column (3) – regression with interaction term for listed banks			