Financial Ratios Effect of International Financial Reporting Standards (IFRS) Adoption in Nigeria

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ABSTRACT: *The main purpose of this study is to examine the impact of International Financial Reporting Standards (IFRS) adoption by Nigerian listed firms on key financial ratios used by investors. The study employs an innovative design known as "same firm-year" research design to examine how IFRS adoption changes key financial ratios of Nigerian listed firms. A sample of 60 companies using a filter scale was used. Gray Index was used to find the impact of IFRS adoption on financial ratios while, Paired sample t test and Levene's F were used to test the statistical significance of the differences in mean and variances between ratios under IFRS and Nigerian Generally Accepted Accounting Principles (NGAAP) respectively. The main finding from the study is that IFRS adoption has caused a negative impact on the financial ratios of Nigerian listed firms, but the impact was not statistically significant. We recommend that analysts and other financial statement users should be mindful of the new features of financial statement when taking economic decisions during this period of transition to IFRS in Nigeria.*

KEYWORDS: *Financial ratios, IFRS Adoption, Nigeria*

I. INTRODUCTION

Globalization of markets has increased the need for a common accounting language for financial reporting which will be the result of International Financial Reporting Standards (IFRS) adoption by many nations of the world. In the recent past different accounting standards were developed by different nations specifically for use in financial reporting, the resulting consequence was the severe differences in financial statements and accounts [1]. The advent of IFRS serves on one hand the function of common financial reporting language for multinational enterprises and comparability of accounting figures by investors on the other hand. Globally, IFRS can facilitate cross border investment activity, enhance growth of national economies through an expansion in investment frontiers and by extension, globalised the capital market [2], [3].

In the past, Nigeria has Statement of Accounting Standards hereafter called the Nigerian Generally Accepted Accounting Principle (NGAAP) for preparing and reporting financial information. Although the conceptual basis and many of the general principles under NGAAP are similar to IFRS in certain respects, many differences still exist [4]. These differences can impact figures presented in financial statements hence leading to differences in financial ratios computed under IFRS and NGAAP.

There are some debates among academics and practitioners that the adoption of IFRS can be detrimental to some countries if financial statement figures are negatively affected upon IFRS adoption thereby putting those country's companies in a competitive disadvantage in the global market. [5] pointed out one of such consequences for contractual obligations of changing the methods of arriving at year end balances; they noted that there have been instances of companies needing to restructure their financing to ensure obligations can still be met when financial accounts are produced under IFRS for the first time.

While evidence abound in other countries especially those from European Union, scarce evidence exists in Nigeria to show how IFRS adoption has impacted on financial statements. In this case, this study responds to an urgent need of users of financial statements to know the impact on financial ratios as a result of the shift to IFRS. Financial ratios have been chosen in this study because ratios are important to the various stakeholders particularly investors whose interest is most protected by IFRS. This study will therefore contribute to the enrichment of both domestic and international literature that relates to the adoption and implementation of IFRS. Our main purpose in this study, therefore, is to examine the effect of IFRS adoption by Nigerian listed firms on key financial ratios used by investors. To achieve this objective we structured the paper into the following ensuing sections: section II is the literature review, section III discusses the research methodology, section IV deals with the data analysis and discussion of results, finally section V is the summary and conclusion.

II.   REVIEW OF RELATED LITERATURE

The impact of financial reporting was first discussed as economic consequences in 1978 by Zeff [6] where he studied the impact of accounting reports on the decision-making behaviour of business, government, unions, investors and creditors. There are three types of effects in the area of economic consequences in accounting literature: the financial reporting effects, capital-market effects, and macroeconomic effects [7]. A financial reporting effect is the concern of this study and reflects the immediate impact of the change in standards on properties of financial statements. Recent studies conclude that financial statement effects are to a large extent determined by firms reporting incentives (e.g., [8], [9]) particularly in countries with weak accounting enforcements since IFRS offer firms substantial discretion in applying the standards [10]. Thus the impact of IFRS adoption on key financial ratios is likely to be limited if a firm's institutional environment and the firm-level incentives remains unchanged [11], [12], [13]. [10] sum up this stand that some firms may adopt IFRS merely as a label without making material changes in their reporting policies while other firms due to some perceived incentives may adopt IFRS as part of a serious commitment to increase transparency.

The study of [14] was the first to quantify the impact of different national accounting practices on profit measurement by means of a 'conservatism index': $1 - [(R_A - R_D) / |R_A|]$, Where R_A = adjusted profits and R_D disclosed profits. Measuring the disclosed profit in French, German and UK against the profits adjusted for international financial analysis, Gray found that French and German companies' results were more conservative than the results of the UK companies. [14] work has been widely replicated and extended by several subsequent studies using company's form 20-F reconciliations to US GAAP [15], [16], [17], [18] among others. [19] employed the index to comparing Finish national GAAP with IAS and they found that Finnish shareholder's equity is more conservative than IAS adjusted shareholder's equity even though the results were not statistically significant.

[20] found that U.S. GAAP is not more conservative than Australian financial reporting practice in terms of impact on profits, but is more conservative in terms of the impact on shareholders' equity. [21] focused on the adoption of IFRS by listed companies in Belgium. Without using Gray's comparability index and without testing for significance of her findings, she concludes that a relatively large negative (positive) impact is revealed for two (one) companies both on shareholders' equity and net income when reconciling Belgian GAAP with IFRS. [22] made use of the reconciliations of 2004 balance sheets of the FTSE 100 companies under UK GAAP to these balance sheets restated under IFRS. Not using the comparability index, she examined the effect of the transition on net assets and on individual balance sheet line items. She found that there was no overall significant effect on equity.

Focusing on the 2004 financial statements of companies listed on the Milan Stock Exchange (MSE), [23], applying Gray's index to net income, equity, ROE, and partial adjustments, find that Italian GAAP is more conservative than IFRS, but that this result is not as strong as had been expected. [24] measured the difference between IAS/IFRSs and US GAAP based earnings of non-US companies with US listings. Haverty's findings, based on the financial statements of Chinese companies listed on the New York Stock Exchange, his study suggested that while there is movement towards convergence, *de facto* a lack of comparability between US GAAP and IAS financial statements prepared by these Chinese companies still exists, mainly due to revaluation of fixed assets under IFRSs but not under US GAAP. [25] analysed the total population of 44 listed companies on the Portuguese Stock exchange that had to provide reconciliation statements for the transition to IFRS. They report that more companies were affected positively with regard to shareholders' equity and net profit than negatively. The authors employ Gray's comparability index only with regard to earnings and accordingly their findings are not comparable to those reported here with regard to shareholders' equity. The authors noted also poor compliance with disclosure recommendations and inconsistently presented reconciliations.

Another most relevant study to this work is [26]. They examined the financial statements effects of adopting IAS during 1998-2002 by direct comparison of financial statements prepared under both IAS and German GAAP. They found that overall, total assets and book value of equity were found to be significantly larger under IAS than under HBG, while variations in book value and net income were found to be significantly higher. [26] make a case for a country-specific approach which considers the direct effects of adopting IAS for the same set of firm's years. Such an approach would help to overcome problems associated with comparing across countries with different institutional arrangements, as well as controlling for time-series differences. [27] provides a more in depth study than [23] by analysing 178 companies listed on MSE. These studies provide comparable findings to those reported here because of the large sample used and because Gray's comparability index has been employed. [28] in their study examine the impact of IFRS adoption on key financial ratios using Finland as a sample country. The results clearly show that, the adoption of IFRS changes the magnitude of the key accounting ratios considerably by increasing the profitability ratios and gearing ratio moderately, and considerably decreasing the PE ratio and equity and quick ratios marginally. In another study using financial ratios particularly profitability, activity, liquidity and solvency ratios, [29] compare the informative value of

financial statements of CEZ Inc drawn up under IFRS and Czech accounting standards for 2004 and 2005. The financial analysis results proved the impact of IFRS implementation on financial performance of the company. Our review of related literature depicted that where a country changed her accounting GAAP to another (IFRS), the financial statements figures also changed hence the need to restructure the capital structure to ensure that the obligations are meet. Thus we hypothesise in the null form as follows:

H_{01}: IFRS adoption does not significantly affect profitability ratios of Nigerian listed companies.

H_{02}: IFRS adoption does not significantly affect liquidity ratios of Nigerian listed companies.

H_{03}: IFRS adoption does not significantly affect leverage ratios of Nigerian listed companies.

H_{04}: IFRS adoption does not significantly affect market ratios of Nigerian listed companies.

III.   RESEARCH METHODOLOGY

This study employs an innovative design known as "same firm-year" research design [26], [30] wherein the study document how IFRS adoption changes key financial ratios of Nigerian listed firms. Same firm-year research design is a design that varies GAAP while holding the sample composition and the time period constant. The population of the study comprises of 198 firms listed on the Nigerian Stock Exchange as at 31st December, 2010. The study adopted a purposively sampling technique and the outcome of our sample selection procedure is presented in Figure 3.1. We begin with the population of 198 companies listed on the Nigerian Stock Exchange on 31 December 2010. Mandatory IFRS adoption for publicly listed firms in Nigeria is set to be January 1st 2012, so by selecting 31st December 2010 we ensure that all our sampled firms have accounting period of not less than one year. Furthermore, our selection of a company as an IFRS adopter is only made once an explicit and unreserved statement of compliance is made in the firm's auditor's report.

Figure 3.1: The sample selection criteria

Total number of companies listed on the NSE on 31/12/2010	198
Companies delisted after 31/12/2010	-28
Companies without accounts under both NGAAP and IFRS On 30/9/2013 our final data collection date	-110
Sample size	60

From the initial population of 198 listed firms in Nigeria as at 31st December 2010, 28 firms were delisted from the exchange for one reason or the other by the Nigerian Stock Exchange. This kind of study requires that there should be financial statements for the same firm at the same time period under the two reporting GAAPs (NGAAP and IFRS). Thus using the filter, 110 companies were excluded for the reason that they do not have their financial statements ready as of the time of the study or that their account is ready but not under the two GAAPs in the same period as required by IFRS 1. In line with [31] the new population was used as the sample size since it is not too large for us to handle.

The data is collected from financial statements and related foot notes. We gather two sets of financial statements for all observations: the first is IFRS financial statements and the other for NGAAP financial statements in the first year of IFRS adoption. Information on the adjustments made to the "pre-IFRS" year figures are extracted from the IFRS/NGAAP reconciliations. IFRS 1 requires comparatives to be restated and reconciled in the first year of adopting IFRS. Although the reconciliations varied considerably in format and level of details supplied, it was not our aim to determine the level of disclosure but to separate which financial statement elements were impacted by IFRS and the amounts involved.

To analyze our samples we use financial ratios' categories: profitability, liquidity and leverage and activity. We calculate ratios based on figures obtained from financial statements that are constituted according to the two sets of accounting standards (NGAAP and IFRS) for the same year. Initially, measures of descriptive statistics are calculated to describe the main features of the data. The measures used to describe the data set are measures of central tendency and measures of dispersion. Measures of central tendency include the sampling mean and median, while measures of variability and dispersion include the minimum variables, maximum variables, the sampling standard deviation, skewness and kurtosis. Gray's comparability index was used for measuring the relative impact of IFRS adoption on financial ratios of Nigerian listed firms. The statistical tool is good for use in this regard because it is set to compare financial ratios under two separate GAAP regimes consistent with our work objectives. The index is expressed by the formula: $1 - \dfrac{R_{SAS} - R_{IFRS}}{R_{IFRS}}$

Where:
R_{IFRS} = financial ratio under IFRS
R_{SAS} = financial ratio under SAS

Consistent with previous studies, a value larger than +1 suggests that the financial ratio under NGAAP is higher than that under IFRS, a value lower than +1 suggests that the financial ratio under NGAAP is lower than financial ratio under IFRS and an index value of +1.0 is neutral suggesting no change. Comparability index is inherent to the following problems: First the index report extreme values where financial ratio under IFRS approaches zero and the financial ratios under NGAAP is relatively large [32], [33], [34]. Another problem of the index is that the index does not show whether or not the difference if any is significant. To overcome the first problem this study will exclude the extreme values (outliers) that is, if the value is lower than -2.0 and higher than +4.0. This means that the researcher will exclude symmetrically cases where a financial ratio under IFRS is 300 percent less or more than that under NGAAP [32]. A paired sample t- test was used to test for the statistical significance of the differences the means values alongside the Levene F test for measuring the statistical significance of the difference in variance of the ratios under the two GAAP. The decision rule is to reject the null hypothesis if the calculated (t/F) value falls outside the critical values or if the p value is less than 0.025 (the critical value)at two tails.

Finally, the relationship between IFRS and NGAAP ratios is analysed using least square regression. The aim of the Least Square Regression was to study the extent to which IFRS ratios can be explained by the corresponding NGAAP ratios and to examine the degree of correlation between the two sets of ratios. Financial ratios should be identical if there is no difference between IFRS and NGAAP. But where the adoption of IFRS alters accounting figures then it will also alter financial ratios. Running one regression per ratio, the model is:

$$\mathbf{IFRS_{it} = \alpha + \beta NGAAP + \varepsilon} \qquad\qquad (1)$$

Where:
$IFRS_{it}$ = IFRS ratio for company i at time t
$NGAAP_{it}$= NGAAP ratio for company i at time t
α = intercept
β = coefficient of the variable NGAAP
i = refers to 60 companies sampled
t = year end date
ε = error term

The regression will be run on one ratio at a time basis. The model stated as equation (1) has each IFRS ratio as a dependent variable and the NGAAP ratio as the independent variable. The essence of using simple linear regression was to examine the impact of IFRS adoption on each NGAAP ratio. The R^2 is expected to be equal to 100% if there is no difference between the two sets of ratios and the coefficient of NGAAP equal to +1.0.

IV. ANALYSIS AND RESULTS
Descriptive Statistics: Impact on Accounting Ratios
The descriptive statistics of the impact of IFRS adoption on profitability ratios of Nigerian listed firms is presented in Table 4.1. Accordingly, Table 4.1 presents the number and percentages of firms that experience decrease, increase and no change by the transition to IFRS. The table also shows the distributions across the materiality band using the first, second, and third quartiles [35].

Table 4.1: Descriptive Statistics of Profitability Ratios and their Gray Comparability Index

	EPS			ROA			ROE		
	NGAAP	IFRS	INDEX$_{EPS}$	NGAAP	IFRS	INDEX$_{ROA}$	NGAAP	IFRS	INDEX$_{ROE}$
MEAN	277	274	**0.833**	0.053	-0.021	**0.671**	0.096	0.159	**0.796**
MEDIAN	65	68	**0.996**	0.037	0.032	**0.948**	0.088	0.092	**0.995**
STD. DEV	743	671	**0.622**	0.101	0.405	**0.888**	0.392	1.361	**0.824**
SKEWNESS	2	0	**-0.866**	-0.775	-5.916	**-1.011**	-2.789	4.919	**-1.069**
KURTOSIS	11	4	**1.855**	4.260	39.431	**4.715**	11.958	36.219	**3.660**
MINIMUM	-1633	-1996	**-1.118**	-0.319	-2.758	**-2.839**	-1.650	-3.317	**-1.902**
MAXIMUM	3951	2200	**2.361**	0.326	0.450	**3.214**	0.900	9.173	**3.085**
COUNT	57	57	**57**	56	56	**56**	57	57	**57**
INCREASES			**24(42.1%)**			**18(32.1%)**			**25(43.9%)**
DECREASES			**30(52.6%)**			**36(64.3%)**			**30(52.6%)**
NO CHANGE			**3(5.3%)**			**2(3.6%)**			**2(3.5%)**
FIRST QUARTILE			**35(61.4%)**			**31(55.4%)**			**35(61.4%)**
SECOND QUARTILE			**9(15.8%)**			**9(16.1%)**			**9(15.8%)**
THIRD QUARTILE			**13(22.8%)**			**16(28.6%)**			**16(28.1%)**

Source: Researcher's computation using MS-Excel Version 2007

Table 4.1 shows that EPS, ROA and ROE are higher under the NGAAP than IFRS. The mean Gray's comparability indexes are: EPS (0.833), ROA (0.671) and ROE (0.796). The same result is obtained from the median whose values are: EPS (0.996), ROA (0.948) and ROE (0.995). In line with [14] an index of below +1.0 indicates that IFRS is more conservative than the NGAAP while an index value above +1.0 depicts the opposite.The results from Table 4.1 mean that: EPS decline by 16.7%, ROA by 32.9% while ROE decrease by 20.4% on average upon the transition to IFRS by Nigerian listed firms. The median value of less than +1.0 in all the aforementioned profitability ratios additionally suggest that more companies are affected negatively by the transition to IFRS.30 firms (i.e. 52.6%) experience a decrease in EPS, 36(64.3%) reported a decrease in ROA and 30(52.6%) reported a decrease in ROE.A more detail analysis of the relative impact of IFRS adoption on profitability ratios is reported in the first, second and third quartile on Table 4.1.

The impact of IFRS adoption on liquidity ratios is tested using two popular liquidity ratios namely: the current ratio and net cash flow from operation to current liabilities (NCFO). The descriptive statistics of the ratios is presented in table 4.2.

Table 4.2: Descriptive Statistics Showing Liquidity ratios and their Gray Comparability Index

	Current ratio			NCFO		
	NGAAP	IFRS	INDEX$_{CR}$	NGAAP	IFRS	INDEX$_{NCFO}$
MEAN	1.921	2.021	**0.930**	0.384	0.448	**0.898**
MEDIAN	1.199	1.203	**0.991**	0.256	0.201	**0.998**
STD DEV	2.220	2.646	**0.315**	0.759	1.008	**0.810**
SKEWNESS	3.390	3.662	**-1.075**	0.447	1.741	**-0.487**
KURTOSIS	12.830	15.095	**5.156**	5.108	6.927	**3.343**
MINIMUM	0.097	0.068	**-0.258**	-2.394	-2.394	**-1.480**
MAXIMUM	13.158	16.051	**1.878**	2.939	4.651	**3.211**
COUNT	58	58	**58**	57	57	**57**
INCREASES			**19(33.3%)**			**21(36.8%)**
DECREASES			**36(63.2%)**			**31(54.4%)**
NO CHANGE			**3(5.3%)**			**5(8.8%)**
FIRST QUARTILE			**44(77.2%)**			**30(52.6%)**
SECOND QUARTILE			**10(17.5%)**			**14(24.6%)**
THIRD QUARTILE			**4(7%)**			**13(22.8%)**

Source: Researcher's Computation using MS-Excel version 2007.

Computations from Table 4.2 suggest that current ratio and NCFO ratios have had a negative effect. The current ratio for instance declined by 7% on average while NCFO reduced by 10.2% on average upon transition to IFRS by listed firms in Nigeria. Both ratios had a median of lower than +1.0implying that more firms had their current and / NCFO ratio reduced by transiting to IFRS. If we explain this result in terms of accounting quality we can say that IFRS are of higher quality than NGAAP. According to [36] an accounting

standard that exhibit lower liquidity and / or higher gearing can reduce the potential uncertainty and risk that is associated to a firm hence of higher quality. We also presented the magnitude of the change in first, second and third quartiles in Table 4.2. Accordingly 44(77.2%) of the firms had between0% - 25% change in current, while 30(52.6%) had a change of between 0% - 25%. Only 7% and 22.8% of the proportion has a change of 75% and above in current and NCFO ratios respectively.

Two leverage ratios namely the total debt to equity (TD/E) ratio and the total debt (TD) ratio are used in this study to analyse the impact of IFRS adoption on the leverage ratios of Nigerian listed firms. The descriptive statistics of these ratios is shown in Table 4.3.

Table 4.3: Descriptive Statistics of Leverage ratios and their Gray Comparability Index

	TD/E Ratio			TD Ratio		
	NGAAP	IFRS	INDEX$_{TD/E}$	NGAAP	IFRS	INDEX$_{TD}$
MEAN	2.849	3.076	**1.012**	0.61	0.608	**0.989**
MEDIAN	1.33	1.397	**1.03**	0.595	0.632	**1.009**
STD DEV	5.001	5.438	**0.41**	0.292	0.271	**0.233**
SKEWNESS	3.848	3.648	**-5.376**	0.471	0.12	**-2.69**
KURTOSIS	19.918	18.413	**36.402**	0.534	-0.218	**12.803**
MINIMUM	-4.484	-4.946	**-1.758**	0.028	0.029	**-0.226**
MAXIMUM	32.066	34.283	**1.576**	1.521	1.301	**1.469**
COUNTS	60	60	**60**	59	59	**59**
INCREASES			**40(66.7%)**			**40(67.8%)**
DECREASES			**18(30%)**			**17(28.8%)**
NO CHANGE			**2(2%)**			**2(3.4%)**
FIRST QUARTILE			**50(83.3%)**			**50(84.7%)**
SECOND QARTILE			**9(15%)**			**8(13.6%)**
THIRD QUARTILE			**1(1.7%)**			**1(1.7%)**

Source: Researcher's Computation using MS-Excel version 2007.

Table 4.3 shows that leverage ratios have been affected negatively by the transition to IFRS. Out of 60 sampled listed firms, 40 firms had a leverage ratio increased; only 18 firms' show a reduction in the TD/E ratio. The average Gray's comparability index of TD/E is 1.012 meaning that there is 1.2% increase in TD/E on average while the median comparability index are TD/E (1.030) and TD ratio (1.009) suggesting that more firms has had their financial leverage increased upon transition to IFRS. Although, the financial leverage has increased upon transition to IFRS generally, the increases clustered in the first quartile range (i.e. 83.3% and 84.7% of the firm shad a change in TD/E and TD ratios respectively within the first quartile).

To ascertain the extent to which IFRS adoption has impacted on the market ratios of Nigerian listed firms, the price to earnings (PE) ratio was used. The descriptive statistics of this ratio under both NGAAP and IFRS together with the Gray index of comparability is presented in Table 4.4.

Table 4.4: Descriptive Statistics Showing P/E Ratio and the Gray Comparability Index

	PE Ratio		
	NGAAP	IFRS	INDEX$_{PE}$
MEAN	13.29	16.46	0.98
MEDIAN	8.76	11.88	1.00
STD DEV	22.74	29.82	0.52
SKEWNESS	3.61	3.32	-1.61
KURTOSIS	19.06	14.15	4.41
MINIMUM	-24.56	-34.17	-0.89
MAXIMUM	143.60	164.00	1.99
COUNTS	57.00	57.00	57.00
INCREASES			30(52.6%)
DECREASES			25(43.9%)
NO CHANGE			2(3.5%)
FIRST QUARTILE			34(59.6%)
SECOND QUARTILE			17(29.8)
THIRD QUARTILE			6(10.5%)

Source: Researcher's Computation using MS-Excel version 2007.

According to Table 4.4, IFRS adoption has caused a reduction in the PE ratio. The mean comparability index of 0.981 from the Table above depicts 1.9% decrease (negative effect) in PE ratio on average upon the transition to IFRS. Table 4.4 also show that 34 out of 57 firms had a change of within the first 25%. 17 and 6 firms respectively had a change falling in the second and third quartiles respectively.

Analysis of Distribution
The result of the regression analysis is shown in table 4.5 below.

Table 4.5: Regression of IFRS Ratios with NGAAP Ratios of Nigerian Listed Companies

Dependent Variable (IFRS)		(β)NGAAP	R^2
Profitability Ratio:			
EPS	coefficient	0.786	0.758
	t statistic (P- value)	13.110(0.000)	
ROA	coefficient	2.428	0.367
	t statistic (P- value)	5.596(0.000)	
ROE	coefficient	1.855	0.286
	t statistic (P- value)	4.693(0.000)	
Liquidity Ratio:			
CR	coefficient	0.783	0.432
	t statistic (P- value)	6.522(0.000)	
NCFO	coefficient	0.868	0.428
	t statistic (P- value)	6.414(0.000)	
Leverage Ratio:			
TD/E	coefficient	1.076	0.979
	t statistic (P- value)	51.714(0.000)	
TD	coefficient	0.865	0.868
	t statistic (P- value)	19.382(0.000)	
Market Ratio:			
P/E	coefficient	1.649	0.969
	t statistic (P- value)	41.605(0.000)	

Source: Researcher's computation using SPSS version 16.0

The results of the regression indicate that EPS, TD/E, TD and P/E ratios have a strong relationship. The R^2 were: EPS (0.758), TD/E (0.979), TD (0.868) and P/E ratio (0.969). The remaining ratios namely: ROA, ROE, CR and NCFO had a weak but significant correlation with R^2 ranging from 28.6% to 43.2%. These results approach 100% meaning that the financial ratios under IFRS and NGAAP are strongly correlated. The results of the analysis also confirm the increased volatility of financial ratios under IFRS. The ROA, ROE, CR, and P/E ratios had a coefficient (β) of more than +1.0 meaning that the financial ratios are more volatile under IFRS than NGAAP. A coefficient above +1.0 indicates that the value of the IFRS ratio is amplified in comparison to the NGAAP ratio, subject to the value of the intercept. Thus there will be a larger positive variation in IFRS ratios when NGAAP ratio is positive and larger negative variation when the NGAAP ratio is negative. All the coefficients are significant in all the categories of ratios at 95% confidence.

Test of Statistical Significance
For each of the ratios the tests of statistical significance for equality of central tendency and the test for equality of dispersions were conducted. The result of the tests is presented in Table 4.6.

Table 4.6: Table showing the calculated Statistics and the P- Values

Ratio Pairs	Paired Sampled t-test for Equality of Means	Levene's Test for Equality of Variances
EPS(NGAAP) - EPS(IFRS)	-0.013 (0.990)	0.000 (0.994)
ROA(NGAAP) - ROA(IFRS)	1.568 (0.123)	2.943 (0.089)
ROE(NGAAP) - ROE(IFRS)	-0.398 (0.692)	1.671 (0.199)
CR(NGAAP) - CR(IFRS)	-0.369 (0.714)	0.223 (0.638)
NCFO(NGAAP) - NCFO(IFRS)	-0.633 (0.529)	0.835 (0.366)

TDE(NGAAP) - TDE(IFRS)	-1.999 (0.505)	0.285 (0.668)
TD(NGAAP) - TD(IFRS)	0.143 (0.887)	0.718 (0.718)
P/E(NGAAP) - P/E(IFRS)	-1.293 (0.201)	0.582 (0.447)

Source: Researcher's Computation Using SPSS version 16.0
(Note: *figures in the parenthesis represent the p-value of the test statistics*)
The first ratios relate to the impact of IFRs adoption on profitability ratios of Nigerian listed firms

H_{01}: IFRS adoption does not significantly affect profitability ratios of Nigerians listed firms.
The t-test of paired sample for the statistical significance of the difference of means provided the following t values and P-values: EPS (t= -0.013, p= 0.990), ROA (t= 1.568, p= 0.123), and ROE (t= -0.398, p= 0.692). Because the critical value t is 2.021 is more than the calculated t and the calculated p-values are more than the critical p of 0.05, the null hypothesis is accepted. The mean value of profitability ratios does not differ significantly after IFRS adoption. The second test is aimed at testing equality of variances using Levene's F test and it provides the following F and P-values: EPS (F= 0.000, p= 0.994), ROA (F= 2.943, p= 0.089) and ROE (F= 1.671, p= 0.199). Again since the calculated p is more than the critical p value at 0.05 significance level the null hypothesis is retained. The data does not support any significant change in the variability of profitability ratios upon the adoption of IFRS. The conclusion therefore is that, IFRS adoption does not significantly affect profitability ratios of Nigerian listed firms.
The second tests relate to the liquidity ratios and stated as follows;

H_{02}: IFRS adoption does not significantly affect liquidity ratios of Nigerian listed firms.
For the liquidity ratios, the t-test yielded the following t and p-values: current ratio (t= -369, p= 0.714) and NCFO (t= -0.633, p= 0.529). Since the calculated t is less than the critical value (2.021) and the P-value is more than then critical value (0.0025) we accept the null hypothesis which says that the means differences between liquidity ratios under IFRS and NGAAP are not significantly different. For the test of equality of variances the calculated F test and P-values of the Levene's F-test are as follows: current ratio (F= 0.223, p= 0.638) and NCFO (t= 0.825, p= 0.366). The null hypothesis is also accepted since the calculated p is more than the critical p- values. The findings are that the variances in the liquidity ratios of NGAAP are not significantly different from IFRS liquidity ratios. This led us to the conclusion that IFRS adoption does not significantly affected the liquidity ratios of Nigerian listed firms.
The third tests are related to the leverage ratios and stated as:

H_{03}: IFRS adoption does not significantly affect leverage ratios of Nigerian listed firm.
For the third hypothesis the first tests is the t-test of paired sample data to test for the equality of mean (central tendency) and the result is as follows: Total debt to equity ratio (t= -1.999, p= 0.050) while the total debt ratio has (t= 0.143, p= 0.887). Since the calculated t is less than the critical value of 2.021 and the P-values exceed the critical value (0.025) we accept the null hypothesis. The second sets of test utilize the Levene's F-test to test the equality of variances. According to the test statistic total debt to equity has (F= 0.185, p= 0.718) and Total Debt ratios resulted to (F= 0.131, p= 0.718). The null hypothesis is also accepted since the P-values calculated exceed the critical P-values. The conclusion is that, IFRS adoption does not significantly affect leverage ratios of Nigerian listed firms.
The final test relates to market/valuation ratios;

H_{04}: IFRS adoption does not significantly affect market ratio of Nigerian listed firms.
For the market ratio, the P/E ratio resulted to the calculated paired sample t-test of -1.293 (P= 0.201). This depicts that the central tendency (Mean) of P/E ratios under NGAAP is not significantly different from that under IFRS. The test for equality of variance (Levene's F-test) has resulted to a calculated F of 0.582 and the P-value of 0.447. The null hypothesis is therefore accepted since the calculated P-value exceeded the critical P-value. The conclusion is that IFRS adoption does not significantly affect market ratio of Nigerian listed firm.
These results are in line with [37] whose findings were that the first mandatory IFRS will have a small effect in countries with weak enforcement regime or where firms have poor reporting incentives to apply IFRS. The results are consistent with the position of [37] because: (i) Nigeria has a weak degree of accounting standards enforcement and; (ii) the analysis in section IV posits that all the profitability, liquidity and market ratio experience decrease on the average upon the transition to IFRS, while leverage ratios experienced an upward change by the transition from NGAAP to IFRS. These results are poor motivation for management to fully disclose financial information; perhaps this is the cause of insignificant effect accounted for by this study.

The findings in this study concord with the *Daske et al.'s* view that managers may select the level to which they will disclose information in the annual statements so as to prevent themselves from reporting adverse financial status. [10] describe such adopters as "label adopters". This position was later confirmed by [38] where they found that adoption of IFRS in countries with weak enforcement are mostly for satisfying regulatory needs and not for satisfying investor's and creditor's needs.

Our results differ from those of [28] regarding the effects of IFRS on ratios in the European context. Our study finds no significant difference between means of all ratios and unlike [28] we extended our study to the test of equality of variances where no significant difference was also found in all the classes of ratios. In contrast, [28] report significant difference in one liquidity ratio, two leverage and four profitability ratios, including the market-based price-earnings-ratio. In all our analysis of the effect of IFRS adoption on financial ratios resulted to findings similar with [22] in UK and [29] in Czech Republic.

V.   SUMMARY AND CONCLUSIONS

The study examines the effects of IFRS adoption on the financial ratios in Nigeria. Using the Gray comparability index to analyse the relative effect along with paired sample t test and Levene F test for testing the statistical significance, the study found that IFRS adoption has led to a decrease in profitability, liquidity and market ratios but the decrease is not statistically significant at the 5% confidence level. The study also found that leverage ratios have increase by the transition from NGAAP to IFRS however; the increase is also not statistically significant. These findings led us to the conclusion that IFRS adoption does not have a significant effect on the financial ratios of Nigerian listed firms.

We encourage analysts to adopt a cautious approach when examining financial ratios during the transition to IFRS in Nigeria. Comparing ratios based on IFRS figures with those based on NGAAP is not fully appropriate. Users of financial statements need to distinguish reported performance changes caused by the transition to IFRS from those caused by changes in the business. One possible solution may be to recalculate previous ratios using IFRS retroactive information presented in the year of the transition. However, this may be a costly exercise which is still subject to limitations such as exemptions and exceptions allowed by IFRS 1. Analysts need to be aware of the main features of IFRS that differ from NGAAP.

We recommend that users of financial statements should be mindful of the new feature – comprehensive income – for which we suggest two ratios: the ROA and ROE. These ratios are adapted from the *regular* ROA/ROE but with the comprehensive income at the numerator. The comprehensive income incorporates unrealized gains and losses that bypass the profit of the income statement. A difference between the regular and the comprehensive versions of ROA/ROE should prompt further investigation of the underlying causes.

The findings of the present study can also provide good avenues for potential research. Some of the areas for which the present study can provide motivation are highlighted below. First, prior literature indicates that companies' compliance with IFRS tends to increase within few years after the initial year of adoption. This is parallel to the fact that FRC enhanced the processes for monitoring listed companies' financial statements may lead to increased levels of compliance with IFRS mandatory disclosures after 2012. Thus, it would worth examining whether companies included in the present research can exhibit significance effect on financial ratios.

VI.   ACKNOWLEDGEMENT

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