International Journal of Intellectual Discourse (IJID)
ISSN: 2636-4832 **Volume 6, Issue 1.** **March, 2023**

Recession and value relevance of accounting information of listed deposit money banks in Nigeria

Maxwell Atiku Yohanna, Aisha Nuhu Mohammed & Mohammed Dahiru Tahir

Department of Accounting, Ahmadu Bello University, Zaria – Nigeria.

Corresponding Email: atikumax2015@gmail.com

Abstract

This study investigated the effect of economic recession on the value relevance of accounting information of deposit money banks (DMBs) in Nigeria. Secondary data sources obtained from the published financial statements of the sampled listed DMBs and the NGX website for the period ranging from 2012 to 2021 were used for analyses. Panel data techniques (fixed and random model effects) were employed. Earnings per share (EPS), book value per share (BPS) and financial leverage (LV) were used as independent variables while market price per share (MPS) served as dependent variable. Findings of the study reveal that the pre-recession era was relatively more value relevant than the post-recession era. Furthermore, in the pre-recession period, only earnings per share (EPS) is significant; showing that EPS contains information capable of explaining the value of share price. For the post-recession period, it can be seen that the other two accounting proxies; book value and firm size are all significant meaning that in spite of the economic recession experienced in Nigeria the two accounting numbers possess the ability to explain share prices.

Keywords: Financial leverage, firm size, economic recession, deposit money banks, value relevance

1. Introduction

Value relevance is *sine qua non* to the decision usefulness of financial information. This is because it refers to the statistical significance, as proposed by *The Conceptual Framework of Financial Reporting*, of financial statements (quantitative & qualitative) to capture and summarize information that documents the association between accounting values and market value (Hellstrom, 2005). According to *The Framework*, "an accounting number is relevant if it is capable of making a difference to financial users' decision. Thus, in relation to investors' decisions, an accounting amount is said to be relevant if it has a significant statistical association with share prices. It is therefore not an exaggeration to state that without relevant accounting information, the equity market will be characterized with market failure; owing to the fact that investors and other users, to a large extent, base their decisions on their perception of accounting numbers. In many developed countries, where capital markets are directly linked to the economy, capital markets are considered key indicators of economic performance. It is characterized, among other things, by high investor confidence, market integrity, and reliable, transparent and responsible disclosure regimes (IMF, 2013). Whether this is so for the Nigerian capital market has been a subject of conjecture; leading to legions of research. Also, as key channels of financial intermediation and as one of the most capitalized sectors on the Nigeria Exchange Ltd (NGX), the value relevance of financial statement information of Deposit Money Banks (DMBs) in Nigeria is of keen interest.

Traditionally, two metrics; earnings per share (EPS) and book value per share (BPS) are considered as key to ascertaining value relevance. EPS measures the utilization of firm's resources making it a disclosure requirement in the annual financial report of firms listed on the NGX (Mohammed, Musa and George, 2019). The value relevance of earnings per share in ascertaining firm's market value is however influenced by market perception regarding reliability of that information. However, when the reliability of earnings declines, investors; especially those interested in long-run benefits, may put less reliance on earnings and look for other sources of information such as book value on which to base their investment decisions.

The value relevance of accounting information and its impact on market price per share has therefore been a major focus of accounting research. This is evidenced by a plethora of studies such as Omura (2005); Dimitrov and Jain (2008); Misirlioglu, Yukseltuk and Guermat(2009); Sebrina and Sari (2012), Wong and Lee (2013), Prabuwoso, Irianto, Budiarti (2015) Eugenio, Parel, Reyes, Brian Yu, and Cudia (2019), Schoina, Missiakoulis and Zopounidis (2020), among others, but which are mostly foreign based; while few Nigerian studies such as Omokhudu and Ibadin (2015) Oyerinde (2009 & 2011), Abubakar(2010), Khanagha(2011)Abiodun (2012), Oshodin and Mgbame (2014), Akeem (2014), Musa (2015) ,Rouabhi (2016) Uwuigbe,jafaru, Igbinoba and Oladipo (2016), Umoren, Akpan and ekeria(2018)Akadakpo and Mgbame(2018) , Mohammed , Musa and George (2019); For which the findings have been overtaken by events, like the economic recession which affected the performance within the capital market. Though, value relevance research is a field where there is presence of mixed findings, that is, where most results presented in the literature may appear contradictory; the assumption is slightly inferred that the divergence of opinions are somewhat due to econometric problems adopted in the study. Also, it could be attributed to the difference in country or domain, methodology, variables, and time variation (period) in which the studies were carried out. Because most studies pool data over periods without considering the effect of structural breaks such as that engendered by economic recession, we posit that the previous results need to be reappraised. According to Mohammed, Musa and George (2019), the impact of the recession had triggered a considerable reduction in sales and profit margins amongst listed firms; leading to a reduction in investor's confidence towards equities traded in the market.

It is on this note that the researchers examined empirically the relevance of accounting information such as book value per share, earnings per share, and financial leverage in explaining the market price per share of listed deposit money banks (DMBs) in Nigeria and whether the relevance fluctuates according to structural breaks such as that caused by the 2020 economic recession. The findings of this research are relevant to researchers, investors, regulators and practitioners as they give insight on the effect of recession on the value relevance of accounting information of listed deposit money banks in Nigeria.

The paper is in five sections. Section 2 reviews related literature; both to establish a conceptual framework and to assess previous empirical evidence while section 3 gives a summary of the methodology employed for the study. Section for presents and discusses the results of the study while section 5 concludes by giving a brief summary and vita.

2. Literature Review

As a concept, value relevance has little ambiguity in accounting academe because it refers to the accounting discipline's practical interpretation of what decision usefulness ought to embody. Nonetheless, scholars have offered several other modest definitions. For instance, Francis and Schipper (1999) describe value relevance as the ability of financial information to capture and summarize information that determines a firm's value. More specifically, Barth, Beaver, and Landsman (2001) who championed the value relevance research, refer to it as the rate of statistical association between market value of stock and financial statement information. Whereas without referring to the statistical significance, Beisland (2009) refers to value relevance as the ability of accounting figures in financial statements to explain stock market measures.

Traditionally, book values of earnings and share capital have been the two most examined metrics vis-à-vis market value (share prices). The focus on earnings could be traced to various early works such as Ball and Brown (1968) and Beaver and Dukes (1972) which drew attention to the importance of profits in terms of value. Ball and Brown, in particular, demonstrated that the earnings information content is related to stock prices. However, with the passage of time other book values such as dividend payout, financial leverage, firm size, amongst others, have also been correlated with market value to ascertain whether they are value relevant.

Musa (2013) conducted a study using secondary data to investigate the value relevance of accounting information of listed conglomerate corporations in Nigeria over a five-year period ranging from 2007 to 2011. The study used multiple regressions and the Olson model as analysis tools. The independent variables in the study were book value per share, earnings per share, and change in earnings per share, while the dependent variable is share price. The study's findings showed that the independent variables (book value per share, earnings per share and change in earnings per share) have a statistically significant impact on the dependent variable. However, a study conducted in the banking industry with more current time coverage would, on the other hand, capture recent events and produce a different outcome.

Similarly, Akeem (2014) tries to investigate the impact of the value relevance of accounting information of Nigeria's listed deposit money institutions. The research was conducted over a nine-year period (2004-2012). The study employed descriptive statistics to highlight the characteristics of the study's independent (earnings, book value, and dividend) and dependent (market value) components. The study employed both price and return models, and the results showed that accounting data from Nigerian deposit money banks were useful, with an adjusted R2 of 11% for the return model and 42% for the pricing model. In addition, the analysis indicated that the pricing and return model differences were not significant. Despite the fact that the study proved the value relevance of accounting information among the selected organizations, a study with a more recent period coverage may produce a different outcome.

Also, Omokhudu and Ibadin (2015) analyzed the value relevance of accounting information in an emerging market scenario by examining the extent to which accounting information is connected with business value. The scope of the study spans for 20 years ranging from 1994 to 2013, the study's population consists of all companies listed on the Nigerian stock exchange. The independent variables are earnings, book value, cash flow from operations, and dividend, while the dependent variable is share price. The study also uses ordinary least square (OLS) estimation with the random and fixed effect variants in its regression analysis. The findings of the study revealed that cash flow, earnings, and dividends have a substantial association with share price while book value is statistically insignificant. However, the study recommends that investors should focus on dividend, cash flow and earnings; and less emphasis should be mounted on book value. However, the period which the study was conducted (1994 to 2013) is way backward, therefore a study with more recent coverage will yield positive outcome that can provide solutions to stakeholders in their decision making.

For a five-year period spanning from 2007 to 2011, Paul and Juliana (2015) explored the relationship between accounting information and stock market returns on the Nigerian Stock Exchange (NSE). The independent variables of the study were cash flow per share, earnings per share, and book value of equity per share, while the dependent variables are stock market prices and returns. A purposive sample of 40 NSE-listed companies was used in the study. Findings of the study showed that there is a strong link between accounting data and stock prices on the Nigerian stock exchange. In the NSE, there was a strong connection between stock returns and earnings, so earnings were related to both return and price. However, change in earnings was not significantly associated to stock returns. However, it can be observed that though the study was conducted in Nigeria, the period covered stopped in 2011 and it is not inclusive of recent happenings, therefore there is need for a study with recent analysis to be conducted

Also, Mulenga (2015) examined the value relevance of accounting information of listed public sector banks in Bombay Stock Exchange (BSE 500). The population of the study consists of all the twenty (20) public sector banks listed on Bombay stock exchange (BSE 500) for a period of five years ranging from 2008 to 2012. The study employs the use of earnings, book value, and return on equity and asset turnover ratio as the independent variables while market price per share was used as dependent variable. The findings of the study reveal that earnings per share have positive relationship and statistically significant with the share price. While return on equity and assets turnover ratio, book value per share found to be statistical insignificant and have negative relationship with share price. Conversely, book value per share, earnings per share, and return on equity were found to have positive correlation with share price but, the positive correlation between return on equity and share price reported to be very low. One of the shortcomings of this study is that the period of the study stopped in 2012, it could not have captured recent events.

In the same vein Abd. Majid and Banazir (2015) examined the impact of price book value to stocks returns on listed Indonesian firms. The independent variables were dividend payout, degree of financial leverage, and return on equity, whereas the dependent variable was price to book value. The research was conducted over a seven-year period ranging from 2007 to 2013. Path analysis model was adopted to analyze a total sample size of 36 Indonesian listed firms. The study's findings show that price to book value has a major impact on stock returns, but dividend payout ratio and financial leverage do not. However, this study is conducted in Asian continent with different economic situation; therefore, a study conducted in Nigeria with different economic situation would provide different result that would provide positive solutions to stakeholders.

Also, Adetunji (2016) used total sample size of five listed Nigerian manufacturing firms to investigate the link between leverage and firm value during a six-year period between 2007 and 2012. The study's data came from the annual reports of a few companies. The Ordinary Least Square (OLS) statistical technique was used to analyze data. The study's findings revealed that financial leverage and enterprises had a substantial relationship. However, the sample size is too scanty to represent all the manufacturing firms in Nigeria and the period of the study stopped in 2012 therefore a study with large sample size and more recent will yield superior results.

Similarly, Busari and Bagudo(2018) examined the value relevance of accounting information for consolidated and separate financial statement of listed financial service firms in Nigeria. The population of the study comprises of all the listed financial services firms throughout the period 2012-2016. Independent variables used in the study were earnings per share, book value and dividend per share while market per share was used as dependent variable. Findings of the study reveal that both consolidated and separate accounting information was value relevant. However, consolidated accounting financial information was found to be more value relevant than the separate accounting information. Hence, the study recommended the implementation of IFRS standard to ensure value relevant of accounting information that will be useful to the shareholders in decision making. However, the scope of the study ended in 2016 during a period when Nigeria is out of recession therefore this study will produce different result.

In the same vein, the study of Mohammed, Musa and George (2019) examined the moderating effect of economic recession on value relevance of accounting information of firms listed in Nigeria. The study employs the use of secondary data sources obtained from the annual published financial statements of the sampled firms listed in Nigeria and Nigerian Stock Exchange website for the period of 2013 to 2016. In the study, 2013 – 2014 was termed the period before the economic recession, while, 2015 – 2016 was termed the period of occurrence of economic recession. Using Ordinary Least Square (OLS) as a tool of analysis, the research design of the study is correlational. Findings of the study reveals that after controlling for economic recession periods, the explanatory powers of book value per share, earnings per share and dividend per share revealed a negative effect on market price; having only earnings per share to be statistically significant in explaining the market prices per share of the listed firms. However, the shortcoming of this study is that the period of the study stopped in 2016, it could not have captured recent events.

Additionally, Abubakar, Shuaibu and Magaji (2020) investigated the moderating effect of leverage on the value relevance of accounting information listed oil and gas firms in Nigeria. The period of the study is for a period of eight years ranging from 2011 to 2018. A total sample size of 6 firms was analyzed using multiple regressions; the study also employs the use of correlational research design. The study's findings showed that leverage and earnings per share are statistically relevant. Also, book value per share and earnings per share which are being moderated by leverage are found to be relevant. Based on the findings, the study recommends oil and gas listed companies in Nigeria should strategize to boost their earnings and find a means to manage their book value. However, this study is conduct in an oil and gas industry with a little sample size of just six firms. Therefore, a study conducted in the banking industry covering a period up to 2021 tends to produce better findings that would has positive impact on stakeholders and the economy at large.

Furthermore, Badruzaman (2020) investigated the impact of return on equity and earnings per share on share price of firms listed on the Japanese stock exchange, using descriptive statistics and the statistical package for social science (SPSS) to analyze the data of 57 listed firms in Japan using time series. The study's findings showed that return on equity and profits per share have a 67.3 percent impact on share price; return on equity has a negative impact on share price, while earnings per share have a positive impact. Similarly, Ramadhan and Nuraliati (2020) examine the of net profit margin and earnings per share on share price of food and beverages manufacturing firms listed on the Indonesian stock exchange for a period of five years (2014 to 2018). Findings of the study reveal that net profit margin earnings per share have significant effect on share price. However, because the research is being done in more advanced Asian countries, there is opportunity for it to be done in a developing economy like Nigeria. In conclusion, the findings of these studies show that economic crises can have a variety of effects on the usefulness of accounting data. Although, there are occurrence of major factors such as economic recession and the associated financial crises of recent times in both developing and developed countries, Prior research into the influence of the economic downturn on the value relevance of accounting data is still few.

3. Methodology

This study adopted a correlational research design to test the statistical association amongst the accounting information proxies of listed deposit money banks in Nigeria, and their relevance to users. The population of the study comprised all listed Deposit Money Banks licensed with international and national authorization as at 31st December, 2021 are on Table 1.

Table 1: List of DMBs

S/n	Names of Banks	Year of Listing
1	Access Bank Plc	1998
2	Fidelity Bank Plc	2005
3	First City Monument Bank Plc	2004
4	First Bank Nigeria Limited	1971
5	Guaranty Trust Bank Plc	2006
6	Union Bank of Nigeria Plc	1970
7	United Bank of Africa Plc	1970
8	Zenith Bank Plc	2004
9	City Bank Ltd	2012
10	Ecobank Nigeria Plc	2006
11	Heritage Bank Limited	2020
12	Keystone Bank Limited	2016
13	Polaris Bank Plc	2018
14	Stanbic IBTC Bank Limited	2005
15	Standard Chartered Bank Limited	2014
16	Sterling Bank Ltd	1983
17	Titan Trust Bank Limited	2019
18	Unity Bank Plc	2005
19	WEMA Bank Plc	1974

Source: CBN and NSE Websites

However; two filters were used to arrive at sample of the study. The first filter says that the bank must have been listed on the NSE for the period of the study (2012– 2021) and the second filter says that the bank must not have been delisted throughout the study period. These filters were employed to ensure availability of published financial statements of the banks. Consequently, the study was based on data for twelve banks viz Access Bank Plc, Fidelity Bank Plc, First City Monument Bank Plc, First Bank Plc, Guaranty Trust Bank Plc, United Bank for Africa Plc, Stanbic IBTC Bank Plc, Union Bank Plc, Sterling Bank Plc, Unity Bank Plc, WEMA Bank Plc and Zenith Bank Plc.Panel data multiple regression analysis was employed as technique of data analysis.

The model of the study was an adaptation of the Ohlson (1995) framework which included a dichotomous variable to tease out how value relevant the independent variables are before and during the economic recession. The model is expressed as:

$$MPS_{it} = \alpha it + \beta_1 BPS_{it} + \beta_2 EPS_{it} + \beta_3 LEV_{it} + \beta_4 ECR_{it} + \beta_5 ECR_{it} x \beta_5 BPS_{it} + \beta_6 ECR_{it} x \beta_6 EPS_{it} + \beta_7 ECR_{it} x \beta_7 LEV_{it} + \beta_8 FSZ_{it} + \varepsilon it$$

Where:
MPS = Market Price per Share
α = Constant
BPS = Book value per Share
EPS = Earnings per Share
LEV = Financial leverage
FSZ = Firm size
ECR = Economic Recession (dummy variable equal to 1 if recession occurred and 0 otherwise)
it = firm i at time t
β = Coefficients of parameter estimates
ε = Error term
α_0= intercept

Variable Measurements

The variables in this study are categorized and measured as follows:

Variable Name	Variable Acronym	Type of Variable	Variable Measurement	Source
Market price per share	MPS	Dependent Variable	Extracted from NSE three months after the financial year	Oshodin and Mgbame (2014)
Earnings per Share	EPS	Independent Variable	Net income after tax divided by the number of ordinary shares	Musa (2014)
Book Value per Share	BPS	Independent Variable	Total assets divided by the number of ordinary shares	Oyerinde (2011)
Financial Leverage	LEV	Independent Variable	Total debt divided by Total equity	Lee and Huh (2010)
Economic Recession	ECR	Dummy Variable	Dichotomize as '0' before recession and '1' during recession	Kane, Leece, Richardson and Velury (2015)
Firm Size	FSZ	Control Variable	Log of Total asset	Alfaraih (2009)

Source: Compiled by the Researcher (2020), from various literatures.

4. Results and Discussion

Table 2: Summary of Descriptive Statistics for pre-recession data

Variables	Obs	Mean	Minimum	Maximum	Standard Deviation
MPS	60	6.29	0.50	28.11	8.29
BPS	60	0.75	0.59	3.35	1.15
EPS	60	4.41	0.86	13.12	4.64
LEV	60	0.63	0.27	0.90	0.14
FSZ	60	7.34	4.88	9.88	1.63

Source: Descriptive Statistics Results from STATA 13 Outputs.

It can be seen from Table 2 above that the average share price for the firms before economic recession is 6.29 meaning that the value of shares from 2012 to 2021 averaged 6.29with the standard deviation of 8.29 showing that the variation from the mean is not a thing of concern. The minimum value of share is 0.5 with the maximum value of 28.11. For book value per share the average is 0.75 with 0.59 and 3.35 as minimum and maximum respectively. Earnings per share has 4.41 as average in the banking sector with 0.86 and 13.12 as minimum and maximum respectively while leverage has 0.63 as average with 0.27 and 0.90 as minimum and maximum respectively. Furthermore, firm size has 7.34 as average with 4.88 and 9.88 as minimum and maximum respectively.

The standard deviations for all the proxies of accounting numbers that is book value per share, earnings per share, leverage and firm size show that the deviation from the mean is not a thing of concern with exception to firm size which has 1.63 as standard deviation and which is far away from the mean value of 7.34.

Table 3: Summary of Descriptive Statistics for post-recession data

Variables	Obs	Mean	Minimum	Maximum	Standard Deviation
MPS	60	5.93	0.54	26.11	7.38
BPS	60	0.93	-0.39	3.35	1
EPS	60	6.18	-0.86	13.12	4.65
LEV	60	0.63	0.38	0.99	0.17
FSZ	60	7.43	5.03	9.88	1.62

Source: Descriptive Statistics Results from STATA 13 Outputs.

It can be seen from Table 3 above that the average share price for the firms before economic recession is 5.93 meaning that the value of shares from 2012 to 2016 averaged 5.93with the standard deviation of 7.38 showing that the variation from the mean is not a thing of concern. The minimum value of share is 0.54 with the maximum value of 26.11. For book value per share the average is 0.93 with -0.39 and 3.35 as minimum and maximum respectively. Earnings per share has 6.18 as average in the banking sector with -0.86 and 13.12 as minimum and maximum respectively while leverage has 0.63 as average with 0.38 and 0.99 as minimum and maximum respectively. Furthermore, firm size has 7.43 as average with 5.03and 9.88 as minimum and maximum respectively.

The standard deviations for all the proxies of accounting numbers that is book value per share, earnings per share, leverage and firm size show that there is no variability between the mean and all the observed firms.

Table 4: Summary of Descriptive Statistics for pooled data

Variables	Obs	Mean	Minimum	Maximum	StandardDeviation
MPS	120	6.11	0.5	28.11	7.89
BPS	120	0.86	-0.95	3.35	1.08
EPS	120	5.30	-0.86	13.12	4.71
LEV	120	0.63	0.27	0.99	0.16
FSZ	120	7.38	4.88	9.88	1.61
BPS2	120	0.49	0.39	3.35	0.86
EPS2	120	3.09	0.86	13.12	4.51
LEV2	120	0.32	0	0.99	0.75
FSZ2	120	7.48	4.80	8.88	1.64

Source: Descriptive Statistics Results from STATA 13 Outputs.

From the Table 4 above, it can be seen that the average share price is 6.11 showing that money deposit banks in Nigeria on average have 6.11 as their value of shares with 0.5 and 28.11 as minimum and maximum respectively. The standard deviation of 7.89 shows that the extent of variability from the mean is minimal. For book value per share, the firms have an average of 0.86 with -0.95 and 3.35 as minimum and maximum respectively. The firms have an average of 5.30 as earnings per share with -0.86 and 13.12 as minimum and maximum respectively. While leverage on average is 0.32 with 0.27 and 0.99 as minimum and maximum respectively. For firm size the mean is 7.88 while the minimum and the maximum are 4.88 and 9.88 respectively. The standard deviations from the tables show that the degree of variability between the mean values and the observations is minimal.

Upon the introduction of dummy, the average values of book value, earnings leverage and firm size are 0.49, 3.09, 0.32, 7.48 respectively showing little changes with minimum, maximum and standard deviation all slightly changing accordingly.

Multicollinearity Test

In regression model, it is expected that data should not be multicollinear, that is to say among the IVs no any two are having equal variation with each other. To test for Multicollinearity, variance inflation factor was used for the data and the result is as follows:

Table 5: Multicollinearity Test

	Pre		**Post**		**Joint Data**	
Variable	**VIF**	**1/VIF**	**VIF**	**1/VIF**	**3.96**	**0.2528**
BPS	3.76	0.2657	3.05	0.3274	3.42	0.2922
EPS	3.74	0.2674	3.02	0.3312	1.54	0.6498
LEV	1.07	0.9356	1.37	0.7297	5.18	0.1930
FSZ	1.06	0.9467	1.37	0.7309	5.18	0.1930
BPS2					3.93	0.2547
EPS2					2.13	0.4701
LEV2					3.96	0.2528
FSZ2					3.96	0.2528

Source: STATA 13 output

To check for Multicollinearity, the rule of thumb is if a tolerance value is greater than 0.1 and less than 1, so also if VIF is greater than 1 but less than 10; which shows that the variables do not have problem of multicollearity (Gujarati, 2004). From the table above, the tolerance value (1/VIF) of all the individual variables are greater than 10% and less than 1. also, all the values of VIFs are greater than 1 and less than 10 for all the categories of the data (pre-recession, post-recession and joint data) which confirms the absence of Multicollinearity among the variables.

Heteroscedasticity test

To test for heteroskedasticity, the study employs breusch-pagan/cook-weisberg test. The test result for both the two data shows as follows:

Table 6: Breusch-Pagan/Cook-Weisberg Test

	Pre	**Post**	**Joint**
Chi2 (1)	5.22	10.28	16.78
Prob chi2	0.02	0.000	0.000

Source: STATA 13 output.

It is assumed by regression model is that data is homoscedastic. According to Gujarati (2004)if the probability of chi^2 of Heteroskedasticity test is significant at either 1%, 5% or 10% level of significance, it signifies that the data is heteroskedastic, otherwise the data is homoscedastic

4.1 Results and Interpretation

The robust regression result for pre-recession data is presented in Table 7 below.

Table 7: Fixed Effect Regression Result for pre-recession

Variables	Coefficient	T- value	P>(Z)
BPS	-0.1665488	-0.72	0.473
EPS	7.145394	8.67	0.000
LEV	-6.373857	-0.86	0.395
FSZ	0.070623	0.03	0.976
Constant	5.548358	1.04	0.304
R Squared:	0.7944		
f-Statistics:	37.28		
Prob.:	0.0000		

The regression result for post-recession data is presented in table 7 below

Table 8: Fixed Effect Regression Result

Variables	Coefficient	t- value	P>(t)
BPS	0.2120307	0.78	0.000
EPS	6.762034	7.50	0.438
LEV	0.0277575	1.11	0.273
FSZ	0.9535913	2.01	0.050
Constant	-11.192	-2.25	0.030
R Squared:	0.7459		
f-Statistics:	28.50		
Prob.:	0.000		

STATA 13 Output

The table 6 and 7 above show the regression results for both pre and post-recession period. It can be seen from the two tables that while in pre-recession period book value, earnings, leverage and firm size explain share price to the tune of 79% while for post-recession period the explanatory power of the three variables is 75%. It can also be seen that book value per share and firm size in post-recession era contain valuable information to explain share prices. The coefficients of book value and firm size in post-recession era are 0.21 and

0.95 all significant at 1% and 5% respectively showing that the two variables are useful in explaining share prices. For pre-recession period, it can be seen that only earnings has coefficient of 0.372 at 1% level of significance which signifies that it has the ability to explain share price.

Table 9: Regression Result

Variables	Coefficient	Z- value	P>(t)
BPS	6.958508	7.20	0.000
EPS	0.1148971	0.48	0.632
LEV	1.351462	0.43	0.000
FSZ	-0.1668016	-0.75	0.451
DUMMY	2. 200774	0.72	0.000
BPS	-0.057393	-0.30	0.767
EPS	0.4175026	0.19	0.000
LEV	0.098847	-1.29	0.000
FSZ	0.089847	-1.49	0.524
Constant	1.938623	0.80	0.425
R Squared:	0.7934		
Wald Chi^2:	39.78		
Prob.:	0.0000		

Source: STATA 13 Output.

In the above regression result table, the pre-recession and post-recession results are pooled together following the introduction of the dummy variable for the post-recession period. As can be seen from the table, the overall explanatory power of the accounting numbers measured by the R-Squared is 0.7934. This indicates that if the two periods are combined, the accounting numbers (BPS, EPS, LEV and FSZ) jointly explain the variation in the share prices of listed money deposit banks in Nigeria for the period 2012 to 2021 to the tune of 79%. Nevertheless, the coefficient of book value (BPS*DV) is statistically insignificant which signifies there is no either incremental or decremental value relevance as far as book value is concerned after the economic recession. However, earnings per share (EPS*DV) is statistically significant but is negative which means that the economic recession experienced in Nigeria had led to decrease in the value relevance as far as earnings per share is concerned.

Furthermore, leverage is also statistically significant signifying that it has incremental value relevance as a result of changes caused by the economic recession in Nigeria. For firm size, it has not had any significant impact on the share prices of banks after the economic recession in Nigeria.

Additionally, the coefficient of dummy variable for the post-economic recession is positive and statistically significant at 1%. This indicates that if the two periods are combined, the effect of BPS, EPS, LEV and FSZ jointly in the post-economic recession period positively affect share price of listed deposit money banks in Nigeria.

Hypotheses testing

Under this heading, all the hypotheses formulated in chapter three had been tested for both relative and incremental value relevance. The testing of the hypotheses was carried out as follows;

Relative Value Relevance

Hypothesis 1 predicts that the value relevance of accounting information in pre-recession era is not higher than the relative value relevance of accounting information after economic recession among listed deposit money banks in Nigeria. The result in Table 7 and 8 negates the hypothesis. Under the model, the adjusted R-Squared of the post-recession regression of 0.75 is lower than the adjusted R-Squared of the pre-recession regression of 0.79. We there fail to reject the hypothesis which says that the value relevance of accounting information in pre-recession era is not higher than the relative value relevance of accounting information after economic recession.

The finding of the study going by the two models above in Table 7 and 8 shows that the proxies of accounting numbers after the economic recession in Nigeria are more informative than in the post-recession period. This means that book value per share and firm size contains valuable information to explain share prices. For earning per share in pre-recession, the coefficient is statistically significant showing that earning per share contains information capable of explaining the value of share before the recession. This finding is in line with results produced by previous literature (Mohammed , Musa & George (2019); Akeem(2014) ;Omokhudu&Ibadin (2015); Mulenga (2015).

Incremental Value Relevance of Book Value per Share

Hypothesis 2 predicts that there would be no incremental value relevance of book value per share following the economic recession. But the result from table 8 above does not support this hypothesis because book value per share has been found to be statistically insignificant. We therefore fail to reject the hypothesis

Incremental Value Relevance of Earnings per Share

Hypothesis 3 also predicts that earnings per share have no incremental value relevance following the economic recession in Nigeria. The result from table8 above supports the hypothesis because it shows that earnings per share have incremental value relevance because it is positive and statistically significant with coefficient of 0.42 at 1% level of significance. We therefore reject the hypothesis

Incremental Value Relevance of leverage from Operation per Share

Hypothesis 4 predicts that leverage has no incremental value relevance as a result of economic recession in Nigeria. The finding supports the hypothesis because leverage has been found to be statistically significant with the coefficient of 0.099 at 1% level of significance. We therefore reject the hypothesis.

Incremental Value Relevance of firm size

Hypothesis 5 predicts that firm size has no incremental value relevance as a result of economic recession in Nigeria. The finding does not support the hypothesis because firm size has been found to be statistically insignificant. We there fail to reject the hypothesis.

5. Conclusion and Recommendations

The recession that occurred in Nigeria in 2020 had caused dislocation to our social and economic activities. As a result, there is the need for empirical evidence on how this phenomenon affected different sectors of the Nigerian economy. The findings of the study show that the pre-recession era is relatively more value relevant than the post-recession era. Furthermore, the findings show that the coefficient of earnings per share is useful in explaining share prices. In pre-recession period, only earnings per share are significant showing that earning per share contains information capable of explaining the value of share price. For post-recession period, it can be seen that the two other proxies of accounting numbers; book value and firm size are all significant meaning that in spite of the economic recession experienced in Nigeria the two accounting numbers possess the ability to explain share prices. For incremental value relevance, the findings show that earnings per share and leverage have an incremental value relevance which means there had been increase in the value relevance of share prices of listed deposit money banks in Nigeria.

Further studies may wish to look at value relevance of other accounting information such as working capital and whether structural breaks such as recession distort any association; not only in deposit money banks in Nigeria but also in other sectors as well as countries. This will greatly assist in documenting further whether value relevance is period dependent.

Based on the findings of the study, the following recommendations were made;

i. That earnings per share should be used by potential and existing investors and other relevant stakeholders for the purpose of share price valuation in the listed deposit money banks in Nigeria because it has been found that earnings per share has incremental value relevance and its value relevance in post-recession is relatively more value relevant than in pre-recession era
ii. That book value per share should not be used by investors in banking sector in Nigeria for the purpose of investment related decisions because it has been found that it has no incremental value relevance despite the effect of recession on the economy which affects the corporate entities in no small way.
iii. Leverage should also be used for the purpose of stock value as it is found to be value relevant despite the economic tumult caused by the recession.
iv. Firm size should equally be used for the purpose of stock valuation by all critical stakeholders in the banking industry as it is found to be value relevant among listed deposit money banks in Nigeria.

References

Abubakar, A., Shuaibu, M.Y. and Magaji, A. (2020). Moderating effect of leverage on the value relevance of accounting information in the Nigerian listed oil and gas firms.

Abayadeera, N. (2010) "Value Relevance of Information in Hi-tech Industries in Australia", Accounting Information and Intangible Asset Disclosures. *Global Review, of Accounting and Finance* 1, 77-99.

Abd. Majid, S.A & Banazir, G (2015). "Impact of price book value to stocks returns on listed Indonesian firms", Jounal akuntatan zikeuangan. Vol17. No2. Indonesia

Abiodun, B.Y., (2012). "Significance of Accounting Information on Corporate Values of Firms in Nigeria", *Research Journal in Organizational Psychology and Educational Studies.*1(2) 105-113

Abubakar, S (2010). “Value Relevance of Accounting Information of Listed New Economy Firms in Nigeria”, An Empirical Investigation using Ohlson Model.

Adetunji, S. A (2016). “The value relevance of earnings in the return– earnings relation in the Nigerian Deposit Money Banks”, ISSN 2331-1975

Akeem, A. S (2014). “The Value Relevance of Accounting Information: A Study of Stock Price and Returns of Listed Deposit Money Banks in Nigeria”, *Department of Accounting.* Bayero University, Kano

Amaka, E.A, Callita, U.U & Maria, N.E (2022). “Effect of IFRS on the value relevance of accounting information in the Nigerian stock market”, Social Sciences and Education. doi.org/10.5281/zenodo.6794604

Anandarajan, A. & Hasan, I. (2010). “Value relevance of earnings: Evidence from Middle Eastern and North African countries. Advances in Accounting, Incorporating Advances in International Accounting”, DOI 26 (2), 270-279.

Alfaraih, M. (2009). “Compliance with the International Financial Reporting Standard *(IFRS)* and the Value Relevance of Accounting Information in Emerging Stock Markets: Evidence from Kuwait”, Queensland University of Technology.

Ball, R. & Brown, P. (1968). “An Empirical Evaluation of Accounting Income Numbers”. 6, 159-178.

Barth, M.E, Beaver, W.H, & Landsman, W.R. (2001). “The relevance of the value relevance literature for financial accounting standard setting”, journal of accounting and economics. 31; 77-104.

Badruzaman, J. (2020). “Effect of earnings per share and returns on equity on stock prices of firms listed in the japanees stock exchange”, siliwanji university of tasikmalaya.

Beisland, A.E. (2009). “Essays on the Value Relevance of Accounting Information”, Working paper of Norwegian school of Economics and Business Administration.

Busari, K. & Badudo, M.M. (2019). Comparative value relevance of acconting information for consolidated and separate financial statements of listed financial service firms in nigeria”, *Journal of Finance*. DOI 41(3), 529-543.

Caskey, J., Huhges, J.S, & Liu, J. (2012). “impact of financial leverage on future returns” University of California. Review of accounting studies. Vol.17.no2

Dimitrov, V., & Jain, P. C. (2008). “The value-relevance of changes in financial leverage beyond growth in assets and GAAP earnings”, *Journal of Accounting, Auditing & Finance.*

Francis, J., & Schipper, K. (1999). “Have financial statements lost their relevance”? *Journal of Accounting Research.* 37(2), 319-352.

Glezakos, M., Mylonakis, J., & Kafouros, C. (2012). “The Impact of Accounting Information on Stock Prices: Evidence from the Athens Stock Exchange”, *International Journal of Economics and Finance.* 4(2), 56-68.

Helstrom, K. (2005). “The value relevance of financial accounting information in a transition economy. The case of Czeth republic. SSE/EFI working paper series in business administration” Center for financial analysis in accounting. vol.24

Islam, R.M., Khan, T.R. & Choudhury, T.T. (2014). “impact of earning per share price and firm value in Bangladash”, European journal for business and management. Vol.6, no.17

IMF, (2013). "Nigeria: Financial Sector Stability Assessment" IMF Country Report No. 13/140.

Khanagha, J. B., Mohamad, S., Hasssan, T. &Sori, Z. M. (2011). “The impact of reforms on the value relevance of accounting: Evidence from Iran” African Journal of Business Management.5(1), 96-107

Kiridaran, K., Robert, M. & Mohamed S. (2009). “Usefulness of comprehensive income reporting in Canada” *Account Public Policy*. 349-365.

Kose, E. (2011). “Dissecting the leverage effect on stock returns”, accounting and management journal.

Katerina, H. (2003). “The Value Relevance of Financial Accounting Information in a Transitional Economy of Czech Republic”, Working Paper Series in Business Administration. No 2005:10

Mohammed, T.H., Musa, H.M & Geroge, H.P(2019). “The moderating effect of economic recession on the value relevance of accounting information of listed firms in Nigeria”, journal of leadership, accounting development and investigation research (JLADIR).

Misirliolgu, I., Yulcseltuk, O. & Guermat, C., (2009).” Value Relevance of Accounting regulations in Turkey” 32nd Annual European Association Congress, Tampere, Finland.

Mulenga, J. M. (2015). “Value Relevance of Accounting Information of Listed Public Sector Banks in Bombay Stock Exchange”, *Research Journal of Finance and Accounting.* 6(8), 2222- 2847.

Musa, U. M. (2014). “Value relevance of accounting information in the Nigerian listed conglomerate firms”, *Department of Accounting,* Faculty of Humanities, Social and Management Sciences. 1-20

Omura, T. (2005). “The Relationship between Market Value and Book Value for five selected Japanese Firms, Thesis submitted to the School of Accountancy”, Faculty of Queensland, University of Technology, Kwansegakuin.

Oyerinde, D. T. (2009). “Value relevance of accounting information in emerging stock market” The case of Nigeria, Proceedings of the 10th Annual Conference Repositioning African Business and Development for the 21st Century Simon Sigué (Ed.)

Oshodin, E. & Mgbame, C. O. (2014). “The Comparative Study of Value Relevance of Financial Information in the Nigerian Banking and Petroleum Sectors” *Journal of Business Studies Quarterly.* 6(1), 2152-1034

Omkhudu, O., & Ibandin .P. (2015). “The value relevance of accounting information”, Accounting and finance research journal. Vol.04

Akadakpo,. B.A & Mgbame, M.C (2018). “Value Relevance of Accounting Information: The Moderating Effect of Timeliness. Nigeria”. ISSN: 2635-2958.

Pourheydari, O., Aflatoon, A & Nikbakhat, Z. (2008). “The pricing of dividend and book value of equity valuation in Iran”, International research journal.

Paul, A. A. & Juliana, M. (2015). “Relationship between Accounting Information and Stock Market Returns on the Nigerian Stock Exchange”, *Management and Administrative journal.*

Pourheydari, O., Aflatooni, A. & Nikbakhat, Z. (2008). “The Pricing of Dividends and Book Value in Equity Valuation”, The Iran case of Iran, *International Research*

Journal of Finance and Economics. 13(1), 1-1.

Paul, A. A., & Juliana, M. (2015). "Relationship between Accounting Information and Stock Market Returns on the Nigerian Stock Exchange", *Management and Administrative journal.*

Ramadhan, A.S, & Nyraliati, A. (2020). "The effect of net profit margin and ernings per share on share prices" Journal manajemen dan bisnis.

Sebrina, N. & Sari, Y.K. (2012). "Effect of Conservatism to Value Relevance of Earnings Information in Indonesian firms", accounting and finance journal.

Umoren, A., Akpan, P. & Ekeria, E. (2018). "Value relevance of accounting information in Nigerian listed financial companies in Nigeria", Advances in research journal.

Wong, W. T. & Lee, W.L.E. (2013). "The Value-Relevance of Changes in Leverage", Evidence from Hong Kong Listed Companies. *Accounting Concentration.* Hong Kong Baptist University, Hong Kong.