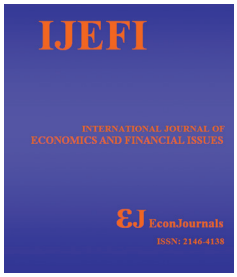

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A Statistical Simulation for the Profitability of Banks: A Study

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ABSTRACT

This study investigated the profitability of quoted banks alongside the risk content. The relevant models as enunciated in the current literatures for determining the return as well as risk were employed. The findings of the study showed that GTB is the most profitable bank in Nigeria with respect to return on shareholders' funds and return on assets for the entire 15-year study period. Sterling bank is crowned the most profitable bank in Nigeria with respect to return on capital employed.

Keywords: Return on Equity, Return on Assets, Return on Capital Employed, Banks, Profitability
JEL Classification: G2

1. INTRODUCTION

For any economy to attain sustainable growth and development, funds must be effectively mobilized and allocated to the productive sectors of the economy. Usually the funds are mobilized through investors who are not injecting funds into the organization for purely altruistic reasons. They are expecting returns from their investments in the firm. Shareholders supply funds to firms for a reason. That reason generally is to receive a return on their precious resources. The return is generated by management using the finance provided to invest in good assets that will give the best return. Wise investors do not run risks for fun. They are playing with real money and therefore require a high return from their investment. To convince rational investors to take risk, firms would have to offer reasonable expected returns, though some investors do not think of the history of actual risk and return content of some investment before they adopt such investments. It is a clear cut fact that if investors are confronted with a choice between two investments with the same expected returns but different variances any rational investor will normally pick the one with lower variance. In practice, the expected returns and variances are calculated using historical data and are used as proxies for future returns. In a bid to confirm the level of the risk and return content in investments in banking stocks, this study becomes necessary.

The confusion here which constitutes the problem of the study is that banking stocks sell in large volumes on every day of trading on the Nigerian stock exchange trading floors but it seems that many investors are buying just to follow the crowd without minding the profitability of such exercise. Even the researcher has been victim so many times. Based on what is happening in the Nigerian Stock market from 2015 till date there is need to look back and check the profitability of investing on these banking stocks in the face of exiting foreign investors and the lowest esteem the Nigerian domestic currency the Naira is experiencing currently. The nature of return on investment (ROI) on these stocks is still a subject of serious arguments among many potential investors who are hesitant in testing the troubled waters of stock market investment. Therefore the main objective of this study is to carry out an investigation to galvanize and state the facts clear in order put the minds of the hesitant investors at rest. With this in mind, empirical research was engaged to find out the correct position of the profitability of the quoted banking stocks with respect to their returns on investments.

2. LITERATURE REVIEW

The basic measure of profitability is the ROI which can be viewed from many perspectives. One of the perspectives is the return from the viewpoint of just the equity investors or by looking at

the entire firm. Taking it from the viewpoint of only owners equity fund we have return on equity (ROE) while from the viewpoint of the employed fund by the firm we have return to the firm (RTF). Another examines profitability relative to sales by estimating the profit margin either in gross or net. These views were also captured in the work of Damodaran (2001) who suggests that it is important that we gauge the profitability of the firm in terms of percentage returns instead of in absolute terms.

The ROE is usually calculated as the quotient of profit after tax (PAT) as numerator and shareholders' funds (SHF) as denominator multiply by 100%. ROE relates profits to the equity investor. According to Damodaran (2001. p. 98) the book value of common equity useable is either the sum of the beginning and ending equity capital divide by two or the beginning equity capital. According to Banerjee (2009. p. 62) a variation of ROE is the average ROE. He suggests that instead of taking ROE for a single year ROE for a number of years is calculated and the average of the returns is taken for the purpose of ROE, especially in the event of wide variation in the returns over a given period. The average method helps to smooth out the fluctuation to a considerable extent. In their books Brealey et al. (1995) and Banerjee (2009) submitted another method of computing ROE as the actual dividend plus accrued capital gain or loss from the investment expressed in relation to cost of investment. Symbolically, ROE = $D_t+P_t-P_{t-1}/P_{t-1}$. Where D_t is the dividend for year t, P_t is the share price at end of year t, P_{t-1} is the share price at beginning of year t.

Another useful measure of return which relates the operating income to the capital invested by the firm is the return to the entire firm (RTF). In RTF, the capital employed by the firm can be defined as the gross total asset less the volatile current liabilities or the sum of the book value of debt and equity which constitute the total asset. The former is obtained from the sum of the gross fixed asset plus the net current asset (that is, gross fixed asset plus current assets less current liabilities) while the latter represents the total asset (that is, net fixed asset plus current assets). When a substantial portion of the liabilities is either current or non-interest bearing, RTF provides a better measure of the true return earned on capital employed in the business. When the capital employed comprises of the gross total asset less the volatile current liabilities the ROI is called the return on capital employed (ROCE). When the capital employed comprises of the sum of the book value of debt and equity which constitute the total asset the ROI is called return on asset (ROA). The ROCE measures a firm's operating efficiency in generating profits from its non-volatile assets prior to the effects of financing (that is, before deducting interest charges), amortization and depreciation. The before-tax ROCE is equal to operating income divide by the capital employed in the form of the sum of the gross fixed asset plus the net current asset. That is, [EBITAD/GFA+NCA]*100. The after-tax ROCE is equal to operating income less tax divide by the capital employed in the form of the sum of the gross fixed asset plus the net current asset. That is, [EBITAD(1−t)/GFA+NCA]*100. Damodaran (2001. p. 96) suggests that the average capital employed useable is either the sum of the beginning and ending capital divide by two or the beginning capital which is also known as gross capital.

The ROA measures a firm's operating efficiency in generating profits from its total assets prior to the effects of financing (that is, before deducting interest charges). ROA=EBIT/total assets. By separating the financing effects from the operating profit, ROA = [Net Income+ Interest Expenses (1-tax rate)]/Total assets which is a cleaner measure of ROA. Therefore on pre-tax basis, ROA = EBIT/Total assets which is usually used when the firm or division is being evaluated for purchase by an acquirer with a different tax rate. Total asset is the sum of net fixed and total current assets as presented in the balance sheet of the firm.

Banerjee (2009), Arnold (2008) and Nwude (2004) agree that ROI is an accounting method that expresses the annual profit as a percentage of initial capital invested and that investment that gives the highest rate of return (ROR) which must be higher than or equals to the cut-off ROR (usually the firm's WACC) is normally selected. The initial capital invested may be original cost of the investment or its average cost. Arnold (2008. p. 132) posits that the above is accounting rate of return (ARR) which can also be called the ROCE or ROI. He went further to state the formulae for computing the ARR as follows. When computed at annual basis, ARR = annual profit divide by book value of assets at the beginning of the financial year, that is, annual profit divide by the sum of gross fixed asset and current assets. After the computation of the respective annual ARRs, a mean is computed to serve as the ARR for the period of study. On total investment basis, ARR = average annual profit divide by the sum of gross fixed asset and current assets. On average investment basis, ARR = average annual profit divide by the average capital invested. The average capital invested is the sum of the beginning and ending capital divide by two.

Ross et al. (1996. p. 226) came up with the idea of holding period return (HPR) for a number of n periods of time. If the respective annual HPR are R_1, R_2, R_3., Rn. The HPR for n periods of time = (1+r1) (1+r2) (1+r3)… (1+rn)-1, while the arithmetic mean (AM) of the annual returns is the sum of the annual returns divide by the number of periods. From the perspective of Rees (1990), ROI is made up of capital gain or loss and the dividends or coupons received from the investment. Ituwe (2006) defines ROI as a measure of the rate of productivity of assets in providing returns to both ordinary shareholders and on long-term credit. The higher the return the more efficient is the utilization of assets. Pandey (1999) refers to ROI as the ratio of earnings after interest and taxes to total capital employed. Achuchaogu (2002) defines ROI as the profitability of the firm measured in relation to investment. The term investment here may refer to total assets, capital employed or the owners' equity. Njoku and Jombo (2003) see ROI as a measure of the company's percentage returns on its capital investment which consists of shareholders funds and long term debts. They submit that the percentage return which represents financial returns must always be on the increase. Ihesiulo (2005) states that ROI is a measure of the success of the firm in earning a net ROI and it should be on the increase. Njoku (1997) posits that ROI is a measure of profit-investment relationship in a firm. Investment here represents shareholders funds and term liabilities while returns stands for earnings generated after payment of interest and taxes. Arnold and Hope (1990) state that ROI is synonymous with ARR which

can be computed in many different ways. For example, ARR can be computed based on annual net profit/total investment, annual net profit/average book value of investment, all of which rely on traditional profit rather than on cash flow and does not consider time value of money. Nwude (2004) submits that ARR can be computed based on total profit/total investment, total profit/average book value of investment, average annual profit/total investment, average annual profit/average book value of investment, all of which rely on traditional profit rather than on cash flow and does not consider time value of money. Giles and Capel (1994) and Spivey (2000) state that ROI is the average profit for a project expressed as a percentage of the capital outlay. These opinions are in consonance with the views of Bernstein and John (2000), Tracy (1997), Friedlob and Franklin (1996), Gill (1994), Hilton (1991), Larkin (1996), Murray (2000), Rees (1990) and Glyn et al. (1998).

Nwude (2004) suggests that ROI should take care of the opportunity cost of capital invested, rate of inflation that affect the purchasing power of the money invested and the risk premium. He further states that the ROI can be nominal, true or effective rate. Nominal ROR is the rate by which amount invested on fixed income security (i.e., nominal face value) is multiplied by the nominal interest rate attached to it. The true rate is the actual or current market rate of the security. Effective rate is the actual interest yield to maturity of the security. Some investors do not look at these three rates but see return simply as a measure of the monetary benefits obtained by an investor over a specified time period in return for a given amount of investment or amount of capital invested during the period. From this point of view, he stressed that ROI is the amount of revenue received in a fiscal year in excess of every amount invested in the fiscal year in an activity expressed as a percentage of the amount so invested, while not recognizing time value of money concept. Damodaran (2001) says ROI is an accounting ROR which measures the net income a firm's management is able to earn with its total assets, usually obtained by dividing the net PAT by total assets. Berk and DeMarzo (2009) and MacCormac and Teeling(1980) defines ROI as the ratio of net PAT to net asset. They state that this ratio by itself is of little value and that a better version is the return on owners' equity, which is the return the owners receive for investing their own funds. That is, the return on owners investment is equals to net PATs divided by the owners net worth in the business. The Du Pont formula, which is widely used, breaks down return on owners' investment into two parts namely net profit margin and asset turnover. With this, return on owners investment is equals to net profit margin multiplied by asset turnover.

Howells and Bain (2008) state that financial asset which may take a number of forms receives return in the form of interest at discrete intervals, some with the possibility of capital gain, and discount rate and these expressed as a percentage of original purchase price is the return on such investment. They submit that the return on an asset is usually expressed as its average or mean return over a period of time. The return will consist of any income (interest or dividend) that the asset earns plus capital gain (or loss). Thus the return on an asset in period 1, K1, is given by K1 = D1+P1−Po, where Po is the price of the asset at the end of the previous period. The AM return over T periods is sum of the returns from period 1 to period T divide by T. Pandey (1999) submits to this Howells and Bain (2008) position on return. They finally termed return as the cash flow generated by an asset usually expressed as a rate. Pandian (2005) states ROA as measure of the overall efficiency of capital invested in business and expressed ROA as net income divide by total assets and ROE as net profit divide by net worth. The ROA will be same with ROE if the firm carries out all of its operations with owners' funds. But most times they differ because of financial leverage. When ROE is greater than ROA it shows that the firm has employed its borrowed funds efficiently to lever the ROR to the advantage of shareholders. She reasons that as dividend is the regular income received by the shareholder, the shareholder would like to know the relationship between the market price and the dividend hence the need to compute dividend yield which is dividend per share divide by market price per share. Chandra (2012) sees ROA as PAT divide by AVERAGE total assets but quickly points out ROA in formula is an odd measure because its numerator measures the return to shareholders whereas its denominator represents the contribution of all investors (equity and debt). He defines ROCE as EBIT (1-tax rate) divide by Average total assets. The EBIT (1-tax rate) is net operating PAT. He states that ROE also called return on net worth or return on SHF, which is a measure of interest to equity shareholders, is equity earnings divide by average equity. His reason for adopting average figures as denominator is not understood.

Arnold (2008) and Cuthbertson and Nitzsche (2005) see ROCE as ARR or ROI which they define as the ratio of the accounting profit to the investment in the project. The ratio can be calculated in a number of ways such as profit for the year/asset book value at start of the year, average profit/initial capital invested, average annual profit/average capital invested but the most popular approach is to take profit after the deduction of depreciation. He points out that the amount of capital invested has to be considered alongside the income earned. He identified many variations in consideration of the amount of capital invested such as ROCE, ROI, ROE, and ARR, all measure return as a percentage of resources devoted. Brealey et al. (1995) compute ROA as (EBIT-tax)/average total assets but point out that for comparative study of operating performance of firms, ROA equals to EBIT-(tax+interest tax shields)/average total assets should be used even if the firms have radically different debt ratios. They dissected ROA into firm's asset turnover ratio and profit margin thus ROA = (Sales/Assets) × (EBIT-taxes)/Sales. ROE as earnings available for common stock divide by average equity. Weston et al. (1996) calculate ROA as net income/total assets, ROE as net income available to common stockholders/common equity. Adopting preference stock as part of ownership Atrill (2006) expresses return on ordinary SHF (ROSF) as net PAT ation and preference dividend (if any)/average ordinary share capital. He states that ROCE as a fundamental measure of business performance is net profit before interest and taxation divide by the sum of the averages of share capital, reserves and long-term loans. He called the sum of the averages of share capital, reserves and long-term loans the long-term capital invested in the business. Ignoring debt financing Ross et al. (1996) state that ROA = ROE but since in the real world most firms have debt ROA is usually not equal to ROE. Damodaran (2001) sees ROA as a measure of operating efficiency in generating profits from its

assets. If measured prior to the effects of financing but post-tax ROA = EBIT(1-tax rate)/Total assets. If measured after removing the effects of financing but post-tax ROA = [Net income +Interest expenses (1-tax rate)]/Total assets. He states that the later provides a cleaner measure of the true ROA. Ignoring taxation and effects of debt financing ROA = EBIT/Total assets. Damodaran (2001) submits that ROCE = EBIT (1-t) divide by the sum of book value of debt and book value of equity. Banerjee (2009) sees ROI as average annual profit expressed as percentage of either cost of the project or its average cost. Setting aside the effects taxes and debt financing Fischer and Jordan (1995) state that the productivity of total assets can be seen as ROA = EBIT/Assets which can be dissected into asset turnover and profit margin thus: ROA = (Sales/Assets) × (EBIT/Sales).

From the above review the make-ups of the numerator and the denominator of the ROI models utilized in this study will be shown in section three below.

3. METHODOLOGY

This empirical study collected the dataset from the financial statements of the subject-banks as approved by the apex regulator of banks in Nigeria-the Central Bank of Nigeria (CBN) from year 2000-2014. The data were refined through series of computations in order to fit into the purpose of the study. Three models of ROI were adopted namely the ROE, the ROA and the ROCE. The model for ROE was obtained from ROE = net profit after interest and taxes divided by total SHF as shown in the income and balance sheet statements respectively. ROA was obtained from ROA = earnings before interest and taxes divided by the total asset. The total asset is the sum of the gross fixed and current assets of each year concerned. ROCE was obtained from ROCE = earnings before interest and taxes amortization depreciation divided by the total capital invested. The total capital invested was got from the sum of gross fixed asset and the net current asset of each of the subject-bank. To determine the level of the volatility in the ROI of the banking stocks the standard deviation was computed for each type of return for each bank. The ordinary least square method was used to ascertain the relationship between the risk and return of the banks.

4. DATA PRESENTATION AND ANALYSIS

The data set and the results of various computations by the researcher are presented hereunder for the relevant interpretations and analysis.

On the basis of ROE, while the industry average return for the study period 2000-2014 is 8.80%, some banks namely GTB, Sterling, FBN, Zenith, UBA, StanbicIBTC, Diamond, Fidelity, Access, Skye, and FCMB with average returns of 26.24, 26.09, 20.81, 18.15, 17.46, 15.23, 14.58, 12.00, 11.56, 10.50, and 9.00% respectively recorded higher values above the industry average. Other banks such as UBN, Unity and Wema banks provided average returns below the industry average. On this note, on the study period average, GTB is the most profitable quoted bank in Nigeria followed by Sterling, FBN, Zenith, UBA, StanbicIBTC, Diamond, Fidelity, Access, Skye, and FCMB. Unity bank and Wema bank provided negative returns of −29.43 and −32.61% respectively to the owners of the banks based on the average return for the study period 2000-2014 as can be seen from Table 1a.

On yearly performance, UBA with return of 43.32% was the most profitable bank in year 2000 followed by diamond, GTB, FBN, and UBN with 34.00, 33.45, 29.59, 29.12% respectively but it was only UBA, diamond and GTB that provided above the industry average in year 2000. In year 2001, Diamond, GTB, UBN banks with 41.35, 38.70, and 37.96% respectively recorded returns above the yearly industry average of 27.30% thus presenting diamond bank as the most profitable bank of the year 2001 in terms of return on SHF. In year 2002 Wema bank took the lead with 39.32% return above the industry average of 22.58%. GTB, diamond and first bank followed in the order of magnitude with 36.9, 28.50, and 23.64% respectively.

In 2003 FBN took the lead with ROE of 39.49%. It was followed by Zenith bank with 34.97%, Fidelity with 34.07% and GTB with 33.24% as the banks that provided ROE above the year industry average of 26.24%. GTB came first in 2004 with 34.40% followed by Zenith with 33.12%, FBN with 27.14, Fidelity with 25.96%, UBN with 24.82%, Access with 23.59%, UBA with 23.17% under the industry average of 23.80%. The position of the banks on the scale of ROE can be seen from Table 1b and c. It can be observed from Table 1b and c that GTB generated the highest ROE for 4 years, 2004, 2007, 2012, and 2013 out of the 15-year study period. Wema followed GTB with 3 appearances as the most profitable bank in years 2002, 2009, 2010; FBN and UBN had 2 appearances each in 2003, 2006 and 2008, 2011 respectively; while diamond, UBA, Sterling and StanbicIBTC had 1 appearance each in 2001, 2000, 2005 and 2014 respectively as the most profitable bank with respect to return on SHF. Access bank was the least profitable bank in terms of ROE in years 2001 and 2002, Diamond bank in 2003, UBN in 2010, and Unity in 2007, 2009 and 2013. Wema bank was the least profitable bank in terms of ROE in years 2000, 2004, 2005, 2006, 2008, 2011, 2012, and 2014.

Therefore, with the highest number of appearance (26.67%) as the most profitable bank and the highest average ROE for the entire 15-year study period, GTB is crowned the most profitable bank in Nigeria with respect to return on SHF. With the highest number of appearance (53.33%) as the least profitable bank and the highest negative average ROE for the entire 15-year study period, Wema bank is crowned the most non-profitable bank in Nigeria with respect to return on SHF.

Table 2a presents the ROA of the banks from 2000 to 2014. Sterling, StanbicIBTC, GTB, Fidelity, and diamond with average returns of 8.11, 7.81, 7.68, 6.81, and 6.51% respectively had fairly better years than other banks in terms of ROA. The industry average ROA is 5.33% while the yearly industry average returns are 7.97, 7.27, 7.85, 6.95, 7.09, 8.36, 4.16, 5.14, 2.71, 5.78, 5.29, 1.66, 4.83, 4.43, and 5.23% for years 2000, 2001 up to 2014 respectively. The peak ROA of each of the banks were as follows, 8.92% was made by access bank in 2009, diamond bank made

Table 1a: ROE of quoted banks in Nigeria 2000-2014

ROE	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	AVE
ACC	-	8.45	−2.84	23.53	23.59	3.56	2.55	21.43	9.22	11.24	6.31	8.48	15.94	14.85	15.49	11.56
DIA	34	41.35	28.5	6.76	13.48	12.13	11.36	13.1	10.93	4.44	1.24	−12.06	20.31	20.56	12.19	14.58
FID	-	-	-	34.07	25.96	12.72	12.46	15.45	9.73	1.41	4.48	3.98	11.10	4.72	7.97	12.00
FBN	29.59	26.76	23.64	39.49	27.14	26.57	27.91	24.43	10.27	3.73	9.81	12.25	17.24	14.97	18.34	20.81
FCM	-	-	-	-	-	11.06	11.3	19.21	11.3	3.1	5.89	−8.42	11.58	11.31	13.8	9.00
GTB	33.45	38.7	36.9	33.24	34.4	17.3	23.5	26.4	12.96	12.32	18.19	22.05	30.8	27.09	26.37	26.24
SKY	-	-	-	-	-	-	9.46	18.91	17.6	0.01	9.37	4.66	11.83	15.27	7.37	10.50
STAN	-	-	-	-	20.24	15.41	12.15	13.92	14.74	9.99	11.11	8.78	11.86	21.28	28.06	15.23
STER	-	-	-	-	-	197.54	4.1	6.87	20.94	−42.8	19.31	16.33	14.91	13.04	10.63	26.09
UBA	43.32	14	14.74	22.01	23.17	25.31	23.61	12.82	21.16	1.27	0.37	−6.16	28.45	19.83	18.05	17.46
UBN	29.12	37.96	17.83	22.04	24.82	22.42	10.74	12.83	21.44	−109.11	−91.95	41.41	0.66	1.92	12.07	3.61
UNIT	-	-	-	-	-	14.85	4.45	2.25	−70.48	−225.06	28.2	5.47	12.01	−80.04	14.02	−29.43
WEM	10.87	23.87	39.32	20.07	12.03	3.48	−32.14	10.14	−141.98	16.43	110.69	−176.89	−394.32	3.86	5.42	−32.61
ZEN	-	-	-	34.97	33.12	18.94	12.25	16.39	15	6.1	10.29	12.25	21.75	18.72	18	18.15
AVE	30.14	27.30	22.58	26.24	23.80	29.33	9.55	15.30	−2.66	−21.92	10.24	−4.85	−13.28	7.66	14.84	8.80

Source: Researcher's computations from figures obtained from the subject-banks financial statements 2000-2014

Table 1b: Ranking of quoted banks in Nigeria based on ROE 2000-2007

No.	2000	ROE	2001	ROE	2002	ROE	2003	ROE	2004	ROE	2005	ROE	2006	ROE	2007	ROE
1	UBA	43.32	DIA	41.35	WEM	39.32	FBN	39.49	GTB	34.40	STE	197.5	FBN	27.91	GTB	26.40
2	DIA	34.00	GTB	38.70	GTB	36.90	ZEB	34.97	ZEB	33.12	FBN	26.57	UBA	23.61	FBN	24.43
3	GTB	33.45	UBN	37.96	DIA	28.50	FID	34.07	FBN	27.14	UBA	25.31	GTB	23.50	ACC	21.43
4	FBN	29.59	FBN	26.76	FBN	23.64	GTB	33.24	FID	25.96	UBN	22.42	FD	27.91	FCM	19.21
5	UBN	29.12	WEM	23.87	UBN	17.83	ACC	23.53	UBN	24.82	ZEB	18.94	ZEB	12.25	SKY	18.91
6	WEM	10.87	UBA	14.00	UBA	14.74	UBN	22.04	ACC	23.59	GTB	17.30	STA	12.15	ZEB	16.39
7			ACC	8.45	ACC	−2.84	UBA	22.01	UBA	23.17	STA	15.41	DIA	11.36	FID	15.45
8							WEM	20.07	STA	20.24	UNI	14.85	FCM	11.30	STA	13.92
9							DIA	6.76	DIA	13.48	FID	12.72	UBN	10.74	DIA	13.10
10									WEM	12.03	DIA	12.13	SKY	9.46	UBN	12.83
11											FCM	11.06	UNI	4.45	UBA	12.82
12											ACC	3.56	STE	4.10	WEM	10.14
13											WEM	3.48	ACC	2.55	STE	6.87
14													WEM	−32.1	UNI	2.25
AVE		30.14		27.30		22.58		26.24		23.80		29.33		9.55		15.30

Source: Researcher's compilations from Table 1 above on ROE

Table 1c: Ranking of quoted banks in Nigeria based on ROE 2008-2014

No.	2008	ROE	2009	ROE	2010	ROE	2011	ROE	2012	ROE	2013	ROE	2014	ROE	AVE	ROE
1	UBN	21.44	WE	16.43	WE	111	UBN	41.41	GTB	30.80	GTB	27.09	STA	28.06	GTB	26.24
2	UBA	21.16	GTB	12.32	UNI	28.20	GTB	22.05	UBA	28.45	STA	21.28	GTB	26.37	STE	26.09
3	STE	20.94	ACC	11.24	STE	19.31	STE	16.33	ZEB	21.75	DIA	20.56	FBN	18.34	FBN	20.81
4	SKY	17.60	STA	9.99	GTB	18.19	FBN	12.25	DIA	20.31	UBA	19.83	UBA	18.05	ZEB	18.15
5	ZEB	15.00	ZEB	6.10	STA	11.11	ZEB	12.25	FBN	17.24	ZEB	18.72	ZEB	18.00	UBA	17.46
6	STA	14.74	DIA	4.44	ZEB	10.29	STA	8.78	ACC	15.94	SKY	15.27	ACC	15.49	STA	15.23
7	GTB	12.96	FBN	3.73	FBN	9.81	ACC	8.48	STE	14.91	FBN	14.97	UNI	14.02	DIA	14.58
8	FCM	11.30	FCM	3.10	SKY	9.37	UNI	5.47	UNI	12.01	ACC	14.85	FCM	13.80	FID	12.00
9	DIA	10.93	FID	1.41	ACC	6.31	SKY	4.66	STA	11.86	STE	13.04	DIA	12.19	ACC	11.56
10	FBN	10.27	UBA	1.27	FCM	5.89	FID	3.98	SKY	11.83	FCM	11.31	UBN	12.07	SKY	10.50
11	FID	9.73	SKY	0.01	FID	4.48	UBA	−6.16	FCM	11.58	FID	4.72	STE	10.63	FCM	9.00
12	ACC	9.22	STE	−42.8	DIA	1.24	FCM	−8.42	FID	11.10	WE	3.86	FID	7.97	UBN	3.61
13	UNI	−70.5	UBN	−109	UBA	0.37	DIA	−12.1	UBN	0.66	UBN	1.92	SKY	7.37	UNI	−29.4
14	WEM	−142.	UNI	−225	UBN	−92.0	WE	−177	WE	−394	UNI	−80.0	WE	5.42	WE	−32.6
AVE		−2.66		−21.9		10.24		−4.85		−13.3		7.66		14.84		8.80

Source: Researcher's compilations from Table 1 above on ROE

14.12% in 2002, fidelity 12.07% in 2003, first bank 5.63% in 2000, FCMB 6.57% in 2012, GTB 10.29 in 2003, Skye bank 23.92 in 2009, StanbicIBTC and sterling made 12.25 and 32.48% in 2005. Others can be depicted from Table 2a.

Table 2a: ROA of quoted banks in Nigeria 2000-2014

ROA	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	AVE
ACC	-	8.04	8.38	8.71	7.52	3.44	2.04	3.94	3.2	8.92	4.66	3.5	6.26	6.14	6.1	5.78
DIA	13.62	11.75	14.12	6.7	5.42	5.08	4.39	5.6	4.55	10.42	3.51	−0.49	4.27	4.63	4.11	6.51
FID	-	-	-	12.07	11.62	10.83	5.66	5.72	4.52	4.29	4.57	3.58	6.92	5.95	5.96	6.81
FBN	5.63	5.15	3.69	5.11	5.54	5.36	5.16	4.93	5.19	4.10	4.14	3.05	4.84	4.76	4.93	4.77
FCM	-	-	-	-	-	5.27	5.59	4.78	6.34	4.39	5.67	2.36	6.57	6.30	5.91	5.32
GTB	9.97	9.99	10.13	10.29	7.61	7.13	8.36	5.93	5.97	6.39	6.78	5.81	8.18	7.36	7.38	7.68
SKY	-	-	-	-	-	-	4.64	4.13	5.32	23.92	−1.39	−2.47	−3.73	−2.14	−2.39	2.88
STAN	-	-	-	-	10.98	12.21	7.13	8.36	9.42	7.62	7.46	3.91	5.29	6.57	6.92	7.81
STER	-	-	-	-	-	32.48	4.10	5.69	7.26	4.03	5.76	3.77	6.37	6.12	5.52	8.11
UBA	7.76	4.02	3.74	4.29	4.27	3.97	4.48	4.52	5.32	4.25	3.08	0.90	4.83	5.23	5.30	4.40
UBN	6.43	7.95	6.35	0.64	5.36	4.97	4.45	5.60	5.75	−2.06	7.14	−6.92	2.50	2.72	5.14	3.73
UNIT	-	-	-	-	-	7.12	3.65	3.02	−1.55	−2.34	8.42	3.25	5.63	−2.85	7.09	3.14
WEM	4.38	4	8.51	7.97	7.56	6.08	−3.27	5.09	−29.48	−0.15	9.77	−1.08	3.37	5.41	5.2	2.22
ZEN	-	-	-	6.8	4.99	4.45	4.19	4.58	6.11	7.11	4.5	4.1	6.37	5.75	6.02	5.41
AM	7.97	7.27	7.85	6.95	7.09	8.36	4.16	5.14	2.71	5.78	5.29	1.66	4.83	4.43	5.23	5.33

Source: Researcher's computations from figures obtained from the subject-banks financial statements 2000-2014

In Table 2b and c above the position of the banks for various years based on ROA is presented. In year 2000 diamond bank first on the ladder of ROA. It is followed by GTB, UBA, UBN, FBN and Wema in the order of magnitude of ROA. In year 2000 only diamond and GTB with ROA of 13.62 and 9.97% provided ROA above the industry average ROA of 7.97% in 2000. First bank, UBA and Wema banks had lower than industry average ROA in 2001 while diamond, GTB, Access, and UBN had excess above the industry average of 7.27% in 2001. Other positions of the banks based on ROA can be seen from Tables 2a and c. Diamond bank took the lead 3 years in terms of ROA in years 2000, 2001, 2002, Fidelity bank in 2 years 2003, 2004, sterling bank in 1 year 2005, GTB in 5 years 2006, 2011, 2012, 2013, 2014, StanbicIBTC in 2 years 2007, 2008, Skye bank in 1 year 2009 and Wema bank only in 2010. Wema came last in 2000, 2001, 2006, and 2008, FBN in 2002, UBN in 2003, 2011, UBA in 2004, access in 2005, Zenith in 2007, Unity bank in 2009, 2013, Skye bank in 2010, 2012 and 2014. Based on the average performance from 2000 to 2014, GTB with average ROA of 8.11% is the overall best in terms of ROA, followed closely by StanbicIBTC with 7.81, GTB with 7.68 under the industry average of 5.33%. I wonder on the position of the big three banks in Nigeria. Does it mean they operate with excess capacity that cannot be put to useful purpose? They are almost laggards on ROA scale, even on ROE. This is amazing! Though based on industry average for the period of study, FBN, UBN, UBA provided ROA above the industry average of 5.33% but their position is not befitting for such highly regarded big three banks in Nigeria.

On the basis of ROCE, while the industry average return for the study period 2000-2014 is 38.55%, some banks namely Sterling, StanbicIBTC, UBA, UBN, GTB, Wema, FBN, Access, and Fidelity banks with average returns on capital employed of 59.81, 59.03, 53.09, 53.09, 49.90, 48.33, 45.56, 42.51, and 40.12% respectively recorded higher values above the industry average. Other banks provided average returns below the industry average. On this note, on the study period average, sterling bank is the most profitable quoted bank in Nigeria followed by StanbicIBTC, UBA, UBN, GTB, Wema, FBN, Access, and Fidelity banks. Diamond bank provided negative return of −16.07% to the owners of the bank based on the average return for the study period 2000-2014 as can be seen from Table 3a.

On yearly performance, UBA with return of 126.2% was the most profitable bank in year 2000 followed by GTB, UBN, and FBN with 112.5, 81.31, 72.13% respectively and these are the banks that provided above the industry average ROCE in year 2000. In year 2001, UBN, GTB, UBA, Access banks with 123.0, 109.8, 84.97 and 74.35% respectively recorded returns above the yearly industry average of 67.02% thus presenting UBN as the most profitable bank of the year 2001 in terms of ROCE. In year 2002 Wema bank took the lead with 96.92% return above the industry average of 45.18%. UBA, GTB, UBN, FBN and Access banks followed in the order of magnitude with 73.39, 68.75, 60.47, 58.47 and 54.48% respectively.

In 2003 Fidelity bank took the lead with ROCE of 108.4%, which was followed by Access, GTB, FBN, Wema, Zenith, UBA with 86.03, 82.62, 77.34, 70.13, 64.37, and 62.01% respectively. All the above named banks provided ROCE above the year industry average of 29.93%. Fidelity bank came first in 2004 with 92.33% followed by access with 90.51%, GTB with 70.19, Wema with 69.95%, Zenith bank with 65.92% all performing above the industry average of 61.90%. The position of the banks on the scale of ROCE can be seen from Tables 3a and b. It can be observed from Table 3b and c that UBA generated the highest ROCE for 4 years, 2000, 2006, 2013, and 2014 out of the 15-year study period. UBN made 1 appearance as the most profitable bank in years 2001; Wema made 2, 2003, 2008; Fidelity and sterling had 2 appearances each in 2003, 2004 and 2005, 2012 respectively; StanbicIBTC, FBN, Skye, Access, had 1 appearance each in 2010, 2007, 2009, and 2011 respectively as the most profitable bank with respect to ROCE. Diamond bank was the least profitable bank in terms of ROCE in years 2000, 2001, 2002, 2003, 2004, and 2009. Access bank was in 2003, Wema in 2006, Unity in 2007, 2008; Skye bank was the least profitable bank in terms of ROCE in years 2010, 2012, 2013, and 2014.

Table 2b: Ranking of quoted banks in Nigeria based on ROA 2000-2007

No.	2000	ROA	2001	ROA	2002	ROA	2003	ROA	2004	ROA	2005	ROA	2006	ROA	2007	ROA
1	DIA	13.62	DIA	11.75	DIA	14.12	FID	12.07	FID	11.62	STE	32.48	GTB	8.36	STA	8.36
2	GTB	9.97	GTB	9.99	GTB	10.13	GTB	10.29	STA	10.98	STA	12.21	STA	7.13	GTB	5.93
3	UBA	7.76	ACC	8.04	WE	8.51	ACC	8.71	GTB	7.61	FID	10.85	FID	5.66	FID	5.72
4	UBN	6.43	UBN	7.95	ACC	8.38	WE	7.97	WE	7.56	GTB	7.13	FCM	5.59	STE	5.69
5	FBN	5.63	FBN	5.15	UBN	6.35	ZEB	6.80	ACC	7.52	UNI	7.12	FBN	5.16	UBN	5.60
6	WE	4.38	UBA	4.02	UBA	3.74	DIA	6.70	FBN	5.54	WE	6.08	SKY	4.64	DIA	5.60
7			WE	4.00	FBN	3.69	FBN	5.11	DIA	5.42	FBN	5.36	UBN	4.48	WE	5.09
8							UBA	4.29	UBN	5.36	FCM	5.27	UBN	4.45	FBN	4.93
9							UBN	0.64	ZEB	4.99	DIA	5.08	DIA	4.39	FCM	4.78
10									UBA	4.27	UBN	4.97	ZEB	4.19	ZEB	4.58
11											ZEB	4.45	STE	4.10	UBA	4.52
12											UBA	3.97	UNI	3.65	GTB	4.13
13											ACC	3.44	ACC	2.04	UBA	3.94
14													WE	−3.27	ZEB	3.02
AVE		7.97		7.27		7.85		6.95		7.09		8.36		4.16		5.14

Source: Researcher's compilations from Table 2a above on ROA

Table 2c: Ranking of quoted banks in Nigeria based on ROA 2008-2014

No.	2008	ROA	2009	ROA	2010	ROA	2011	ROA	2012	ROA	2013	ROA	2014	ROA	AVE	ROA
1	STA	9.42	SKY	23.92	WE	9.77	GTB	5.81	GTB	8.18	GTB	7.36	GTB	7.38	STE	8.11
2	STE	7.26	DIA	10.42	UNI	8.42	ZEB	4.10	FID	6.92	STA	6.57	UNI	7.09	STA	7.81
3	FCM	6.34	ACC	8.92	STA	7.46	STA	3.91	FCM	6.57	FCM	6.30	STA	6.92	GTB	7.68
4	ZEB	6.11	STA	7.62	UBN	7.14	STE	3.77	STE	6.37	ACC	6.14	ACC	6.10	FID	6.81
5	GTB	5.97	ZEB	7.11	GTB	6.78	FID	3.58	ZEB	6.37	STE	6.12	ZEB	6.02	DIA	6.51
6	UBN	5.75	GTB	6.39	STE	5.76	ACC	3.50	ACC	6.26	FID	5.95	FID	5.96	ACC	5.78
7	SKY	5.32	FCM	4.39	FCM	5.67	UNI	3.25	UNI	5.63	ZEB	5.75	FCM	5.91	ZEB	5.41
8	UBA	5.32	FID	4.29	ACC	4.66	FBN	3.05	STA	5.29	WE	5.41	STE	5.52	FCM	5.32
9	FBN	5.19	UBA	4.25	FID	4.57	FCM	2.36	FBN	4.84	UBA	5.23	UBA	5.30	FBN	4.77
10	DIA	4.55	FBN	4.10	ZEB	4.50	UBA	0.90	UBA	4.83	FBN	4.76	WE	5.20	UBA	4.40
11	FID	4.52	STE	4.03	FBN	4.14	DIA	−0.49	DIA	4.27	DIA	4.63	UBN	5.14	UBN	3.73
12	ACC	3.20	WE	−0.15	DIA	3.51	WE	−1.08	WE	3.37	UBN	2.72	FBN	4.93	UNI	3.14
13	UNI	−1.55	UBN	−2.06	UBA	3.08	SKY	−2.47	UBN	2.50	SKY	−2.14	DIA	4.11	SKY	2.88
14	WE	−29.48	UNI	−2.34	SKY	−1.39	UBN	−6.92	SKY	−3.73	UNI	−2.85	SKY	−2.39	WE	2.22
AVE		2.71		5.78		5.29		1.66		4.83		4.43		5.23		5.33

Source: Researcher's compilations from Table 2a above on ROA

Based on the average for the study period of 2000-2014, Sterling bank with the highest ROCE of 59.81% for the entire 15-year study period, is crowned the most profitable bank in Nigeria with respect to ROCE. With the only and high negative average ROCE for the entire 15-year study period, Diamond bank is crowned the most non-profitable bank in Nigeria with respect to ROCE.

The descriptive statistics of the banks are showcased in Table 4a. On the risk scale, the industry average is 16.15 under the ROE, 1.95 under the ROA and 17.52 under the ROCE. The variation in terms of return was highest under ROCE while it was very minimal under ROA. This picture is also supported by the figures in Tables 1a, 2a and 3a. The individual banks returns volatility can be depicted from Table 4a for the various years under the 15-year period. The minimum and the maximum rates of return under each criterion could be seen from the Table 4a.

From Table 4b based on ROE, StanbicIBTC bank was the least risky bank in Nigeria during the period 2000-2014 with mean ROE of 15.23%. Wema bank was the most risky bank in Nigeria within the period 2000-2014 with the highest mean negative ROE of −32.61%. The position of other banks on ROE risk, mean return, minimum and maximum returns scales can be seen from Table 4b.

From Table 4c based on ROA, First bank was the least risky bank in Nigeria during the period 2000-2014 with mean ROA of 4.77%. Again, Wema bank was the most risky bank in Nigeria within the period 2000-2014 though this time, with the least mean positive ROA of 2.22%. The position of other banks on ROA risk, mean return, minimum and maximum returns scales can be seen from Table 4c.

From Table 4d based on ROCE, FCMB was the least risky bank in Nigeria during the period 2000-2014 with mean ROCE of 28.71%. StanbicIBTC bank was the most risky bank in Nigeria within the period 2000-2014 with mean positive ROCE of 59.03%. This position of StanbicIBTC bank purely illustrates the dictum in finance that says that the higher the risk the higher the return. It has highest risk and almost the highest mean ROCE. The position of other banks on ROCE risk, mean return, minimum and maximum returns scales can be seen from Table 4d.

Table 3a: ROCE of quoted banks in Nigeria 2000-2014

ROCE	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	AVE
ACC	-	74.35	54.48	86.03	90.51	20.64	15.61	48.66	18.9	34.16	23.91	31.24	41.81	33.02	21.83	42.51
DIA	−65.39	−46.74	−96.2	−282.25	31.91	27.06	25.87	30.99	22.61	−31.85	18.58	0.91	41.78	46.73	34.9	−16.07
FID	-	-	-	108.39	92.33	40,8	28.14	42.29	18.40	18.15	18.15	21.38	40.70	27.87	24.82	40.12
FBN	72.13	65.21	58.47	77.34	53.37	53.17	56.59	56.66	21.59	23.45	29.83	25.95	31.54	32.31	25.82	45.56
FCM	-	-	-	-	-	38.82	20.87	31.78	21.62	17.91	23.27	12.33	47.12	45.70	27.69	28.71
GTB	112.48	109.76	68.75	82.62	70.19	39.49	42.60	28.36	21.42	26.99	27.97	21.10	32.14	28.12	29.00	49.40
SKY	-	-	-	-	-	-	34.47	36.23	33.04	160.28	−2.26	−11.28	−37.44	−15.39	−21.83	19.54
STAN	-	-	-	-	45.52	31.00	22.99	28.21	36.49	29.70	343.80	18.93	25.27	34.72	32.75	59.03
STER	-	-	-	-	-	248.04	20.17	34.15	44.43	28.94	33.05	27.72	80.86	44.04	36.68	59.81
UBA	126.16	84.97	73.39	62.01	43.15	50.69	81.01	33.50	47.52	36.55	22.18	7.52	38.15	49.88	39.61	53.09
UBN	81.31	123.02	60.47	0.75	56.12	63.28	.31.82	38.77	162.66	−30.26	193.42	−29.22	13.64	12.30	18.22	53.09
UNIT	-	-	-	-	-	87.43	15.6	15.80	−13.51	−24.04	43.88	16.68	23.33	−10.22	36.58	19.15
WEM	42.01	58.6	96.92	70.13	69.95	26.92	−14.61	36.45	247.61	2.60	32.41	−1.42	16.77	19.30	21.26	48.33
ZEN	-	-	-	64.37	65.92	42.58	29.68	34.43	30.43	34.25	24.25	26.92	36.59	33.17	25.68	37.36
AVE	61.45	67.02	45.18	29.93	61.90	59.22	29.34	35.45	50.94	23.35	59.46	12.05	30.88	27.25	25.22	38.55

Source: Researcher's computations from figures obtained from the subject-banks financial statements 2000-2014

Table 3b: Ranking of quoted banks in Nigeria based on ROCE 2000-2007

No.	2000	ROA	2001	ROA	2002	ROA	2003	ROA	2004	ROA	2005	ROA	2006	ROA	2007	ROA
1	UBA	126.2	UBN	123.0	WE	96.92	FID	108.4	FID	92.33	STE	248.0	UBA	81.01	FBN	56.66
2	GTB	112.5	GTB	109.8	UBA	73.39	ACC	86.03	ACC	90.51	UNI	87.43	FBN	56.59	ACC	48.66
3	UBN	81.31	UBA	84.97	GTB	68.75	GTB	82.62	GTB	70.19	UBN	63.28	GTB	42.60	FID	42.29
4	FBN	72.13	ACC	74.35	UBN	60.47	FBN	77.34	WE	69.95	FBN	53.17	SKY	34.47	UBN	38.77
5	WE	42.01	FBN	65.21	FBN	58.47	WE	70.13	ZEB	65.92	UBA	50.69	UBN	31.82	WE	36.45
6	DIA	−65.4	WE	58.60	ACC	54.48	ZEB	64.37	UBN	56.12	ZEB	42.58	ZEB	29.68	SKY	36.23
7			DIA	−46.7	DIA	−96.2	UBA	62.01	FBN	53.37	FID	40.80	FID	28.14	ZEB	34.43
8							UBN	0.75	STA	45.52	GTB	39.49	DIA	25.87	STE	34.15
9							DIA	−282.	UBA	43.15	FCM	38.82	STA	22.99	UBA	33.50
10									DIA	31.91	STA	31.00	FCM	20.87	FCM	31.78
11											DIA	27.06	STE	20.17	DIA	30.99
12											WE	26.92	ACC	15.61	GTB	28.36
13											ACC	20.64	UNI	15.60	STA	28.21
14													WE	−14.6	UNI	15.80
AVE		61.45		67.02		45.18		29.93		61.90		59.22		29.34		35.45

Source: Researcher's compilations from Table 3a above on ROCE

Table 3c: Ranking of quoted banks in Nigeria based on ROCE 2008-2014

No.	2008	ROA	2009	ROA	2010	ROA	2011	ROA	2012	ROA	2013	ROA	2014	ROA	AVE	ROA
1	WE	247.6	SKY	160.3	STA	343.8	ACC	31.24	STE	80.86	UBA	49.88	UBA	39.61	STE	59.81
2	UBN	162.7	UBA	36.55	UBN	193.4	STE	27.72	FCM	47.12	DIA	46.73	STE	36.68	STA	59.03
3	UBA	47.52	ZEB	34.25	UNI	43.88	ZEB	26.92	ACC	41.81	FCM	45.70	UNI	36.58	UBA	53.09
4	STE	44.43	ACC	34.16	STE	33.05	FBN	25.95	DIA	41.78	STE	44.04	DIA	34.90	UBN	53.09
5	STA	36.49	STA	29.70	WE	32.41	FID	21.38	FID	40.70	STA	34.72	STA	32.75	GTB	49.40
6	SKY	33.04	STE	28.94	FBN	29.83	GTB	21.10	UBA	38.15	ZEB	33.17	GTB	29.00	WE	48.33
7	ZEB	30.43	GTB	26.99	GTB	27.97	STA	18.93	ZEB	36.59	ACC	33.02	FCM	27.69	FBN	45.56
8	DIA	22.61	FBN	23.45	ZEB	24.25	UNI	16.68	GTB	32.14	FBN	32.31	FBN	25.82	ACC	42.51
9	FCM	21.62	FID	18.15	ACC	23.91	FCM	12.33	FBN	31.54	GTB	28.12	ZEB	25.68	FID	40.12
10	FBN	21.59	FCM	17.91	FCM	23.27	UBA	7.52	STA	25.27	FID	27.87	FID	24.82	ZEB	37.36
11	GTB	21.42	WE	2.60	UBA	22.18	DIA	0.91	UNI	23.33	WE	19.30	ACC	21.83	FCM	28.71
12	ACC	18.90	UNI	−24.0	DIA	18.58	WE	−1.42	WE	16.77	UBN	12.30	WE	21.26	SKY	19.54
13	FID	18.40	UBN	−30.3	FID	18.15	SKY	−11.3	UBN	13.64	UNI	−10.2	UBN	18.22	UNI	19.15
14	UNI	−13.5	DIA	−31.9	SKY	−2.26	UBN	−29.2	SKY	−37.4	SKY	−15.4	SKY	−21.8	DIA	−16.1
AVE		50.94		23.35		59.46		12.05		30.88		27.25		25.22		38.55

Source: Researcher's compilations from Table 3a above on ROCE

The result of the regression analysis produced by Eviews version 9 presented in Appendix 1 indicates that ROE-based-RISK has a negative and significant effect on the returns generated by the firms for the period under study. The coefficient of ROE-based-RISK is

Table 4a: Descriptive statistics for the Nigerian quoted banks

ROE	Acc	Dia	Fid	Fbn	Fcm	Gtb	Sky	Stan	Ster	Uba	Ubn	Uni	Wem	Zen	AVE
Mean	11.56	14.58	12.00	20.81	9.00	26.24	10.50	15.23	26.09	17.46	3.61	−29.43	−32.61	18.15	8.80
Min	−2.84	−12.06	1.41	3.73	3.10	12.32	0.01	8.78	4.10	−6.16	−109.11	−225.06	−394.32	6.10	−21.92
Max	23.59	41.35	34.07	39.49	19.21	38.70	18.91	28.06	197.54	43.32	41.41	28.20	110.69	34.97	30.14
SD	8.02	13.27	9.55	9.47	7.46	8.44	6.14	5.79	62.98	12.29	43.90	78.01	121.74	8.58	16.15

ROA	Acc	Dia	Fid	Fbn	Fcm	Gtb	Sky	Stan	Ster	Uba	Ubn	Uni	Wem	Zen	AVE
Mean	5.78	6.51	6.81	4.77	5.32	7.68	2.88	7.81	8.11	4.40	3.73	3.14	2.22	5.41	5.33
Min	3.2	−0.49	3.58	3.05	2.36	5.81	−3.73	3.91	3.77	0.90	−6.92	−2.85	−29.48	4.10	2.71
Max	8.71	14.12	12.07	5.63	6.57	10.29	23.92	12.21	32.48	7.76	7.95	8.42	9.77	7.11	8.36
SD	2.32	4.11	2.98	0.72	1.25	1.66	8.64	2.38	8.64	1.43	3.94	4.13	9.49	1.07	1.95

ROCE	Acc	Dia	Fid	Fbn	Fcm	Gtb	Sky	Stan	Ster	Uba	Ubn	Uni	Wem	Zen	AVE
Mean	42.51	−16.07	40.12	45.56	28.71	49.40	19.54	59.03	59.81	53.09	53.09	19.15	48.33	37.36	38.55
Min	15.61	−96.20	18.15	21.59	12.33	21.10	−37.44	22.99	20.17	7.52	−30.26	−24.04	−14.61	24.25	12.05
Max	90.51	46.73	108.39	77.34	47.12	112.48	160.28	343.80	248.04	126.16	193.42	87.43	247.61	65.92	67.02
SD	25.14	85.32	29.71	19.07	11.86	31.43	59.26	94.71	68.17	29.11	64.98	32.35	62.74	13.93	17.52

Source: Researcher's computations from figures obtained from the subject-banks financial statements 2000-2014

Table 4b: Ranking of quoted banks in Nigeria based on descriptive statistics

ROE	Banks	Mean return	Banks	Risk	Banks	Min. return	Banks	Max. return
1	GTB	26.24	STA	5.79	GTB	12.32	WEM	110.69
2	STE	26.09	SKY	6.14	STA	8.78	STE	197.54
3	FBN	20.81	FCM	7.46	ZEB	6.10	UBA	43.32
4	ZEB	18.15	ACC	8.02	STE	4.10	UBN	41.41
5	UBA	17.46	GTB	8.44	FBN	3.73	DIA	41.35
6	STA	15.23	ZEB	8.58	FCM	3.10	FBN	39.49
7	DIA	14.58	FBN	9.47	FID	1.41	GTB	38.70
8	FID	12.00	FID	9.55	SKY	0.01	ZEB	34.97
9	ACC	11.56	UBA	12.29	ACC	−2.84	FID	34.07
10	SKY	10.50	DIA	13.27	UBA	−6.16	UNI	28.20
11	FCM	9.00	UBN	43.90	DIA	−12.06	STA	28.06
12	UBN	3.61	STE	62.98	UBN	−109.11	ACC	23.59
13	UNI	−29.43	UNI	78.01	UNI	−225.06	FCM	19.21
14	WE	−32.61	WEM	121.74	WEM	−394.32	SKY	18.91
AVE		8.80		16.15		−21.92		30.14

Source: Researcher's compilations from Table 4a

Table 4c: Ranking of quoted banks in Nigeria based on descriptive statistics

ROA	Banks	Mean return	Banks	Risk	Banks	Min. return	Banks	Max. return
1	STE	8.11	FBN	0.72	GTB	5.81	STE	32.48
2	STA	7.81	ZEB	1.07	ZEB	4.10	SKY	23.92
3	GTB	7.68	FCM	1.25	STA	3.91	DIA	14.12
4	FID	6.81	UBA	1.43	STE	3.77	STA	12.21
5	DIA	6.51	GTB	1.66	FID	3.58	FID	12.07
6	ACC	5.78	ACC	2.32	ACC	3.20	GTB	10.29
7	ZEB	5.41	STA	2.38	FBN	3.05	WEM	9.77
8	FCM	5.32	FID	2.98	FCM	2.36	ACC	8.71
9	FBN	4.77	UBN	3.94	UBA	0.90	UNI	8.42
10	UBA	4.40	DIA	4.11	DIA	−0.49	UBN	7.95
11	UBN	3.73	UNI	4.13	UNI	−2.85	UBA	7.76
12	UNI	3.14	SKY	8.64	SKY	−3.73	ZEB	7.11
13	SKY	2.88	STE	8.64	UBN	−6.92	FCM	6.57
14	WEM	2.22	WEM	9.49	WEM	−29.48	FBN	5.63
AVE		5.33		1.95		2.71		8.36

Source: Researcher's compilations from Table 4a

−0.397012 which implies that an increase in the risk will result to a decrease in the return of the firms. The result is said to be significant judging from the result of the probability of t-stat of 0.0009 which is lower than 0.05, based on this we concluded that the result is statistically significant. The result of the Durbin-Watson stat also revealed that there is no autocorrelation in the model. This conclusion is based on the rule of thumb approach which states that if the value of Durbin-Watson stat is approximately 2 then there is no autocorrelation in the model but if it is greater or less than 2 then there exists autocorrelation in the model.

Table 4d: Ranking of quoted banks in Nigeria based on descriptive statistics

ROCE	Banks	Mean return	Banks	Risk	Banks	Min. return	Banks	Max. return
1	STE	59.81	FCM	11.86	ZEB	24.25	STA	343.80
2	STA	59.03	ZEB	13.93	STA	22.99	STE	248.04
3	UBA	53.09	FBN	19.07	FBN	21.59	WEM	247.61
4	UBN	53.09	ACC	25.14	GTB	21.10	UBN	193.42
5	GTB	49.40	UBA	29.11	STE	20.17	SKY	160.28
6	WEM	48.33	FID	29.71	FID	18.15	UBA	126.16
7	FBN	45.56	GTB	31.43	ACC	15.61	GTB	112.48
8	ACC	42.51	UNI	32.35	FCM	12.33	FID	108.39
9	FID	40.12	SKY	59.26	UBA	7.52	ACC	90.51
10	ZEB	37.36	WEM	62.74	WEM	−14.61	UNI	87.43
11	FCM	28.71	UBN	64.98	UNI	−24.04	FBN	77.34
12	SKY	19.54	STE	68.17	UBN	−30.26	ZEB	65.92
13	UNI	19.15	DIA	85.32	SKY	−37.44	FCM	47.12
14	DIA	−16.07	STA	94.71	DIA	−96.20	DIA	46.73
AVE		38.55		17.52		12.05		67.02

Source: Researcher's compilations from Table 4a

Table 5: Correlation matrix

	ROE	ROA	ROCE	ROA-RISK	ROCE-RISK	ROE-RISK
ROE	1	0.7173645	0.170978	−0.414399	−0.073295	−0.785224
ROA	0.7173645	1	0.1838776	−0.312608	0.1557482	−0.460456
ROCE	0.170978	0.1838776	1	−0.052555	−0.077193	0.1308727
ROA-RISK	−0.414399	−0.312608	−0.052555	1	0.5479458	0.6666197
ROCE-RISK	−0.073295	0.1557482	−0.077193	0.5479458	1	0.2483636
ROE-RISK	−0.785224	−0.460456	0.1308727	0.6666197	0.2483636	1

The result of the regression analysis produced by Eviews version 9 as presented in the Appendix 2 indicates that ROA-based-RISK has a negative and insignificant effect on the returns generated by the firms for the period under study. The coefficient of ROA-based-RISK is −0.198171 which presupposes that a unit increase in the ROA-based-risk will result to a decrease of about 0.20% in the return of the firms. The result is said to be insignificant judging from the result of the probability of t-stat of 0.2765which is >0.05, based on this we concluded that the result is statistically insignificant at 5% level of significant. The result of the Durbin-Watson stat also revealed that there is no autocorrelation in the model. This conclusion is based on the rule of thumb approach which states that if the value of Durbin-Watson stat is approximately 2 then there is no autocorrelation in the model but if it is greater or less than 2 then there exists autocorrelation in the model.

The Appendix 3 presents the regression result produced by Eviews version 9 which indicates that ROCE-based-RISK has a negative and insignificant effect on the returns generated by the firms for the period under study. The coefficient of ROCE-based-RISK is −0.058133 which revealed that a unit increase in the ROCE-based-risk will result to a decrease of about 0.06% in the return of the firms. The result is said to be insignificant judging from the result of the probability of t-stat of 0.7931 which is greater than 0.05, and based on this we concluded that the result is statistically insignificant at 5% level of significant. The result of the Durbin-Watson stat also revealed that there is no autocorrelation in the model. This conclusion is based on the rule of thumb approach which states that if the value of Durbin-Watson stat is approximately 2 then there is no autocorrelation in the model but if it is greater or less than 2 then there exists autocorrelation in the model.

The result of the correlation analysis indicates that there exist a negative relationship between risk and return for the firms under study. This is revealed from the result of the correlation coefficient between ROE and ROE-based-RISK of −0.785224 or −79% which indicates a high negative correlation between the two. On the other hand, the correlation coefficient between ROA and ROA-based-RISK is −0.312608 or −31% which indicates a low negative correlation between the two variables. Similarly, the result of the correlation coefficient between ROCE and ROCE-based-RISK is −0.077193 or −8% which showed that there is a very low negative correlation between the two variables (Table 5).

5. CONCLUSION

The findings of this study showed that GTB is the most profitable quoted bank in Nigeria while Wema bank is crowned the most non-profitable bank in Nigeria with respect to return on SHF for the period 2000-2014. Based on the average performance from 2000-2014, GTB with average ROA of 8.11% is the overall best in terms of ROA, followed closely by StanbicIBTC with 7.81, GTB with 7.68 under the industry average of 5.33%. Based on the average for the study period of 2000-2014, Sterling bank with the highest ROCE of 59.81% for the entire 15-year study period, is crowned the most profitable bank in Nigeria with respect to ROCE. With the only and high negative average ROCE for the entire 15-year study period, diamond bank is crowned the most non-profitable bank in Nigeria with respect to ROCE.

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APPENDIX

Appendix 1

Dependent variable: ROE **Method: Least squares** **Sample: 0001 0014** **Included observations: 14**				
Variable	**Coefficient**	**Standard error**	**t-statistic**	**P**
C	20.01885	4.016004	4.984768	0.0003
ROE-RISK	−0.397012	0.090377	−4.392842	0.0009
R^2	0.616577	Mean dependent var		8.799286
Adjusted R^2	0.584625	S.D. dependent var		17.99264
S.E. of regression	11.59617	Akaike info criterion		7.870791
Sum squared resid	1613.655	Schwarz criterion		7.962085
Log likelihood	−53.09554	Hannan-Quinn criter.		7.862340
F-statistic	19.29706	Durbin-Watson stat		2.143065
P (F-statistic)	0.000876			

Appendix 2

Dependent variable: ROA				
Method: Least squares				
Sample: 0001 0014				
Included observations: 14				
Variable	**Coefficient**	**Standard error**	**t-statistic**	**P**
C	6.073250	0.826870	7.344865	0.0000
ROA-RISK	−0.198171	0.173828	−1.140043	0.2765
R^2	0.097724	Mean dependent var		5.326429
Adjusted R^2	0.022534	S.D. dependent var		1.909533
S.E. of regression	1.887896	Akaike info criterion		4.240366
Sum squared resid	42.76980	Schwarz criterion		4.331660
Log likelihood	−27.68256	Hannan-Quinn criter		4.231915
F-statistic	1.299698	Durbin-Watson stat		1.648300
P (F-statistic)	0.276513			

Appendix 3

Dependent variable: Return (ROCE)				
Method: Least squares				
Sample: 0001 0014				
Included observations: 14				
Variable	**Coefficient**	**Standard error**	**t-statistic**	**P**
C	41.15177	11.24195	3.660554	0.0033
ROCE-RISK	−0.058133	0.216748	−0.268206	0.7931
R^2	0.005959	Mean dependent var		38.54500
Adjusted R^2	−0.076878	S.D. dependent var		20.37008
S.E. of regression	21.13859	Akaike info criterion		9.071642
Sum squared resid	5362.081	Schwarz criterion		9.162935
Log likelihood	−61.50149	Hannan-Quinn criter.		9.063191
F-statistic	0.071935	Durbin-Watson stat		2.178042
P (F-statistic)	0.793096			