Research Journal of Finance and Accounting
ISSN 2222-1697 (Paper) ISSN 2222-2847 (Online)
Vol 3, No 8, 2012

RETURN ON INVESTMENT: CONCEPTIONS AND EMPIRICAL EVIDENCE FROM BANKING STOCKS

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Abstract
Entrepreneurs decide to start their own businesses in order to earn a good return on their investment. If the return on investment and other profitability ratios demonstrate that this is not occurring then they should consider selling or restructuring the business and reinvesting elsewhere. With this in mind, the writer engaged archival research to find out the correct position of the term return on investment and its appropriate uses. The findings show that there are several ways to determine ROI but one distilled fact is that all of them have the same root in the sense that they provide a measure of return as a percentage of resources devoted. Hence, the general model for Return on Investment (ROI) is equals to (Total Revenue – Total Cost)/Total Cost multiplied by 100. That is, ROI is net gain divided by the total investment, expressed as an annual percentage rate. For an investment to be worthwhile, the return on investment must be greater than the cost of capital. However, ROI is limited by the fact that it focuses on one period of time and thus should be considered a short term performance measure.
Keywords: Return on Investment, return on equity, holding period return, arithmetic return, geometric return, nominal return, risk premium.

1. Introduction

The ROI as a profitability performance measure is used by bankers, investors, and business analysts to assess a company management's efficiency in using available resources and financial strength or to compare the efficiency of a number of different investments. It is one of those important ways of making judgements as to where to direct new investment funds as they become available. The concept ROI can be applied to a number of situations such as divisions, product lines, or product centres. For example, it can be applied to evaluation of a segment or a branch or department of an enterprise, a product line, a transaction or an individual investment, and even to evaluate the total enterprise. In this way, it gives management a basis for comparing the performance of different areas and shows how effectively each division used its invested capital to earn a profit. ROI can also be used to evaluate a proposed investment in new equipment by dividing the increase in profit attributable to the new equipment by the increase in invested capital needed to acquire it. If the ROI so obtained is higher than the company's cost of capital prior to the investment, and no better investment opportunities exist for those funds, it may make sense to purchase the equipment. ROI is also useful to stockbrokers in determining the gain (or loss) achieved by investing in a company over a period of time.

Economic and financial theories assume that a rational investor would consider a number of factors in making an investment decision. One of such considerations is the expected return on investment, which is premised on the fact that in embarking on any investment, investors are primarily motivated by profit (income) to enhance personal wealth and consequently, the standard of living. Thus, it is believed that no rational investor would deliberately embark on an investment, which would place him in a financial disadvantage. However, this is not to say that a rational investor cannot invest in an instrument or venture, which would in the short-run yield no return or indeed result in losses. The anticipated future returns on such an investment should of course, outweigh current losses. However, since no one can predict the future with any certainty, as random happenings do occur to render expectations unattainable, a rational investor therefore, expects that in the absence of random happenings, his future returns should enhance his wealth, and thus justify his investment decisions. It is therefore logical for the rational investor to critically assess the attractiveness or otherwise of an instrument/venture, by comparing its potential risk and reward with other competing (alternative) investments. For instance, the rational investor desirous to invest in stocks and/or bonds should ordinarily compare yields on these instruments with money market rates or with commodity prices, and indeed with real estate value where applicable.

From the foregoing, every investor's concern would primarily be directed at the actual cash he would receive on his investment rather than the profit made by the company where he invested. It is of no importance to the investor if the company made huge profits but the investors received nothing in terms of returns. That is why the actual cash he has received measures the soundness of his investment decisions. Therefore in computing the return to investors that will be used to compare with the cost of capital, net receipt of benefits should be used against the total amount invested.

The urge among investors to ascertain the actual format for determining the rate of return on investment forms the background of this study.

The problem the study sets out to address is that there are many methods of measuring return on investment but the proper one to use at a particular time is still not quite clear to many investors. Therefore the main objective of this study is to address the issue. In addressing the issue, the remainder of this paper is structured as follows: the next section provides a summary of the previous work and the section that follows deals with the methodology employed in the empirical analysis. The penultimate section takes care of the empirical results and its discussion, while the last section provides the summary of findings, concluding remarks and recommendation.

2. Literature Review

In finance, the word return can be used for varied measures of profitability. For instance, it can be return on assets(ROA), net operating profit rate of return, return on sales(ROS), return on equity(ROE), accounting rate of return(ARR), return on capital employed(ROCE), and return on investment(ROI). Return on assets is the ratio of a fiscal year's net profit before interest but after taxes divided by its total assets expressed as a percentage.

Pandian(2005:239)states that return measures the overall efficiency of capital invested in business. Brealey et al (1995:448) and Van-Horne (1998:703) see return as Net operating profit rate of return which is expressed as net operating profit before interest and taxes over total assets. That is, it is a return on sales which is a measure of a company's profitability using a pre-tax profit divided by its total sales expressed as a percentage. Atrill(2006:67) submits that return on capital employed (ROCE) is a fundamental measure of business performance because it expresses the relationship between the net profit before interest and taxes generated during a period and the average long-term capital invested in the business during that period. Viewed from the entire business perspective the ROCE is a primary measure of profitability of returns to all suppliers of long-term finance before any deduction for interest payable to lenders or payments of dividends to shareholders are made. It assesses the effectiveness with which funds have been deployed by comparing profit (output) with capital invested (input).

Brealey et al (1995:83) also submit that return on investment is a measure of a company's profitability using the income an investment provided in a year divided by its total investment expressed as a percentage. Pandey (2002:135) posits that the term investment may refer to total assets or net assets. Net asset which is equal to net fixed assets plus current assets minus current liabilities excluding bank loans is also referred to as capital employed. Alternatively, capital employed is equal to net worth plus total debt. Based on this, he suggested the following two measures of ROI for comparing the operating efficiency of firms: ROI = ROTA = EBIT(1 – T)/Total assets = EBIT(1 – T)/TA, and ROI = RONA = EBIT(1 – T)/Net assets = EBIT(1 – T)/NA. ROTA and RONA are respectively return on total assets and return on net assets but RONA is equivalent of return on capital employed (ROCE). However, Pandey(2002:136) again suggests that because ROI computation can be distorted by changes in the depreciation and capital expenditure policy of a firm, in cross-sectional comparison of firms, its computation is modified to ROI = EBDIT/(GFA + NCA). EBDIT is earnings before depreciation, interest, and taxes. GFA is gross fixed asset (i.e fixed asset value at beginning of the financial year) while NCA is net current assets.

According to Arnold (2008:132), the accounting rate of return (ARR) may be known by other names such as the return on capital employed (ROCE), or return on investment (ROI). The ARR is the ratio of the accounting profit to the investment in the project, expressed as a percentage. Pandey (2002:136) and Berk and DeMarzo (2009:30) posit that return on equity is a measure of a company's profitability obtained by dividing the accounting profit attributable to equity holders by total shareholders' funds. However and actually, Van-Horne, (1998:26) says that what constitutes a return to a common stock is the sum of the cash dividends paid and the capital gain or loss. When ROE is greater than ROA it indicates that the investor has employed borrowed funds efficiently to lever the rate of return to the advantage of the shareholders. Brealey et al(1995:92) and Pandian(2005:142) states that return can also be nominal or real rate of return. Nominal rate of return is the sum of the real rate and the rate of price change (inflation) per year expected to prevail over the life of the investment. Real rate of return is the return realized when amount received in future is placed on the same purchasing power basis as the amount put out to buy the investment (Brealey et al, 1995:92). Pandian(2005:142) states that the real rate of return on any investment could be calculated by using the following equation: Real Rate of return = [(1.0 + Nominal rate)/(1.0 + Inflation rate)] – 1. For example, if an investor gets a nominal return of 12% on his investment and the inflation rate is 6.8%, then the real return would be, Real rate of return = (1.12/1.068) – 1 = 4.86%. If he really wants to protect himself from the inflation and earn a 12% real rate of return, then his nominal rate should be obtained from, Nominal rate = (1.0 + Real rate)(1.0 + Inflation rate) – 1 = 19.6%. If the investor has earned 5% nominal return from the investment, even though it gives an illusion of earning, his real earning is actually negative because, Real rate of return = (1.05/1.068) – 1 = -1.69%.

Based on this analysis, he advised investors to ensure that the nominal rate of return is greater than the inflation rate prevailing in the economy.

In leasing, Van-Horne(1998:471-472) states that a good place to begin an analysis of a lease is with the interest return to the lessor, as this is important to the lessor in determining his return on investment and also useful to the potential lessee in comparing financing alternatives. The return depends on three things: 1. the lease period, 2. the periodic lease payment and whether it is paid at the beginning or at the end of the period, 3. the residual value assumption. If lease payments are made in advance, the formula for determining the implied interest return is,

$$\text{Value of asset} = \sum_{t=0}^{mn-1} \text{Lease Payment}/(1+r/m)^t + \text{Residual Value}/(1+r/m)^{mn}$$

where Value of asset = what it costs the lessor to acquire or its market value if the asset already is owned; n = length of the lease in years; m = number of times a year periodic lease payments are made; r = implicit interest rate for which we solve; residual value = assumed residual value at the end of the lease term. If lease payments are made at the end of the period, the formula for determining the implied interest return is,

$$\text{Value of asset} = \sum_{t=1}^{mn} \text{Lease Payment}/(1+r/m)^t + \text{Residual Value}/(1+r/m)^{mn}$$

In stock investment, Pandian(2005:189) posits that the return on investment(ROI) is the sum of the income and capital gain(or loss) expressed as a percentage of money invested in the beginning. Specifying in mathematical format, it becomes, ROI = (Cash Dividend + Price change)/Purchase Price.

From the reviews above, ROI is the amount of revenue received in a fiscal year in excess of every Naira amount invested in the fiscal year in an activity (while not recognizing time value of money concept) expressed as a percentage of the Naira amount so invested. It is a measure of the net income a firm's management is able to earn with its total assets. Hence ROI for equity, otherwise called ROE is obtained by dividing the net profit after tax by total assets owned by specified class of fund providers, in this case, equity holders. Rees (1990:214) states that ROI is made up of capital gain or loss and the dividends or coupons received. Ituwe(2005) 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. According to Pandey(1999), ROI refers to 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. Ihesiulo(2005), Njoku(1997), Njoku and Jombo (2003) see ROI as a measure of the success of the firm in earning a net return on investment which is obtained as the company's percentage returns on its capital investment which consists of shareholders funds and long term debts. 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 Accounting Rate of Return(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. Giles and Capel (1994:618) and Glyn et al (1998:367) state that ROI is the average profit for a project expressed as a percentage of the capital outlay. According to MacCormac and Teeling(1980:25), ROI is the ratio of net profit after tax to net asset. This ratio by itself is of little value. A better version is the return on owners' equity, that is, the return which the owners receive for investing their own funds. That is, the return on owners investment is equals to net profit after taxes 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.

From the perspective of Madura and Fox(2007:739) return is the most fundamental measure in finance and therefore worth spending a little time considering its various forms. They submit that return is a measure of an increase or decrease over an initial investment. It can be stated in absolute monetary terms as when stated in Naira value or expressed as a percentage when it is expressed as end value minus beginning value divided by the beginning value multiplied by 100. Here the end value includes the price of the investment at the end of a specified period plus any payments already received from the investment. Again in measuring return over time there are three types of measure namely simple, compound and continuous, but compound is the most popular measure as interest is earned on interest and is credited per period.

Grinblatt et al (1998:106) and Ross et al (1996:221) state that return is profit divided by amount invested which they stated as $R= (D_1+P_1-P_0)/P_0$ where P_1 is the end of the period value of the investment(that is, the price one would

receive for the investment at the end of the period), P_0 is the beginning of the period value of the investment(that is the amount paid to acquire the investment), D_1 is the cash reward received from the investment over the period. To them, return on asset is same as accounting rate of return, which is accounting profit earned on a project divided by the amount invested to acquire the project's assets.

3. Research Methodology

Archival research was engaged in this study in order to find the correct position of the term return on investment and its appropriate uses. Journals and text books were consulted and opinions there in noted. From the general opinions we segregate the types of return on investment and the appropriate uses of each. For the empirical results, we summed the capital gain and dividend yields of each company to generate the return to equity shareholders in the banks used as subject banks.

4. Results and Discussions

At the end of the search, the researcher came up with the following definitions and conceptions of return on investment. ROI is the ratio of money gained or lost whether realized or unrealized on an investment relative to the amount of money invested. The general formula for computing ROI is income/invested capital. ROI can be computed on a company-wide basis by dividing the Net operating income, which is earning before interest, taxes and depreciation (EBITD) by the sum of gross fixed assets and net current assets, which constitute the operating assets. This measure indicates how well on the overall, the company is utilizing its investments. ROI can be computed on owners' basis by dividing earnings after interest, taxes and depreciation (EAITD) by shareholders funds. This measure indicates how well the company is utilizing its investments in equity. Calculated in this way, ROI provides a good indicator of profitability that can be compared against competitors or an industry average.

Table 4.1: The Types of ROI

	Types of ROI	Model	Interpretation
1.	Return on Capital Employed (ROCE)	EBITD/(GFA+NCA)	From the perspective of the entire business as a whole. Earnings before Interest, taxes and Depreciation divided by Gross Fixed Asset plus the net current asset
2.	Return on Equity (ROE)	Net Profit/SHF	return on capital employed by the ordinary shareholders. net profit after tax for a given period expressed as a percentage of the shareholders' investment in the business during the given period. Here we are looking at the rate of return on how much was invested by the ordinary shareholders in the business
3.	Dividend yield	DPS/MPPS	measures the rate of return that goes into the pockets of equity investors based on dividend income and market price.
4.	Earnings yield	EPS/MPPS	measure the rate of return that goes into the coffer of equity portfolio in the entire firm based on earnings income and market price
5.	Holding Period Return(HPR)	Ending Value of Investment/ Beginning Value of Investment	Measures wealth creation capacity of an investment
6.	Annual Holding PeriodReturn(AHPR)	[Ending Value of Investment/ Beginning Value of Investment] -1	Measures the Annual Yields of investment
7.	Geometric Mean rate of return	$[(1+ AHPR_1)(1+ AHPR_2)(1+ AHPR_3)\text{---}\text{-------}(1+ AHPR_n)]^{1/n} - 1$	The nth root of the product of one plus the Annual holding period return for n years minus one
8.	Arithmetic Mean rate of return	$[\Sigma AHPR]/n$	sum of the Annual Yields divided by the number of years(n).
9.	Nominal Rate of return	(1 + Real Rate)(1 + Inflation Rate) -1	Measures the rate that has to be earned to take care of earnings

			deflator, that is, inflation.
10.	Real Rate of return	[(1 + Nominal Rate)/(1 + Inflation Rate)] -1	Measures the effective or actual rate of return that an investment generates after removing the impact of inflation.
11.	Nominal risk free rate of return	Examples include FGN Treasury Bills rate for short term and FGN Long-term bonds rate for long-term..	nominal risk free rate of return is the rate expected from a riskless investment stated with respect to time value of money only
12.	Risk premium	Difference between Market rate with diversified portfolio and risk free rate	risk premium is the increase in the required rate of return over nominal risk free rate to compensate for any risk.

The concept of holding period return (HPR) was discovered. The holding period return on an investment is the change in wealth between the time of purchase of the investment and the time when the investment is sold or liquidated. The change in wealth can be due to cash inflows in the form of interest or dividends or due to an increase or decrease in the price of the asset.

HPR = $\frac{\text{Ending Value of Investment}}{\text{Beginning Value of Investment}} = \frac{V_n}{V_0}$ = wealth creation ratio

The V_n represents end of period value, V_0 represents beginning period value. When the value of $V_n/V_0 > 1.0$ it reflects an increase in wealth, implying a positive rate of return during the holding period. When the value of $V_n/V_o = 1.0$ it reflects a stagnant investment, implying no return during the holding period. A value less than 1.0 means a decline in wealth or negative return during the period. A value of zero indicates a complete loss of the investment. Since investors think of return in annual percentage terms the holding period return can be converted to an annual holding period yield thus:

Annual Holding Period Return = $\frac{\text{Year-end value of investment}}{\text{Beginning year value of investment}}$ -1

If n-period holding period return is given as HPR then annual holding period rate of return = $HPR^{1/n}$-1 where n is the number of periods the investment is held. Remember that if the holding period is less than one year n is always converted to a fraction of a year before being used. For example, if N250,000 was invested for 2 years for a return of N350,000. HPR =N350,000/N250,000 = 1.4. The Annual HPR = $(1.4)^{1/2} - 1 = 0.183$. Another example is if N100,000 was invested on 1st January and becomes N112,000 on 1st July. HPR=112000/100,000 = 1.12, and AHPR= $(1.12)^{1/2} - 1 = (1.12)^2 - 1 = 1.255 - 1 = 0.2544$.

There is also the mean historical rates of return(MHR). The rates of return from an investment held over a number of years will likely fluctuate from year to year resulting in different values for each year. Each of these returns is relevant in the analysis of investment returns. It is also necessary to have a summary figure to describe the investments typical rate of return or to serve as an indicator of the expected rate of return if one were to invest in the asset class. Two summary measures of return performance in this respect are the Arithmetic Mean (AM) and the Geometric mean (GM) rates of return. The Arithmetic Mean (AM) = sum of the Annual Yields divided by the number of years(n). That is, AMR =[Σ AHPR]/n, where AHPR = respective Annual Holding period rate of return. The Geometric mean (GM) = n^{th} root of the product of the Annual holding period return for n years minus one. GM = $P^{1/n} - 1$, where P = the product the annual holding period return as follows P = $(HPR_1)(HPR_2)(HPR_3)$ --- (HPR_n). To measure the annual growth rate over n years, the appropriate model for geometric mean is as follows: GM= $[(1+AHPR_1)(1+AHPR_2)(1+AHPR_3)\text{----------}(1+AHPR_n)]^{1/n} - 1$, where AHPR is the respective Annual Holding period rate of return expressed as decimals. For example, to determine the AM and GM using the following data

Year	Beginning value	Ending value	HPR	AHPR
1	1000	1200	1.20	0.20
2	1200	1350	1.125	0.125
3	1350	1150	0.852	-0.148

AM = (0.20 + 0.125 + -0.148)/3 = 0.059 = 5.9%

GM = $[(1.20)(1.125)(0.852)]^{1/3} - 1 = 0.048 = 4.8\%$

According to Watsham and Parramore (2007:54) the geometric mean is the most appropriate measure of means when an average rate of change over a number of time periods is being calculated. It is a single measure of periodic growth rate which if repeated n times will transform the opening value into the terminal value.

Obviously, the GM is superior to AM because it indicates the compound annual rate of return based on the ending and beginning value of the investment. Hence it is a long- term measure of rate of return. From computation above if we compound the investment at the rate of 4.8% for 3years, we would get an ending wealth value of 1.1502. AM is for short term measure. To illustrate this claim, an example suffices. If the price of a security moves as shown below:

Year	Beginning value	Ending value	HPR	HPY
1	200	400	2.0	1.0
2	400	200	0.5	-0.5

AM = $(1.0 + -0.5)/2$ = 0.25 = 25%

GM = $(2.0)(0.5)^{1/2} - 1 = 1.0 - 1 = 0 = 0\%$

The GM accurately reflect the true position of the investment as there was no change in the wealth position of the investor, yet the AM states the rate of return as 25%. The AM is wrong in this sense. However, both AM and GM will be the same when rates of return are constant for all years. With varying rates of return over the years the GM will be lower than the AM.

The nominal risk free rate of return is the rate expected from a riskless investment stated with respect to time value of money only. It remains the same and the factors that affect it include rate of inflation, condition at the capital market between surplus and deficit units of the economy, demand and supply of money etc. The real rates of return are adjusted for changes in general price levels. By Fishers (1930) model, 1 + Real Rate = [1 + Nominal Rate]/[1 + Inflation Rate]. Nominal Rate = 1 + Real Rate (1 + Inflation Rate) -1. Assuming that we have FGN treasury bills with normal return of 10% and rate of inflation of 5% the real rate return is [1+ 0.1]/[1+ 0.05]- 1 = 0.0476 (i.e 4.76%). The risk premium is the increase in the required rate of return over nominal risk free rate to compensate for any risk.

Empirical Results

The Holding period return of the 18 subject banks from 2000-2011 are displayed below in table 4.1. The Nigerian stock market returns from 2000-2011 computed from the Nigerian Stock Exchange (NSE) All-Share Index are shown in table 4.2. The risk free rate of return proxied by the average Treasury Bills rates issued every year from 2000-2011 can be seen from table 4.2. The market risk premia for the 12 years under study are captured in table 4.2. The joy of the study is that investors can now see the level of return obtainable from investments in Nigerian Stock market, with particular reference to the banking stocks. The researcher believe that these returns will serve as a beautiful guide to investors in stepping into the capital market.

Table 4.1: Return on Investment on Nigerian Banking stocks(2000-2011)

1. Access	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Capital Gain Yield	**32.53**	**10.91**	**29.51**	**67.72**	**49.81**	**-17.63**	**6.12**	**373.49**	**1.70**	**-61.40**	**37.67**	**-18.24**
Dividend Yield	**6.82**	**0**	**0**	**1.89**	**2.52**	**0**	**0**	**2.43**	**3.89**	**10.85**	**5.63**	**8.26**
Holding period return	**39.35**	**10.91**	**29.51**	**69.61**	**52.33**	**-17.63**	**6.12**	**375.92**	**5.59**	**-50.55**	**43.30**	**-9.98**

2. Afribank	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Capital Gain Yield	**65.25**	**72.02**	**1.04**	**-20.89**	**-1.88**	**7.94**	**25.48**	**114.44**	**15.44**	**-75.83**	**-58.80**	**-27.75**
Dividend Yield	**0**	**1.73**	**1.71**	**2.16**	**2.94**	**0**	**0**	**1.52**	**2.19**	**0**	**0**	**0**
Holding period return	**65.25**	**73.75**	**2.75**	**-18.73**	**1.06**	**7.94**	**25.48**	**115.96**	**17.63**	**-75.83**	**-58.80**	**-27.75**

3. Diamond	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**

Capital Gain Yield	**32.33**	**42.57**	**-15.37**	**-3.55**	**-9.09**	**82.14**	**-13.73**	**130.91**	**1.38**	**-56.18**	**15.81**	**-30.87**
Dividend Yield	**12.59**	**11.48**	**7.31**	**4.11**	**3.57**	**0**	**0**	**3.61**	**3.62**	**1.33**	**1.91**	**0**
Holding period return	**44.92**	**54.05**	**-8.06**	**0.56**	**-5.52**	**82.14**	**-13.73**	**134.52**	**5.00**	**-54.85**	**17.72**	**-30.87**

4. Ecobank	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Capital Gain Yield	**13.00**	**-31.56**	**16.81**	**-14.76**	**9.96**	**-6.30**	**187.40**	**13.89**	**58.02**	**100.00**	**-78.76**	**-39.20**
Dividend Yield	**17.70**	**15.52**	**4.43**	**6.93**	**0**	**3.78**	**1.32**	**0**	**0**	**0**	**0**	**0**
Holding period return	**30.70**	**-16.04**	**21.24**	**-7.83**	**9.96**	**-2.52**	**188.72**	**13.89**	**58.02**	**100.00**	**-78.76**	**-39.20**

5. Fidelity	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Capital Gain Yield	**12.67**	**-29.00**	**-6.67**	**-5.36**	**8.49**	**175.65**	**-15.77**	**234.83**	**0.11**	**-67.60**	**-9.31**	**-11.03**
Dividend Yield	**14.79**	**0**	**0**	**18.87**	**0**	**0**	**4.12**	**1.79**	**3.35**	**2.59**	**5.32**	**5.98**
Holding period return	**27.46**	**-29.00**	**-6.67**	**13.51**	**8.49**	**175.65**	**-11.65**	**236.62**	**3.46**	**-65.01**	**-3.99**	**-5.05**

6. FBN	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Capital Gain Yield	**40.78**	**71.94**	**-15.76**	**3.79**	**10.60**	**9.90**	**45.41**	**-1.48**	**-9.51**	**-55.27**	**-15.53**	**-11.90**
Dividend Yield	**8.06**	**4.88**	**5.79**	**6.44**	**6.01**	**5.65**	**2.43**	**2.46**	**3.27**	**8.22**	**4.33**	**6.55**
Holding period return	**48.84**	**76.82**	**-9.97**	**10.23**	**16.61**	**15.55**	**47.84**	**0.98**	**-6.24**	**-47.05**	**-11.20**	**-5.35**

7. FCMB	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Capital Gain Yield	**Na**	**Na**	**Na**	**Na**	**9.00**	**18.35**	**-13.76**	**201.12**	**9.18**	**-58.58**	**29.21**	**-20.82**
Dividend Yield	**Na**	**Na**	**Na**	**Na**	**0.76**	**1.45**	**2.92**	**2.61**	**3.42**	**0.83**	**4.47**	**0**
Holding period return	**Na**	**Na**	**Na**	**Na**	**9.76**	**19.80**	**-10.84**	**203.73**	**12.60**	**-57.75**	**33.68**	**-20.82**

8. GTB	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Capital Gain Yield	**32.29**	**91.19**	**6.91**	**6.47**	**103.58**	**-16.83**	**41.49**	**100.39**	**-12.91**	**-52.68**	**35.43**	**-8.49**
Dividend Yield	**11.19**	**7.09**	**13.76**	**9.35**	**5.36**	**6.44**	**6.18**	**2.43**	**6.15**	**7.87**	**5.81**	**6.99**
Holding period return	**43.48**	**98.28**	**20.67**	**15.82**	**108.94**	**-10.39**	**47.67**	**102.72**	**-6.76**	**-44.81**	**41.24**	**-1.50**

9. Intercont	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**

Capital Gain Yield	**82.67**	**-56.20**	**74.17**	**126.79**	**Na**	**66.67**	**58.23**	**103.44**	**9.87**	**-76.66**	**-70.71**	**-28.27**
Dividend Yield	**14.60**	**16.67**	**14.35**	**8.44**	**Na**	**5.32**	**3.60**	**2.56**	**2.68**	**0**	**0**	**0**
Holding period return	**97.27**	**-39.53**	**88.52**	**135.23**	**Na**	**71.99**	**61.83**	**106.00**	**12.55**	**-76.66**	**-70.71**	**-28.27**

10. Oceanic	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Capital Gain Yield	**22.45**	**12.00**	**-17.26**	**-8.99**	**35.18**	**78.36**	**57.05**	**156.79**	**-11.63**	**-75.71**	**-62.88**	**-5.61**
Dividend Yield	**1.17**	**5.48**	**7.37**	**12.70**	**7.31**	**5.25**	**4.38**	**4.15**	**0**	**0**	**0**	**0**
Holding period return	**23.62**	**17.48**	**9.89**	**3.71**	**42.49**	**83.61**	**61.43**	**160.94**	**-11.63**	**-75.71**	**-62.88**	**-5.61**

11. Skye	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Capital Gain Yield	**Na**	**Na**	**Na**	**Na**	**Na**	**Na**	**0**	**3.23**	**4.19**	**0.72**	**4.33**	**3.54**
Dividend Yield	**Na**	**Na**	**Na**	**Na**	**Na**	**Na**	**0**	**106.29**	**32.22**	**-51.26**	**32.24**	**-23.40**
Holding period return	**Na**	**Na**	**Na**	**Na**	**Na**	**Na**	**0**	**109.52**	**36.41**	**-50.54**	**36.57**	**-19.86**

12. StanbicIBTC	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Capital Gain Yield	**Na**	**Na**	**-23.94**	**23.86**	**-40.57**	**219.31**	**-1.30**	**171.12**	**100.08**	**-75.07**	**21.04**	**24.60**
Dividend Yield	**Na**	**10.42**	**15.23**	**16.39**	**17.24**	**4.32**	**4.38**	**4.44**	**1.61**	**4.85**	**5.21**	**1.07**
Holding period return	**Na**	**10.42**	**-8.71**	**40.25**	**-23.33**	**223.63**	**3.08**	**175.56**	**101.69**	**-70.22**	**26.25**	**25.67**

13. Sterling	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Capital Gain Yield	**Na**	**Na**	**Na**	**Na**	**Na**	**Na**	**279.03**	**39.57**	**-6.25**	**-73.33**	**20.73**	**-7.07**
Dividend Yield	**Na**	**Na**	**Na**	**Na**	**Na**	**Na**	**0**	**0**	**1.63**	**0**	**0**	**5.43**
Holding period return	**Na**	**Na**	**Na**	**Na**	**Na**	**Na**	**279.03**	**39.57**	**-4.62**	**-73.33**	**20.73**	**-1.64**

14. UBA	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Capital Gain Yield	**77.25**	**6.89**	**-38.07**	**-7.33**	**37.76**	**6.76**	**51.52**	**159.13**	**-19.70**	**-68.42**	**-2.61**	**-45.53**
Dividend Yield	**6.65**	**1.83**	**3.55**	**5.74**	**5.56**	**5.20**	**5.72**	**2.65**	**2.06**	**0.87**	**0.45**	**0**
Holding period return	**83.90**	**8.72**	**-34.52**	**-1.59**	**43.32**	**11.96**	**57.24**	**161.78**	**-17.64**	**-67.55**	**-2.16**	**-45.53**

15. UBN	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Capital Gain Yield	**76.74**	**83.95**	**-26.31**	**16.52**	**11.64**	**-15.80**	**7.62**	**41.88**	**0.27**	**-69.00**	**-54.89**	**-42.36**

Dividend Yield	**6.30**	**5.02**	**5.67**	**5.26**	**4.88**	**5.80**	**3.85**	**2.71**	**2.71**	**0**	**0**	**0**
Holding period return	**83.04**	**88.97**	**-20.64**	**21.78**	**16.52**	**-10.00**	**11.47**	**44.59**	**2.98**	**-69.00**	**-54.89**	**-42.36**

16. Unity	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Capital Gain Yield	**Na**	**Na**	**Na**	**Na**	**Na**	**144.58**	**23.15**	**146.40**	**-3.57**	**-74.24**	**-30.07**	**-12.15**
Dividend Yield	**Na**	**Na**	**Na**	**Na**	**Na**	**2.46**	**0**	**0**	**0**	**0**	**4.67**	**5.32**
Holding period return	**Na**	**Na**	**Na**	**Na**	**Na**	**147.04**	**23.15**	**146.40**	**-3.57**	**-74.24**	**-25.40**	**-6.83**

17. Wema	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Capital Gain Yield	**-5.22**	**25.23**	**86.08**	**-23.62**	**25.52**	**-19.92**	**-14.36**	**166.77**	**68.56**	**-70.51**	**-74.66**	**-8.11**
Dividend Yield	**6.88**	**9.16**	**8.86**	**6.44**	**2.05**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Holding period return	**1.66**	**34.39**	**94.94**	**-17.18**	**27.57**	**-19.92**	**-14.36**	**166.77**	**68.56**	**-70.51**	**-74.66**	**-8.11**

18. Zenith	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Capital Gain Yield	**-0.75**	**-30.25**	**38.32**	**-9.93**	**89.58**	**-4.07**	**45.28**	**114.52**	**-12.82**	**-63.69**	**-0.75**	**-3.37**
Dividend Yield	**5.32**	**7.63**	**9.93**	**8.58**	**4.52**	**4.72**	**5.10**	**2.16**	**4.22**	**3.07**	**5.85**	**6.77**
Holding period return	**4.57**	**-22.62**	**48.25**	**-1.35**	**94.10**	**0.65**	**50.38**	**116.68**	**-8.60**	**-60.62**	**5.10**	**3.40**

Table 4.2: Return on Investment on Nigerian stock Market and Risk free Rate (2000-2011)

Market Return	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
NSE (Rm)	**37.91**	**38.28**	**7.07**	**51.82**	**17.13**	**4.06**	**31.43**	**53.05**	**-58.54**	**-36.64**	**17.18**	**-20.03**
Risk Free rate(Rf)	**12.00**	**12.95**	**18.88**	**15.02**	**14.21**	**7.00**	**8.80**	**6.91**	**8.58**	**6.05**	**4.72**	**10.68**
Risk Premium(Rp)	**25.91**	**25.33**	**-11.81**	**36.80**	**2.92**	**-2.94**	**22.63**	**46.14**	**-67.12**	**-42.69**	**12.46**	**-30.71**

5. Conclusions

Conclusively, return on investment (ROI) is equals to (Total Revenue – Total Cost)/Total Cost. That is, ROI is net profit divided by the total investment, expressed as an annual percentage rate. For example, if an investor invested N1million and the investment worth N2.5million after three years, his annual rate of return on investment would be 50%. This 50% is obtained from dividing the profit of N1.5million by N1million total investment, and then divide the 150% by 3 to get 50% annual ROI. ROI includes all the income investor earns on the investment as well as any profit that results from selling the investment. It can be negative as well as positive if the sale price plus any income is lower than the purchase price. Due to its versatility and simplicity ROI is a very popular metric or measure of how effectively and profitably the firm uses its capital to generate profit. It can be used as a comparative measure of the performance efficiency and profitability of a number of different investments. Investments with negative ROI should be rejected or restructured while those with high ROI are preferred. It can be applied to a particular product or piece of equipment or to a business as a whole. Conclusively, ROI is the profit an investment generates expressed as a percentage of the value of the assets used to generate it. It is an accounting technique.

Therefore, for an investment to be worthwhile, the return on investment must be greater than the cost of capital. Recall that cost of capital is the expected rate of return that the market requires in order to attract funds to a particular investment. It is the interest cost of debt capital used by a business plus the amount of profit that the business should earn for its equity sources of capital to justify the use of the equity capital during the period. Interest is a contractual and definite amount for a period, whereas the profit that a business should earn on the equity capital employed during the period is not. Therefore, a business should set a definite goal of earning at least a certain minimum ROI and should compare its actual performance for the period against this goal.

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