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### **Rates of Return on Investment in Common Stocks in Nigeria\***

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**Abstract:** The purpose of this study is to examine equity investors' rate of return on common stocks in Nigeria. Data were obtained for ten years from the twenty most capitalised firms in the capital market. We found that the rates of return in common stock in the form of dividend for the firms studied varies significantly. For the entire market, we found that the rate of return on common stock as dividend was 4.323%. The dividend payout ratio for the market was 57.546%. On the relationship between Fixed Assets and dividend per share, it is not ascertain whether or not fixed assets significantly determine dividend per share, because results from the empirical analysis showed that while for ten companies, fixed assets tend to determine dividend per share, results for the other ten showed otherwise.

**Key words:** Payout policy, corporate finance, governance

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### **INTRODUCTION**

Common stocks represent one form of long term financing available for fund raisers in the capital market. By nature, common stocks are the riskiest of the group of capital market securities (Brealey *et al.*, 2001). An investor who holds common stocks has no guarantee that he will get his money back. As a part owner of the firm, his fate is tied to the fortunes of the firm. As residual owners of the firm, common stock holders receive dividends only after the claims of bond holders and preference shareholders have been settled. Unlike bonds and preference shares that carry a fixed rate of interest and income respectively, the rate of dividend on common stocks is not known and its payment is discretionary. This high uncertainty associated with common stocks can serve as a disincentive for equity investment except of course, potential investors can, to reasonable extent, estimate the returns they will receive for their investment. At present however, this estimate of returns on equity investment for firms in the capital market and more especially, for the entire market, is almost non-existent.

The purpose of this study therefore, is an attempt to fill this knowledge gap and provide equity investors with an idea of the rate of return on equity investment in Nigeria. Thus, in this discussion, we shall provide an overview of the nature of capital market securities as well as the concept of returns on investment. Thereafter, through an analysis of relevant market data, we shall attempt to establish the rates of return on investment in common stocks in Nigeria using Dividend Per Share as a proxy for returns on investment. We shall also attempt to establish the payout ratio for the market and finally, using a regression model, we shall attempt to ascertain the nature of relationship that exists between Dividend Per Share and the Total Assets of the company that were used to create the earnings.

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### **The Nature of Capital Market Securities**

The capital market is a market for long term securities. Long term securities are long term financial instruments offered by fund raisers to raise funds from market. In any capital market, there are several securities that are traded between fund raisers and fund suppliers (investors) acting through their intermediaries (issuing houses and stock brokers). These securities can be classified into three major classes: fixed income securities, variable income securities and other types of securities (Osaze, 2000). Fixed income securities or instruments are instruments for which the investor earns a fixed and almost certain return throughout the period for which he holds the securities. According to Osaze (2000), fixed income securities possess the following characteristics:

- They offer a fixed and almost sure income to the investor irrespective of the fortunes of the company that issued them.
- Interest must be paid as and when due otherwise default might ensue which can lead to a foreclosure on the assets of the company. Similarly, fixed dividends, if not paid, might become cumulative and accrue until fully paid.
- The longer the tenor of the fixed income security, the higher would be the interest rate or fixed income due to the higher risk.
- The fixed income or dividend on a preference stock, which is a percentage of the nominal value of the stock, may or may not be cumulative.
- The higher the risk associated with the fixed income security, the higher would be the fixed income it attracts.
- The higher the level of inflation in the economy, the higher would be the income that a fixed income security attracts because it is not inflation-proof.

Fixed income securities include Federal Government, State and Local Government Bonds, Industrial Loans and debentures of all types, as well as Preference Shares. It is important to note however that *Preference shares* are often considered to be hybrid securities because they possess some of the features of fixed income securities and some of the features of variable income securities (common stocks). Like common stocks, preference shares are entitled to dividend as income when the issuing company earns a profit at the end of the fiscal year. However, like bonds and debentures, the dividend on preference share is fixed as a percentage of the par value and may be cumulative or non-cumulative (Jones and Dean, 1978; Gaumnitz and Dougal, 1980; Pandey, 1999; Osaze, 2000).

Derivatives are the third categories of capital market securities. Derivatives are financial contracts such as futures and option contracts whose values bear a systematic relationship with the underlying asset prices. In other words, the value of a derivative depends on the values of one or more underlying assets or indices of asset values (Van Horne and James, 2004; Osaze, 2000; Pandey, 1999; Kroncke *et al.*, 1978). Derivatives are risk management/speculative instruments whose value is based on the value of another (usually traditional) instrument or commodity (Ekineh, 1997). According to Osaze (2000), there are basically four types of derivatives and they include; the Forward Contract; the Forward Option; the Futures Contract and Swaps.

Variable income securities are securities for which returns earned by the investor depend on the fortunes of the company that issued them. Income earned by these securities varies with the issuing company's profit. If the company makes a large profit, income is expected to rise and if profits are low, income will also be low. These types of securities are mainly dominated by industrial common stocks (ordinary shares) on which dividends are declared and paid (Brealey and Myers, 1991; Osaze, 2000).

Common stocks or ordinary shares represent the ownership position in a company. The holders of common stocks, called stockholders or shareholders, are the legal owners of the company. Common

stocks are a company's source of permanent income because they do not have maturity dates. By committing funds into the company through the purchase of common stocks, stockholders are entitled to dividends. However, the amount or rate of dividend is not fixed. It usually depends on trading volume in the capital market, the nature of the security economic circumstances and the dividend policy of the issuing company (Pandey, 1999; Osaze, 2000). As owners of the company, shareholders bear the risk of ownership. They are residual owners and are only entitled to any claim (whether as dividends or claims on asset upon liquidation) after the company's creditors and preference shareholders have been settled. There is no guarantee that the common stockholder will get his money back once it has been committed (Brealey *et al.*, 2001).

Common stock has a number of features, which distinguish it from other securities. As noted by Pandey (1999), these features generally relate to the right and claims of common stockholders and they are as follows:

#### **Claim on Income**

Common stockholders have a residual ownership claim. They have a claim to the residual income, which is, earnings available for common stockholders, after paying expenses, interest charges, taxes and preference dividend, if any. This income may be split into two parts; dividends and retained earnings. Dividends are immediate cash flows to shareholders, while retained earnings are re-invested in the business and stockholders stand to benefit in future in the form of the firm's enhanced value earnings power and ultimately enhanced dividend and capital gain. Thus, residual income is either directly distributed to stockholders in the form of dividend or indirectly in the form of capital gains on the common stock held by them.

#### **Claim on Asset**

Common stockholders also have a residual claim on the company's assets in the event of liquidation. Out of the realized value of assets, the claims of debt-holders and preference shareholders are first satisfied and out of the remaining balance, if any, settlement is made to common stockholders. When liquidation occurs, the claims of common stockholders may generally remain unpaid.

#### **Right to Control**

Control means the power to determine company policies. Common stockholders have the legal power to appoint/elect directors on the company's board. The board of directors of a company is its highest policy and decision making body and it is accountable to the stockholders. If the board fails to protect the interest of the stockholders, they can be replaced by the stockholders. Common stockholders are able to control management of the company through their voting rights and right to maintain proportionate ownership.

#### **Voting Rights**

Common stockholders are required to vote on a number of important matters, of which the election of directors and change in memorandum of association are the most significant. Each common stock carries one vote. A common stockholder has votes equal to the number of stocks (shares) held by him. Stockholders may vote in person or by proxy. A proxy gives a designated person right to vote on behalf of a stockholder at the company's annual general meeting.

#### **Preemptive Rights**

The preemptive right entitles a stockholder to maintain his proportionate share of ownership in the company. The law grants shareholders the right to purchase new shares in the same proportion as

the current ownership. The stockholder may exercise or decline to exercise the right. These rights can be exercised at a subscription price which is generally much below the share's current market price, or they can be allowed to expire, or they can be sold in the stock market.

### **Limited Liability**

As the true owners of the company, the liability of stockholders is limited to the amount of their investment in stocks. If a stockholder has already fully paid the issue price of stocks purchased, he has nothing more to contribute in the event of a financial distress or liquidation. This limited liability feature of common stocks encourages otherwise unwilling investors to invest their funds in a company.

### **The Concept of Rate of Return**

The rate of return on an investment could be defined as the reward (in the form of interest or income) that accrues to investors for committing their funds into a particular security. Every investor needs to be able to appraise the securities he is buying in the market before deciding to commit funds to such securities as investment outlets (Osaze, 2000). As we have noted, fixed income securities carry a rate of return that is known to the investor e.g., 8% Debentures. But for common stocks, the rate of return is uncertain. However, the ultimate measure of investment performance is the total return expected in relation to the risk associated with that return.

There are several indicators of the performance of equities. The ones that are germane to this study are briefly examined.

- **Dividend Yield:** This is the return that the individual expects from the profits distributed as dividends annually to investors. It indicates how much, in terms of payout, the investor would receive in relation to other investments. The dividend yield is expressed as:

$$\text{Dividend yield} = \frac{\text{DPS}}{P_0}$$

Where:

DPS = Dividend per share

$P_0$  = Initial share price

A high dividend yield is usually preferred by investors.

- **Dividend Payout Ratio:** This is the amount paid out in dividends to stockholders in relation to the amount actually earned as profits by the company. This ratio is expressed as:

$$\text{Payout ratio} = \frac{\text{DPS}}{\text{EPS}}$$

Where:

DPS = Dividend per share

EPS = Earnings per share

The payout ratio may be high or low. The bias of the stockholder in terms of growth stock or income stock will determine whether he prefers a high or low payout ratio (Osaze, 2000).

## MATERIALS AND METHODS

The data for this study were obtained from the Nigerian Stock Exchange Fact Book for the twenty most capitalized firms in the capital market as it stood in 2004. The twenty most capitalised firms in the market were selected on the assumption that the most capitalised firms in the stock market mimic the market. In other words, the trend in the market tends to be amply represented or depicted by the most capitalised firms in the market. The following twenty companies with the highest market capitalisation in a descending order were thus used; Nigerian Breweries Plc, Guinness Nig. Plc, Union Bank Nig. Plc, Nestle Nig. Plc, First Bank of Nig. Plc, Nigeria Bottling Company Plc, Unilever Nig. Plc, Total Nig. Plc, Cadbury Nig. Plc, Conoil Nig. Plc, Mobil Nig. Plc, Guarantee Trust Bank Plc, WAPCO Plc, Texaco Nig. Plc, Oando Nig. Plc, UBA Plc, Mnet/Supersport Plc, PZ Industries Plc, Ashaka Cement Nig. Plc and Afribank Plc. The data used were collected for a ten-year period between 1995 and 2004 inclusive in order to capture the recency in market trends. The data used include the Dividend Per Share (DPS), Earnings Per Share (EPS) Total Assets and Stock Prices at financial year-end for each of the twenty firms for the ten year period. In this study, we shall take DPS as a proxy for returns and ignore capital gains. We shall determine the yearly rate of return for each selected firm for the specified period using the formula:

$$R = \frac{DPS}{P_0}$$

Where:

R = Rate of return  
 DPS = Dividend per share  
 P<sub>0</sub> = Share price

Then we find the average return for each firm for the ten year period using the formula:

$$\bar{R} = \frac{1}{n} [R_1 + R_2 + \dots + R_n] = \frac{1}{n} \sum_{t=1}^n R_t$$

Where :

$\bar{R}$  = The average rate of return  
 R<sub>1</sub>, R<sub>2</sub>, R<sub>t</sub> = The observed rate of return in the periods 1, 2 .....t  
 n = The total number of periods

Finally, we shall find the average of the averages for the twenty firms in order to determine the rate of return on common stock for the entire market. Here the formula will be:

$$\bar{\bar{R}} = \frac{1}{n} [\bar{R}_1 + \bar{R}_2 + \dots + \bar{R}_n]$$

Where:

$\bar{\bar{R}}$  = The market average rate of return  
 $\bar{R}_1, \bar{R}_2, \dots, \bar{R}_n$  = The average rate of return for firm 1, 2, ..., n  
 n = Total number of firms

In calculating the payout ratio, we shall progress by calculating the yearly payout ratio for each of the firms, using the payout ratio formula as previously specified in this work. Thereafter, in calculating the average return for the ten-year period for each of the firm as well as for the market, we shall apply the formula used in calculating the average rate of return for each of the firms and that of the market except that we shall substitute P for R in the formula. We shall also attempt to ascertain the nature of relationship that exists between DPS and Total Assets. Here, the simple linear regression technique shall be employed. This technique will enable us establish a functional relationship between the variables as well as the degree of that relationship. The relationship is expressed as follows:

$$\text{DP ratio} = F(\text{TA})$$

With the linear expression as:

$$\text{DP ratio} = a + b\text{TA} + e_t$$

Where:

DP ratio = Dividend payout ratio

a and b = Unknown regression parameters

$e_t$  = Error term

A priori expectation:  $b > 0$ .

## RESULTS AND DISCUSSION

From our analysis, the average returns on common stocks for the twenty most capitalised firms for the ten-year period under study ranged from 0.541 to 7.805%. The returns were not in any way proportional to the degree of capitalisation. The returns for the twenty most capitalised firms are presented in Table 1.

Table 1: Average rate of return on common stock for the twenty most capitalised firms in the capital market from 1995-2004 and the average for the market

S/N	Average rates of return
Nigerian Breweries	0.037251981
Guinness	0.077285478
Union Bank	0.044107026
Nestle	0.057706389
First Bank	0.049354458
NBC	0.021826976
Unilever	0.020251071
Total	0.054102329
Cadbury	0.036825838
Conoil	0.021541473
Mobil	0.070657895
GTB	0.078052177
WAPCO	0.005411946
Texaco	0.056387642
Oando	0.034220151
UBA	0.063526796
Mnet/Supersport	0.054860578
PZ	0.026152441
Ashaka cement	0.034234671
Afriland	0.020940226
Market average	0.043234877

Table 2: Dividend payout for the twenty most capitalised firms in the capital market from 1995-2004 and the average for the market

S/N	Average dividend payout
Nigerian Breweries	0.652530752
Guinness	0.777631727
Union Bank	0.520383702
Nestle	0.928186331
First Bank	0.403186792
NBC	0.339814279
Unilever	0.622595997
Total	0.722522247
Cadbury	0.537942483
Conoil	0.784725322
Mobil	1.315307371
GTB	0.440761423
WAPCO	0.069780131
Texaco	0.456208751
Oando	0.576563681
UBA	0.359897615
Mnet/Supersport	0.523789841
PZ	0.384073400
Ashaka cement	0.260345393
Afribank	0.832982624
Market average	0.575461493

The average rates of return for the twenty firms under study for the ten-year period show significant variation considering the range (0.005411946-0.078052177 or 0.541-7.805%). The firm with the least average rate of return (WAPCO) has not paid dividend for six financial years, while GTB appears to be the firm with the highest average rate of return. However, the rate of return on investment in common stock for the entire market for the ten year period, derived as the average of the averages of the twenty most capitalised firms, using the specified formula is:

$$0.043234877 \text{ or } 4.323\%.$$

This means that an investor in common stocks in the Nigerian capital market would expect an annual rate of return in the form of dividend of less than 5% on his investment.

The dividend payout ratio for the twenty most capitalised firms in the capital market and the average for the entire market are presented in the Table 2.

The dividend payout ratio also show significant variation between the twenty firms with a range of between 0.260345393-1.315307371 or 26.03-131.54%. The dividend payout for Mobil tends to be more than a hundred percent because in 2000, it paid a dividend that was equal to that of the previous year though there was a significant drop in Earnings Per Share from N 8.90 to N 1.03. For the entire market, the payout ratio is:

$$0.575461493 \text{ or } 57.546\%.$$

This means that on the average, firms in the capital market pay about half of their EPS as dividends.

The summary of the regression result on the relationship between DPS and Total Assets for the twenty most capitalised firms are shown in Table 3.

For Nigerian Breweries, an  $R^2$  of 0.241 or 24.1% shows that the independent variable (Total Asset) explains only 24.1% of the systematic variation in DPS during the period being studied. The calculated  $t$  (1.595) is less than the  $t$ -tabulated (1.8595) at 5 percent level of significance. This means that there is no significant relationship between DPS and Total Assets. Also the  $F$ -value of 2.543 is insignificantly low and thus invalidates a significant linear relationship between the dependent variable and independent variable. The Durbin-Watson statistic of 0.913 also shows a low presence of auto regression between the two variables.



**Table 3: The relationship between dividend per share and total assets for the twenty most capitalized firms in Nigeria**

Company	R <sup>2</sup>	R <sup>2</sup>	F-Statistic	t-Statistic	Coefficient	D-W statistic	SEE
Nigerian Breweries	0.241	0.146	2.543	1.595	5.814E-11	0.913	0.637404
Guinness	0.784	0.753	25.352	5.035	6.485E-10	0.953	1.415720
Union Bank	0.709	0.753	17.071	4.132	3.200E-12	0.644	0.275178
Nestle	0.755	0.668	24.680	4.968	5.062E-12	1.061	1.214860
First Bank	0.846	0.824	38.680	6.205	2.434E-12	1.678	0.142902
NBC	0.545	0.480	8.387	2.896	6.021E-11	2.055	0.317426
Unilever	0.023	-0.117	0.163	0.403	1.560E-11	0.813	0.408664
Total	0.554	0.480	7.458	2.731	1.264E-09	1.321	1.430173
Cadbury	0.829	0.808	38.842	6.232	1.115E-10	1.558	0.157640
Conoil	0.055	-0.181	0.234	-0.484	-2.78E-10	1.659	3.228751
Mobil	0.003	-0.122	0.024	-0.154	-1.90E-10	1.864	1.795032
GTB	0.639	0.579	10.624	3.259	4.961E-11	1.735	0.166290
WAPCO	0.908	0.862	19.697	4.438	8.556E-11	1.326	0.057726
Texaco	0.196	0.062	1.463	1.209	1.221E-09	0.963	1.490569
Oando	0.090	-0.040	0.696	0.834	2.960E-11	1.332	0.624211
UBA	0.111	-0.015	0.878	0.937	1.216E-12	1.598	0.248943
Mnet/Supersport	0.770	0.694	10.071	-3.173	-5.43E-12	2.670	0.624211
PZ	0.174	0.057	1.479	1.216	8.663E-12	0.773	0.144462
Ashaka cement	0.645	0.595	12.733	3.568	1.812E-10	2.337	0.308350
Afribank	0.164	0.024	1.174	1.084	4.961E-13	2.559	0.034395

For Guinness Nigeria Plc, an R<sup>2</sup> of 0.784 or 78.4% shows that Total Asset significantly determines DPS. In other words, total assets explain over 70% of the systematic variation in DPS in the period under study. Also, the calculated t (5.035) is greater than t-tabulated (1.8946) at 0.05 level of significance, which further supports the hypothesis that DPS is significantly determined by Total Assets. The F-value 25.352 is greater than the F-tabulated, 5.59, which validate the presence of significant linear relationship between the dependent and independent variable. The D-W statistic of 0.953 however shows a low presence of auto regression between DPS and Total Assets. Apart from Guinness Nigeria Plc, nine other firms, Union Bank, Nestle, First Bank of Nigeria Plc, Total Nigeria Plc, Cadbury, GTB, NBC, WAPCO and Ashaka Cement, reported R<sup>2</sup> value of well over 50%. The F and t-calculated for these firms were also greater than the F-tabulated and t-tabulated at 0.05 levels of significance. The high F-values validate the presence of a significant linear relationship between DPS and Total Assets. The calculated t-values allow us to conclude that for these firms too, total assets significantly determine DPS. The D-W statistic for the first six firms mentioned above shows a low presence of auto regression between DPS and Total Assets. While for the last three firms, the D-W statistic shows a high presence of auto regression between DPS and Total Assets.

Similar to Nigerian Breweries Plc, eight other firms, Unilever, Conoil, Mobil, Texaco, Oando, UBA, PZ and Afribank, reported R<sup>2</sup> values of less than 20%, with F and t calculated lesser than F and t-tabulated at 0.05 level of significance. The low R<sup>2</sup> values implies that, for these firms, Total Assets explain less than 20% of the systematic variation in DPS in the period under study. The low F-values invalidates the presence of a significant linear relationship between DPS and Total Assets, while the t-values shows that total assets do not determine DPS in these firms. The D-W statistic shows a low presence of auto regression between DPS and Total Assets for these firms except for Afribank where the D-W statistic shows a high presence of auto regression between the variables.

Mnet/Supersport showed a peculiar regression result. Though the R<sup>2</sup> was 77%, the F and t-calculated were nevertheless lesser than the F and t-tabulated, which means that a significant linear relationship between DPS and Total Assets is not valid for this firm. Also, the t-value refutes the claim that total assets strongly determine DPS in this firm. The D-W statistic shows a low presence of auto regression between DPS and Total Assets. Conclusively, while results for ten firms indicate that Total Assets, to a large extent determines DPS, results for the other ten firms indicate otherwise.

## **CONCLUSION**

This study was undertaken on the assumption that the twenty most capitalised firms in the stock market amply represents trends in the market, we can summarise our findings as follows:

- That the rate of return on common stocks in the Nigerian capital market is less than 5% (4.323%).
- That the average dividend payout ratio of quoted firms in Nigeria is less than 60% (57.546%).
- That it cannot be said with certainty that Total Assets is a strong determinant of DPS for firms in the Nigerian Capital market.

Based on these findings, we can therefore conclude that equity investors in the Nigerian capital market can only expect an average annual return on investment of about 4.323%. Also, quoted firms in Nigeria pay as dividend, about half the earnings from the investment. This implies that, they tend to pursue pari-pasu, both shareholders satisfaction in terms of stable dividends and company's growth in terms of reinvestment. Lastly, it cannot be said with certainty that Total Assets significantly determines DPS. And so, investors might not necessarily concentrate their investment wholly on the most capitalized firms in building their portfolios. A further study would be required to ascertain the relationship between total assets and DPS on other less capitalised firms in the Nigerian Stock Market.

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