

# PORTFOLIO SELECTION STRATEGIES IN THE NIGERIAN CAPITAL MARKET: VALUE STOCKS OR GROWTH STOCKS?

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## Abstract

*The purpose of this paper is to compare the portfolio performance of value stocks and growth stocks and to determine which is more profitable for investors on the Nigerian Stock Exchange in selection of portfolios. The data used in this paper comprise of daily prices of all the quoted companies in the First tier for 2008 and 2009. Portfolios were formed on the basis of value stocks and growth stocks. Their performances were compared on a yearly basis to determine the best performing strategy. Descriptive statistic methods were used in this study. This study shows that growth stocks strategy outperformed value stock strategy in the Nigerian Stock Exchange for the period under review, and this could be due to high risk involved in growth stock. The study recommends that the risk seeker investors should invest more in growth stocks due to their high returns/ risks profiles. While the risk-averse investors should invest more in value stocks due to their lower returns/ risk profiles.*

## I. Introduction

Modern portfolio theory provides a solid theoretical foundation for building portfolios that are robust and closely aligned with an investors' stated risk and return preferences. Modern portfolio theory holds that diversification of assets may increase returns at a reduced risk level. Modern portfolio theory also explains the selection and construction of asset portfolios based on the measured risk, risk preferences of individuals and the expected return on the investments.

Investing in the stocks is both fascinating and rewarding, but not without some attendant risks. Growth stocks and Value stocks are two distinguishable financial assets used in portfolio

selection strategies in the stock market across the globe. This is not without the attendant risks which can prevent consistent superior performance for investors.

The objective of this paper is to determine the optimal portfolio selection strategy with a higher return and lower risk. Growth stocks and Value stocks selection are styles of investing in stocks. Neither of the portfolio selection approach is guaranteed to provide appreciation in stock market value, both carry investment risk.

This paper therefore seeks to examine these two basic investment selection strategies (Value and Growth stocks) in the Nigeria stock market to ascertain which one will yield the optimal return on investment to the investor using daily stock prices. Daily stock prices from January 2008 December 2009 were obtained from the First tier market of the Nigeria Stock Exchange.

In order to accomplish this objective, the paper is structured into five sections including this introductory section. Relevant literature on Growth stocks and Value stocks investment strategies were reviewed in the second section, while the theoretical framework of the study is performed in the third section. Empirical analysis is performed in section four and the conclusion is done in section five.

## II. Literature Review

Most investors will prefer to invest in a combination of securities which will assure better and more stable returns while minimizing risk. In building a portfolio of securities, a rational investor would only be interested in high returns with low risk (Osaze, 2000). According to Goodall (2002), all investors will choose a portfolio that is the optimal risky portfolio. Which portfolio that is

chosen as the optimal, depends on the investors decision rule. However, Markowitz (1959) disregards the need to have all results evaluated by the individual investor with these indifference curves. The only portfolio that is optimal according to Markowitz (1991) is the one that is tangent between the capital allocation line (CAL) and the Efficient Frontier.

A variation of different assets will provide the investor with a variability of returns in the investor's portfolio and reduce the risk. In order to achieve portfolio optimization, the investor has to allocate the portfolio in different asset classes. The most beneficial way to allocate the assets is to let a global touch permeate the portfolio. Look at different national markets in order to find independency, hence reduce the risk (Litterman, 2003).

#### Growth Stocks and Value Stocks

Miranda (2010) describes Growth stocks as those stocks that represent rapid growth. They generally offer higher returns on the stock investments made. However, with those higher returns also come higher risks. A stock's value with growth stocks is usually determined on the basis of its return potential. Growth for small companies is generally a yearly return of at least 10%, and for larger companies, it should be around 7%. Some stocks have even higher returns in sectors that have higher returns potential. When incorporating growth stocks in a portfolio, an investor might set a reasonable level of price at which to sell. This can help the investor earn a profit and get out before a bear market destroys the value of the stock.

Growth stocks generally have high growth rates in things like earnings and sales. Because of the way the market tends to value stocks, those with high growth rates also tend to have high Price-to-book value (P/B), high earnings (P/E), or high sales (P/S). So a value stock may have a P/E of 15, while a growth stock might have a P/E of 29 (Knapp, 2007). Lott and Selengut (2007) state that growth stocks are most often thought of as flashy start-ups, high tech innovators, and generally more speculative entities that should be dealt with carefully. These are the bread and butter of both growth and index funds and are the kind that the media covers most extensively. Popular definitions describe growth stocks as those of companies that: are growing earnings and/or revenue faster than their industry or the overall market; pay little or no dividend,

preferring to use their income to finance expansion; are young, with little or no earnings history, and are valued on the basis of anticipated future earnings; have high price-earnings ratios; and are currently growing earnings with potential to continue growing earnings 15% to 30% annually for the next one to three years.

This implied growth valuation by investors suggests that investors anticipate continuing improvements in operating performance. Typically, operating performance can be measured by variables such as earnings, assets or sales. High growth rates should entice competitive market forces and increase risk, thereby reducing future growth of these companies. (Broussard, Michayluk, and Neely, 2005).

Graham and Dodd (1934) were the first to develop the value stocks investing strategy. It is sometimes called a conservative investing strategy or an undervalued stock approach. It is well known that value stocks have historically earned higher returns than growth stocks. A lively debate still exists over the question of whether this value premium exists because value stocks are riskier or because the market is inefficient (Davis, 2001). Knapp (2007) sees value stocks as the ones that have low Price-to-book value (P/B), low earnings (P/E), or low sales (P/S). In this sense, high E/P and B/M stocks are classified as value stocks and these stocks have low growth prospects since their price reflects current earnings with little premium for growth.

Value stocks are those that remain relatively steady, offering much slower growth during bull markets than the riskier stocks, but providing for measured increases in value. Value stocks are, theoretically, fairly inexpensive in relation to current company earnings. They more closely match / reflect the actual current performance of the company. As a result, they retain their value better when the stock market is in a slump. While losses are present during such times, price drops in share value are not as dramatic as those seen in growth stocks.

The distinguishing feature of value stocks is price. With this approach, investors pick up stocks at attractive low prices, looking for deals or bargains. They tend to look for companies that have high dividend yields, low market-to-book-value ratios, or low price-earnings ratios. In times of economic downturn or depression or

uncertainty there tends to be an increasing emphasis on seeking such high-yield investments. This stems from the desire to achieve high current income, by holding stocks that pay high current dividends. A variation of this approach is often used by some analysts. This alternative strategy is called "purchasing out-of-favour stocks", selling at a discount to the overall market (Fischer and Jordan, 2007).

Chan and Lakonishok (2004) suggest that value stocks are not more risky than growth stocks, based on a variety of indicators including beta and return volatility. Indeed, using one popular risk indicator which focuses on performance in down markets, value stocks suffer less severely than growth stocks when the stock market or the overall economy does poorly.

#### Empirical Literature

Hart, Slagter and Dijk (2000) suggest in their recent empirical evidence that value and momentum strategies generate significant excess returns in emerging markets. They confirmed these results and extend them in several directions. Firstly, they examined a broader range of stock selection strategies, including strategies based on analysts' earnings revisions. And also considered multivariate strategies, whereby stocks are selected on multiple characteristics, and found that this enhanced the overall performance. Excess returns also increase if country selection is incorporated into the strategies, but the risk of the strategies increases proportionally.

Secondly, they tested whether the strategies can be implemented successfully in practice by a large institutional investor, facing a lack of liquidity, restrictions on foreign ownership and substantial transaction costs. They found that even under such more realistic circumstances the strategies earn significant excess returns.

Thirdly, they examined several popular explanations for the excess returns. And find no evidence of higher market risk or lower liquidity of the strategies. Instead, based on the developments of earnings and earnings revisions after portfolio formation, they found that the results are consistent with behavioural explanations.

In their study, Fama and French (1998) find that the value stocks had lower risk and the growth stocks had the highest risk. They argued that value stocks are risky because they are down-and-out

and in danger of getting worse, therefore investors need to be compensated with higher returns in exchange for accepting the risk of investing in value stocks.

Jurek and Viceira (2006), find that on average equity-only investors with short horizons optimally choose portfolios heavily tilted toward value and away from growth, regardless of their risk aversion. Aggressive short-term investors find it optimal to hold long large positions in value stocks offset by large short positions in growth stocks, because the mean return spread between value and growth is positive, and their returns are highly positively correlated. Highly risk-averse short-term investors hold large positions in value stocks because of their smaller return volatility and high correlation with growth.

However, for emerging markets only few studies exist that investigate individual stock selections, which, moreover, have rendered conflicting results. For example, whereas Claessens, Dasgupta and Glen (1998) find evidence for a premium for large firms and growth stocks, Fama and French (1998), Rouwenhorst (1999) reports a premium for small firms and value stocks. Claessens, Dasgupta and Glen (1998) also documented a premium for beta and turnover, but Rouwenhorst (1999) finds no evidence for either of those. Achour, Harvey, Hopkins, and Lang (1998) assert that the aforementioned studies considered only a limited number of strategies.

#### III. Methodology

Essentially, this study focuses on examining the best portfolio selection strategy between Growth and Value stocks in the Nigerian Stock Exchange that will yield the optimal return on investment to an investor. The selection of share however covered all the quoted companies on the Nigerian Stock Exchange in the First-tier market from 2008 to 2009. The researchers classified the companies into Growth and Value stocks by using the P/E ratio.

The daily closing values of all the stocks on the Nigerian Stock Exchange were used to determine the daily returns and risk of each stock for the 2008 and 2009 year respectively. The capital gain formula was used to calculate the return, which is specified below:

$$R_{i,t} = \text{Returns on security } i \text{ on time } t$$
$$P_t = \text{price of security at time } t.$$
$$P_{t-1} = \text{price of the security at time } t-1$$

**Data Sources**

This study relied primarily on daily stock prices, and end of year P/E ratio as at 31 December for each respective year from the Nigerian Stock Exchange (NSE) database and Cashcraft website. The end of year P/E ratio was adopted to allow for uniform comparison at a point in time. This database contains data on firms quoted on the Nigerian Stock Exchange starting from January 2008 to December 2009. The P/E ratio of all the stocks quoted in the first tier of the Nigeria Stock Exchange for 2008 and 2009 respectively were collected and sorted in a descending order. The P/E ratio of December 31 for each year was taken as the base to allow for uniformity. The sorted data were divided into two halves. The topmost half is regarded as the growth stocks while the other half value stocks.

Specifically the following variables were used:

- STDV08 and STDV09 = Standard deviation of Value Stocks for 2008 and 2009 respectively
- STDG08 and STDG09 = Standard deviation of Growth Stocks for 2008 and 2009 respectively

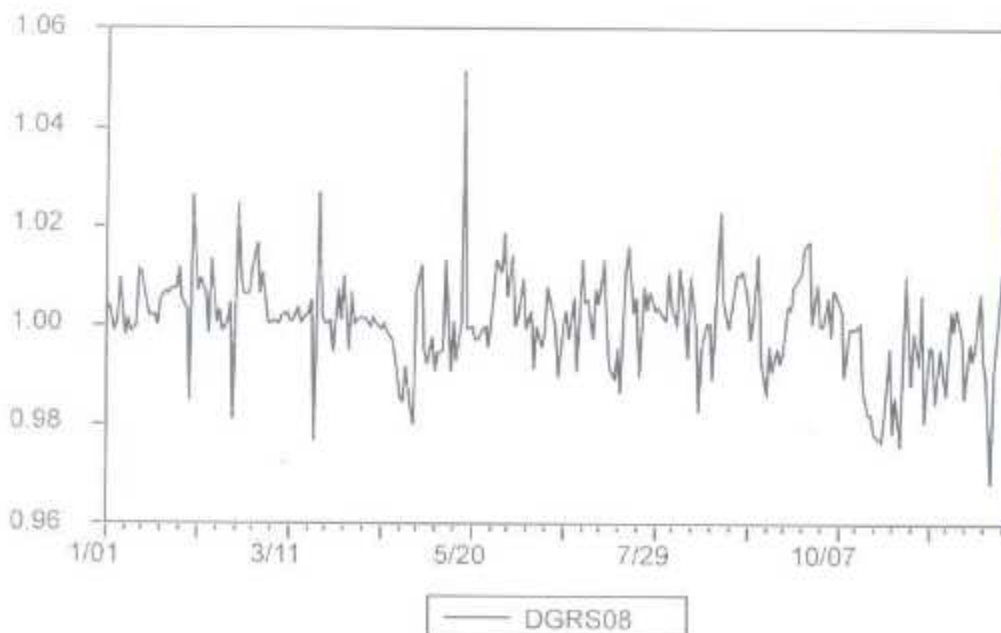
**IV. Analysis**

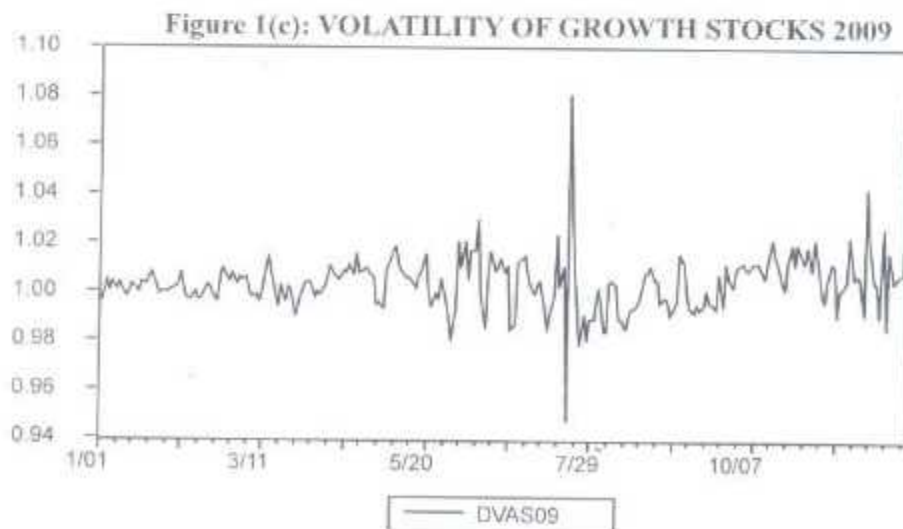
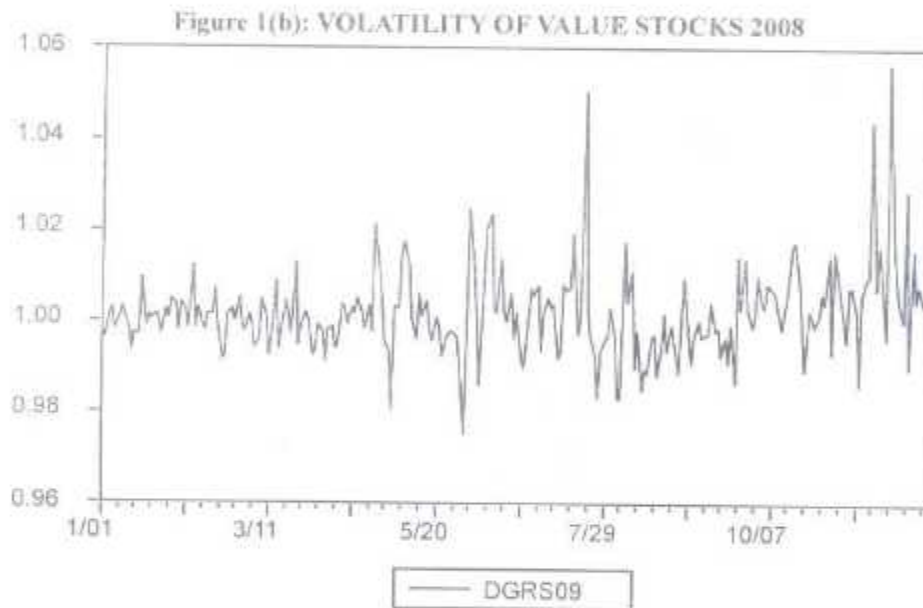
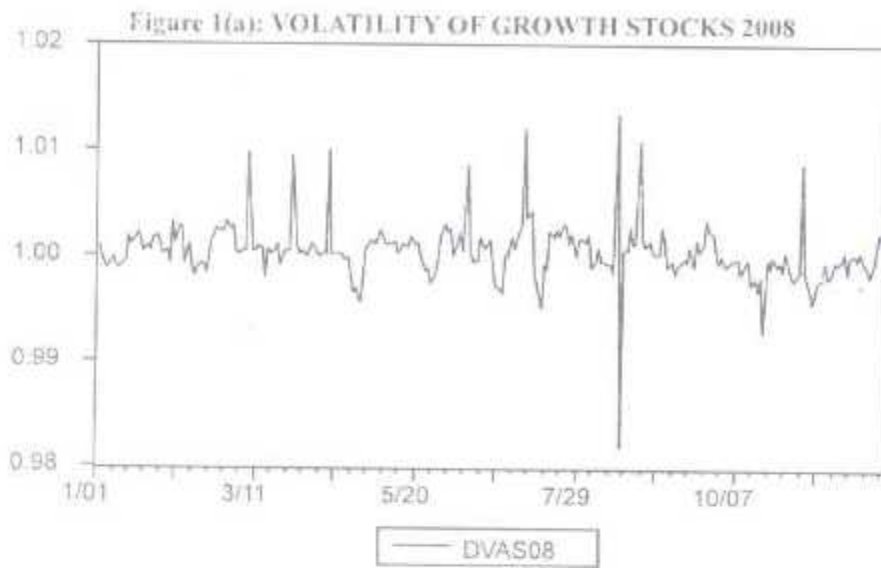
In this section we present an analysis of the data with the aim of empirically investigating the risks and returns associated with value and growth stocks in Nigeria. We begin with a broad descriptive analysis of all the data series in order to provide background information on each of the series. Then the aggregate data in terms of value / growth division is made.

**4.2 Descriptive Statistics of Aggregate Data**

In order to conduct further evaluation of risks and volatility of the stocks in the value / growth categories, the standard deviations for all firms in each category for the two years were collated and descriptive evaluation was performed. The result of the analysis of the aggregated output is shown in table 1.1 and in figure 1(a) to (d) below. The result shows that on the average, value stocks have a standard deviation of 3.30 with the median deviation as 1.65. The median value is close to that of the mean and the Skewness is quite low. This suggests that these stocks variation are reasonably symmetric or similar in nature. In order words, the dispersion among the variances is minimal. The standard deviation of the series is 3.78. The Jarque- Bera statistic of 86.57 is substantially less than the critical value of the chi-square distribution, 124.3 (at the 5 percent level of significance). Thus, we cannot reject the hypothesis that the value stock distribution is approximately normal.

For the same period, growth stocks reported an average value of 6.47 in standard deviation, with a corresponding median value of 2.68. The median is not quite close to the mean value and the Skewness is high, suggesting that variations in growth stock prices are asymmetric and are dissimilar in nature. The standard deviation of the series is 11.83 while the JB statistic is 1107.2. This value is much higher than the 5 percent critical chi-square value of 124.2. Thus, we accept that the values are not normally distributed.





A major point of comparison among these statistics is the mean and standard deviation of the aggregate data. It is seen from the result that both the mean and standard deviations of the growth stock prices are higher than those of the value stock prices. Apparently, for the 2008 period, growth stock appeared to be more volatile and risky than value stocks. This result is also evident when we consider figures 1(a) and 1(b). Stock movements in the figure 1(a) for growth stocks fluctuate more than those in figure 1(b). The value stocks are seen to follow a smoother pattern. Investor confidence is much more secure in value stocks than in growth stocks.

For the 2009 period, the trend between the value and growth stocks also follows the same pattern.

The mean value of aggregate standard deviations for value stock prices is 2.01 while the median deviation is 0.61. The standard deviation is also 7.55 and the Skewness is 8.72 which suggest that more of the variations lie below the mean value. The JB statistic is also sufficiently high to warrant the rejection of the hypothesis of a normally distributed series. For the growth stock prices, the mean standard deviation is 4.109 while the median is 1.09 giving a reflection of more volatility when compared with the value stock prices. Moreover, the standard deviation of the series is 9.79, which is again higher than that of the value stock. This result again confirms the suggestion that the growth stocks are far more volatile and risky than the value stocks.

Table 1.1: Risk/Return Analysis of Data

	STDV08	STDG08	STDV09	STDG09
Mean	3.301673	6.474199	2.007014	4.108830
Median	1.645717	2.681265	0.618383	1.087647
Std. Dev.	3.776072	11.83448	7.549667	9.786621
Skewness	1.749208	3.717465	8.720716	4.693962
Jarque-Bera	86.56689	1107.176	23983.18	2715.103
Probability	0.000000	0.000000	0.000000	0.000000

Source: Authors' Calculation (2012)

### Conclusion

This study sets out to examine the portfolio selection strategies: growth or value stock as it relates to emerging stock market such as Nigeria. Having analyzed the relevant literatures on portfolio selection strategy in the Nigeria capital market, descriptive statistics was used for modelling and forecasting the conditional variance or volatility of the variable.

The analysis of both growth stocks and value stocks prices in 2008 show that the growth stocks volatility was more persistent, which renders it risky and difficult to forecast, while that of the value stocks have much lesser volatility and risks, and are minimised by the expectation behaviour of agents. On the other hand, the analysis of the results for growth and value stocks for 2009 period

confirms that of the 2008, that growth stocks tend to be more volatile and hence more risky than value stocks.

In view of the above therefore, the study showed that growth stocks strategy outperformed value stock strategy in the Nigerian stock exchange for the period under review, and this was due to the high risk involved in growth stock. Hence the study recommends that the risk-seeker investors should invest more in growth stock due to its high returns/risks profile. While the risk-averse investors should invest more in value stocks because of its lower returns/risks profile.

Although, there is no general consensus in the literature as to what methods the investor should use in selecting the number of stocks holding that

would optimize his portfolio returns, it will suffice to recommend that, within the context of the Nigerian financial system and the stock market in particular, it is advantageous for the rational investor to invest in growth stock; but much more advantageous to invest in value stocks when the activities of the exchange is transparent as compared with that of the developed economy.

Moreover, since growth stocks have higher betas and outperform in a bull market, whereas, value stock outperform in a bear market (all things being equal), investors in the Nigeria capital market should have more growth stocks than value stocks in their portfolio when the market is bullish. And more value stocks than growth stocks when the market is bearish.

Finally, the risk-averse investor is advised to invest more in value stock when constructing his portfolio because this suits it objective of assuming lesser risks and lesser returns. On the other hand, the risk lovers in the Nigeria stock market is advised to invest more on growth stocks in constructing his optimal portfolio since this corresponds to his objectives of assuming more risk in order to get more returns.

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