

DIVIDEND POLICY AND SHARE PRICE VOLATILITY IN NIGERIA

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Abstract

The purpose of this paper is to examine the relationship between dividend policy and share price changes in the Nigerian stock market. A multiple regression analysis is used to explore the association between share price changes and both dividend yield and dividend payout ratio. Of the two measures of dividend policy, dividend yield showed a general negative impact on share price risk. The other measure of dividend policy, dividend payout ratio, showed negative influences in some years and positive influences on others though all were at lower significant levels. The study supports the fact that dividend policy is relevant in determining share price changes for a sample of firms listed in the Nigerian Stock Exchange. The challenge for managements/accountants is to generally improve the quality of the financial statements to avoid producing wrong information which could lead to wrong decisions by investors.

Keywords: Dividend policy, share price changes, dividend yield, dividend payout ratio.

Introduction

In early corporate finance, dividend policy referred to a corporation's choice of whether to pay its shareholders a cash dividend or to retain its earnings. It addressed the frequency of such payments (whether annually, semi-annually or quarterly) and how much the company should, if it decides to do so, pay.

Dividend policy, in today's corporations, has gone beyond this scope to include such issues as whether to distribute cash via share repurchase or through specially-designated rather than regular dividends. Other issues considered are how to balance the preferences of highly taxed and relatively "untaxed"

investors, how to maintain, and improve, the value of its shares and stocks in the market, etc.

However, the vital questions asked today by corporate managers are the very same ones asked by managers in the 1950s. Litner (1959) identified these questions as:

- Should dividend payments be maintained at its current level or changed?
- Would investors prefer stable dividend payouts, or those that fluctuate with earnings?

- Should dividend policy favour older or young investors? Etc.

The dividend policy of companies has, thus been a common subject of research for more than half of a century (Litner, 1959; Gordon, 1959; Modigliani, 1982; etc) and it has been related to several vital corporate matters ranging from agency problems to share valuation.

The volatility of ordinary stock is the systematic risk faced by investors who possess ordinary stock investments (Guo, 2002) it is a measure used to define risk, and represents the rate of change in the price of a security over a given time. Usually, the greater the volatility, the greater the chances of a gain or loss in investment in a short period of time. Volatility is a measure related to the variance of a security's price. Thus, if a stock is labeled as volatile, its price would greatly vary over time, and it is more difficult to say in certainty what its future price will be (Criss, 1995). investors preference is for less risk The lesser the amount of risk, the better the investment is (Kinder, 2002). In other words the lesser the volatility of a given stock, the greater its desirability to investors.

The linkage between the dividend policy of corporations and the volatility of their stock prices has been explored at different times by different researchers (Allen and Rachim, 1996; Baskin, 1989; Nishat and Irfan, 2003; Schwert, 1989). Also, a number of dividend theories exist that attempt an explanation of the influence of corporate dividend policies on stock prices. These theories include the clientele effect, the information or signaling effect, the bird-in-hand theory and the rate of return effect.

Investors are by nature risk averse, and the volatility of their investments is of importance to them because it is a measure of the level of risk they are exposed to. The Nigerian Stock Market, which is an emerging one, manifest the features of a growing market, with relatively stronger regulations than those of matured markets of the Europe and less sophistication on the part of market participants. Companies realize, also, that investors pay close attention to their dividend returns, and that the riskiness of their investments may affect the valuation of the firm's shares in the long run (investopedia.com). This makes the volatility of stock prices as important to firms as it is to investors. In the light of the foregoing the basic thrust of the paper is to examine the relationship between dividend policy and stock price volatility in the emerging capital market of Nigeria.

The remaining part of the paper is organized into four sections. Section II provides the theoretical framework and a review of empirical literature; section III addresses the methodology employed in the study, section IV presents the empirical result of the study and section V concludes the paper.

Review of the literature

Dividends are returns to shareholders from company earnings. A dividend is a cash payment from a company's earnings announced by a company's board of directors and distributed among stockholders. In other words, dividends are an investor's share of company profits, given to him or her as part owner of the company. (<http://investopedia.com>).

At the end of each year, every publicly traded company has to decide whether to return cash to its stockholders and, if yes, how much in form of dividends. This is the dividend

decision and is central to the dividend policy of firms.

Company dividend policy

Dividend policy is a firm's policy with regards to paying out earnings as dividend versus retaining them for reinvestment in the firm. It is the division of profit between payments to shareholders and reinvestment in the firm. Dividend policy is thus an important part of the firm's long-run financing strategies.

Issues in dividend policy

Shapiro and Balbier (2000) submit that the following issues, based on empirical evidence and theoretical suggestions, are vital for firms to consider when setting dividend policy.

What are our investment opportunities?

Setting dividend payouts in relation to long-term growth opportunities maximizes financial flexibility and reduces the financial frictions associated with raising external capital. Hence, a rapidly growing firm, with an abundance of positive net present value projects, should retain a larger share of its operating cash flow than a firm with few profitable investment opportunities.

What kind of Business Risk Do We Face?

A firm with unstable or cyclical earnings should set a low dividend payout rate to reduce the odds that it will be forced to cut its dividend. On the other hand, firms with stable earnings should be more willing to pay dividends.

Who Are Our Stockholders? Dividend policy should match the choice of the stockholders between dividends and capital gains; though there is no evidence that one dividend clientele is better than another.

How is Our Liquidity Position? All else being equal, firms with high liquidity and good

access to the financial markets are in a better position to pay dividends than those firms with limited financial resources.

Is Control an Issue? If a firm's owners or managers are concerned about retaining control, they may be reluctant to issue additional stock. Retained earnings are a preferred source of capital for such firms, mandating low dividend payout ratio if the present debt-equity ratio is at its upper limit.

Methodology

The relationship between ordinary stock price volatility and dividend policy has been analyzed utilizing multivariate least squares regression. The regression model developed basically relates price volatility with the two main measures of dividend policy – dividend yield and dividend payout ratio. In line with the recommendations by Baskin (1989), a number of control variables was included to account for certain factors that affect both dividend policy and stock price volatility – Asset Growth, Earnings Volatility and firm size.

The result is a multivariate least square regression model shown below:

$$PV_i = a_0 + a_1 DY_i + a_2 DPR_i + a_3 GRA_i + a_4 EV_i + a_5 TNA_i$$

Where PV = Price Volatility

DY = Dividend Yield

DPR = Dividend Payout Ratio

GRA = Asset Growth

EV = Earnings Volatility

TNA = Size

The model was evaluated annually over the 8(eight) years period to measure the periodic effect of dividend policy on stock price volatility.

Discussion of results

In evaluating our sample firms, stock and financial related data of these firms are collected over an 8-year period from 1998-2005. The firms studied include four (4) banks, and two (2) firms each from food and beverage, petroleum and brewing sectors.

One major source of collected data is the five-year financial summary of the firms published in their financial statements, but taken from, as recorded in, the annual factbook of the Nigerian Stock Exchange. Stock prices for the years analyzed was observed from the year-end publications of stock market information in newspapers and financial journals.

Stock price data is shown in appendix I along with 8-year averages. Appendices II to V show respectively Total/Net Assets, Annual Dividends per Share, Annual Dividend Payment and Earnings Before Tax collected from the various sources. The figures contained in these tables were refined using the stated methodology to arrive at the data for the variables used in the regression equation model.

Except for the variable size, for which Total/Net assets was used as a proxy, data for dependent variable Price Volatility, and independent variables Dividend Yield, Payout Ratio, Asset Growth and Earnings Volatility is presented in appendices VI to X respectively.

The variables used in the regression model were computed from those collected from the Nigerian Stock Exchange Factbook, newspapers and other financial tabloids. (See appendices).

A multivariable least squares regression model was adopted to relate the estimation of price volatility to the variables dividend yield, dividend payout ratio, asset growth, earnings volatility and firm size.

The regression equation used for data analysis is shown below:

$$PV_i = a_0 + a_1DY_i + a_2DPR_i + a_3GRA_i + a_4EV_i + a_5TNA_i$$

Where PV = Price Volatility

DY = Dividend Payout Ratio

GRA = Asset Growth

EV = Earnings Volatility

TNA = Size

a_0 = Intercept

Price volatility was estimated using Microfit 4.1 Econometric software.

In testing this hypothesis, a summary of the regression results is shown in table 1 in the appendices. For each year, the figure in parenthesis represents the *t-ratio* for the associated variable.

To test the hypothesis, we shall first look at the influence of the control variables. The results show strong negative relation between firm size and price volatility, in line with expectations. Nishat and Irfan (2003) posit that the stocks of small listed firms could be less informed, more illiquid and as a consequence subject to greater price volatility. The results show consistency with this postulation.

Also, the results reveal a general significant positive effect on price volatility by earnings volatility, although certain negative effects can be observed in year 4, 7 and 8. In line with expectations, this shows the nature of relationship between dividend policies and variability of company earnings. This is also consistent with the signaling theory postulation and stickiness of dividends, this is consonance with literature.

The last control variable is asset growth. The assumption is that where firms have positive NPV growth opportunities, it would employ its earnings to meet them, thereby making it

unavailable for distribution to shareholders. Asset growth in this study is weighted on proceeding year values. This rise in total assets value suggests that the firm has exhausted some of its growth and expansion opportunities. The results show significant negative impact on share price volatility, in line with expectations that as firm exhaust their growth opportunities, they will distribute more earnings as dividends, leaving their shares less risky. The results, however, show inconsistent relation in some years, which may be as a result of the influence of other factors such as low reported earnings, etc.

Having established the general nature of the influence of the selected control variables, the next step is the examination, on an annual basis, on the influence of dividend policy measures, in line with the control variables, on share price volatility estimation based on the results.

In year 1, the results show that only 7.6% of price volatility estimation is explained by the variables under consideration. The standard error of estimation, hereafter referred to as SEE, is 0.29. The ratio of SEE to the mean of the dependent variable is minimized at 0.66 showing low residual variance and overall goodness-of-fit. The f-statistic is insignificant at 5% level of significance. The parameter estimates or the measure of dividend policy is consistent for payout ratio but inconsistent for yield. It shows a negative coefficient of -0.22 for payout ratio and a positive coefficient of 1.47 for dividend yield (see appendix XI).

Year 2 (see appendix XII), show results inconsistent with expected signs, as both measures of dividend policy yield and payout ratio show coefficients of 4.15 and 0.37 respectively. The dependent variables account for 68.4% of the estimation of price volatility. The ratio of SEE to the mean of the dependent variable is minimized at 0.21, showing low

level of residual variance, hence an overall goodness-of-fit.

Year 3 shows significant negative relations between dividend yield and price volatility and positive impact for dividend payout ratio at lower significance levels. The parameter estimates for the measures of dividend policy show coefficients of -1.95 and 0.2 for yield and payout ratio respectively. The ratio of SEE to the mean of the dependent variable is minimized at 0.17, showing low level of residual variance and overall goodness-of-fit.

The parameter estimates for both measures of dividend policy in year 4 show significant negative relations with coefficients of -0.83 and -0.24 for dividend yield and dividend payout ratio respectively. The independent variables account for 72.4% of the estimation of price volatility. The ratio of SEE to the mean of the dependent variables is minimized at 0.41, showing goodness-of-fit.

Year 5 shows notably strong expected signs for dividend yield but returns inconsistent signs for dividend payout ratio. Parameter estimates show coefficients of -0.767 and 0.112 for dividend yield and dividend payout ratio respectively. The regressors accounted for 95.6% of the estimation of price volatility. The ratio of SEE to the mean of the dependent variable is minimized at 0.38, showing low residual variance and goodness-of-fit.

Year 6 shows signs inconsistent with expectations for both measures of dividend policy. The coefficients of yield and payout ratio are 0.24 and 0.20 respectively. The independent variables accounted for 49.9% of the estimation of price volatility. The ratio of SEE to the mean of the dependent variable is minimized at 1.11, showing moderate levels of variance.

Year 7 results reveal that independent variables account for 83.6% of the estimation of price volatility. The ratio of SEE to the mean of the dependent variable is minimized at 0.43, showing low levels of residual variance. Both measures of dividend policy exhibit signs inconsistent with expectations; the coefficients of dividend yield and payout are 15.03 and 0.802 respectively.

In year 8 independent variables account for 22.9% of the estimation of price volatility. The ratio of SEE to the mean of the dependent variable is minimized at 0.69, showing low levels of residual variance. Both measures of dividend policy show signs inconsistent with expectations. The coefficients of dividend yield and payout ratio are 0.911 and 0.29 respectively.

Generally, dividend yield showed expected signs at high significant levels. This shows the importance of dividend yield over time in the determination of price volatility. The negative relationship between yield and volatility was clearly shown in year 5, although positive impact could be observed at lower significant levels. Dividend payouts, on the other hand show generally signs inconsistent with expectation. The impact of this variable could be observed better at lower significant levels. This may be, as suggested by Modigliani and Miller (1961), that investors pay little attention to payouts in shaping their investment behaviour. It may also, however, mean that investors view payouts as in some way contributory to share riskiness. In other words, due to cyclical variation in firm operations, and other economic factors affecting firm activities, investors may see payouts as 'bait' to get them to keep their investments, and sometimes sell immediately after payouts have been received and purchase more dividend payment shares, thus increasing the price risk of the shares.

In conclusion, from the results of the regression model, an inverse relationship is observed at high significant levels between dividend policy measures and the price volatility of firms. At lower significant levels, dividend payout shows a positive variation with price volatility contrary to expectations. As such, we accept the null hypothesis, H_0 , of the research.

Summary of findings

The objective of this work is to examine the effect of dividend policy measures on the estimation of stock price risk, indicated by volatility of stock price in Nigeria over time. To evaluate this, a sample of 10 publicly quoted firms is adapted and analyzed over an eight-year period from 1998-2005. A general negative effect on price volatility by dividend policy measures is expected in line with related literature and several dividend policy theories.

The empirical estimation of this effect is carried out based on a multi-variable least squares regression model that includes a number of control variables that affect both dividend policy and price volatility.

Of the two measures of dividend policy, dividend yield showed a general negative impact on share price risk. The other measure of dividend policy, Dividend payout ratio, showed negative influences in some years and positive influences on other though all were at lower significant levels. This suggests dividend yield as being more important than payout ratio in influencing price volatility of ordinary shares.

Though the earlier workers by Baskin (1989) and Nishat and Irfan employed averages and not annual analysis over the scope of years that they studied, the results shown by this study partially coincides with their findings on the

effect of dividend yield on price volatility. The findings reached in relation to dividend payout ratios can be explained by the growth-dominated nature of the Nigerian Stock Market and the Nigerian economy.

Three control variables namely: size, assets growth and earnings volatility, were employed in this study. In line with expectations, and the position of previous literature, all the control variables, save earnings volatility, showed general negative effects on price volatility at varying levels of significance. A detailed documentation of the data used in this study and the regression estimations reached there from is included in the appendixes to this study.

Conclusion

The study established a level of consistency with previous literature. The general effect of dividend yield on price volatility, observed at higher significant levels, leads to the acceptance of the null hypothesis, which states that measures of dividend policy vary inversely with ordinary share price volatility over time. From the results observed in the control variables, the following conclusions are reached; in line with earlier literature.

- Firms with larger size experience less volatility than smaller firms
- Firms with more growth opportunities experience price volatility than those with less opportunity for asset growth.
- Firms whose earnings are not stable, but vary considerably, experience higher price volatility.

The results in this study are not as robust as it would have been. This can also be due to the small sample size and the growth nature of the country's capital market. This subject, thus, requires more scholarly attention, and further research incorporating more firms in the sample and expanding the scope of years studied. Results obtained can show investors a

lot of information about volatile stocks and the part played by dividend policy in stable and unstable stock prices.

Price volatility is an important concept and can greatly aid existing and potential investors to define and refine their investment behaviour. Studies on the volatility of stock prices, as has often been done in developed economies, can be expanded to show why investors should not be afraid of volatile stocks. In fact, it would show why and when, investors should invest in volatile stocks to maximize their returns.

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