

The Impact of Dividend- Per- Share on Common Stock Returns: A Re-Examination

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Abstract: *Studies on dividend policy are usually centered on two related issues. The first issue deals with how stock prices are affected by dividend policy. The second issue is on whether or not dividend policy affects the shareholders' wealth. No study was conducted to discover the relationship between common stock returns and dividend-per-share in Nigeria. Thus, this study is an attempt to discovering the type of the relationship existing between common stock returns of some selected manufacturing firms and dividend-per-share in Nigeria. The study used data generated over 13-year period from ten sampled manufacturing firms. Using both linear and quadratic polynomials models, the study came up with two highly significant common stock return valuation models that can be used by both stockholders and common stock analysts operating within the Nigerian capital market.*

Keywords: *dividend-per-share, common stock return.*

1. INTRODUCTION

The previous studies as regards dividend policy have covered many significant managerial decision making areas in corporate finance. However, the previous studies are mostly concentrated on two related issues. The first issue has to do with how stock prices are affected by dividends policy. It is an attempt to find whether stocks with higher dividend yields have higher or lower stock prices. This matter differs from whether or not changes in dividends have significant impact on prices. The second issue is whether or not dividend policy affects the type of shareholders' wealth, (Weston and Copeland, 1989).

Assuming a world with no taxes, Miller and Modigliani (1961) argue that dividend payout has no effect on shareholders' wealth. However, after relaxing the "no tax" assumption and introducing corporate and personal taxes into the Miller and Modigliani (1961) model, Farrar and Selwyn (1967) and Brennan (1970) argue that if the effective capital gains rate is lower than the ordinary personal income tax rate, then shareholders' wealth decreases when dividends are paid out. Previous empirical researches on the relationship between dividend yields and common stock prices have not looked at, directly, the relationship between Dividend-per-share and common stock returns using data generated from a developing capital market.

In Garba (2014), the same author had investigated the impact of dividend-per-share on common stock returns of some selected manufacturing firms listed on the Nigerian Stock Exchange (NSE), using linear regression model. The objectives of this Study, however, are to re-investigate into the relationship between dividend-per-share and average stock returns of the same selected manufacturing firms used in Garba (2014), but, employing polynomial models this time around, to measure the degree to which dividend-per-share affects the stock returns of the selected manufacturing firms listed on the NSE, to propose appropriate linear and quadratic stock returns pricing models with reliable explanatory powers for evaluating the impact of dividend-per-share on the stock returns of the manufacturing firms listed on the NSE.

2. LITERATURE REVIEW AND THE THEORETICAL FRAMEWORK

Much of the studies that are conducted in financial economics are on pricing of securities and other assets under the conditions of capital market equilibrium for corporate investment and financial policy, (1971).

Among the the earlier studies on capital market equilibrium and corporate financial policy was conducted by Modigliani and Miller (1958, 1963). They have explicitly outlined a general framework for the study and analysis of the effects of capital market structure and dividend policies on the evaluation of corporations under the condition of uncertainty, (Brennan, 1970). Modigliani and Miller (1958, 1963) paid attention to the effects of corporate taxes. They argue that in a world with corporate taxes but without personal taxes, a corporation can increase the value of its shares through increasing its debt-equity ratio.

The Modigliani's analysis was extended by Farrar and Selwyn (1967) by introducing personal income and capital gain taxes along with corporate taxes. According these authors, Modigliani and Miller had unsettled both practitioners and students of corporate financial policy by illustrating that, in the absence of distortions to market processes due to the existence of taxes, the cost of capital to a firm could not be affected by purely financial operations. According to Farrar and Selwyn (1967), there were circumstances in which a firm would not prefer have as much debt as possible in its financial structure. However, Farrar and Selwyn (1967) did not explore the changes in the nature of the market equilibrium caused by the introduction of personal taxes, (Black, 1971).

In addition, Brennan (1970) examines the Modigliani and Miller (1958, 1963) 's analysis , Brennan (1970) argues that while the Modigliani and Miller (1958, 1963) proposition directed its attention to the effects of the tax system as it relates to the taxation of corporate income . Their papers were characterized by what Brennan (1970) describes as "an almost total neglect of the complementary aspect of the system", which, as Brennan (1970) argues, is the taxation of individuals.

The Farrar and Selwyn (1967) is also criticized by Brennan (1970) who argued that their analysis was limited by its concentration on the net income received by an investor with given tax rates from a share in a corporation, as that corporation pursues alternative financial policies. The Farrar and Selwyn (1967)'s use of that net income concept as a criterion of optimality, as argued by Brennan (1970), suffered by its implicit neglect of the market exchange opportunities opened to an investor who did not find a particular set of financial policies congenial. To take into account those market exchange opportunities, one requires the development of a market valuation principle that could allow the computation of the impact of alternative financial policies on the value of the corporation. However, the Farrar and Selwyn (1967) paper lacked such a valuation principle, (Brennan, 1970).

Thus, Brennan (1970) introduces his own variant model of the market equilibrium under the condition of uncertainty in the presence of personal income and capital gains taxes and the implication for corporate financial policy. Brennan (1970) indicates that if short positions of any size are permitted in any stock, the basic equations for the prices and expected returns of all assets will continue to have the same form that is exactly similar to the case in which there are no taxes, (Black, 1971). Base on these assumptions, Brennan (1970) argues that a corporate desirability for more debts would always depend on the relationship between the corporate tax rate and an aggregate personal income tax, which should well diversified as well.

In another development, Black (1971) discovered that, under the condition of certainty, rather than uncertainty, the steps needed to stop arbitrage do lead to a market equilibrium that has different properties as compared with those found by other authors such as Farrar and Selwyn (1967) and Brennan (1970)

In accordance with the Black (1971)'s assumptions, both taxable investors and taxable corporations could borrow as much as the want. Also, corporations could pay out as little in dividend as the want At equilibrium, return on an asset, as Black (1971) argues, is a function of its tax bracket He believes that the introduction of uncertainty into the issue complicated the analysis

greatly, and might render the tax factors relatively insignificant in determining asset returns and the cost of capital in equilibrium.

Similarly, Garba (2014) investigated the impact of dividend –per -share on common stock returns of the Manufacturing firms listed on the Nigerian Stock Exchange. The data for the study was collected from ten companies randomly selected. The study period was from 1991-2003. The common stock returns for each of the 10 firms for the 13-years study period were calculated on weekly basis and annualized using geometric means. And, the actual dividend-per-share for each of the 13-years period was obtained from the various annual reports and accounts of the sampled firms. Linear regression was used to study the relationship between the dependent variable and the independent variable of the study. Pearson Moment Correlation was used for assessing the magnitude and the direction of the relationships between the variables of the study. The Pearson Correlation Coefficient was found to be 0.735, which is highly significant. The regression analysis of the data conducted in order to test the research hypothesis indicates that dividend-per-share has a significant impact on the common stock returns of the sampled firms ($P \leq 0.01$).

3. THE RESEARCH METHODOLOGY

The research population, in this study, is made up of one hundred and six (106) manufacturing firms listed on the Nigerian Stock Exchange (NSE) from 1991 to 2003. As its extremely difficult to reach the entire 106 firms principally due to resources and time constraints, this study considers only ten (10) of these firms, selected using stratified sampling technique. The sampled firms are West African Portland Cement Plc, P. Z. Industry Plc, Aluminium Manufacturing Company of Nigeria Plc, Nigeria Breweries Plc, Northern Nigeria Four Mills Plc, Smithkline Becham Nigeria Plc, United Nigeria Textile Plc, Grommac Industry Plc, Mobil Oil Nigeria Plc and Dunlop Nigeria Plc. These are sourced from the NSE Fact-book (2004). Each of these firms is listed either as a manufacturing firm, or, manufacturing is mentioned as part of the nature of its business.

The common stock returns for each of the 10 firms for the 13-years study period were calculated on weekly basis and annualized using geometric means. And, the actual dividend-per-share for each of the 13-years period was obtained from the various annual reports and accounts of the sampled firms. The common stock return (ARR) constitutes the dependent variable while the dividend-per- share constitutes the independent variable in this study.

3.1 The Study Models

The study employed Pearson moment correlation analysis as well as Linear and quadratic polynomial models in studying the relationship between the dependent and independent variables of the study.

The quadratic and linear polynomial models developed for this study are presented as follows:

$$\text{Model 1: } ARR = \beta_0 + \beta_1 X_1 + \beta_2 X_2^2$$

$$\text{Model 2: } ARR = \beta_0 + \beta_1 X_1$$

Where

β_0 = the Constant

β_1 = the Partial Slope Coefficient

ARR = the Dependent Variable

X_1 and X_2 = the Independent Variables

The quadratic model presented in this subsection can be used (if the variables of this study are found to be significantly related) for the computation of the marginal rates of returns of each of the sampled firms, or any other firm with similar characteristics with those of the sampled firms.

4. FINDINGS, DISCUSSIONS AND RECOMMENDATIONS

This section presents the findings, discussions and the recommendations made by the study

The Empirical Results of the study

The results of the study are presented in the following section.

Table1. Pearson Moment Correlations among the Variables Selected for the Study

	FIRM	ARR
FIRM		
ARR	.268**	
DPS	-.011	.735**

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Sources: Computed from various Financial Statements of the Sample Firms

Daily Official Lists of the NSE

CBN Publications, Publications of the Federal Office of Statistics

The Pearson Moment Correlation coefficient, showing the extent of the relationship between the common stock return and the dividend-per-share was found to be 0.735, which is highly significant as it is closer to 1 than it is to 0. This coefficient also indicates that the relationship between these variables is direct, meaning that a 1.0% increase in DPS leads to substantial increase in the ARR.

The results of using the linear and quadratic polynomial models are shown in the following table:

Table 2. Polynomial Models for the Relationship between ARR and DPS

Methodology	R ²	d.f.	F	Signf.	b ₀	b ₁	b ₂
Linear	.540	97	114.04	.000	3.0632	1.9981	
Quadratic	.699	96	111.70	.000	1.8726	5.2843	-0.5183

Independent variable: DPS. Dependent variable: ARR

The above table, Table 2., shows the results of using the polynomial models to study the relationship between the common stock return (ARR) and the dividend-per-share (DPS). Accordingly, the Table shows that using the Linear Model ($ARR = 3.0632 + 1.9981DPS$), the DPS has an R² – value of 0.540, implying that it explains up to 54.0% of the total variations in the ARR of the sampled firms. The model has an F-value of 114.04 that is highly significant at the 0.01 level of significance (2-tailed) as supported by the significant f-value of 0.000. Similarly, Table 2. indicates that using the quadratic polynomial model ($ARR = 1.8726 + 5.2843DPS - 0.5183DPS^2$), DPS has an R²-value of 0.699, meaning that it explains about 69.9% of the total variations in the ARR of the sampled firms. This quadratic model also has an F-value of 111.70, which is highly significant at the 0.01 level of significance (2-tailed) as indicated by the significant f- value of 0.000 in the table 2. above.

The beauty in the models is that they can be used to study the relative performances of manufacturing firms in Nigeria as regards to the relationship between the dependent and independent variables of this study. More so, differentiating the quadratic model in respect to the DPS provides us with the marginal rates of returns (MRR) for a manufacturing stock(s). Thus, these models are proposed as common stock returns valuation models to be used by both common stockholders and common stock analysts in Nigeria.

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