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## **Earnings-Dividend Relationship in Corporate Nigeria; A Test of Predictive Efficacy (Pp 573-584)**

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### **Abstract**

*Prompted by the need for an empirical evaluation of the relationship between corporate net earnings and dividend payouts of quoted Nigerian firms as well as the search for a strong predictive model for this relationship, the study evaluates the predictive efficacies of current- and one- year- lagged earnings regression models among the Nigerian quoted firms. Applying the ordinary least square regression analysis on one hundred and four (104) firms selected as the study sample, the results indicate that dividend payouts are relatively more sensitive to current earnings per share compared to past earnings per share. Further, the percentage change in dividend payouts attributable to changes in current earnings per share is found to be relatively higher than that attributable to changes in past earnings per share, thus providing evidence that current earnings model is relatively more effective in predicting the dividend payouts of Nigerian quoted firms. The study recommends strong information dissemination to all stakeholders in the*

*Nigerian capital market in order to improve market efficiency and potential benefits derivable from the market by all participants.*

**Key words:** *Corporate Net Earnings, Current Earnings, Lagged Earnings Dividend Payouts, Nigerian Capital Market, Predictive Efficacy.*

## **Introduction**

Human activity in the productive process involves the employment of resources, be it human/or material to generate profitable results at the end of a defined period. The level of interest of the stakeholders in this productive process is conventionally expressed in terms of the number and value of shares held in such enterprises or corporate bodies. Investors are entitled to rewards, which normally should accrue from their investments for risk taking. For finite horizon investors, the benefits derivable from share holding are conceptualized in terms of the expected cash dividends and price gains on disposal of shares. For infinite horizon investors, expected benefits arise in the form of the streams of future dividends.

Distribution of accrued periodic profit after tax between retained earnings and dividends is a key corporate decision. Theoretically, corporate dividend policies are known to be a function of many factors. Van Horne (1977) Weston and Brigham (1981) list these factors as legal considerations, liquidity position, repayment of debt, restrictions on debt contracts, re-investment opportunities, profitability of operations and stability of earnings. Others include access to the capital market, cost of raising new funds, need for ownership control, national income policies as well as the tax positions of the stockholders.

All told, the interplay of these factors remains a critical issue in the distribution of corporate after tax earnings between retained earnings and dividends. For obvious reasons and because of issues like re-investment opportunities, the need to maintain ownership control arising from shareholder jealousy etc, a 100 percent pay-out-ratio is rare and remains a limited theoretical possibility (Pandey, 2005). This is irrespective of the tempting pressure especially in corporations whose stocks are widely held by diversified tax bracket investors to appropriate a significantly high proportion of corporate net earnings as dividends. Though, empirical evaluation of corporate reports may provide valuable information to various stakeholders which may influence their decisions, one essential issue among scholars is

that the distribution of net earnings between retained earnings and dividends has remained a highly contentious issue deferring resolution (Jhingan and Stephen, 2007 and Pandey, 2005). What then is the Nigerian experience?

Recalling that as a central goal, organizations are set up to maximum shareholders' wealth, realized profits are distributed in accordance with prevailing policies in respect of retained earnings and dividends, there has remained over the years, the problem of objective and empirical determination of the exact nature of the relationship between corporate net earnings and dividend apportionments by Nigerian quoted companies. Therefore, the empirical investigations of this relationship as well as the search for a predictable relationship between the two variables in corporate Nigeria constitute the central problem and objective of this study.

### **Hypothesis**

For the purpose of this paper, the following hypotheses are stated in the null forms;

- Ho<sub>1</sub>: There is no significant relationship between the current or past earnings per share and the dividend payouts of quoted Nigerian firms.
- Ho<sub>2</sub>: Changes in current or past year's earnings per share are not significant in explaining the changes in dividends payouts of quoted Nigerian firms.

### **Significance of the study**

The results of this study, it is hoped, will provide investment analysts, portfolio managers and investors with information on how to predict the dividends accruable from quoted Nigerian firms hence, a veritable tool for policy formulation to both corporate managers and the government. With this introduction, the remaining parts of this paper will cover section 2 on review of literature; section 3 treats the empirical evaluation of earning-dividend relationship while the paper concludes in section 4 on conclusion and recommendation.

### **Review of Literature**

Finance literature is replete with many attempts by scholars all trying to explain the relationship between corporate earnings and dividend payouts. In this debate are three discernible strands of thought (Gordon, 1959:1962:1963;

Modigliani and Miller, 1961; Linter, 1966; Okafor, 1983; Wang, Erickson and Gau, 1993; Gurgul, Madjosz and Mestel 2003).

One school of thought posits that share prices derive from expected dividends among other implicit factors (Walter, 1963 and Okafor, 1983). For instance, Okafor (1983) traces the beginning of the Earnings – Dividend controversy to John Burr Williams, who had argued that the price or value placed on any cow, hen, or stock, is an implicit function of the value of its milk, eggs or dividends respectively. Following this, Walter (1963) develops a theoretical model to show that the choice of dividend policies affects the value of the firm. His conclusion is that dividends are not weighted differently from retained earnings in the minds of marginal investors such that investors equally partake in future cash flows to the extent that the expected future cash flows are reflected in stock market prices.

In a separate but related study, Lintner (1966) concludes that past dividends appear as benchmarks for current dividends. He asserts further that evidence indicates that current dividend payouts of United States firms always have as a reference point, a bearing with past dividends in order to reflect basic corporate interests as well as those of the stockholders.

On the other side of the divide however, are the views expressed by Modigliani and Miller (1961), insisting that for firms in the same risk class, provided that the investment programme of the firm is clear, the dividend policy is irrelevant or independent of the value of the firm. Also in M & M's view, however, it is the firm's earnings (the independent variable) as opposed to dividends (the dependent variable) that influence the value of the firm. This view by Modigliani and Miller were later countered by Lee and Yan (2000) who argued that observed weak relationships between dividend changes and stock prices in several previous studies might have resulted from inadequate methodologies adopted in such studies. According to them, while some dividend decisions are backward looking in that they simply reflect current and past earnings, some other decisions are forward looking because they reveal managers' superior information about future earnings.

As a shift from developed to developing economies, Travlos et al (2001), while concentrating on Cyprus stock market for their study, found that those assumed special characteristics for emerging markets do not contradict the results obtained in developed economies.

At the Nigerian scene, are various attempts by scholars in a bid to resolve this raging controversy (Inanga, 1975:1978; Soyode, 1976:1978; Odife, 1977; Izedonmi, 1996; Okafor, 1983, Osuala, 2006). For instance, Osuala (2006) finds a significant relationship between dividend change announcements and stock price movements. The findings show support for the information content of dividend change hypothesis as well as the cash flow signaling hypothesis while providing a mixed support for the dividend clientele hypothesis. On the whole, they also show that in the Nigerian context, the speed of circulation of information on expected dividends is very low and hence, a policy issue.

The study by Uzoaga and Alozienwa (1974) revealed that the dividend policies followed by Nigerian firms on the eve of indigenization as evidenced by the so called “excessive” dividend payouts which depleted the companies reserves and retained earnings were not in line with the classical Lintner’s model where current dividends relate significantly to previous dividends and earnings levels.

Reacting to Uzoaga and Alozienwa, Soyode (1976) and (1978) as well as Oyejide (1976) argue that the determinants of dividend policy in Nigeria were neither clearly identified by Uzoaga and Alozienwa, nor were their relative impacts estimated. Adopting the classical Lintner’s model as well as the partial adjustment models employed by Darling, Fama and Babiak, Oyejide found a statistically significant relationship between current year dividends and net profits as well as between current year dividends and past year net profits. The results therefore, strongly support Lintner’s classical model with the coefficient of determinations  $R^2$ , as high as 0.97. His conclusion was that dividend pattern in Nigeria was not different from the classical cases propounded by Lintner and that the seeming “upsurge” in dividend payments in the period of indigenization was due to increased liquidity, which resulted from increased profitability of those companies.

Further, although there was nominal increase in dividends over the period, Oyejide showed that the dummy variables employed in the estimation model to capture the coefficients of changes in dividends proved statistically insignificant irrespective of the fact that they had positive signs. This confirms that the observed increases were not abnormal as claimed by Uzoaga and Alozienwa.

Inanga (1975), claims that the dividend “bogey” of the indigenization period had only resulted from the excess cash available to the companies, from which dividends must be paid. Reacting to this, Odife (1977) rejects Inanga’s statement that dividends could only be paid out of cash resources.

He contends that firms can equally pay dividends out of overdraft facilities in anticipation of expected distributable income. Further, Odife argues that Soyede’s inability to adjust for stock dividends invalidates his conclusions. Lastly, he suggests that the increase in dividends post-indigenization was because the companies had to pay the shareholders greater dividends to enable them repay the loans which they had used to purchase shares during indigenization. However, in a 1978 study, Inanga supports Uzoaga and Alozienwa but blames the Capital Issues Commission for adopting mismatched stock prices, which he claims, forced the companies on the eve of indigenization, to pay excessive dividends. Revisiting the issue, Izedonmi and Eriki (1996) studied the determinants of dividend policies in publicly quoted firms in Nigeria using data from 1984 to 1989. They however found support for Lintner’s model also.

On the strength of available literature on this subject, the raging debate on earnings-dividend relationship in Nigeria is therefore far from being concluded. Consequently, this study is a modest effort to contribute to the resolution of the earnings-dividend controversy in corporate Nigeria.

### **III. Empirical Analysis of Earnings-Dividend Relationship**

#### **Methodology and Data Source**

The Nigerian Stock Exchange Facts Book (2007) lists a total of 209 equity companies with total market capitalization of N9.6 trillion. From this, the study population consists of the 209 companies listed therein. Theoretically, if the heterogeneous potential population is perceived as very large and uncoverable due to obvious constraints, Baridam (1999) shows that we can approach the study by adopting a properly distributed sample. This sample size could conveniently be estimated by an application of Taro Yamen’s formular for sample size determination as follows;

$$S = \frac{P}{1 + P(e)^2}$$

Where;

S = Required sample size

P = Population size

E = Level of significance (e.g. 0.05)

The above formula yields a minimum required sample size of 102 quoted companies. However, the study utilizes a total sample size of 104 quoted firms or observations, selected through a simple random sampling process.

The Statistical Package for the Social Sciences (SPSS) was utilized to process the data with the aid of the Ordinary Least Square regression. Norusis (1998) asserts that within the SPSS framework, if all the variables are measured in the same unit, we adopt the unstandardized coefficients for the variables. However, where the variables are not measured in the same unit we adopt the standardized coefficients (Beta). Since dividends and earnings per share are measured in the same unit (Kobo), we therefore adopt the unstandardised coefficients as the coefficients for the variables in the results of this study.

### **Model specification**

Mathematically, we specify the following current and lagged simple regression models for the study as follows;

$$DIV_t = F (EPS_t, EPS_{t-1}) \dots\dots 1$$

$$\text{i.e. } DIV_t = \beta_0 + \beta_1 EPS_t + e \dots\dots\dots 2$$

$$DIV_t = \beta_0 + \beta_1 EPS_{t-1} + e \dots\dots\dots 3$$

Where;

$DIV_t$  = Dividend per share in the current or past year, t.

$\beta_0$  = Constant

$\beta_1$  = Coefficient of corporate earnings per share in year t measuring unit change in current year dividend per share associated with unit change in current year's earnings per share.

$\beta_{t-1}$  = Coefficient of corporate earnings per share in year  $t-1$ , which measuring unit change in current year dividend per share associated with unit change in previous year's earnings per share.

$EPS_t$  = Corporate earnings per share in the current year, t.

$EPS_{t-1}$  = Corporate earnings per share in the past year, t - 1.

e = Error term.

### Data Presentation

The data for the study are as presented on Table 1, extracted from the published accounts of the quoted firms in the Nigerian Stock Exchange FACTS BOOKS. As the companies do not have updated accounts up to 2007, the study therefore, relies on data published by the NSE for the companies provided that each quoted firm has relevant statistics for a minimum period of six years either before or up to year 2007 in order to facilitate our analysis.

Here, while the f-test was used to test the overall significance of the model taken together, the student t-test was employed to test for the significance of the contributions of the current and past earnings to the dividend payout respectively for models 2 and 3. The coefficient of determination ( $R^2$ ) is used to test goodness of fit of the model. The comparative results for the current and one-year lagged earnings regression models are summarized on Table 2.

From the analysis in Table 2, the regression equations of the earnings-dividend relationship are therefore presented thus;

$$DIV_t = -0.157 + 0.634 EPS_t \dots\dots\dots 4$$

$$DIV_t = -10.487 + 0.504 EPS_{t-1} \dots\dots\dots 5$$

### Analysis of Variance (Anova)

This was used to test the significance of the model as a whole. Here, the null hypothesis ( $H_0$ ),  $\beta_0 = \beta_1 \dots \beta_k = 0$ , where  $k=1$ .

### Hypothesis Testing



**Table 1: Summary of Regression Results of the Earnings-Dividend Models**

STATISTIC \ MODEL	Current-Year Model	One-Year-Lagged Model
Constant	-0.157	-10.487
Coefficient	0.634	0.504
R	0.848	0.707
R2	0.719	0.499
F-Ratio-Calculated	1323.4***	514.281***
F-Ratio-Tabulated 1%	6.85	6.85
F-Ratio-Tabulated 5%	3.84	3.84
T-Ratio-Calculated	36.379***	22.678***
T-Ratio-Tabulated 1%	2.617	2.617
T-Ratio-Tabulated 5%	1.980	1.980

Source: SPSS15.0, \*\*\*=Significant at 1% ; \*\*=Significant at 5% ;NS= Not Significant

This means that the coefficient of the explanatory variable is zero, hence the current and past earnings exert no significant effect on the dividend payout respectively for models 2 and 3 within the period under investigation.

**Alternative(H<sub>1</sub>)** says that the coefficient of the explanatory variable is not zero, hence the current and past earnings exert a significant effect on the dividend payout respectively for models 2 and 3 within the period under investigation i. e.,  $\beta_0 \neq \beta_1 \dots \beta_k \neq 0$ , where  $k=1$

### Decision Rule

If f-statistic calculated through computer SPSS is greater than the table value,  $H_0$  is rejected to conclude that the model is significant, meaning that the explanatory variable (current or past earnings respectively for models 2 and 3) is a significant factor for explaining the variation in the dependent variable, dividend payout. Here, with the f-ratio calculated of 1323.4 and 514.281 respectively for models 2 and 3 being greater than the tabulated f-statistic ( $F_{0.01}=6.85$  and  $F_{0.05}=3.83$ ) at the degrees of freedom (K-1, N-K; 2-1, 104-2; 1, 102), we therefore, conclude that the model is significant.

By the same token, since the t-statistic calculated (36.379 and 22.678 respectively for models 2 and 3) are greater than the tabulated t-statistic at the degree of freedom 102, (N-K ; 104-2), 3.84 and 2.617, we therefore reject  $H_0$

to conclude that both current and past earnings are significant in explaining changes in dividend payout of the Nigerian firms for the period under investigation (see Table 2).

These results could be attributed to the current prevalent bids of quoted Nigerian firms to remain attractive investment outlets to the public in an effort to enhance their opportunities for greater capital mobilization as many quoted Nigerian firms have in this direction, issued repeated public offers in order to enhance their capital base. The banks, insurance companies, breweries as well as the oil companies and conglomerates are typical examples. In this circumstance, dividend payouts, which appear closely related to current net earnings, seem strategic in sustaining public confidence in order to support the business expansion programmes of these quoted firms.

## **Conclusion and Recommendation**

### **Conclusion**

Given these results, we conclude that while the current and one-year lagged earnings regression models provide valuable approaches to the prediction of corporate dividend payouts of quoted Nigerian firms, the current earnings regression model, serves as a superior predictive model compared with the lagged earnings model by virtue of its capacity to explain up to 71.9% of the variations in dividend payouts, compared to 49.9% explained by lagged earnings regression model. Other test statistic results as detailed in Table 2 provide sufficient support to these conclusions.

### **Recommendation**

Correspondingly, this study recommends a strong need for timely and adequate dissemination of information to the investing public, stock market practitioners, academics, and other stake holders in the Nigerian Capital Market in order to guide their projections of corporate dividend payouts as well as general improvement of market efficiency and investor behaviour in Nigeria. *Earnings-dividend Relationship in Corporate Nigeria...*

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