THE INTERNATIONAL JOURNAL OF BUSINESS & MANAGEMENT

Impact of Dividend Decision on Firm Market Value: Evidence from Nigeria

Ezirim, Chinedu B.
Professor, Department of Finance and Banking, University of Port Harcourt, Nigeria
Ogboghro, Vincent I.
Doctoral Candidate, Department of Finance and Banking, University of Port Harcourt, Nigeria

Abstract:
This paper examines the impact of dividend policy on a firm's market value using the panel data methodological framework. The panel consists of 7 publicly quoted companies from three different sectors (Construction, oil and Gas and Consumer goods) in Nigeria observed for 9 years from 2007 to 2015. Three panel data models and techniques are used. In agreement with the signaling theory, the study finds consistent evidence of a significant positive relationship between dividend policy and market value of a firm. There is evidence of a feedback causal relationship between dividend policy and the firm's market value. However, the causality that runs from market value per share to dividend per share is significant at 10% level. The unobserved firm-specific effects are found to be significant explanatory factors for the variation in the firm's market value. However, these firm-specific effects are uncorrelated with other explanatory variables in influencing the market value of a firm. The study therefore, concludes that dividend announcement is a signal that all is well with the company and convey important information that are incorporated in stock prices in Nigeria.

Keywords*: Dividend policy, market value, pooled regression, firm-specific effects, random effects*

1. Introduction

Dividend decision is one of the major corporate level strategic decisions that shape the firm's future and its overall wellbeing. Dividend decision is the decision regarding how much of a firm's current earnings should be distributed to its shareholders as dividend and how much should be retained as internal equity which is used for future investments. The dividend decision of a firm is communicated to the outsiders and/or investors through its dividend policy.

The first documented attempt to resolve the conflict between dividend payments and retained earnings is the irrelevance theory by Modigliani and Miller (1961). They argue that a firm's dividend decision is irrelevant and cannot influence its market value. The theory of dividend irrelevance states that, under certain conditions, the value of a firm can only be significantly influenced by its investment decision. The firm increases its value by identifying and investing in projects with positive net present value. Because, retained earnings are cheap source of capital for future NPV projects, they are more relevant in influencing the firm's value than dividend payments. Thus, dividend decision has no significant effect on the firm's value hence, should be disregarded.

Although, irrelevance theory is a welcome development in the context of dividend decision and the firm value, it does not however, seem to have practical relevance due its restrictive and unrealistic assumptions. For example, the assumptions that the market is perfect and complete, and there is no information gap between managers and shareholders and government does not impose taxes on firms, are too restrictive and unrealistic. In reality, firm pay taxes and there is information asymmetry between managers and shareholders, with managers knowing more about the internal conditions of the firm than shareholders.

An alternative theory that has emerged from the literature is the signaling or information content theory (Bhattacharya, 1980; Miller &Rock, 1985). This theory is anchored on asymmetric information between managers and shareholders. According this line of argument, to bridge the information gap between managers and shareholders, managers convey information about the firm's future earnings prospects through dividend announcements. Thus, dividend decision is relevant to shareholders and can be used strategically to influence the firm's value.

The aim of this paper is to examine the impact of dividend decision on the value of a firm in Nigeria within a panel data methodological framework. The main motivation for this paper is the contradicting evidence documented in the literature suggesting that the issue of whether dividend decision influences firm's value is yet to be finally resolved. Secondly, it may be

useful to test the assumption that the firm's specific characteristics that are not directly observed are significant explanatory factors for the firm's market value which are correlated with its dividend payments.
The rest of the paper is structured as follows: Section 2 contains the review of some empirical studies, section 3 describes the data and methods and section 4 contains data analysis and discussion. Section 5 concludes the study.

2. Review of Some Recent Empirical Studies

The seminal paper by Modigliani and Miller (1961) started the argument that a firm's dividend policy is irrelevant and cannot influence its firm's value. Since then, there have been much consideration of the relationship between dividend policy and firm value. Some of the recent studies include Wet and Mpinda (2013), Osegbue, et al. (2014) and Tobi (2014), However, there are conflicting results.

Azhagaiah and Sabari (2008) examine the effects of dividend policy on shareholder wealth for 28 companies in India from 1998 to 2006 using multiple regression and stepwise regression techniques. They find mixed empirical evidence. For organic companies, the evidence suggest that shareholders' wealth and firm's dividend policy are significantly related. On the contrary, for inorganic chemical companies, the evidence suggest that shareholders' wealth is not significantly related with the firm's dividend policy.

Pani (2008) investigates the impact of dividend policy on stock prices in Indian within the panel data methodology. The data are collected from 500 listed companies in Bombay Stock exchange (BSE) from six different sectors; electricity, mining, textile, food and beverage, non-metallic and service sectors from 1996 to 2006. Comparing the three models on the basis of F-test and Hausman test reveals that the fixed effects model performs better than both the pooled OLS and the random effects model. The result from fixed effects model indicates that dividend-retention ratio, size and debt equity ratio are significant factors for stock return.
Gul, et al. (2012) examine the influence of dividend policy on shareholders' wealth for 75 quoted companies in Pakistan from 2005 to 2010 using multiple regression and stepwise regression techniques. Consistent with signaling theory, the results suggest evidence that dividend payment has a significant impact on shareholder wealth while the effects of retained earnings are insignificant

Murekefu and Ouma (2012) investigate the relationship between dividend payout and firm performance for 41 quoted companies in Kenya from 2002 to 2010 using regression analysis. The result shows that dividend payout and firm's performance are positively and significantly related, and that the most commonly used form of dividend in Kenya is cash dividend.

Wet and Mpinda (2013) examine the dynamic interaction between dividend policy, profitability and shareholders' wealth for 46 quoted companies in South Africa for six years from 1995 to 2000 using the VECM methodology. They find that dividend payment has a positive and significant impact on shareholder value while the effects of earnings per share on shareholder value is not significant. Comparing the three panel data models reveals that the fixed effects model performs better than both the pooled OLS and the random effects models.

In Nigeria, Adefila, Oladikpo and Adeoti (2013) investigate the impact of dividend policy on share prices of quoted companies in Nigeria using correlation analysis. They sample is 150 covering 15 companies that are observed for ten years from 1990 to 1999. The result shows evidence of no correlation between dividend payment and share prices in Nigeria.
Ozuomba, Okaro and Okoye (2013) consider the impact of dividend policy on shareholders' wealth for ten quoted companies in Nigeria from 2000 to 2011 using least square regression technique. They find that earning per share and stock prices have significant positive effect on dividend payments. They concluded that information contained in these variables provide signal to prospective investors.

Osegbue, et al. (2014) consider the relationship between dividend payment and firm performance 18 banks in Nigeria using multiple regression models. The study covers a period of 20 years from 1990 to 2010. The results show evidence suggesting that there is no significant relationship between dividend payout and firm performance.
Toby (2014) examines the impact of dividend policy on a firm's market value in Nigerian capital using regression analysis. The data for 20 most capitalized quoted companies from 2005 to 2012 are used. The result shows, among other things, that dividend policy has no significant effects on stock prices. The evidence lends empirical support for dividend irrelevance theory of Modigliani and Miller (1961).

3. Methodology

3.1. Data

This paper uses a panel data to investigate the impact of dividend policy on a firm's market value in Nigeria. The panel consists of 7 publicly quoted companies from three different sectors in Nigeria observed for 9 years from 2007 to 2015. The sectors are consumer goods, construction and oil gas. However, the panel is unbalanced as there are some missing date observations within the dataset. The companies included are Total Plc, Mobil Plc, Nigerian Breweries Plc, Guinness Plc, Julius Berger Plc, Nestle Plc, and 7up Plc. The data are all sourced from the annual reports and accounts of the selected companies downloaded from their official websites. All the data are transformed into logarithms for reliable results and are analyzed in EViews 9.5 student lite version.

3.2 Method

To examine the impact of dividend policy on a firm's market value, we use three different panel data estimation techniques; namely, the pooled OLS, the fixed effects and random effects techniques. The main motivation for using these techniques is the hypothesis that the unobserved firm-specific effects are not significant explanatory factors for the market value of a firm.

3.2.1. The Pooled Regression Model

The pooled regression model can be specified as:

$$LMVS_{it} = \alpha + \beta_1 LDVS_{it} + \beta_2 LTASSET_{it} + \epsilon_{it} \quad (1)$$

where: $LMVS_{it}$ is the natural logarithm of market value per share which proxies the firm's market value, $LDVS_{it}$ is natural logarithm of dividend per share, $LTASSET$ is the natural logarithm of total assets which is used as a proxy for firm size (the control variable) and ϵ_{it} are error disturbances that follow the classical regression assumptions. The subscripts i represents $1, 2, \dots, N$ cross-sessional units while subscript t represents $1, 2, \dots, T$ time periods. While α is the intercept, β_1 and β_2 are the slope parameters that capture the effects of the explanatory variables on market value per share. The model (1) assumes that firm-specific effects that are not directly observed are not significant explanatory factors for market value per share, and thus, there is no subscript i for the intercept α

The Fixed Effects Model

The Fixed effects model can be specified as:

$$LMVS_{it} = (\alpha + k_i) + \beta_1 LDVS_{it} + \beta_2 LTASSET_{it} + \epsilon_{it} \quad (2)$$

Model (2) can be rewritten as:

$$LMVS_{it} = \alpha_i + \beta_1 LDVS_{it} + \beta_2 LTASSET_{it} + \epsilon_{it} \quad (3)$$

where: $LMVS_{it}$, $\beta_1, \beta_2, LDVS_{it}, LTASSET_{it}$ and ϵ_{it} are as defined in (1) above. The subscript attached to α_i indicates that $\alpha_1, \alpha_2, \dots, \alpha_N$ are dummy variables representing the fixed effects or firm-specific variables to be estimated. Unlike the pooled OLS model, the fixed effects model assumes that $\alpha_1, \alpha_2, \dots, \alpha_N$ are significantly related with $LMVS$ and are correlated with $LDPS$ and $LTASSET$.

The Fixed Effects Model

The Fixed effects model can be specified as:

$$LMVS_{it} = \alpha + \beta_1 LDVS_{it} + \beta_2 LTASSET_{it} + (k_i + \epsilon_{it}) \quad (2)$$

Model (2) can be rewritten as:

$$LMVS_{it} = \alpha + \beta_1 LDVS_{it} + \beta_2 LTASSET_{it} + v_{it} \quad (3)$$

where: $LMVS_{it}$, $\beta_1, \beta_2, LDVS_{it}, LTASSET_{it}$ and ϵ_{it} are as defined in (1) above. α is the overall mean, v_{it} is the composite error term which absorbs the unobserved firm-specific effects. Unlike the fixed effects model, the random effects model treats the unobserved firm-specific effects as the deviation from the overall mean and assumes that these effects are not correlated with $LDPS$ and $LTASSET$.

4. Data Analysis and Discussion

4.1. Panel Data Regression Results and Interpretation

Table 1 report the estimation results for pooled regression model, fixed effects model and random effects model. As this table shows, although, the results are all similar in terms of the signs of the coefficients, the results for the fixed effects and random are however, more similar in terms of size and significance of the estimated coefficients. The intercept and the coefficient of LTASSET are both significant for both fixed effects and random effects model, but insignificant for the pooled model, although, the signs are the same for the three models. The results for the three models all suggest that dividend policy and firm's market value per share are positively and significantly related. The coefficient of LDPS is consistently positive and highly significant, indicating that dividend payment is associated with increase in the firm's value. This provides empirical support for the signaling theory but contradicts the irrelevance theory of Modigliani and Miller (1961).

From table 2, it appears that the fixed effects model performs better than those of pooled model and random effects model. The adjusted R-squared is 0.7808 for fixed effects model compared to 0.6916 and 0.4901 for pooled and random effects model respectively while the Durbin-Watson statistic is 1.2274 for fixed effects model compared to 0.7151 and 1.0190 for pooled and random effects model respectively. However, the residuals from the three models are all normally distributed, with the Jarque-Bera statistic failing to reject the null of normal distribution at conventional levels for each of the estimated model. This suggests evidence that all the models are correctly specified.

Table 3 shows the estimated firm-specific characteristics for both fixed effects and random effects models. As we can see, the signs of the firm-specific effects are similar for both models, with Nigerian Breweries, Total and Julius Berger Plc having negative individual-specific effects that may have significant influences on their market value. Guinness, Nestle, Mobil and 7up all have positive firm-specific effects that are likely to be significant explanatory factors for the variation in market value per share.

Pooled OLS Model				Fixed Effects Model			Random Effects Model		
Variable	Beta	t-Statistic	p-value	Beta	t-Statistic	p-value	Beta	t-Statistic	p-value
Constant	-2.7571	-1.5693	0.1229	-5.6188	-2.1993	0.0332	-4.4925	-2.0736	0.0433
LDPS	0.9363	10.8828	0.0000	0.7261	3.6041	0.0008	0.8871	6.7073	0.0000
LTASSET	0.0959	1.0670	0.2911	0.3257	2.4595	0.0179	0.2071	1.8653	0.0680

Table 1: Estimation Results for Pooled, Fixed Effects and Random Effects Models

Pooled OLS Model			Fixed Effects Model		Random Effects Model	
	value	p-value	value	p-value	value	p-value
R-squared	0.7034	–	0.8145	–	0.4901	–
Adjusted R-squared	0.6916	–	0.7808	–	0.4697	
F-statistic	59.3102	0.000	24.1577	0.0000	24.0360	0.0000
Durbin Watson	0.7151	–	1.2274	–	1.0190	–
Jarque-Bera stat.	0.6664	0.7165	0.0048	0.9976	0.1582	0.9239

Table 2: Model Diagnostic Tests

To determine whether the estimated firm specific-effects are significant explanatory factors for market value per share, we compare the performance of the estimated pooled regression model with the fixed effects model using the likelihood ratio test. The likelihood ratio tests a redundant variable F-test which asymptotically follows a Chi-square distribution and is performed under the null hypothesis that the unobserved firm-specific effects are not significant explanatory factors for market value per share. Thus, the estimated pooled model is valid under the null hypothesis. The results are presented in table 4. As the results indicate, the associated p-values of cross-sectional F-test and Chi-square statistic are both below 1% level of significant, indicating that the tests are highly significant. This leads us to reject the null hypothesis that unobserved firm-specific effects are significant explanatory factors for market value per share. There is therefore, clear evidence suggesting that the fixed effects model outperforms the pooled model. Thus, firm-specific characteristics are significant explanatory variables in the market value equation.

To determine whether the estimated firm-specific effects are correlated with other explanatory variables, we compare the performance of the estimated fixed effects model with that of random effects model using the Hausman specification test. Here, the Hausman specification test is performed under the null hypothesis that the estimated firm-specific effects are uncorrelated with other explanatory variables in influencing the market value per share. Thus, the random effects model is valid under the null hypothesis. Table 5 reports the results. As the results indicate, the Chi-square statistic is not significant at conventional levels, indicating that the random effects model performs better than the fixed effect model. Thus, the null hypothesis that the firm-specific effects are uncorrelated with other explanatory variables cannot be rejected.

S/no	Company	FEM	REM
1	NB	-0.3057	-0.0989
2	Guinness	0.1542	0.1572
3	Nestle	0.4675	0.2557
4	Mobil	0.2336	0.0938
5	Total	-0.1691	-0.2291
6	7up	0.2264	0.2705
7	Julius Berger	-0.8488	-0.4493

Table 3: Estimated Firm-Specific Effects

Effects Test	Statistic	d.f.	p-value
Cross-section F	4.3923	(6,44)	0.0015
Cross-section Chi-square	24.8754	6	0.0004

Table 4: Likelihood Ratio Test for Estimated Fixed Effects

Test summary	Chi-Square Statistic	d.f.	p-value
Cross-section random	4.3923	2	0.2218

Table 5: Hausman Test for Correlated Random Effects.

4.2. Pair wise Granger Causality test

To determine whether there is cause and effect relationship between dividend per share and market value per share, we perform the popular pair wise Granger causality test. We use the stacked option which assumes common coefficients for the test type. The results are reported in table 6. As we can see, the results show evidence suggesting that there is a feedback causality between LMVS and LDPS, with the F-statistic rejecting the null hypothesis that LMVS does not Granger Cause LDPS at 10% level of significance. The null hypothesis that LDPS does not Granger Cause LMVS is rejected at 5% level of significance. This is consistent with the results in table 1.

Null Hypothesis	F-statistic	p-value
LMVS does not Granger Cause LDPS	3.0686	0.0868
LDPS does not Granger Cause LMVS	5.6569	0.0218

Table 6: Granger Causality test for LMVS and LDPS

5. Conclusions

In this paper, we examine the impact of dividend policy on a firm value in Nigeria using the panel data methodology. The panel consists of 7 publicly quoted companies from three different sectors (Construction, oil and Gas and Consumer goods) in Nigeria observed for 9 years from 2007 to 2015. The main conclusions are as follows:

When the three panel data models (pooled, fixed effects and random effects models) are estimated, there is consistent evidence that dividend policy is positively and significantly related with the firm's market value. This is consistent with the signaling theory but contradicts the irrelevance theory of Modigliani and Miller (1961). Thus, dividend policy is relevant and conveys information that influences the market value of the firm. Based on the Granger Causality test, there is evidence of a feedback causal relationship between dividend policy and the market value of the firm. However, the causality that runs from market value per share to dividend per share is weak.

However, when the estimated fixed effect model is compared with the pooled model on the basis of the likelihood ratio test, there is clear evidence that the unobserved firm-specific effects are significant explanatory factors for market value per share. Thus, these firm-specific factors or differences cannot be ignored. Further, when, the estimated fixed effects model is compared with the random effects model on the basis of Hausman test, there is evidence that the unobserved firm-specific effects are not correlated with other explanatory variables in influencing the market value of the firm. Thus, the estimated unobserved firm-specific effects are mere deviations from the overall mean can be absorbed in the composite error term.

6. References

i. Adaramola, A. O. (2012). Information content of Dividend: Evidence from Nigeria.
ii. International Knowledge Sharing platform, 2(2).
iii. Adediran, S., & Alade, S. (2013). Dividend Policy and Corporate Performance in Nigeria. American Journal of Social and Management Sciences, 4(2), 71-77.
iv. Adefia, J., Oladipo, J., & Adeoti, J. (2013). The effect of Dividend Policy on the Market Price of Shares in Nigeria:Case of Study of Fifteen Quoted Companies.
v. Adesola, W., & Okwong, A. (2009). An Empirical Study of Dividend Policy of Quoted Companies in Nigeria. Global Journal of Social Sciences, 8(1).
vi. Alam, M., & Hossain, M. (2012). Dividend Policy:A Comparative Study of Uk and Bangladesh Based Companies. IOSR Journal of business and management (IOSRJBM), 1(1), 57-67.
vii. Azhagaiah, R., & Sabari, P. (2008). The Impact of Dividend Policy on Shareholder''s Wealth. International Research Journal of Finance and economics (20).
viii. Gul, S., Sajid, M., Razzaq, N., Iqbal, M., & Khan, M. (2012). The relationship between Dividend Policy and Shareholder's Wealth(Evidence from Pakistan). Evidence and Finance Review, 2(2), 55-59.
ix. Hussain, M. A. (2013). Effect of Dividend Policy on Market Return Empirical Evidence from South Asia.
x. Iqbal, Z., Waseem, M., & Asad, M. (2014). Impact of dividend policy on Shareholder's Wealth:A Study of selected Manufacturing Industries of Pakistan. International Journal of Innovation and Applied Studies, 6(2), 210-215.
xi. Koch, P. D., & Shenoy, C. (1999). The Information Content of Dividend and Capital Structure Policies. Financial Management, 28(4), 16-35.
xii. Miller, M. H. (1985). Dividend Policy under Asymmetric Information. Journal of Finance, 40(4), 1031 - 1051.
xiii. Miller, M., & Modigliani, F. (1961). Dividend Policy,Growth,and The Evaluation of Shares. 34(4).
xiv. Murekefu, T., & Ouma, O. P. (2012). The Relationship Between Dividend Payout and Firm Performance:A Study of Listed Companies in Kenya. European Scientific Journal, 8(9), 1857-7881.
xv. Ozuomba, C. N., Okaro, S. C., & Okoye, P. (2013). Shareholder''s Value and Firm's Dividend Policy: Evidence From Public Companies in Nigeria. Research Journal of Management Sciences, 2(12), 26-28.
xvi. Pani, U. (2008). Dividend Policy and Stock Price Behaviour in Indian Corporate Sector: A Panel Data Approach. Social Science Research Network.

xvii. Toby, A. (2014). Empirical Test of the Dividend Policy Irrelevance Hypothesis in the Nigerian Context. Research Journal of Finance and Accounting, 5(6).
xviii. Wet, J., & Mpinda, M. (2013). The impact of Dividend payments on Shareholder's Wealth:Evidence From The Vector Error Correction Model. International Business & Economics Research Journal, 12(11), 1451.