Dividend policy and its effects on shareholders wealth: Evidence from UK retail industry

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Abstract

One key area in financial management that has generated continuous debate among financial managers, academicians and practising managers is the concept of dividend policy and how it affects shareholders wealth. This study seeks to find out the effect of dividend policy on shareholders wealth in the UK retail industry from 2004-2008.With this, 25 firms from the retail industry in the UK were selected. The variables adopted in the study are earnings, profitability, share price, firm size, leverage and investment. The results indicate that, firm size, current dividend payout and current investment do not have much significant effect on shareholders wealth. However, variables such as earnings, profitability, share price, leverage, investment and dividend payout lagged one year have significant effect on shareholders wealth. In all, the result indicates that dividend policy has positive effect on shareholders wealth and the study is concluded by indicating some recommendations and areas of future research.

Key Words: Dividend policy, shareholders wealth, dividend relevance.

1. Introduction

An explanation of dividend policy has been one of the most difficult challenges confronting financial analyst and economists (Bhattacharyya, 2007). Dividend policy is explained as how much a company's earnings should be given to shareholders and how much should be retained by the firm for investment purposes. According to Black (1976), the harder we look at the dividend picture, the more it seems like a puzzle, with pieces that just don't fit together. In their survey of dividend policy, Allen and Michaely (1995) indicate that much more empirical and theoretical research on the subject of dividends is required before a consensus can be reached.

The first empirical study of dividend policy was provided by Lintner (1956) who conducted a survey about firms' managers to find out how they normally determine and arrive at their dividend policy. He came to the

conclusion that firm's existing dividend rate and policy always serves as a bench mark for management to decide their dividend policy. Dividend payout policy of every company is a very key issue to deal with because it affects every stakeholder of the company. Asquith and Mullins (1983) found that, dividend increases and dividend initiations have a significant positive impact on shareholder wealth. On the flip side, there are other proponents who argue that dividend policy is not too significant toward shareholders wealth. Modigliani and Miller (1961) indicate that dividend policies are less important and irrelevant to the value of a firm due to the fact that shareholders can create their dividend if they do not receive dividend from the company by selling their shares. Dhanani, 2005 however, ascertains that companies can either retain and reinvest free cash flow or distribute it to their shareholders as dividends. Shareholders wealth is the market price of the firm's common share, which can be described as the function of investment, financial and dividend decision of a company (Horne & Wachowicz, 2001). Whereas some researchers like (Gordon, 1959) believe that dividend payments increase shareholder wealth, others have the idea that dividends payments are irrelevant (Miller & Scholes, 1978). This study therefore seeks to find out how dividend policy impacts on the wealth of shareholders in the UK retail industry where research in this area is limited.

2. Literature Review

2.1 Dividend irrelevant theory

The first theoretical modelling of dividend irrelevance was by Miller and Modigliani (1961) whose theory was based on a model of certainty.

According to them, holding firm's investment decision constant, dividend policy of a firm is not relevant to firm value, because when there is an increase in dividend, corporate managers can initiate more sales of shares to raise more money for any investment in the company. The important and crucial assumptions of Miller and Modigliani model are as follows;

(i) The existence of a perfect capital markets in which all investors behave rationally.
(ii) There is access of information for all investments without any cost and furthermore instantaneous transaction can take place at no cost.
(iii) Securities are indefinitely divisible and no single investor is large enough to influence market price of the securities under perfect market conditions.
(iv) There are no taxes in existence.
(v) Companies would not vary their investment policy.
(vi) The investor is perfectly certain about future investment and profits.

According to Miller and Modigliani (1961), allowing the above assumptions means that, shareholders will be indifferent to the receipt of dividend now and postponement of the dividend to the future. Thus, under perfect capital market conditions where investors can sell their shares at no cost, those who require current income can substitute capital gains for dividend whilst those who do not need current income can reinvest dividend received. This means that shareholders are indifferent between current dividends and capital gains. This is supported strongly by the assumption that, there are no taxes in such perfect market. With this theory, since there is no tax, shareholders overall returns or wealth will not be affected by dividend policy. Although Miller and Modigliani's argument has been widely accepted, other studies Walters (1963) and Easterbrook (1984) have indicated that dividend payment is far more complicated in reality.

2.1.2 Theory of Dividend relevance

The assumptions underlying the theory of dividend irrelevance as postulated by Miller and Modigliani (1961), Miller and Scholes (1978) and Black and Scholes (1974) are unrealistic and almost absent in an emerging financial market according to De Angelo and De Angelo (2006). They indicated that, dividend

policy affects shareholders wealth and is relevant if the assumption adopted by Miller and Modigliani is relaxed and it affects firm value in the same manner as investment. Walter (1963) made the observation that the general conditions for neutrality are simply not satisfied in the world as we know it. The dimensions of the cash flow stream are conditioned by dividend payout policy. Admittedly, it is insufficient to think of the effects of dividend under perfect competition or imperfect competitive market conditions in the real world. It is very useful to recognise that a greater number of companies are able to exert some pressure and control over the activities in real world situation. The assumption of the investor behaving rationally is undermined by the fact that there is the existence of investors who behave funnily in the market and their actions are at times without any economic rationality but exerts a lot of influence on stock behaviour and this can affect shareholders wealth.

2.1.3 The bird-in-hand theory

This theory talks about how information asymmetry and uncertainty in the world compel dividend policy to relate differently from retain earnings. The uncertainty of future cash flow will influence investors and shareholders to accept dividends as against retain earnings. This will make increase in payout ratio lead to reduction in required rate of return otherwise known as cost of capital hence the value of the business or shareholders wealth. This argument has been widely criticised and has not received strong empirical support (Al–Malkawi, 2007).

2.1.4 The tax-preference theory

This theory can be explained as when dividend payout ratio is low; it can lead to lower required rate of returns, therefore, increasing the firms share price. Brennan (1970) stated that due to the relative tax disadvantage of dividend compared to capital gains, investors require a higher before – tax risk adjusted return on stock with higher dividend yield. The writers of this theory were accused of the theory not compatible with rational behaviour. This criticism prompted Miller (1986) to come out with a strategy called tax sheltering of income by high – tax – bracket individual. He suggested that this will help such individuals to stop buying dividend – paying shares so as to avoid tax liability of their payment.

2.1.5 Signalling effects theory

This theory is closely matched with the tax preference theory. It is where the company uses its dividend policy to provide information to shareholders and investors in the stock market. This is because management have the necessary information about the financial position and strategy of the firm and can be used to make forecast about future incomes and earnings of the company, (Modigliani and Miller 1961). The investors and shareholders may decide to make a choice about a particular stock of a company because of that company's dividend policy and some may not choose that stock. For this reason, the pattern and the size of dividend of a company may seem to be more relevance to many investors and shareholders. However, signalling dividend has been arguably considered to have information content. In the presence of imperfect information, Bhattacharya (1979) indicates that managers can use costly dividend to signal expected cash flows. Watt (1973) also concluded that when future earnings are changed, they normally correlate positively with unexpected current dividend changes. It is critical to note that, this information contented dividends is trivial because most of the time, the gain of possessing this information content is smaller than, transaction cost of it. De Angelo et. al., (1996) indicated that, even where there is favourable dividend decision, it does not always indicate reliable signals of superior future earnings performance.

2.1.6 Agency Theory

In the context of the firm, agency theory is basically the owner – manager relationship and call for the need of shareholders to monitor management behaviour. Agency conflict arises as a result of separating control and ownership among shareholders who owned the company and managers who see the day to day administration of the company. This conflict can affect the expected cash flows to investors; therefore, it is important to shareholders wealth (Fama, 1980; Fama and Jensen, 1983). The payment of dividends is one mechanism often used to reduce agency costs (Cruthley and Hansen, 1989).

However, for a firm to enter the external market it incurs transaction costs. It is through the optimal dividend policy that the firm can reduce the total of agency costs and transaction costs. To this end, the dividend policy help to reduce cash flow which is under corporate management control hence solving agency problems and increase shareholders wealth.

Roserts, (2007) argue in favour of agency cost theory that public firms which have greater investor protection pay relatively higher dividend and are more sensitive to the changes in investment opportunities.

2.3 Hypotheses

The hypotheses to be tested in the study are;

H1. Dividend policy has no significant impact on shareholders wealth.

Whereas researchers like Kostyuk, (2006); Azhagaiah, and Priya, (2008); and De Angelo and De Angelo, (2006) believe that, dividend policy has significant impact on shareholders wealth, others however such as Black and Scholes (1974) indicated that dividend policy has no effect on shareholders wealth.

H2. Profitability, cash flow, investment, firm size and leverage have no significant impact on dividend policy. These factors according to Holder et al., (1998) however affect dividend policy as they indicated that there is an interaction between the existence of dividend and investment policies.

H3. There is no significant impact of share price, dividend payment, leverage, profitability, firm size, cash flow and investment on shareholders wealth. In his research, Ghauri, (2008) indicated that, share price, dividend policy, investment and profitability have positive effect on shareholders wealth but not leverage.

3. Methodology

The sample selection is based on a number of criteria employed by previous studies on dividend policy (Ghauri, 2008; Azhagaiah and Priya, 2008) and these include; firms with positive earnings throughout the period of the study, firms with record of dividend payment during the period of the study, firms with record of investments and firms with records of cash flow during the period. In all, 25 companies from the retail industry in UK were selected between period 2004 and 2008.

3.1 Variable Measurement

3.1.1 Dependent Variable:

In this study, market value to book value of the stock price is adopted and employed as proxy for shareholders wealth since it shows the true picture of share price of a company at particular period of time which goes a long way to determine shareholders wealth.

3.1.2 Independent Variable:

The variables used here are cash flow, investment, profitability, leverage, liquidity and firm size as adopted by researchers such as Azhagaiah, and Priya, (2008); Cho, (1998) and Ghauri, (2008).

4. Data Analysis

4.1 The specification of the model

The study estimates a general regression models that determine shareholders wealth for the 25 companies sampled in the study and is estimated using panel data estimation techniques. Though the pooled Ordinary Least Square (OLS) and the random effect estimation techniques were assessed, it is the fixed effect estimation technique that yielded robust results.

In this, three different models are developed and the results of these regression models are useful in capturing the overall effects of the selected variables. The functional form of the models is specified as;

$$shareholders\_w_{it} = \alpha_i + \beta_1 dividendp_{it} + \delta_1 leverage_{it} + \delta_2 earning_{it} + \delta_3 ROA_{it} + \delta_4 sharep_{it} + \delta_5 inv_{it} + \delta_6 fsize_{it} + \varepsilon_{it} \quad (1)$$

$$shareholders\_w_{it} = \alpha_i + \beta_1 dividendp_{it} + \beta_2 dividendp_{it-1} + \delta_1 leverage_{it} + \delta_2 earning_{it} + \delta_3 ROA_{it} + \delta_4 sharep_{it} + \delta_5 inv_{it} + \delta_6 inv_{it-1} + \varepsilon_{it} \quad (2)$$

$$shareholders\_w_{it} = \alpha_i + \beta_1 dividendp_{it-1} + \delta_1 leverage_{it} + \delta_2 earning_{it} + \delta_3 ROA_{it} + \delta_4 sharep_{it} + \delta_4 inv_{it-1} + \varepsilon_{it} \quad (3)$$

Where, the dependent variable (shareholders w_{it}) = the shareholder's wealth of individual firm (i) at time (t), and in this study the shareholders wealth is measured as a market value.

The intercept (α_i) = fixed parameters, it is unit specific and does not vary over time.[1]

; β_i (1,2) represent the coefficients of dividend payout policy and δi (1,2,…,,7, 8) equals the coefficients of the remaining variables shown in the model.

$Dividendp_{it}$ (+) = Dividend payout policy (dividend payout ratio) of a firm at time t.

$Leverage_{it}$ (+) = leverage ratio of a firm at time t.

$Earnings_{it}$ (+) = earning of firms measured in thousands of pounds.

ROA_{it} (+) = Profitability of a firm at time t. It is measured as Return on Total Asset (ROA).

Inv_{it} (+) = investment of a firm at time t. this is calculated as investment as a ratio of equity share.

$Fsize_{it}$ (+) = Firm size. This is equal to the annual sales value of a firm at time t measured in thousands of dollars.

$Dividendp_{it-1}$ (+) = Dividend payout policy (dividend payout ratio) of a firm at time t-1(previous year).

Inv_{it} (+) = investment of a firm at time t-1(previous year).

ε_{it} = stochastic error term which is observation specific.

Expected signs of the independent variables selected for this study are in parenthesis as shown above.

The main difference between equation 1 and equation 2 is that while equation 1 examines the impacts of dividend payout and investment on shareholder's wealth at the same year, equation 2 on the other hand does the same assessment with respect to previous year's values for dividend payout and investment. That is investment and dividend payout ratio is lagged by one year in equation 2. Equation 3 is therefore used to determine shareholder's wealth by using both lagged values of investment and dividend payout ratio. To find out if there is a problem of multicollinearity, the correlation between the dependent and all the independent variables are assessed. Also, the correlation among the independent variables was assessed and the result indicates that, there is a problem of multicollinearity between earnings and firm size and therefore to avoid that, the firm size was dropped from the final model.

[1] Note: the model specified is a fixed effect model

4.2 Analysis and Findings

In an attempt to measure the impact of dividend policy on shareholder's wealth, all the three models described above (equations 1, 2 and 3) are estimated using Gretl[2]. The summary statistics of all the variables are presented in table 4.1; and table 4. 2 shows the correlation between the independent variables. Due to the nature of the data, the analysis focused on the fixed effect estimated results. The entire panel data analysis has been grouped into three steps. First, the results of the model which does not take into account the lagged values of dividend payout policy and investment in equation 1 is analysed. The study proceeds to analyse the results of the model that account for the lagged values of dividend payout and investment in equation 2.

Finally, equation 3 which is used for the final analysis is basically the equation 2 without the current dividend payment and investment and it is in this equation that the conclusions and quantitative analysis of the study are based.

The analyses also include an examination of the correlations between dividend policy and other financial variables such as cash flow, investment, earnings and firm size.

It is important to note that in all the three results, a test for serial correlation is conducted using Durbin-Watson test. Table 4.2 shows the extent to which the independent variables in the regression analysis are correlated to each other. In the correlation results, only few of the correlation coefficients exceeded 0.5. This means that, when correlation between two variables exceeds 0.5, it is assumed that correlation coefficient is higher and could generate a problem of multicollinearity. These include the correlations between firm size and earnings (0.88); correlation dividend payout and dividend payout lagged 1 year (0.609); correlation between investment and investment lagged 1 year (0.607) and correlation between investment and dividend ratio (5.38). To forestall any serious problem of multicollinearity, any correlation coefficient more than 0.65 was dropped and for this, firm size has been eliminated from our final equation/results. In testing for the presence of multicollinearity, Farrar- Glauber method of testing multicollinearity was used.

Also, the correlation coefficient between investments lagged one year and dividend payout ratio lagged one year which is 0.542 as seen table 2 suggests possible presence of multicollinearity. The presence of multicollinearity when left unresolved can create large p values and wide confidence intervals, in both cases, the significant levels of the explanatory variables are negatively affected. In an attempt to resolve the presence of multicollinearity between the two underlined variables, it is not statistically prudent to drop any of the variables from the model as occurred for the case of firm size.

This is because unlike the variable firm size, which did not form significant part of the model, the two variables; investment lagged one year and dividend payout ratio lagged one year are significant part to the model hence they could not be dropped. In fact, dropping any of those variables could lead to model specification error. Also, the software employs for this study (Gretl) estimates robust standard error that takes care of potential problems of multicollinearity.

The regression results shown in Table 4.3, which is the results from equation 1, are found to be quite robust to the choice of independent variables. It has no problem of autocorrelation, that is by comparing the Durbin-Watson (d*) = 1.8426 from the results with the d_L and d_U from Durbin-Watson table and with their transformed values ($4-d_L$) and ($4-d_U$), it was found that given the number of parameters (7) d* (1.842) is greater than d_U (1.693) but less than $4 - d_U$ (2.307) hence we accept the null hypothesis of no

[2] Gretl is econometric software; it is able to carry out fixed effect panel data estimates with double effect of handling heteroskedasticity and/or serial correlation, plus producing estimators that are asymptotically efficient. See http://gretl.sourceforge.net

autocorrelation (rho =0) at 1% level of significance[3]. This signifies that, the error term of the independent variables is not serial correlation. The overall regression is significant at 1% as shown by the F-statistics and that the fitness of the model is very good with R^2 =95%. This shows that in all, 95% of the variations in shareholder's wealth can be explained by the independent variables selected for the regression. Among all the seven independent variables, dividend payout and firm size are found to be statistically insignificant.
All the remaining explanatory variables such as leverage ratio, earnings, profitability (return on asset) share price and investment are significant at most 10% with the correct expected signs.
In order to justify the feasibility for using the fixed effect estimation technique, a test was done to see if the groups have common intercept. The null hypothesis is rejected at 1%, see table 4.3. Hence it is not statistically prudent to use the pooled OLS estimation technique. Also estimation was done by assessing the results of the model that combines dividend payout and investment as well as their one year lagged values (see table 4.4). Similar to the previous results discussed above, the results shown in table 4.4 is robust to the choice of independent variables. It is free from problems of serial correlation at 1% level of significance since from the results Durbin-Watson (d*) =1.7534 is greater than d_U (1.741) but less than $4 - d_U$ (2.2466) . Overall, the model is significant at 1% as indicated by the F-statistics. The model has a good fit with R^2 = 89%. This shows that in all over 89% of the variations in shareholder's wealth can be explained by explanatory variables selected for the regression.
It must be noted that, the results shown in table 4.4 do not include firm size; this is because the correlation coefficient between earnings and firm size is very high (see table 4.2). A critical analysis of the results depicts that by combining variables such as dividend payout and investment as well as their lagged values; has improved the results significantly. For instance the variable, share price, which was not statistically significant in the second results, is now statistically significant at 10% with the correct expected sign. Apart from dividend payout and firm size that are not statistically significant, all the remaining variables are significant at least 10%. Thus at least the model has improved in terms of levels of statistical significance of the variable and over all fit.

Table 4.1 Descriptive Statistics for the variables used in the study

	N*	Minimum	Maximum	Mean	Std. Deviation
CASH FLOW	125	-692000	1601000	25535.40	187795.643
INVESTMENT	125	18	2477700	288136.56	630920.353
FIRM SIZE (SALE REVENUE)	125	63381	47298000	4536123.08	8300159.481
SHARE PRICE	125	.08	90.75	6.1791	14.60819
EARNINGS	125	-259700	2310000	178910.06	355277.069
LEVER AGE RATIO	125	.0	68.9	3.338	7.4736
Return on Total Asset	125	-42.50	1717.41	24.6819	153.15125
SHAREHOLDER'SWEALTH	125	.23	91.00	6.0170	14.03740
DIVIDEND	125	2258	1814000	130749.35	231089.920

*** N = number of observation**

[3] The comparison using du and d_L investigate into the possibility of positive autocorrelation and the comparison using $(d_U - 4)$ and $d_L - 4$ investigate into negative autocorrelation. See Koutsoyiannis (2001) p. 214 and p. 665-6

2. **Table 4.2 Correlations matrix for independent variables**

		Return on Total Assets	EARNINGS	DIVIDED PAYOUT RATIO	LEVERAGE RATIO	SHARE PRICE	INVESTMENT	FIRM SIZE (SALEREV)	LAGS(DIVIDEND,1)	LAGS(INVESTME,1)
Return on Total Assets	Pearson Correlation	**1**								
	Sig. (2-tailed)	.								
EARNINGS	Pearson Correlation	.142	**1**							
	Sig. (2-tailed)	.114	.							
DIVIDEND PAYOUT RATIO	Pearson Correlation	-.009	.052	**1**						
	Sig. (2-tailed)	.919	.567	.						
LEVERAGE RATIO	Pearson Correlation	-.015	.209	-.075	**1**					
	Sig. (2-tailed)	.870	.019	.404	.					
SHARE PRICE	Pearson Correlation	-.002	-.038	.004	-.101	**1**				
	Sig. (2-tailed)	.981	.674	.965	.262	.				
INVESTMENT	Pearson Correlation	-.015	.356	.538	-.045	.094	**1**			
	Sig. (2-tailed)	.864	.000	.000	.617	.298	.			
FIRM SIZE(SALE REV)	Pearson Correlation	.056	.888	.028	.207	-.087	.183	**1**		
	Sig. (2-tailed)	.535	.000	.758	.020	.335	.041	.		
LAGS(DIVIDEND,1)	Pearson Correlation	-.011	.026	.609	-.042	-.013	.445	.008	**1**	
	Sig. (2-tailed)	.899	.776	.000	.643	.886	.000	.932	.	
LAGS(INVESTME,1)	Pearson Correlation	-.003	.336	.410	-.038	.073	.607	.169	.542	**1**
	Sig. (2-tailed)	.971	.000	.000	.672	.423	.000	.061	.000	.

* Correlation is significant at the 0.05 level (2-tailed).
* Number of observation for each case = 125

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

Table 4. 3 First estimated results of equation 1

Variable	Coefficient	Standard Error	p values
const	5.1039***	1.0233	0.0000
DIVIDEND_PAYOUT	0.0317	0.2147	0.8827
LEVERRATIO	0.0098**	0.0043	0.0252
EARNINGS	2.1682e-06**	8.70343e-07	0.0145
Return_on_Total Asset	0.0012***	9.3273e-05	0.0000
SHARE_PRICE	0.2419***	0.0813	0.0037
INVESTMENT	-0.0254*	0.0146	0.0856
FIRM SIZE	-4.1019e-08	5.3162e-08	0.4423
Number of Observations = 125			
R-squared = 0.9531			
Adjusted R-squared = 0.9375			
F(31, 93) = 61.05003 ; P-value(F) = 0.000			
Rho = -0.347740 ; Durbin-Watson = 1.8426			
Significance: '*'= 10%; '**'= 5%; '***' = 1%			

Test for differing group intercepts -
Ho: The groups have a common intercept
Test statistic: F(24, 93) = 2.3579
p-value = P(F(24, 93) > 2.35799) = 0.0018

Table 4.4 Second estimated results for equation 2

Variable	Coefficient	Standard Error	p values
const	11.5844***	2.7259	0.0000
DIVIDEND PAYOUT	0.1524	0.1996	0.4479
DIVIDEND-PAYOUT_1	0.4971**	0.2436	0.0453
LEVERRATIO	0.0496**	0.0227	0.0328
EARNINGS	4.0115e-06***	9.8471e-07	0.0001
Return_on_Total Asset	0.0022**	0.0011	0.0459
SHARE_PRICE	0.5913*	0.3382	0.0850
INVESTMENT	-0.0083*	0.0216	0.0702
INVESTMENT_1	-0.0705***	0.0219	0.0019
Number of Observations = 100			
R-squared = 0.9699			
Adjusted R-squared = 0.9550			
F(33, 66) = 64.6118; P-value(F) = 0.000			
Rho = -0.3448 ; Durbin-Watson = 1.7534			
Significance: '*'= 10%; '**'= 5%; '***' = 1%			

Test for differing group intercepts -
Ho: The groups have a common intercept
Test statistic: F(24, 66) = 3.90236
p-value = P (F(24, 66) > 3.90236) = 0.0000

4.3 Results

The overall regression remained significant at 1% and the R^2 has reduced to 79%. Thus this model is able to explain 79% of the variations in shareholders wealth.

Whilst in the previous results (table 4.4) the explanatory variables explained 79% of the variations in Shareholder's wealth it is important to know that after dropping firm size the R^2 has reduced and this signifies that the problem of multicollinearity that might be associated with the models is under control. Share price which was significant in the first results is no longer significant. However, dividend payout which is not significant in the previous result (table 4.4) is now significant at 5% with the correct expected sign when it is lagged by one year. All the remaining variables including investment lagged one year (investment_1) have statistically significant coefficient with the same expected signs as the previous results. It could also be seen in table 3 that the null hypothesis that the groups have equal intercept is rejected at 1% level of significance.

Hence it is justifiable to use fixed effect estimation technique other than pooled OLS. It is more important to note from table 4.4 that the introduction of the lagged variable reduces the number of observation from 125 to 100 and also the Durbin-Watson (d*) = 1.7606 which is greater than d_U (1.693) but less than 4 - d_U (2.307) so there is no problem of autocorrelation.

4.4 Quantitative importance of the results

As shown in table 4.5 the coefficient of the constant term is positive (11.29) and significant at 1%. This implies that all things being equal shareholders wealth for a firm is expected to be positive. Variables such as dividend payout_1, leverage ratio, earnings, return on total asset and share price are found to be consistent with their expected signs and significance, at most 5% of all levels of the regression analysis. Though investment_1 was found to be significant, it has different expected sign. Ideally, one will expect a firm's investment after one year to have some positive impact on shareholder's wealth. However, in this study, there is a negative impact and this could be attributed to two factors. Firstly, the terms of investment whether it is a long term or a short term and secondly, the actual returns from the investment. Expected returns from investment might be different from the actual outcome.

In conclusion, based on this study, variables such as leverage, earnings, profitability, share price and investment are statistically significant determinants of shareholder's wealth. Hence the study rejects the null hypothesis that key variables such as leverage, earnings, profitability, share price and investment have no significant influence on shareholders wealth. However, according to the results the null hypothesis that firm size has no significant influence on shareholders wealth is not rejected.

As shown in the estimated results, all the three results have proved that firm size is not statistically significant hence firm size has no significant impact on shareholder's wealth.

Table 4.5 Third estimated results for equation 3

Variable	Coefficient	Standard Error	p values
const	11.2923***	2.8379	0.0001
DIVIDEND-PAYOUT_1	0.4754**	0.2127	0.0287
LEVERRATIO	0.0476**	0.0204	0.0225
EARNINGS	0.0039***	0.0093	0.0000
RETURN_ON_TOTAL ASSETS	0.0021**	0.0010	0.0359
SHARE_PRICE	0.5020**	0.3300	0.01328
INVESTMENT_1	0.06700***	0.0212	0.0024
Number of Observations = 100			
R-squared = 0.7968			
Adjusted R-squared = 0.7760			
F(31, 68) = 70.41239; P-value(F) = 0.000			
Rho = -0.2996 ; Durbin-Watson = 1.7606			
Significance: '*'= 10%; '**'= 5%; '***' = 1%			

Test for differing group intercepts -
Ho: The groups have a common intercept
Test statistic: F(24, 68) = 4.4057
p-value = P(F(24, 68) > 4.4057) = 0.00

4.5 Correlations between cash flow and other variables

The study also examines the correlation between dividend policy and relevant financial variables such as cash flow, investment, liquidity and earnings by using Pearson product moment correlation estimation technique. Using SPSS we report the results of the correlation in table 4.6. The results show that Investment, firm size, cash flow and earnings have significant and positive association with dividend. That is as any of those selected financial variables increases, dividend of a firm also increases and vice versa. It is important to note that the level of association between dividend and investment is very weak (correlation coefficient =0.22). This is because it is closer to 0 than 1. Also the correlation between dividend and cash flow is weak (correlation coefficient =0.356). However, the strength of correlation between earnings and dividend as well as firm size and dividend are quite moderate. Their correlation coefficients are 0.57 and 0.54 respectively. Since correlation coefficient between cash flow and each of the selected financial variables is significantly different from zero we reject the null hypothesis and conclude that there exist a significant correlation between dividend and investment, cash flow, firm size and earnings.

Table 4.6 Correlations

		DIVIDEND	INVESTMENT	FIRM SIZE	CASH FLOW	EARNINGS
DIVIDEND	Pearson Correlation	1	.222	.537	.356	.571
	Sig. (2-tailed)	.	.013*	.000***	.000***	.000***
	N(observations)	125	125	125	125	.571

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

4.6 Recommendations and future research

There is the need for directors and management of companies to engage shareholders in dialogue on matters of dividend policy. By this, shareholders will get to appreciate management decisions and be convinced that the dividend decisions taken are to benefit shareholders in terms of high dividend and increase in their wealth in the future. The study also recommends that, decision such as leverage and investment should be handled with care if companies want to increase their shareholders wealth. Again it is recommended that management should not increase the size of their business with the motive of increasing their shareholders wealth, because this does not always lead to increase in shareholders wealth. Finally, management and financial analysts should always find out which of these factors; earnings, cash flow, firm size and investment affect dividend payout so as to work out the best way to have dividend policy. Future research should consider large sample numbers and a longer period. Secondly, different industry can be considered. Thirdly, other variables such as taxes, capital structure, interest rates can be included since these variables are also important in management decision making. Lastly, in terms of a model, event study can be used to determine when dividends are paid and its effect on share price which can be used to determine shareholder wealth at a particular point in time.

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