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Effects of Stable and Residual Dividend Policies on the Market Share Price

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Abstract: The effect of adopting either stable or residual dividend policies has an impact on the share price of companies. This is one of the most controversial study area in finance. This study therefore examines the possible implications of the two widely adopted dividend policies on the value of the common stock of six listed firms at the Nairobi securities exchange. The most likely relationship is that adoption of the stable dividend policy in the allocation of dividends to shareholders will boost the stock prices than the residual policy. The study used secondary data readily available for all the targeted firms listed at the NSE between the years 2009 and 2013.The multiple regression model used in this study puts the share price of stock as the function of dividend pay-out ratio, dividend yield and dividend per share. This study found out that there is a strong negative correlation between residual dividend policy and the stock price. There is positive correlation between stock price and the stable dividend policy.

Keywords: Dividends, Share Price

1. Introduction

Dividend policy is a financial tool that many organizations have adopted over time in order to maximize shareholders returns. It is a stipulated principle that a company uses to distribute its wealth to its shareholders either by giving dividends or retaining earnings. Dividend policy is usually based on the answers to several important questions. How much dividend should a company distribute to shareholders? What will the impact of the dividend policy be on the company's share price and what will happen if the amount of dividend changes from year to year? Dividends are means to transfer a firms assets from the common pool shared by all the security holders of the firm to exclusive ownership of the shareholders.

A number of studies have been done to determine the best dividend policy to adopt in order to maximize returns and its impact on the market price. It has aroused a lot of questions; do stocks that pay high dividends provide higher or lower returns to investors? Such tests have been conducted using highly sophisticated statistical techniques. Despite using these powerful analytical tools, which involve intricate and complicated procedures, the results have been mixed. Research in this policy has shown that the corporate dividend practice varies over time between organizations across the country. Gen et al (1995), found out that dividend policy in emerging firms differ from those in

developed firms. They found out that dividend payout ratios in developing countries were only about two thirds that of developed countries.

The relationship between dividend policy and stock price changes was carried out by many researchers after the 1980s. Baskin (1989) in his regression model examined the link between dividend policy and market price volatility using two dividend variables and four control variables. These control variables are earning volatility, firms' size, debt and growth. He advanced four basic models which related dividend to stock price risk. He concluded that dividend payout and dividend yield have a negative correlation with stock price movements. In formulating a dividend policy, a financial manager faces tradeoffs. Assuming that management has already decided how much to invest and chosen its debt-equity mix for financing these investments, the decisions to pay a large dividend means simultaneously deciding to retain little, if any profits; this in turn results in a greater external equity financing.

Dividends may be paid from current net profit and the existing retained earnings. Retained earnings are an internal source of finance. The payment of high dividends will lead to low level of capital and investment thus reduction in the market value of the shares and the bonds. A firm may also borrow debt capital to finance the payment of dividends from which no returns are expected. This will reduce the value of the firm and bond. Many stockholders rely on dividends to meet expenses; they would be seriously inconvenienced if the dividend stream were unstable. Reducing dividends to make funds available for capital investment could send incorrect signals to investors, who might push down the stock price because they interpreted the dividend cut to mean that the company's future earnings prospects have been diminished. The objective of the study is to analyze the impact of dividend policy on the share market prices.

2. Methodology

2.1. Introduction

Our intention in this research study is to fill the gap of knowledge in the study of how dividend policy impacts on the share market price in the selected companies at the Nairobi Securities Exchange. The basic empirical investigation here is to determine whether there exists a relationship between stock market performance and selected dividend policies. We will also do the correlation calculation on the explanatory variables. Data on the dividend policies and stock prices would be collected for a period of five years (2009-2011). This study will be based on six listed companies at the Nairobi Securities Exchange. Secondary data is used in this study. A time series of quarterly data spanning from 2009 to 2011 is used employing 50 data points for effective inference. Financial statements information from the respective companies will also be used.

2.2. Target population

Our interest in this research will be six listed companies at the Nairobi Securities Exchange.

2.3. Data collection

The definition of research includes gathering of data, information and facts for the advancement of knowledge. Based on our study and the nature data, we intend to use secondary data that will be collected from NSE website and financial statements from respective listed companies.

2.4. Data analysis

After collecting data we shall use R software in our analysis. From the data obtained we shall use quantitative techniques for our analysis. We shall test the correlation between the variables using ordinary least squares analysis in R software. In our research coefficient of correlation r and coefficient of determination,R^2 will be calculated to determine the degree of relationship. The linear relationship between the dividend policies and share market price will be tested using regression modeling. The significance of their relationships will be tested at 100(1-$\acute{a}$) confidence interval, where our $\acute{a}$=0.05 and F- tests.This will test the overall significance of the model.

2.5. Our model

The model under consideration based on our data and variables will be a multiple regression model.

$$Y_{it} = \beta_0 + \beta_1 D_{it} + \beta_2 DS_{it} + \beta_3 P_{it} + \varepsilon_{it},\ \varepsilon\ N(0,\ \sigma_2)$$ Where,

1. Y_{it} Is the share market pricing of company $i$at time t.
2. D_{it} Is the dividend yield of company $i$at time t.
3. DS_{it} Is the dividend per share of company $i$at time t.
4. P_{it} Is the dividend pay-out ratio of company i at time t.
5. β_0 Reflects the value of the share price when the coefficients of independent variables are all zero.
6. β_1, β_2, β_3 Are the coefficient terms of the independent variables?
7. ε_{it} Is the error term.

Assumptions of the model

- Zero mean of error terms, i.e., $E[\varepsilon_{it}] = 0$
- Explanatory variables are non-stochastic; the values are fixed.
- Zero correlation between error terms and independent variables
- No auto-correlation of error terms, i.e., $cov(\varepsilon_i, \varepsilon_j) = 0$
- Homoscedasticity of the error terms, i.e., $var(\varepsilon_{it}) = \sigma^2$

3. Results

This chapter presents an analysis of data that collected, analyzed and discussion of the findings. First we calculated various ratios relating to the variables of the multiple regression model. Correlation and regression models were used in the analysis of data.

3.1. Data

Table 1: Table of the given data

SP	*DPR*	*DY*	*DPS*	*SP*	*DPR*	*DY*	*DPS*
115	0.2455	0.03913	4.5	16.4	0.35842	0.06098	1
184	0.155	0.02989	5.5	23.75	0.38343	0.05263	1.25
155	0.16616	0.03548	5.5	30.75	0.4178	0.04878	1.5
173	0.198	0.04046	7	31.25	0.15106	0.016	0.5
280	0.18597	0.025	7	46	0.10869	0.0108	0.5
45	0.588	0.3778	1.7	24	0.09025	0.02083	0.5
66	0.2443	0.04545	3	38.25	0.16584	0.02614	1
21	0.4	0.0952	2	60	0.164	0.017	1
40	0.41265	0.075	3	39	0.107	0.015	0.6
90	0.346	0.05	4.5	38.5	0.15	0.016	0.6
11.7	0.2262	0.043	0.5	20.25	0.063	0.0099	0.2
10.95	0.136	0.048	0.35	17.25	0.1316	0.01159	0.2
7.3	0.1097	0.048	0.35	28.75	0.14224	0.0114	0.33
10.7	0.1	0.037	0.4	14.25	0.3509	0.028	0.4
15.5	0.13986	0.03871	0.6	26.5	0.4145	0.03019	0.8

3.2. Residual Dividend Policy

Under this policy companies choose to rely on internally generated equity to finance new projects. Hence therefore dividends are paid out of earnings left over after investment decisions have been financed. Dividends will only be paid if there are no profitable investment opportunities available. These companies usually attempt to keep balance in their equity/debt ratios before making any dividend distributions. If the firm has good investment available, then they invest the retained earnings and reduce the dividends or give no dividends at all. If no such opportunities exist, the firm will pay out dividends. In this theory deciding how much dividends to give is an issue, what the company does is to determine how much profits to retain and then the rest distributed as dividends.

Under this policy a company will employ the dividend pay-out ratio to check on its effects on the share price. The dividend pay-out ratio, which is dividend as a percentage of earnings, is an important concept of dividend policy. A company can follow either low pay-out ratio or high pay-out ratio. Low payout retains much more than high pay-out and as a consequence, low pay-outs earnings, dividends and equity investment grow at a higher rate than that of high pay-out. From the results we can clearly see that across the companies Pan-African Company issues more dividends compared to the rest with a mean of 0.39819.This can be as a result of high profits being achieved

Table 2: Table of the Residual Dividend Policy

Year	*Jubilee*	*Equity*	*Kenya-Re*	*NIC*	*National bank*	*Pan-African*
2009	0.2455	0.3509	0.2262	0.15106	0.10695	0.588
2010	0.155	0.4145	0.13619	0.10869	0.15	0.2443
2011	0.16616	0.35842	0.1097	0.09025	0.06269	0.4
2012	0.198	0.38343	0.1	0.16584	0.13158	0.41265
2013	0.18597	0.4178	0.13986	0.163399	0.14224	0.346
Average	0.190126	0.38501	0.14239	0.135848	0.118692	0.39819
s.d	0.035191	0.030894	0.049836	0.034303	0.035266479	0.12514605

yearly. National Bank offers very low dividends with an average of 0.118692.The Pan-African Company also has a higher volatility of payments since its standard deviation is higher (0.12514) than the rest.

Correlation Between Dividend Pay-out Ration and Share Price

Correlation signifies how the two variables are dependent upon each other.A statistical technique that shows whether and how strong they are related.The value -0.07611 indicates that there is almost no correlation between the pay-out ratio and share market price since the value approaches zero. The negative sign indicates that as the dividend pay-out ratio increases there is a significant decrease in the market share price.

Table 3: Table of the correlation between Share price and DPR

	Share price	*DPR*
Share price	1	
DPR	-0.07611	1

3.3. Stable Dividend Policy

Under this policy a company aims for a steady dividend pay-out. However extra dividends are paid on years of supernormal profits. It is also termed as a regular policy in that a company pays dividends at a fixed rate, and maintains it for long even if the profit fluctuates. Usually a firm pays this to satisfy the shareholders and can enhance the credit in market. Stable dividend policy is arrived at by the identification of the dividend yield and dividend per share.

a) Dividend yield policy

Table 4: Table of the correlation between Share price and DPR

Year	*Jubilee*	*Equity*	*Kenya-Re*	*NIC*	*National bank*	*Pan-African*
2009	0.03913	0.027875	0.0427	0.016	0.015385	0.3778
2010	0.02989	0.03019	0.047945	0.010869	0.015584	0.04545
2011	0.03548	0.06098	0.047945	0.02083	0.009876	0.0952
2012	0.04046	0.05263	0.03738	0.02614	0.01159	0.075
2013	0.025	0.04878	0.03871	0.016667	0.011478	0.05
Average	0.033992	0.044091	0.042936	0.018101	0.012783	0.12869
SD	0.006483	0.01446	0.004974	0.005719	0.002559	0.1406956

Still from the data obtained we see that the dividend yield from Pan-African Company is high from the rest of the companies. This implies still that Pan-African Company offers more dividends in the long run. Equity comes second then Kenya-Re, Jubilee, NIC and lastly National Bank. The variation from the mean also comes inthe same order.

3.4.1. Correlation between dividend yield and share price

The correlation between share price and dividend yield is -0.05607. This implies that an increase in dividend yield would result to a decrease in share price. They have very minimal relationship close to zero.

Table 5: Table of the correlation between Share price and DY

	Share price	*DY*
Share price	1	
DY	-0.05607	1

b) Dividend per share policy

From the results Jubilee has highest value of 5.9 meaning that it has the highest value of dividends offered across the years as per the number of ordinary shares they have. National bank has the lowest dividend per share due to the low dividend s they obtain during their annual operations. The dividend volatility is high in Pan-African and Jubilee (1.096, 1.084) while is less volatile in National bank at 0.2024 from the mean.

Table 6: Table showing the dividend per share policy

Year	*Jubilee*	*Equity*	*Kenya-Re*	*NIC*	*National bank*	*Pan-African*
2009	4.5	0.4	0.5	0.5	0.6	1.7
2010	5.5	0.8	0.35	0.5	0.6	3
2011	5.5	1	0.35	0.5	0.2	2
2012	7	1.25	0.4	1	0.2	3
2013	7	1.5	0.6	1	0.33	4.5
Average	5.9	0.99	0.44	0.7	0.386	2.84
SD	1.083974	0.4219	0.108397	0.273861	0.202435175	1.096814

3.4.2. Correlation between dividend per share and share price

Table 7: Table of the correlation between Share price and DPS

	Share price	*DPS*
Share price		1
DPS	0.92226	1

From the analysis of correlation coefficient, the study has identified that the relationship between dividend per share and share price is positive because the correlation between them is 0.92226. This is a perfect correlation of almost

1, this shows that if a company declares dividends there is an absolute rise in the share price of that company. Also if the dividends fall for that year the share price will also fall at almost the same rate holding other factors constant.

3.4. Overall Dependancy

Table 8: Table showing the overalldependency of the data

Share	*price*	*DPR*	*DY*	*DPS*
Share	price	1		
DPR	–0.0761	1		
DY	–0.056	0.6674	1	
DPS	0.923	0.1286	0.0506	1

The relationship between dividend yield and dividend pay-out ratio is strongly positive. This signifies that as a company decides to give out more dividends that retaining would result to a positive increase in the shareholders yield by 0.667416. A drop in the dividends means that the shareholders would obtain low value in their shares. There's a weak positive correlation between dividend per share and dividend pay-out ratio also to dividend yield at 0.128668 and 0.050556 respectively.

3.5. Results of Multiple Regression

From the data we were able to see how share market price is affected by the dividend policies. This was based on our equation: In this study, the adjusted R squared which shows the percentage variation in the dependent variable

Table 9: Table of the multiple regression results

Intercept	*DPR*	*DY*	*DPS*
25.30	-112.51	49.66	28.82

Coefficients

Min	*1Q*	*Median*	*3Q*	*Max*
-33.801	-14.068	-0.006	11.349	72.614

Residuals

	Estimated	*Std. Error*	*t-value*	*Pr (>|t|)*
Intercept	25.30	9.020	2.805	0.0094 **
DPR	-112.509	42.541	-2.645	0.0137 *
DY	49.661	84.98	0.584	0.5640
DPS	28.824	1.988	14.499	5.69e-14 **

Multiple R-squared = 0.8906

Adjusted R-squared = 0.8779

F-statistic = 70.53, P-value = 0.0000

being explained by changes in the independent variables equals 0.8779, which implies that dividend per share, dividend yield and dividend pay-out ratio explains 0.8779 of market share price. From the analysis it is open that if a company decides to offer dividends there will be a decline in share price because its coefficient is -112.509. This implies that as long as the pay-out rises the market share prices would drop. Both the dividend yield and dividend per share have a positive coefficient to market share price. This implies that a rise in both the dividend yield and dividend per share would lead to an increase in market share price at 49.6607 and 28.82407 respectively.

Both the dividend pay-out ratio and dividend per share are significant at less than 0.05 level of significance, that is, 0.01368 and 0.0000 respectively. Dividend yield has no significance since its value, 0.564 >0.05. Based on this research it is evident that if a company uses the residual dividend policy it would always have a negative change in share prices. This is evident by the coefficient value of -112.509. The adoption of stable dividend policy gives a positive impact on the changes in share prices.

4. Conclusion

The empirical results shown too that a unit increase in dividend per share results in an increase in share price by 28.824. It is also significant at 0.05 confidence level. Our model well explains the changes in market share price using the adjusted R-squared by 0.8779. This shows how much the independent variables explains the dependent variable. The F-statistic with the p-value less than 0.05 clearly tells how the overall model is significant. This shows that our values better explain the relationship that the dividend policies have with the changes in the share market price

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