Impact of dividend policy on stock prices: Evidence from Pakistan

Shahid Iqbal
University of Lahore, Pakistan

Faisal Abbas
University of Lahore, Pakistan

Bilal Aziz University of Engineering and Technology, Lahore, Pakistan

ARTICLE

Impact of Dividend Policy on Stock Prices: Evidence from Pakistan

Shahid Iqbal
University of Lahore, Pakistan

Faisal Abbas
University of Lahore, Pakistan

Bilal Aziz
University of Engineering and Technology Lahore, Pakistan

Abstract

We study the impact of dividend yields and payout ratios on stock prices using an econometric model that also includes control variables such as debt leverage rates, earnings per share, total assets and asset growth. Relevant data for Pakistani companies are compiled from a variety of sources for the period 2001-2014. Econometric results show that dividend yields are negatively correlated and dividend payout ratios positively correlated with stock prices.

Key Words: Dividend policy, market price, dividend yield, dividend payout

JEL Classification: G10, G19

Introduction

Dividend policy plays a key role in firm's financial decisions and it is a controversial topic of finance. Dividend policy is not only important for owners but also for other stakeholders as well. Dividend policy means that how much portion of earnings is distributed among shareholders and how much is to be retained in business for reinvesting in appropriate opportunities. Actually, retained earnings are a source of financing for business.The decision about dividend policy is classified into two ways according to nature one is active dividend policy and second is passive dividend policy. In active dividend policy shareholder, will decide whether earnings will be distributed or retained in business. Their decision is often based upon their preferences of cash and capital gain and they are indifferent in deciding dividend policy. In active dividend policy decision about dividend distribution is mostly same for all subsequent years and it remained unchanged for number of accounting years. In active dividend policy ratio of dividend distribution and retained earnings may be changed with some major change like tax on dividend and capital gain. The second policy is passive dividend policy and according to which decision about dividends and retained earnings is based on the available opportunities. The earning of company is first invested in opportunities available and unused amount is distributed among shareholders.

The important point here in this form is whether the available opportunities having positive net present value or not. In opportunities having negative net present value are discouraged by investors. Bhattacharya (1979) was a strong supporter of dividend irrelevance theory means dividend are not affected prices of stocks in stock market. There are also a number or other researcher who strongly favored dividend irrelevance theory. Such researchers like John and Williams (1987) and Miller and Rock (1985) are supporters of dividend irrelevance theory. The dividend relevance theory was first of all searched by Gorden (1963). He explained that there is a strong positive relationship of dividend

68

distribution with stock prices. Later a number of other researchers also favored view of Gorden that dividend distribution affects stock prices in stock exchange. In Fama model he checked the effect of dividend on stock prices by controlling other variables. The other variables are dividend yield (DY), retention ratio (RR), earning per share (EPS), size of company (SZ), leverage (LVRG) and asset growth (AG). He controlled all these variable and check effect of dividend policy on stock price and furthermore he finds positive and significant relation between dividend policy and stock prices. Later on a large number of researchers empirically proved view of Gorden (1963) the renounced names in this regard were Mayer and frank (2004), Dong et al (2005). They are all strongly favored dividend relevance theory.

Maditions et al (2007) also favor dividend relevance theory. The other variables used in his model were dividend yield (DY), retention ratio (RR), earning per share (EPS), size of the company (SZ), leverage (LVRG) and asset growth (AG). Black & schools (1974) make valuable contribution in the field of financing and also find out that there is no significant and positive relation exists between dividend policy and stock prices. Chen, Firth and Gao (2002) they also finds that dividend has no effect on stock prices thus favored of dividend irrelevant theory that dividend does not affect stock prices. From both of the dividend policies that active verses passive dividend policy people adopt dividend policy that suits their life style. Further if investor is risk taker so he will prefer to take capital gain instead of taking cash and his wealth will be increased. In passive dividend policy mangers used the income in reinvesting the amounts in business in investment opportunities of business and amount is invested in such opportunities which have positive net present value. The remaining amounts are to be distributed among shareholders in form of cash dividends and investors cannot take dividends from organization according to their own desire. According to this policy overall wealth of shareholders will be increased.

Research is based on the selected companies that are listed on the Karachi stock exchange that is a renounced and emerging stock exchange of the Asia. Karachi stock exchange is high risk and high return stock exchange of country. In 2008 during the period of great economic recession market of all over world in recession and Karachi stock exchange was also in recession but presently Karachi stock exchange is again recovered from effect of recession. Research is based on data of selected listed companies on Karachi stock exchange that are continuously paying dividends. The data from listed companies of Karachi stock exchange is used to find out relationship between dividend policy and stock prices. To find whether dividend relevance theory is applicable in of Karachi stock exchange that means whether effect of dividend policy on stock price is positive and significant in selected companies of Karachi stock exchange. Further also to check out dividend irrelevance theory that means relation between dividend policies not affected the stock prices for selected companies.

Review of Literature

Yanali Wang (2005) explained the relationship of dividend announcements on market price of share. The results showed that there is a significant and positive relationship between dividend initiations and stock returns. The effect of size was significant and positive on stock returns. The effects of earnings to price and industrial dummies were significant and positive. Leverage is insignificant and has a negative impact of stock return. The market to book ratio was significant but have a negative impact on stock return. The study also concludes that dividend affects stock return that is opposed to dividend irrelevance theory. Omran & Pointon (2003) explained relationship of dividend policy and share prices. The results of study showed that in actively traded companies' dividends and retention has

positive and significant relationship with stock price but retention has a high positive correlation with stock prices and book value has no relation with stock prices. In none actively traded firm's retention and book value has a positive and significant relationship with stock prices. Overall study showed significance of dividend policy. Thus, it strongly opposed divided irrelevance presumption of Modigliani and miller. Nickolas Travlos, et al. (2001) examined the reactions of stock market by dividend announcements. The results showed that there was a positive and significant relationship between cash dividend and stock return. The relation of stock dividend and stock return is also positive and significant. The variables cash flow and return on equity are also positive and significant. Thus, this study provides an empirical evidence of signaling effect of dividend on stock prices.

Muhammad Asghar, et al. (2011) explained the relationship of dividend policy with stock prices. The results of study showed that there was a negative and significant relationship between price volatility and asset growth. The relationship between price volatility and earning volatility is negative but insignificant. The relation among market price of share and other variables like dividend yield and payout ratio have a positive but insignificant with stock price volatility. Zuriawati Zakaria, et al. (2014) explained the impact of dividend policy on stock prices volatility. The results of study showed that there is a strong positive and significant relationship between price volatility and dividend payout ratio. The relation between price volatility and size was also positive and significant. The leverage was significantly and negatively influenced the share price. The relation among price volatility and dividend yield, growth and earnings volatility was positive but insignificant. Mohammed Amidu (2007) discussed effect of dividend policy on firm performance in Ghana. The analysis of study showed that there is a significant and positive relation between dividend policy and return on asset. The payout ratio was negative and significantly influenced return on assets. The relation between growth and return on assets is also positive and significant. The other 2 variables leverage and size were negatively and insignificantly influenced the return on assets. The study supported the relevance proposition of dividend policy. Mohammad Hashemijoo, et al. (2012) examined impact of dividend policy on stock price volatility in Malaysia. The results showed that there was a quite significant but positive relationship between price and dividend yield. The size was also negatively but significantly influenced market price of share. The earnings volatility was significant and positively related with price volatility of share. Debt and growth both were negative and also insignificant with stock prices. Thus study supported the dividend irrelevance theory.

Werner-Ria Murhadi (2008) examined the effect of dividend policy on stock prices. The results of study showed that there was a positive impact of dividend policy on stock prices. The investment opportunity was not affecting market prices of shares. The free cash flow was negatively influenced market price. The ownership structure had a negative impact on stock prices of share prices. The corporate life cycle had also impact on stock prices in the market. The investment opportunities had a negative impact on stock prices. Regulation was positively influenced stock prices in stock market. Thus, study empirically supported the signaling effect of dividend announcements increase stock prices.

Data Collection and Methodology

Data Sources

The data that was used in the research collected from the annual reports and financial statements of the companies that were listed on Karachi stock exchange during the period of research. The data for different companies was also gathered from the balance sheet analysis of the companies from the website of state bank of Pakistan. For the research purpose the data

for 2014was also be collected from the head offices of the companies in Karachi stock exchange. Secondary data from the "Bureau of statistics of Pakistan" was also gathered.

Econometric Model

The model used for analysis has Market price as dependent variable and 6 independent variables. Actually, main variables are dividend yield and payout ratio whose effects are to be examined and other variables are to control their effect on stock price and also to examine their effect on market price. Model Equation is given below:

$$MP_{it} = \alpha + \beta_1 DPOR_{it} + \beta_2 DY_{it} + \beta_3 EPS_{it} + \beta_4 LVRG_{it} + \beta_5 SIZE_{it} + \beta_6 AG_{it} + \varepsilon_{it}$$

Where

MP = Market price of the share.   DPOR= Dividend payout ratio

DY = Dividend yield of the company.   EPS = Earnings per share.

LVRG = Leverage of the company.   SIZE = Size of the company.

AG = Asset growth. ε=Stochastic variable or error

The market price is treated as dependent variable and the dividend yield, dividend payout ratio, size of the company, earning per share, leverage and asset growth of companies are taken as independent variables in this model.

Variable Notztions and Measurement

Variable Name	Variable Construction Procedure
MP = Market price of the share	It is simply the closing price of the share of the company on closing trading date of the year.
DPOR = Dividend payout ratio.	$=\dfrac{Dividendpershare}{Earningpershare}$
DY = Dividend yield	$=\dfrac{Dividendpershare}{Marketpricepershare}$
LVRG = Leverage of the company	$=\dfrac{Longtermdebt}{Commonstockequity}$
EPS = Earnings per share	$=\dfrac{Earningaftertax}{Numberofcommonsharesoutstanding}$
SIZE = Size of the company	= Total assets of the company
AG = Asset Growth of the company	$=\dfrac{Assetsofthecurrentperiod}{Assetsofthepreviosperiod}$

Results and Discussion

The table 4.1 provides real statistics of variables where market price of share representing mean value 4.30 and median showed value 4.18. The minimum and maximum values of stock price were 0 and 9.13 simultaneously. The standard deviation was however 1.26. DPOR have value of mean and median as .94 and .31. Maximum and minimum values were 928.70 and -113.27. The standard deviation was 24.88 in dividend payout ratio, value of

standard deviation is high because companies even in week financial conditions pays divided to capture shareholder's trust that was reason value of standard deviation is much more. DY have mean and median as .37 and .31 respectively. The maximum and minimum values were 34.34 and -113.27. Standard deviation was 3.35. The EPS that was explained as earnings per share. The value of EPS was also being converted into log as its value was much high. The average and middle value of EPS was 2.29 and 2.33 simultaneously. The Maximum and minimum data values of earning per share in this research were 5.10 and -2.8. LVRG is leverage of companies that was debt to equity ratio of company. The mean and median of this variable was 1.45 and 1.05. The leverage's maximum and minimum values were 7.29 and 0 where standard deviation of was 1.30 that showed data of leverage is somehow normal. Mean and median of size of companies were 8.10 as average and 8.16 as middle value of data. The maximum and minimum values of this variable were 10.68 and -.44 while standard deviation was 1.48 in data that showed the normality feature of data.AG represents growth of corporation's maximum value is 11.34 and minimum value .1056averages of data was 1.14 and standard deviation showed value 105.

Table 4.1: Descriptive Statistics

	MP	DPOR	DY	EPS	LVRG	SIZE	AG
Mean	4.30087	0.94821	0.37544	2.29135	1.45491	8.10202	1.14488
Median	4.18071	0.31817	0.31768	2.33214	1.05	8.16387	1.08838
Maximum	9.13777	928.7076	34.34848	5.10291	7.29	10.68426	11.3419
Minimum	0	-113.273	-113.273	-2.813410	0	-0.44303	0.10568
Std. Dev.	1.26231	24.884	3.35169	1.27307	1.30397	1.48776	0.36715
Skewness	0.45547	35.87152	-25.9481	-0.21336	1.79087	-0.69960	15.68909
Kurtosis	1.27373	1343.181	928.7076	0.19865	3.70336	1.7340	419.974
Observations	1431	1431	1431	1431	1431	1431	1431

Table 4.2: Correlation Matrix

	MP	DPOR	DY	LVRG	EPS	SIZE	AG
MP	1						
DPOR	0.59025	1					
DY	-0.0016822	0.27486	1				
LVRG	-0.030581	-0.06061	-0.01383	1			
EPS	0.66575	0.5865387	-0.012726	-0.031119	1		
SIZE	0.17039	0.16435	-0.0331	0.16274	0.2327	1	
AG	-0.01202	-0.02422	-0.00091	-0.00102	-0.010475	0.0908	1

The DPOR means dividend payout ratio was positively correlated (.59) with market price which is a dependent variable. The dividend yield was negatively correlated (-.0016) with market price of share in stock market. The dividend yield was however positively correlated (.27) with dividend payout ratio. The LVRG which was used at place of leverage was negatively correlated (-.030) with stock prices and correlation between leverage and dividend payout ratio was also negative (- .060). The leverage was also negatively correlated (-.010) with dividend yield. EPS which showed earning per share was positively correlated (.66) with market price. The correlation between earning per share and payout ratio was positive (.58). EPS was negatively correlated with dividend yield (-.01) and was also negatively correlated with leverage (-.03). The Size which was consisted on total asset was positively correlated (.17) with market price. The size was positively correlated (.16) with payout ratio. Size was positively correlated with Leverage and EPS (.16) (.23). The Size was negatively correlated with dividend yield (-.0331). The Asset growth was negatively correlated (-.01) with market price of share. The asset growth was also negatively correlated (-.02) with dividend payout ratio. Asset Growth was negatively correlated with divided yield (-.000). The asset growth was negatively correlated with leverage (-.001). The Asset growth was negatively correlated with EPS (-.010). The asset growth was a positively correlated with Size (.0908)

Table 4.3: Fixed Effect

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.980394	0.180645	5.427193	0.0000
DPOR	0.157676	0.020603	7.653223	0.0000
DY	-4.78E-05	1.62E-05	-2.939897	0.0033
EPS	0.283798	0.019846	14.30029	0.0000
LVRG	-0.013506	0.007901	-1.709367	0.0876
SIZE	0.302698	0.022728	13.31807	0.0000
AG	-0.000944	0.000633	-1.492226	0.1359
Effects Specification				
R-squared	0.788508		Durbin-Watson	1.298976
Adjusted R-squared	0.771230		Prob(F-statistic)	0.000000
F-statistic	45.63717			

According to above results variable DPOR dividend payout ratio has positive and significant relationship with market price of share. This result is a strong evidence for dividend relevance theory that means dividend affected market prices of share. The results were observed at 5 percent level of significance. Dividend yield have negative but significant relationship with market. The value of Adjusted R square is 77 percent which means that

independent variable explains 77 percent of market price. While Durban Watson statistics indicate that residuals are not auto correlated. Where F statistics indicate fit is good for model because model F statistics is 45.63.

$$MP=.98+.15DPOR4.78DY+.28EPS+-.013LVRG+.30SIZE-.00094AG+€$$

In this model DPOR has a positive (.15) and significant (.000) impact on market price of share that is according to theory that by distributing dividend the market price of share is increased. In emerging economies investor wants to get more and more cash inflow in business instead of reinvesting as suggested by Bird in hand theory. The DY dividend yield has a negative (-4.7) but significantly (.003) explain market price of share DY also reveals dividend relevance theory. The theory supported it as when dividend yield is increased than demand of shares in market also increased that decreases market price of share due to excess demand. EPS also has positive .28 and strongly significant relationship (.0000) with market price of share. The results of EPS strongly favored by theory where theoretically when EPS has been increased market price of share should also be increased that exactly according to expectations. SIZE which is calculated on the basis of log of all assets was strongly significant (.0000) and positively impacted (.302) market price of share. Theory also explained that increasing earnings per share should increase market price of share as when company will earn more it will pay more dividend and wealth of shareholders is also increased that is reason share price has been boost up and results of model exactly supporting the theory. LVRG means leverage that has negative (-.013) but insignificantly affected market price of share (.08) theoretically leverage results also relating leverage is not a justified variable to explain movement of market price in less developed economies like Pakistan shareholders are interested in payment of dividend and not in capital structure of company. The shareholders are not interested whether company has more debts in its capital structure or more equity but their only interest is company is payment of dividend by company so theoretically it was not a justified variable especially in context of developing economies.AG was also insignificance (.13) but has a native impact on market price of share (-.0009). It is also justified as insignificant as asset growth increase assets but investor again interested in dividend payment instead of increasing assets. Increasing assets of company does not mean that earning must be increased but earning is increased by efficient use of assets in business.

The results of table showed that dividend has a significant impact on market price of share. The results empirically matched with dividend relevance theory. The variable as leverage and asset growth are shown as insignificant that are supported in less developed economies. The results of study were empirically proved that dividend policy affected the stock prices. The evidence of 103 listed companies after the 14 years observation was supported dividend relevance theory. The Karachi stock exchange in Pakistan is not an efficient market to move with current information or boost up by increasing shareholder's wealth. So the results in Pakistan context strongly rejected Modegliani and Miller's irrelevance theory.

The Hausman test showed that whether random effect model is suitable or fixed effect model. Hausman (1978) explained first time that if probability of this Hausman test is less than our level of confidence than random effect model is rejected that leads to fact that

74

fixed effect model is suitable for study and test-statistic shows that probability is (.000) that is less than 5% level of significance so the random effect model is not appropriate.

Table 4.4 : Correlated Random Effects - Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	128.334129	6	0.0000

Conclusion

This research was constructed to explain the relationship of dividend policy and stock prices in context of Pakistan. The research was based on Karachi stock exchange containing 103 listed companies during 2001 to 2014. The objective of study was to investigate relationship of dividend policy and stock prices. The model showed significance (.000) of independent variables with dependent variable. Market price of shares was taken as dependent variable while DPOR, DY, EPS, SIZE, LVRG and AG were taken as independent variables. The DPOR found significant (.000) and positive (.184) with stock prices.EPS was significant (.000) and positively (.318) affected the market price. SIZE was observed as significant (.000) and positive (.208) with market prices of stock. DY found as significant (.000) and negative (-5.38) with stock prices. Two variables the LVRG and AG found insignificant and negative with stock prices. The model explained that there was significant impact of dividend on stock prices of market in context of Karachi stock exchange. Thus study empirically rejected Modigliani and Miller's irrelevance of dividend policy and favored relevance of dividend in context of Karachi stock exchange.

References

Ambarish, R., Williams, J., & John, K. (1987). Efficient Signaling with Dividends and Investments. *Journal of Finance,* 42, 321-343.

Amidu, M. (2007). How Does Dividend Policy Affect Performance of the Firm on Ghana Tock Exchange? *Investment Management and Financial Innovations*, 4 (2), 103-112.

Asghar, M., Shah, S. Z., Hamid, K., &Suleman, M. T. (2011, March 26). Impact of Dividend Policy on Stock Price Risk: Empirical Evidence from Equity Market of Pakistan.

Bhattacharya, Sudipto, 1979, Imperfect Information, Dividend Policy, and "the Bird in the Hand" Fallacy, *Bell Journal of Economics,* 10, 259-270.

Black, F., & Scholes, M. (1974). The Effects of Dividend Yield and Dividend Policy on Common Stock Prices and Returns. *Journal of Financial Economics,* 1 (1), 1-22.

Chen, G., Firth, M., &Gao, N. (2002). The Information Content of Concurrently Announced Earnings, Cash Dividends, and Stock Dividends: An Investigation of the Chinese Stock Market. *Journal of International Financial Management and Accounting,* 2 (13), 101-124.

Dong, M., Robinson, C., & Veld, C. (2005). Why Individual Investors Want Dividends. *Journal of Corporate Finance*, 1 (12), 121-158.

Fama, Eugene F., and Kenneth R. French, (2001). Disappearing Dividends: Changing Firm Characteristics or Lower Propensity to Pay*? Journal of Financial Economics* 60, 3-43.

Gorden, M. J. (1963). Optimal Investment and Financing Policy. *The Journal of Finance,* 18 (2), 264-272.

Hashemijoo, M., Aref M. Ardekani, and Nejat Y. Multimedia, (2012), "The Impact of Dividend Policy on Share Price Volatility in the Malaysian Stock Market, *Journal of Business Studies Quarterly,* 4(1), 111-129.

Hausman, J. A. (1978). Specification tests in econometrics. *Econometrica*, 1251-1271.

Maditinos, D. I., Sevic, Z., Theriou, N. G., &Tsinani, A. V. (2007). Individual Investors' Perceptions Towards Dividends: The Case of Greece. *International Journal of Monetary Economics and Finance*, 1 (1), 18-31.

Miller, M. H., & Modigliani, F. (1961). Dividend Policy, Growth and Valuation of shares. *Journal of Business*, 4 (34), 411-433.

Miller, M. H & K. Rock. (1985). Dividend policy under asymmetric information. *Journal of Finance,* 40, 1031-1051.

Murhadi, W.R. (2008). Study on Dividend Policy: Antecedent and Its Impact on Share Price. *Journal of Manajemen & Kewirausahaan*, 9(1), 1-29

Myers, M., & Frank, B. (2004). The Determinants of Corporate Dividend Policy. Academy of *Accounting and Financial Studies Journal,* 8 (3), 17-28.

Omran, Mohammed, and John Pointon, (2004), Dividend Policy, Trading Characteristics and Share Prices: Empirical Evidence from Egyptian Firms, International journal of Theoretical and *Applied Finance* 7, 121-133.

Travlos, Nickoaos, LeonsTrigeorgis, and Nikos Vafeas, 2001, Shareholder Wealth Effects of Dividend Policy Changes in an Emerging Stock Market: *The Case of Cyprus, Multinational Finance Journal,* 5, 87-112.

Wang, Y. (2005). The effect of dividend initiations on stock returns: A propensity score matching approach.

Zakaria, Z. (2014). *Managerial Entrenchment and Dividend Payout Policy of Malaysian Public Listed Companies* (Doctoral dissertation, Universiti Sains Malaysia).