DIVIDEND POLICY ATTRIBUTES AND ITS IMPACT ON FIRM PROFITABILITY

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Abstract. *The objective of the study was to analyze the impact of dividend policy on firm profitability. Dividend paying firms from three industrial sectors namely cement, automobile and sugar were selected for the period 2010-2020. Out of the total 74 dividend paying firms in these three industrial sectors only 33 were selected for which data was available for the entire study period. Fixed effects model is used to measure the impact of dividend policy from firm profitability. Findings of the study revealed that both attributes of dividend policy namely DPR and DY has a significant positive impact on all three proxies of firm profitability (ROA, ROE, EPS) except for DPR impact on EPS in Model III where the impact is also positive but insignificant.*

Introduction

Financial market is an important indicator of how well an economy is doing yet at the same time it acts as a source of communication between users of financial information and firms. Economic development depends upon the investments made investors from their savings or surplus funds and these investments provide a solid foundation for the economy to develop. However, the ongoing changes in the economic and financial environment has made it more challenging for firms to devise ways in which they are able to achieve and continue to achieve desired performance outcomes. In this regard many researchers have attempted to analyze the financial decisions not only aimed maximizing corporate value and distribution of earnings among shareholders but also the complexities faced by firms in making such decisions which could significantly affect firm performance.

Among many important financial decisions, dividend policy is contemplated to be a key financial decision that could significantly affect firm profitability. Dividend simply means profits distribution to shareholders by the firm. Paying dividends primarily depends on the cash generated from operating activities and the availability of future investment opportunities. Therefore, the dividend payment may have impact on investment decisions and vice versa. When a firm earns profit then it becomes able to pay a portion of those profits as dividends to its shareholders while the remaining profits after paying dividends namely retained profits can be used for future reinvestment purposes. A high payout ratio indicates that less earnings of the firm will be invested back in the business. Investors preferring the consistent stream of income over the expected increase in share price tends to get attracted towards firms that pay high dividends (Khan, Houda, & Shah, 2019). On the contrary, firms paying less dividends indicates that they are reinvesting more in the business with the potential to realized higher capital gains by the investors.

In empirical literature, we find many studies that have focus on dividend policy and its relationship with firm performance. Some researchers have categorized dividend policy and its effects as a challenging research issue (Amidu, 2007; Frankfurter & Wood, 2002; Onanjiri & Korankye, 2014) while others consider dividend policy as a firm strategy that focuses on distribution of income to shareholders (Gill, Biger, & Tibrewala, 2010)). Regardless of various researches on dividend policy, from previous studies it is evident that there are differences as far as dividend policy's impact on firm profitability is concerned. Some studies pointed out that dividend policy has a significant positive effect on firm profitability (Ali, Jan, & Atta, 2015) while other reported a significantly negative impact of dividend policy on firm profitability (Onanjiri & Korankye, 2014). These differences in previous studies findings are not restricted to research years under focus but are also varying across countries (Kim & Kim, 2020), and even among different sectors within an economy (Khan et al., 2019). These differences in empirical findings further emphasizes the need for more research in this area.

The main motivation for doing this research comes from the differing results concluded so far in empirical studies. The study aims to find out the impact of dividend policy attributes namely dividend payout ratio (DPR) and dividend yield (DY) on firm profitability (ROA, ROE, EPS). The findings of the study could add to the academic literature by providing fresh evidence on the effect of dividend policy on firm profitability using slightly different dividend policy attributes. Moreover, the study will be useful for managers to understand the impact of dividend policy and design dividend policy in such a way that will not only help the organization to achieve is overall objective but will also satisfy shareholders.

Theoretical Background of Dividend Policy

From strategic perspective dividend is considered to be an important decision and there are several factors that must be considered before its determination. From theoretical point view, a number theories attempted to explain investor behaviours regarding dividend policy and presented differing conclusions with respect to dividend policy's impact on firm performance. Historically, the debate on the importance started with the famous Irrelevance theory of (Miller & Modigliani, 1961) where they argued that firm value is not affected by whether the firm pays dividends or not. They further added that firm value is only influenced by the profits it generates and not by the way in which income is distributed. The Bird in Hand theory presented by Gordon (1963) states that dividend policy directly affects corporate value through its impact on share price because with increase in dividends the required rates of return on owned fund declines. The reason behind this is that there is less certainty to realized and obtain capital gains on retained earnings as compared to capitalization of dividends because of increase in risk caused by high uncertainty arising from retained profits thus affecting future investments. Hence, it can be safely assumed that investors prefer the distribution of profits in form of dividends today (which is certain) over capital future gains which is uncertain.

The Tax Preference Theory presented by Litzenberger and Ramaswamy (1979) states that "if capital gains related to the sale of shares are not subject to tax, or if the tax rate on these profits is less than the tax rate on cash dividends distributed, investors prefer that corporations do not distribute cash dividends but retain profits in the form of profits undistributed. The lower the percentage of cash dividends at the expense of undistributed profits, the higher the shareholders' wealth, with other factors remaining constant". Lastly Signaling theory presented by (Spence, 1973) pence states that "managers use the payment of dividends as a signal to communicate private information about the corporation to external investors and shareholders about the prospect for profits and their successful performance (excellent management). Therefore, a higher distribution will give a signal to investors that the corporation's prediction of future earnings is positive; in other words, if the distribution was less than the dividend – but paying with a higher percentage – investors expect the company value to rise and if the investors expected a high percentage of the dividends, while the corporation paid a much lower percentage, the price of the shares will drop in the financial market".

Literature Review

In empirical literature we find diverse evidence as far as the impact of dividend policy on firm profitability is concerned. (Amidu, 2007) analyzed dividend policy decisions of listed firms in Ghana. Though the finding of the study revealed

positive relation between dividend policy and ROA but surprisingly big firms in Ghana did not perform well and ended up negative influence of DPR on ROA (Danila, Azizan, & Ahmez, 2020). Enekwe, Nweze, and Agu (2015) analyzed the impact of DPR on firm profitability and concluded that dividend payout ratio has a significant impact on firm profitability. Other researchers (Chelimo & Kiprop, 2017; Farrukh, Irshad, Khakwani, Ishaque, & Ansari, 2017) also found that dividend policy significantly affects firm performance. Hafeez, Shahbaz, Iftikhar, and Butt (2018) find weak relation between dividend policy and firm profitability. Rehman and Hussain (2013) also found significant impact of DPR on ROA. Many empirical studies found a positive impact of various dividend policy proxies on firm profitability (Ebire, Mukhtar, & Onmonya, 2018; Habumugisha & Mulyungi, 2018; Idewele & Murad, 2019; Simon-Oke & Ologunwa, 2016) found positive impact of dividend policy on firm profitability. Ramli (2010) dividend payout ratios in Malaysian firms and concluded that dividend payout ratio tends to increase if the percentage of shareholding held by largest shareholders increases. Stacescu (2006) also supported the argument increase in earnings leads to increase in dividends and vice versa. Murekefu and Ouma (2012) while finding positive impact of DPR on ROA emphasized on the relevancy of dividend policy and argued that managers must give more time in designing policy in such a way that enhances firm value.

On the other hand, some studies (e.g., Onanjiri & Korankye, 2014) found dividend policy's negative impact on firm profitability. Velnampy, Sivathaasan, Tharanika, and Sinthuja (2014) found no association between dividend policy and firm performance. Ali, Jan, and Atta, 2015) analyzed dividend policy's impact firm profitability under low and high debt. There findings revealed that various attributes of dividend policy have a strong positive influence on both accounting as well as market-based performance measures. Some researchers (Benartzi, Michaely, & Thaler, 2012; Nissim & Ziv, 2001) found that changes in dividend policy may signal new information regarding future financial performance of the firm is concerned. Nissim and Ziv (2001) concluded that changes in dividend policy resulted positively in the future profitability of the firm. However, Grullon, Michaely, Benartzi, and Thaler (2005) found no evidence of dividend policy changes on the future earnings of the firm.

The mixed results presented above from the empirical literature emphasizes on the need for further research on dividend policy-firm profitability to get deeper understanding and to guide managers to make sound dividend policy decisions that will not only satisfy shareholders but also enhance firm value.

Methodology

Since the aim of the study is to measure the impact of dividend policy attributes on firm profitability, therefore panel data regression is used to estimate the relationship. Data is collected from listing manufacturing firms from three

industrial sectors i.e., automobile, sugar and cement for the period 2010-2020. The reason for selecting these three industrial sectors is the presence of dividend paying firms in these sectors. Data for the study was collected from State Bank of Pakistan Database and individual company's financial reports. Only those manufacturing firms were selected that remained listed throughout the study period and for which data was available. Moreover, from manufacturing firms only those firms were identified and selected firms that were paying dividends to its shareholders. Due to presence of outliers, data were reformed through winsorization of variables with 5th and 95th percentiles as the cutoff level, Similar technique is also adopted to handle outliers by Chikalipah (2019) and Ali, Yaseen, Anwar, Makhdum, and Khan (2021) in their respective studies. Out of the total 74 listed firms that were paying dividends only 33 were selected keeping in view the criteria for firm selection mentioned above. Independent variables of the study include dividend payout ratio (DPR) and dividend yield (DY) whereas firm size is used as a control variable. The dependent variables include Return on Assets (ROA), Return on Equity (ROE) and Earnings Per Share (EPS). The measurement of variable is mentioned in the table given below.

Table 1: *Measurement and Explanation of Variables*

Dependent Variable	
Return on Assets	Net Income/Total Assets * 100
Return on Equity	Profit after tax/Shareholder Equity * 100
Earnings Per Share	Profit after tax/No. of Common Shares
Independent Variable	
Dividend Pay-out Ratio	Dividend/Profit after tax * 100
Dividend Yield	Dividend per Share/Market Share price *100
Firm Size (Control Variable)	Natural log of Sales

Models

$$ROA_{it} = \alpha + \beta_1 DPOR_{it} + \beta_2 DY_{it} + \beta_3 〖FS〗_{it} + \beta_4 〖ROA〗_{(it-1)} + \varepsilon_{it} \text{------- (i)}$$

$$ROE_{it} = \alpha + \beta_1 DPOR_{it} + \beta_2 DY_{it} + \beta_3 〖FS〗_{it} + \beta_4 〖ROE〗_{(it-1)} + \varepsilon_{it} \text{------ (ii)}$$

$$EPS_{it} = \alpha + \beta_1 DPOR_{it} + \beta_2 DY_{it} + \beta_3 〖FS〗_{it} + \beta_4 〖EPS〗_{(it-1)} + \varepsilon_{it} \text{------ (iii)}$$

In panel data regression models, there are two types of estimation models that used to estimate the regression model. These two models are random effects model and fixed effects model. Generally, we the panel is balanced like our fixed effects model is appropriate but to overcome selection bias in model selection, a test proposed by (Hausman, 1978) is used to select the appropriate model given the nature and type of data. Results of Hausman Test given in Table below indicates that fixed effects model is appropriate for all three regression models used in this study.

To address the issue of endogeneity, lagged dependent variable was added as an explanatory variable in all three regression models which results in an autoregressive process with a one-period lag. The used of lagged dependent variable helps in controlling for endogeneity and also overcomes autocorrelation. Empirical studies (Arellano & Bond, 1991; Issah & Antwi, 2017; Maeshiro, 1996; Wooldridge, 2002) also used similar methodology to address auto correlation and endogeneity issues.

Table 2 *Correlated Random Effects - Hausman Test*

	Model I			Model II			Model III		
	DV: ROA			DV: ROE			DV: EPS		
Test Summary	Chi-Sq.	DF	Prob.	Chi-Sq.	DF	Prob.	Chi-Sq.	DF	Prob
Cross-section Random	8.73	3	0.033	8.75	3	0.032	4.61	3	0.02

Conceptual Framework

Independent Variables

Dividend Policy

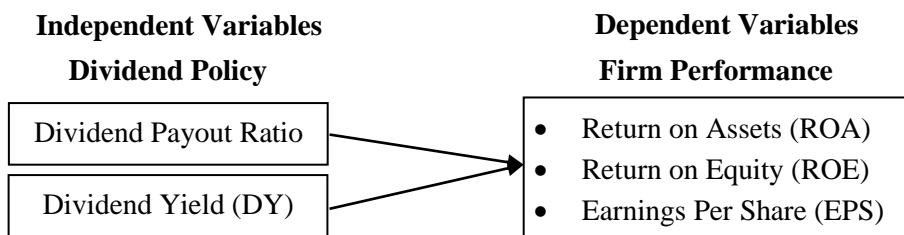**Dependent Variables**

Firm Performance

Figure 1: Conceptual Framework

Hypotheses of the Study

This study will test the following hypotheses

1. H1 DPR has a positive impact on ROA

2. H2 DPR has a positive impact on ROE

3. H3 DPR has a positive impact on EPS

4. H4 DY has a positive impact on ROA

5. H5 DY has a positive impact on ROE

6. H6 DY has a positive impact on EPS

Results and Discussion

Descriptive Statistics

From the descriptive statistics mentioned in table 2 we can see that the average return on assets is 8.7%. It means that on average firms are earning 8.7% return on their invested capital. The minimum and maximum value of ROA is 21.4% and -0.030%. The average return on equity is 16.1%. It means that on average

shareholders are earning 16.1% return on their invested capital. The minimum and maximum value of ROE is 33.5% and -0.231%. Average earnings per share is Rs 17.32 per share. It means that shareholders are earning 17.323 on each share they are holding. The minimum and maximum value of EPS is 51.713 per share and -0.226 per share. The average dividend payout ratio is 0.361. It means that on average firms are paying 36.1% of their earnings in the form of dividends to shareholders. The minimum and maximum value of DPR is 99.7% and 0%. The average dividend yield is 0.047. It means that shareholders are earning a return 4.7% in the form of dividend income on their shares. The minimum and maximum value of DY is 13.2% and 0. Among all the variables EPS is the most volatile as is evident from its high standard deviation. The skewness value for all variables indicate that all variables are within the acceptable range for being a normal distribution.

Table 3 *Descriptive Statistics*

	ROA	ROE	EPS	DPR	DY	FS	LDPR	LDY
Mean	0.087	0.161	17.323	0.361	0.047	16.001	0.350	0.045
Median	0.081	0.165	11.740	0.328	0.039	15.874	0.203	0.029
Max	0.214	0.335	51.713	0.997	0.132	18.184	1.098	0.144
Min	-0.030	-0.231	-0.226	0.000	0.000	13.937	0.000	0.000
Std. Dev.	0.069	0.107	17.013	0.283	0.039	1.156	0.363	0.047
Skewness	0.110	-0.002	0.924	0.567	0.616	0.183	0.987	0.980

Correlation Analysis

The correlation analysis presented in table no 3 indicates that ROA has a significantly positive relationship with ROE, EPS, DPR and DY. Similarly, ROE has a significantly positive relationship with EPS, DPR and DY whereas EPS has positive but insignificant relationship with DPR and DY. DPR has a significantly positive relationship with DY but with firm size it is negative. Moreover, values from the correlation table also indicate that multicollinearity is not an issue here.

Table 4 *Correlation Analysis*

	ROA	ROE	EPS	DPR	DY	FS	LDPR	LDY
ROA	1.000							
ROE	0.876**	1.000						
EPS	0.602**	0.653**	1.000					
DPR	0.524**	0.462*	0.308	1.000				
DY	0.504**	0.465*	0.271	0.684**	1.000			
FS	0.021	0.053	0.286	-0.048	-0.170	1.000		
LDPR	0.119	0.375	0.233	0.623**	0.427*	0.048	1.000	
LDY	0.115	0.388	0.220	0.418*	0.626**	-0.060	0.807**	1.000

Note: $P<0.05*$, $P<0.01**$

Regression Analysis

Since the aim of the study is to measure the impact of dividend policy on firm profitability, panel regression method (fixed effects model) is used. Regression results are presented in the Table 5.

Table 5 *Fixed Effects Regression Results*

	Model I		Model II		Model III	
	ROA		ROE		EPS	
	Coeff	P-Value	Coeff	P-Value	Coeff	P-Value
C	0.317	0.000	0.427	0.002	-32.542	0.019
DPR	0.014	0.190	0.041	0.022	0.457	0.787
DY	0.412	0.000	0.671	0.000	82.002	0.000
FS	-0.018	0.000	-0.024	0.006	2.461	0.005
LROA/LROE/LEPS	0.470	0.000	0.440	0.000	0.386	0.000
R Squared	0.786		0.804		0.842	
Adjusted R Square	0.759		0.781		0.823	
F Stat	29.910		33.597		43.517	
Prob- F Stat	0.000		0.000		0.000	
Durbin Watson	1.705		1.679		1.663	

From the above table we can see that DPR has a positive impact on firm performance across all three models. However, the relation between DPR and firm profitability is significant only in Model I and Model II whereas it is insignificant when EPS is used as dependent variable. Similarly, dividend yield has a strong positive influence on firm profitability across all three models. It shows that paying dividends is sign of good performance by the firm which enables the firm to attract new investors thus the needed financing to finance the firm's future growth options. In empirical literature, we find support from (Mirza & Azfa, 2010) who also found dividend policy's positive effect on firm profitability. Firm size used as control variable has a significant negative influence on firm profitability in Model I and Model II whereas it has a strong positive impact on firm profitability in Model III. One possible explanation for negative impact of firm size on firm profitability can be, although, generally as a firm grows its profitability should increase yet sometimes large size of the firm can be disadvantageous where it is unable to manage it resources in an effective and efficient manner thus tend to perform poorly as they grow (Vu, Nguyen, Ho, & Vuong, 2019).

Conclusion

The objective of the study was to analyze the impact of dividend policy on firm profitability. Dividend paying firms from three industrial sectors namely cement, automobile and sugar were selected for the period 2010-2020. Out of the total 74 dividend paying firms in these three industrial sectors only 33 were selected for which data was available for the entire study period. Fixed effects model is used to measure the impact of dividend policy from firm profitability. Findings of the

study revealed that both attributes of dividend policy namely DPR and DY has a significant positive impact on all three proxies of firm profitability (ROA, ROE, EPS) except for DPR impact on EPS in Model III where the impact is also positive but insignificant.

As far as the practical implications of the study is concerned, the study is helpful for policy makers and managers to design dividend policy with utmost care due to its far researching impact on firm profitability. Moreover, dividend decisions are important for investors seeking cash returns on their investment. Favorable dividend policy will not only satisfy existing investors but will also attract new investors to invest in the business which can be invaluable for meeting future financing needs of the organization.

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