Contents list available http://www.kinnaird.edu.pk/

Journal of Research & Reviews in Social Sciences Pakistan

Journal homepage: http://journal.kinnaird.edu.pk

DOES DIVIDEND POLICY PLAY A ROLE IN DERIVING STOCK PRICE VOLATILITY OF PAKISTANI FIRMS?

Atia Alam [1]*, Fizza Zubair [1] & Anum Shahzad[2]

[1]Department of Business Studies, Kinnaird College for Women, Lahore
[2]School of Management, Forman Christian College (A Chartered University), Lahore

Article Info

*Corresponding Author
Email Id: atia.alam@kinnaird.edu.pk

Abstract

Dividend policy has its peculiar significance as it aids shareholders in making investment decisions regarding a firm. Being an inconclusive topic for decades, a sectorial analysis is conducted in this study as an attempt to scrutinize whether a firm's dividend policy is relevant to its stock price volatility or not. For this purpose, the study has employed Baskin's empirical framework and obtained sample data of 341 firms, both financial and non-financial firm, listed under 32 sectors of Pakistan Stock Exchange, for a time span of nine years from 2010 to 2018. Findings show that in Pakistan's non-financial sector, dividend policy strongly influences the volatility in stock prices and supports relevance theory of dividends. While, dividend yield was more significant than dividend payout ratio. On the other hand, the financial sector of Pakistan revealed strong dominance of dividend yield in influencing stock prices. Findings of this study suggest that Pakistani firms should make use of dividend policies as an effective tool in controlling significant deviations in stock prices volatility. By paying more dividends, firms stabilize their stock prices to some extent.

Keywords

Dividing Policy, Stock Price Volatile, Financial Firms, Non-Financial Firms, Pakistan

1. Introduction

What amount of cash should be returned on shareholders' investments? How to balance the preferences of individual shareholders? What must be the pattern of dividends payments? How to enhance and maintain stock value in stock market? All these questions require being answer via a firm's

dividend policy. The kind of dividend policy a firm adopts imposes significant influence on the price fluctuations of its shares. It is a decision-making policy of firms which helps in deciding to distribute earnings as dividends or retain earnings for investment purposes. This varies across different sectors according to their business nature and financial position. While some firms prefer distributing all of the earnings as dividends, others choose to retain some for reinvestment purposes. Apart from that, loss-bearing companies avoid dividend payments altogether. Taking all these factors into consideration, frequent dividend distribution by a firm requires the formation of a dividend policy to attract investors and to convey signal about their financial health. The pioneer work regarding stock prices and dividend policy was put forth by Miller and Modigliani (1961), who stressed that dividends are irrelevant of firm value and stock prices. On the contrary, Gordon (1959, 1962 & 1963) supported the bird-in-the-hand theory and argued that, under informational asymmetry and other imperfect market conditions, dividends influenced stock price movements. Afterwards, a study by Black and Scholes (1974) supported the irrelevance of dividends by stating that stock prices are not influenced by change in dividend policies. The underlying topic received more concentrated research attention after 1980's when Baskin (1989) examined an inverse relationship between dividend policy and stock price volatility.

Majority of investors possess a risk adverse attitude towards their investments, which makes stock price volatility a matter of serious concern to them. Such risk being systematic in nature, tends to explain the riskiness an investment entails (Lashgari & Ahmadi, 2014). For that reason, a stock is considered as more desirable when it has the lowest levels of volatility (Hussainey, Mgbame & Chijoke-Mgbame, 2011). As Kinder (2002) stated, investors tend to go for investments in stocks having low level of risk in terms of stock price volatility. In emerging economies, capital markets are considered more volatile in nature than developed counterparts are. There is about 40% of world GDP contribution by emerging economies and only 10.8% of world equity capitalization. Even in emerging countries, the importance held by stock markets cannot be ignored because of their ability to boost economic growth by liquid wealth creation (Rousseau & Wachtel, 2000; Zainudin, Mahdzan & Yet, 2018.)

In Pakistan, number of studies are found regarding dividend policy and stock price volatility in different sectors such as cement, engineering, synthetic and fiber (Asghar, Shah, Hamid & Suleman, 2011); textile, chemical, and sugar (Khan, Aamir, Qayyum, Nisar & Khan, 2017); commercial banks, Modarabas, insurance and mutual funds (Tahir, 2017); financial sector (Nazir, Arfan & Sabir, 2014); and pharmaceuticals, transport, food products and auto parts (Memon, Channa & Khoso, 2017). However, according to the author's knowledge, sectorial comparison on the effect of dividend policy on stock price volatility is still missing. Therefore, the present study adds to the existing literature by conducting a sectorial analysis on the relationship

between firm's dividend policies and its stock price volatility, in an emerging economy like Pakistan, for a period of nine years from 2010 through 2018. In addition to this, the study investigates the impact of firm-specific variables on stock price volatility. This study would aid corporate managers and the investors to formulate their dividend policies for each sector according to the investor's requirements.

The rest of the study has formulated as follows: literature review has put forth in part two that provides theoretical framework of empirical evidence on the concerned topic. The third part develops hypothesis and explains methodology and relevant econometric model. Fourth part reports empirical findings along with the discussion. Last part concludes the study, along with the policy implications and future directions.

2. Literature Review

The impact of dividend policy on stock price volatility has remained a controversial topic in the financial literature and still remains a topic under discussion for about past sixty years. Innumerable studies and theories have formerly presented on the underlying relationship with various significant evidences. Gurgul, Mestel & Schleicher (2003) observing 22 blue chip stocks' data from 1992 to 2001, examined that any new information regarding dividends leads to an increase in trading volume. Results from Market Model depicted that the volatility of abnormal returns increased with an announced reduction in dividends. Hussainey *et al*. (2011) tested financial firms and found that dividend policy had a negative effect on firm's stock price volatility. Song (2012) examined 100 dividend paying firms and illustrated negative association between dividend policy and stock price volatility, similar results were observed by Hussainey *et al*. (2011). Profilet (2013) investigated an inverse relationship between dividend yield and stock price volatility. However, the relationship turned to be insignificant in case of dividend payout. Camilleri, Grima & Grima (2018) Provided evidence by using Mediterranean banks and demonstrated that that dividend yield was a stronger predictor of stock price volatility as compared to dividend payout. However, the significance and direction of estimates have changed after removing post-crises outliers, depicting sensitivity. Rashid & Rahman (2008) put forth empirical evidence regarding dividend policy and stock price volatility in the context of Bangladesh. An insignificant positive relationship was observed between dividend yield and stock price volatility after performing cross-sectional regression analysis on the data of non-financial firms from 1999 to 2006. Similar findings were observed by Hashemijoo, Mahdavi-Ardekani & Younesi, (2012) and Hooi, Albaity & Ibrahimy (2015). Zainudin *et al*., (2018) examined significant negative relationship between dividend payout and stock price volatility. Findings are aligned with the Lashgari & Ahmadi (2014) and Dewasiri & Banda (2015). Few researchers have examined the dividend policy relevance towards stock price volatility in the context of Pakistan. For example, Nazir, Nawaz, Anwar & Ahmed (2010) attempted to investigate 73 PSX-100 index companies for the period of 2003-

2008 and found negative effect of dividend policy on firm's stock price volatility. By using sample data of top ten listed firms, Ali & Waheed (2017) tested and provided robustness to earlier results. Nazir *et al*., (2014) examined 17 commercial banks and demonstrated results in favor of dividend relevance to stock price volatility. Contrary to literature, Khan, Aamir, Qayyum, Nasir & Khan (2011) studied 131 firms and found significant positive relationship between stock dividend and firm's stock price volatility. Study asserted that investors forecast an increase in the profits on the announcement of stock dividends, which enhances stock price volatility. By examining 50 non-financial firms for the period of 2005-2012, Shah & Noreen (2016) and reported results in favor of dividend applicability to stock price volatility. By using sample data of 5 textile firms, Ullah, Saqib & Usman (2016) showed that dividends payout of two firms are relevant to stock price volatility while other two have opposite effect.

Few studies even reported no significant relationship among dividend policy and stock price volatility (Modigliani & Miller, 1961; Black & Scholes, 1974; Rashid & Rahman, 2008; Dereli & Topak; 2018). A few researchers depicted positive relationship between dividend payout and stock price volatility (Khan *et al*., 2011; Ullah *et al*., 2016). Keep in view the above discussion, it is evident that the dividend policy relation with stock price volatility is inconclusive and further research is thus required in context of Pakistani firms. The current study contributes in existing literature by testing relevance of dividend polices towards stock price volatility by using a large sample data of 341 firms listed on Pakistan Stock Exchange. In addition to this, study conducts a comparative analysis in order to identify the sector having high sensitivity of dividend policies towards stock price volatility.

Hence, the prime hypothesis of this study is:

H 1a: *Dividends influence stock price volatility negatively.*

3. Research Methodology

To test the relationship between dividend policy and firm's stock price volatility, study uses sample data of 341 firms listed on Pakistan Stock Exchange for the period of 2010-2018, representing almost 80% of the population. Sample data has collected from 32 different sectors, both financial and non-financial firms.

Econometric equation has specified below:

$$SPV_{i,t} = DPO_{i,t} + DY_{i,t} + EV_{i,t} + FS_{i,t} + LEV_{i,t} + GRW_{i,t} + \varepsilon_{i,t}$$

The extant study measured stock price volatility by employing every year's annual range of stock prices and dividing it by the average taken for the highest and lowest prices.

$$SPV_{i,t} = \sqrt{\frac{\sum_{i=1}^{n}\left(\left(H_{i,t} - L_{i,t}\right) \Big/ \left(\frac{H_{i,t} + L_{i,t}}{2}\right)\right)^2}{n-1}}$$

Where, $SPV_{i,t}$ = Stock Price Volatility, $H_{i,t}$ = Highest price of stock, $L_{i,t}$ = the Lowest price of stock *n* = number of years.

Following Lashgari & Ahmadi (2014) and Gunaratne, Priyadarshanie & Samarakoon (2015), Dividend payout ratio is measured by:

$$DPO_{i,t} = {DPS_{i,t}}/{EPS_{i,t}}$$

Where; $DPO_{i,t}$ = Dividend Payout ratio, $DPS_{i,t}$ = Cash Dividend per Share, $EPS_{i,t}$ = Earnings per Share.

Dividend yield depicts the percentage of dividend payments made by a firm vis-à-vis its stock price. Following Dewasiri & Banda (2015), dividend yield has calculated by:

$$DY_{i,t} = {DPS_{i,t}}/{MP_{i,t}}$$

Where; $DY_{i,t}$= Dividend Yield, $DPS_{i,t}$= Cash Dividend per Share, $MP_{i,t}$= Market Price of firm

Unstable earnings of a firm tend to portray a negative financial position of a firm to its shareholders. This, in turn, leads to higher fluctuations in share prices. Based on, Lashgari & Ahmadi (2014) and Zainudin *et al*. (2018), earning volatility has computed by:

$$EV_{i,t} = \sqrt{\frac{\sum_{i=1}^{n}(R_{i,t} - \bar{R})^2}{n-1}}$$

Where, $EV_{i,t}$ = earnings volatility, $R_{i,t}$= earnings before interest and taxes, $\bar{R}$ = average of earnings before interest and taxes.

Firms having greater market capitalization tend to pay higher dividends (Baskin, 1989). Therefore, controlling for size was expected to help in identifying the relationship more accurately as Hussainey *et al*. (2011) concluded that large sized firms considerably have stable stock prices.

$$FS_{i,t} = \log_{10}(SP_{i,t} * S_{i,t})$$

Where, $FS_{i,t}$ = Firm Size, $SP_{i,t}$ = Average Price of Stock, $S_{i,t}$ = Quantity of shares issued by firm.

As highly levered firms tend to possess highly volatile share prices, this variable is expected to aid in explaining fluctuations in stock prices. Therefore, leverage was measured by dividing long term debt by total assets for each firm and this estimation was inspired by Lashgari & Ahmadi (2014) and Camilleri *et al*., (2018):

$$LEV_{i,t} = {LTD_{i,t}}/{TA_{i,t}}$$

Where, $LEV_{i,t}$ = leverage utilized by firm, $LTD_{i,t}$ = long term liabilities, $TA_{i,t}$ = total assets.

Few researchers have also considered growth as a control variable while determining the relationship between dividend policy and stock price volatility. Following Dewasiri & Banda (2015) and Camilleri *et al*. (2018), study computed growth as:

$$GRW_{i,t} = {\Delta TA_{i,t}}/{TA_{i,t}}$$

Where; $GRW_{i,t}$= growth rate of assets, $\Delta TA_{i,t}$ = change in total assets of firm at the end of the year, $TA_{i,t}$ = total assets at the start of year.

4. Empirical Findings and Discussion

Table 4.1 displays the summary statistics of the study variables. Results show that most of the companies in Pakistan have 0.38% price fluctuations of stocks, with a small variance of 3%. Pakistani firms are found to have 27.9% dividend payout ratio;

however, the greater variation exists among firms having higher payout ratio. Companies have, on average, 4.88% dividend yield with 11.4% volatility of deviation from the mean between 0 to 11.2%. Pakistani firms have on average lower volatile earnings of 0.28%, signaling the stability in firm's earnings. Pakistani firms have an average size of 6.429, which suggests that the data consisted mainly of medium-sized companies. Furthermore, 10.7% assets of the Pakistani firms are financed by the long-term debt. Last, but not the least, assets of Pakistani firms grows on average by 13.1%, although moderate level of variation exists among firms with respect to growth.

Table 4.1. Descriptive Statistics

	Minimum	**Maximum**	**Mean**	**Std. Deviation**
SPV	-0.08	0.11	0	0.03
DPO	-3.79	10.71	0.28	0.65
DY	0	1.12	0.05	0.11
EV	0	0.04	0	0
FS	3.18	9.92	6.43	1.01
LEV	0	1.47	0.11	0.18
GRW	-1	3.85	0.13	0.34

Table 4.2 displays the negative coefficient (-0.002) of dividend payout ratio (DPO) with the P-value being significant at 5% (0.013<0.05). This asserts that high dividend paying Pakistani firms tend to have lesser fluctuations in their stock prices. The reason being, that when firms distribute a greater percentage of dividends to its shareholders, it acts as a signal about positive financial position of a firm.

Table 4.2: OLS Regression: ALL Firms

Variables	**All Sample**	**Non-financial Firms**	**Financial Firms**
Constant	0.053***	0.014***	0.021***
DPO	-0.002**	-0.002**	0.000
DY	0.003	0.019***	-0.025***
EV	0.697***	0.734***	0.345
FS	-0.008***	-0.008***	-0.014***
LEV	0.013***	0.008**	0.018***
GRW	0.000	0.002	-0.006**
F-statistics	68.68***	43.36***	44.89***
Adjusted R^2	0.124	0.104	0.278
D-W	1.611	1.594	1.717

Note: ***, ** and * are significant at 1%, 5% and 10% level respectively.

Similarly, when firms lower down their levels of dividends, it conveys negative signals in investors by creating sense of insecurity future returns. Findings, therefore, support signaling theory and imply that an optimal dividend policy can be adopted by paying more dividends consistently in

order to satisfy the expectations of investors. High preference of dividends among investors also confirms that the study supports the famous bird-in-the-hand theory (Al-Malkawi, 2007; Hussainey *et al*., 2011). Dividend yield reports insignificant positive effect on firm's stock price volatility and this might be due to the weaker proxy of dividend yield for stock price volatility (Rashid & Rahman, 2008; Habib, Kiani & Khan, 2012; Zainudin *et al*. 2018). About control variables, significant positive relationship between dividend payout and earning volatility depicts that investors negatively perceive firms having volatile earnings and therefore, they end up selling stocks to secure their investment. Findings, furthermore, show that big firms are mature and have quite stable earnings simultaneously, thus have a better dividend payment policy for avoiding any possible variations in stock prices. Aligned with Baskin (1989) and Zainudin *et al*. (2018) that financially stable big-sized firms are more likely to reduce stock price volatility in contrast to smaller sized firms. Significant positive effect of leverage on firm's stock price volatility demonstrates that employment of long-term leverage lowers down the investor's confidence which lead to an increase in firm's stock price positively. Growth however, realizes insignificant positive influence on firm's stock price volatility, evidence aligned with Iloboya & Aggreh (2013). Sample data has further classified according to the sectors. Sectors are, at first, classified according to the nature of the business, i.e., financial, and non-financial firms. In-depth analysis illustrates that non-financial firms can decreases stock price volatility by payment of more dividends. However, the effect turns to be positive in case of dividend yield. Moreover, this perhaps is because dividend yield also serves as a proxy of growth opportunity, which indicates that investors are more interested to invest in firms having higher growth opportunities in order to earn maximum return from price fluctuation. In comparison to non-financial firms, empirical findings of financial firms illustrate quite opposite results as insignificant positive relationship is observed between dividend payout and stock price volatility, aligned with the Ajayi & Seyingbo (2015). They argue that firm operating under financial sector prefer retaining funds for investment purposes, hence have less interest to pay dividends. Dividend yield again displays opposite results as higher dividend yield negatively affect firm's stock price volatility, which is consistent with the earlier argument that higher dividend yield, also considered as growth opportunities, in financial firms encourage investors to involve in buy and hold strategy, resulting in minimum fluctuations in stock prices. Findings in table 4.3 show significant negative effect of dividend payout and dividend yield on firm's stock price volatility. This depicts that despite of constant decline of industry's profitability over the last few decades; sector illustrates a significant annual growth rate of 5.1% of economy (Agyemang *et al*., 2019). Dividend payout, in this scenario, enhances investor's confidence and thus decreases volatility

Table 4.3: Dividend Policy and Stockprice Volatility of Non-Financial Firms

Variables	Auto. & Eng.	Cement	Chemical	Fertilizer	Food & Personal Care	Oil and Gas	Pharma.	Sugar	Tech.& Comm.	Textile	Miscellaneous
Constant	0.14**	0.13**	0.10***	0.01***	0.15***	0.14**	0.17**	0.05***	0.12***	0.015**	0.18***
DPO	0	-0.01	-0.025***	-0.011**	-0.002	0.001	0.003	0	-0.004**	-0.01***	0
DY	0.03***	0.02	-0.03	-0.113**	0.013	-0.07	-0.28***	-0.16***	0.027*	0.016*	0.04***
EV	0.982**	-0.09	0.673*	-0.15	-0.453	0.132	-1.06	1.26	-0.502	0.997**	1.34***
FS	-0.01***	-0.02***	-0.004**	-0.021***	-0.004**	-0.004*	-0.008*	-0.01***	-0.01***	-0.01***	-0.01***
LEV	0.06***	0.02*	0.014	-0.02	0.011	-0.1*	-0	0.03*	0.004	0.03*	0.01
GRW	0	-0	-0.02*	-0.01	0.008*	0.006	-0.01	0	0	0	0
F-Statistics	12.7***	19.9***	13.9***	11.7***	2.01*	1.48	2.21*	4.00**	12.4***	11.9***	8.65***
Adjusted R^2	0.21	0.443	0.306	0.617	0.042	0.032	0.093	0.09	0.477	0.11	0.09
D-W	1.75	1.532	1.855	1.995	1.535	1.904	1.554	1.73	1.814	1.84	1.44

Note: ***, ** and * are significant at 1%, 5% and 10% level respectively.

in firm's stock prices significantly. Hence, payment of dividend builds up investor's trust, which leads to a decline in stock turnover and lower stock price volatility. Textile sector, despite of, playing a major contributing role in country's exports, are facing continuous unpredictability in industry's performance (Memon *et al*., 2020). Similar findings are observed for Chemical sector where dividend payout inversely influences stock price volatility. This shows that payments of dividend minimizes the uncertainty prevailed among investors regarding industry performance and encourage investors to hold their investments for future returns. These results are consistent with the signaling theory that companies want to pay dividends in order to signal their strong financial health and to enhance an availability of external financing. Corporations having fewer growth opportunities face less volatility in stocks as managers are more sensitive of dividend towards return increases due to signaling effect of firm's financial condition. This shows that sectors having continuous difficulties from the last few decades are more inclined to pay dividends in order to lower down the stock price volatility.

Dividend yield depicts opposite results in some industries and this might be because of its dual interpretation as dividend yield which is also considered as a measure of growth opportunities. Hence, firms, having profitable growth opportunities, have positive relationship between dividend yield and stock price volatility. Meanwhile, dividends disbursements have also considered as one of the measures of firm's access to external financing. So, industries, despite of higher growth opportunities, are willing to pay more dividends to signal their strong financial health and to rise external financing at a cheaper rate. Although, investors feel such firms as riskier and more

reluctant to hold their investments until maturity. Summarizing the above results, dividend payments build up investor's confidence and minimize the firm's stock price volatility, consistent with the earlier results.

Table 4.4: Dividend Policy and Stock Price Volatility of Financial Firms

	Commercial Banks	**Insurance and Leasing**	**Modarabas**	**Investment Banks and companies**
Constant	-0.07**	-0.16**	-0.114**	-0.05**
DPO	0.001	-0.000	0.004	-0.001
DY	-0.01	0.063**	-0.024*	0.002
EV	1.627	-0.964	0.717	0.119
FS	-0.021***	-0.022***	-0.019***	-0.012***
LEV	0.025*	0.007	0.006	0.029**
GRW	0.018**	-0.004	-0.01	-0.004
F Statistics	21.67***	22.37***	8.79***	9.69***
Adjusted R^2	0.46	0.39	0.21	0.24
D-W Test	1.97	1.73	1.86	2.05

Note: ***, ** and * are significant at 1%, 5% and 10% respectively.

Empirical findings in table 4.4 show the role of dividend payout and dividend yield on stock price volatility of financial firms. Results are opposite of non-financial firms, as dividend payout depicts insignificant effect on stock price volatility of financial firms, which might be because of their different nature of business. Dividend yield illustrates significant positive effect on firm's stock price volatility and the reason behind this had explained already. Leasing and Insurance industry of Pakistan is performing better continuously due to increased investment and that might be the reason of the significant positive effect of dividend yield (as one of the measures of the growth opportunity) on firm's stock price volatility. Pakistan's economic standing is rising which has boosted the financial sector growth as compared in the last few years. As the number of companies in the financial sector such as leasing, insurance and Modarbas are increasing, the investment in the financial sector of Pakistan is also increasing along with increased dividend payout. This increase in the equity and capital instruments also reflects the investor behavior of the firms and individuals who aim towards maximizing the shareholder wealth. Thus, making a close network of investors for decisions related to investment (Khan & Shamim, 2017). The empirical evidence in the extant literature conforms with the findings that dividend yield as well as dividend Payout are related to the stock price volatility in the developing countries (Hashemijoo *et al*., 2012; Nazir *et al*., 2010). These findings also contradict Baskin's (1989) results as the findings in the financial firms depicted a positive relation of dividend yield with stock price volatility (Asghar *et al*., 2011). Other study portrays that this effect is only prominent in the short-run (Dewasiri & Banda, 2015). In case of Modarabas, dividend yield depicts significant

negative influence on firm's stock price volatility. This implies that dividend payments by Modarbas companies strengthens the investor confidence on a growing Islamic Financial Institutions and hence encourages them to hold their investments for a much longer time aligned with the clientele effect theory in theoretical financial literature. This also implies that with a high dividend yield and a high dividend payout, the stock price volatility will be low. The findings conforms with the duration effect theory and signalling theory as high dividends can reflect the stability of a firm (Ahmad, Alrjoub and Alrabba, 2018). On the other hand, a study confirms that larger the modarba companies, lesser will be the stock price volatility and vice versa (Tahir, 2017).

The payment of dividends has a great influence on how the company operates and its reputation in the society In front of the stakeholders. It is observed that there are fewer dividend-paying companies in the developing countries like Pakistan as opposed to developed countries. In Pakistan, the number of such firms is decreasing. There are differences in the dividend payment patterns that are influenced by profitability, earning per share, liquidity, and firm size, whereas growth sales negatively influence the dividend payment patterns (Malik, 2019). These factors play a vital role for the financial firms, as the better the dividends be, the higher their return will be from the shareholders which will lead to their stability as well. However, it is of great importance for the firms to decide on how much dividend should be shared with the stakeholders and through this they maintain stability in the market (Abdulkadir, Abdullah & Wong, 2016). As the growth rate decreased in Pakistan during 2008, the economy was hit by a worst catastrophe as cash crops were all destroyed. Moreover, it is also observed that the firms who are in the growth stage possess more risks and have volatile stocks and hence they have a low dividend payout which confirms the extant findings. Overall, mixed findings have been observed for dividend payments and stock price volatility.

5. Conclusion

Present study contributes in existing literature by conducting a detailed analysis on how firm's dividend policies influence stock price volatility of Pakistani firms. Findings illustrate that dividend policy, proxy by dividend payout ratio, helps firms to minimize their stock price volatility by enhancing investor's confidence on firm's financial health. In other words, supporting the clientele effect, investors who are more interested in dividends, tend to hold investments for a longer period of time, which minimizes volatility in stock prices. On the other hand, dividend policy, measured by dividend yield, also signals firm's future growth as financial literature asserts that firms having higher growth opportunities face greater stock price volatility.

Results facilitate managers in understanding the effect of dividend payments on movements in stock prices. This will help them in defining their dividend policies by keeping in mind the stage of their business cycle. As financially stable sectors can improve their investor valuation by payment more dividend. Whereas, sectors who are in growth stage want to finance their investments by internally generated funds and hence have lower probability of dividends payments. Therefore, investors of such

firms are more interested in capital gain and shift their funds to other firm for making profit. Findings also enable investors in deriving their investment strategies according to their goals that is either to receive dividend or to earn capital gains. Future research could be possible by incorporating the role of business cycle in deriving a relationship between dividend policy and stock price volatility. Furthermore, future research may employ other than firm-specific variables such as macro variables for a more comprehensive understanding on stock price volatility.

References

Abdulkadir, R.I., Abdullah, N.A.H. and Wong, W.-C. (2016). Dividend payment behavior and its determinants: The Nigerian evidence. *African Development Review*, *28*: 53-63.

Agyemang, M., Kusi-Sarpong, S., Khan, S. A., Mani, V., Rehman, S. T., & Kusi-Sarpong, H. (2019). Drivers and barriers to circular economy implementation: an explorative study in Pakistan's automobile industry. *Management Decision*.

Ajayi, M., & Seyingbo, O. (2015). Dividend policy and share price volatility in Nigerian banking industry. *Fountain Journal of Management & Social Sciences (FUJMAS)[serial online]*, *4*(1), 1-10.

Al-Malkawi, H. A. N. (2007). Determinants of corporate dividend policy in Jordan: an application of the Tobit model. *Journal of Economic and Administrative Sciences*.

Ali, T., & Waheed, N. (2017). Impact of dividend policy on share price volatility. *Research Journal of Finance and Accounting*, *8*(9), 43-49.

Ahmad, M. A., Alrjoub, A. M. S., & Alrabba, H. M. (2018). The effect of dividend policy on stock price volatility: empirical evidence from amman stock exchange. *Academy of Accounting and Financial Studies Journal*, *22*(2), 1-8.

Asghar, M., Shah, S. Z. A., Hamid, K., & Suleman, M. T. (2011). Impact of dividend policy on stock price risk: Empirical evidence from equity market of Pakistan. *Far East Journal of Psychology and Business*, *4*(1), 45-52.

Baskin, J. (1989). Dividend policy and the volatility of common stocks. *Journal of Portfolio Management*, *15*(3), 19.

Black, F. (1976). The dividend puzzle. *The Journal of Portfolio Management*, *2*(2), 5-8.

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.

Camilleri, S. J., Grima, L., & Grima, S. (2018). The effect of dividend policy on share price volatility: An analysis of Mediterranean banks' stocks. *Managerial Finance*.

Dereli, H., & Topak, M. S. (2018). The effect of dividend policy on stock price: evidence from an emerging country.

Dewasiri, N., & Banda, Y. W. (2015). Dividend policy and stock price volatility: an error corrected approach. *Asia-Pacific Journal of Management Research and Innovation*, *11*(3), 165-171.

Gordon, M. J. (1959). Dividends, earnings, and stock prices. *The Review of Economics and Statistics*, 99-105.

Gordon, M. J. (1962). The savings investment and valuation of a corporation. *The Review of Economics and Statistics*, 37-51.

Gordon, M. J. (1963). Optimal investment and financing policy. *The Journal of Finance, 18*(2), 264-272.

Gunaratne, D., Priyadarshanie, W., & Samarakoon, S. (2015). *Impact of dividend policy on stock price volatility and market value of the firm: evidence from Sri Lankan manufacturing companies.* Paper presented at the 12th International Conference on Business Management (ICBM).

Gurgul, H., Mestel, R., & Schleicher, C. (2003). Stock market reactions to dividend announcements: Empirical evidence from the Austrian stock market. *Financial Markets and Portfolio Management, 17*(3), 332.

Habib, Y., Kiani, Z. I., & Khan, M. A. (2012). Dividend policy and share price volatility: Evidence from Pakistan. *Global Journal of Management and Business Research, 12*(5).

Hashemijoo, M., Mahdavi-Ardekani, A., & Younesi, N. (2012). The impact of dividend policy on share price volatility in the Malaysian stock market. *Journal of Business Studies Quarterly, 4*(1).

Hooi, S. E., Albaity, M., & Ibrahimy, A. I. (2015). Dividend policy and share price volatility. *Investment Management and Financial Innovations, 12*(1), 226-234.

Hussainey, K., Oscar Mgbame, C., & Chijoke-Mgbame, A. M. (2011). Dividend policy and share price volatility: UK evidence. *The Journal of Risk Finance, 12*(1), 57-68.

Ilaboya, O., & Aggreh, M. (2013). Dividend policy and share price volatility. *Journal of Asian Development*.

Khan, K. I., Aamir, M., Qayyum, A., Nasir, A., & Khan, M. I. (2011). Can dividend decisions affect the stock prices: A case of dividend paying companies of KSE. *International Research Journal of Finance and Economics, 76*(68), 69-74.

Khan, M. N., & Shamim, M. (2017). A sectoral analysis of dividend payment behavior: evidence from Karachi stock exchange. *SAGE Open, 7*(1), 2158244016682291.

Khan, M. Y., Al Bassam, W. M. H., Khan, W., & Javeed, A. (2017). Dividend policy and share price volatility evidence from Karachi stock exchange. *ELK Asia Pacific Journal of Finance and Risk Management, 8*(1).

Kinder, C. (2002). Estimating stock volatility. *Available at: available at: http://finance. yahoo. com [Accessed 21 December 2015]*.

Lashgari, Z., & Ahmadi, M. (2014). The impact of dividend policy on stock price volatility in the Tehran stock exchange. *Kuwait Chapter of the Arabian Journal of Business and Management Review, 3*(10), 273.

Malik, F. (2019). Factors influencing corporate dividend payout decisions of financial and non-financial firms. *Research Journal of Finance and Accounting, 4*, 35-46.

Memon, N. A., Channa, N., & Khoso, I. (2017). Impact of dividend policy on market prices of shares: evidence from Pakistan. *Journal of Business Strategies*, *11*(2), 57-72.

Miller, M.H., & Modigliani, F. (1961). Dividend policy, growth, and the valuation of shares. *The Journal of Business*, *34*(4), 411-433.

Nazir, M. S., Nawaz, M. M., Anwar, W., & Ahmed, F. (2010). Determinants of stock price volatility in Karachi stock exchange: The mediating role of corporate dividend policy. *International Research Journal of Finance and Economics*, *55*(55), 100-107.

Nazir, N., Arfan Ali, D., & Sabir, H. (2014). Impact of dividend policy on stock price volatility: A case study of Pakistani capital market. *Policy*, *6*(11).

Profilet, K. A. (2013). Dividend policy and stock price volatility in the US equity capital market.

Rashid, A., & Rahman, A. A. (2008). Dividend policy and stock price volatility: evidence from Bangladesh. *The Journal of Applied Business and Economics*, *8*(4), 71.

Rousseau, P. L., & Wachtel, P. (2000). Equity markets and growth: cross-country evidence on timing and outcomes, 1980–1995. *Journal of Banking & Finance*, *24*(12), 1933-1957.

Shah, S. A., & Noreen, U. (2016). Stock price volatility and role of dividend policy: Empirical evidence from Pakistan. *International Journal of Economics and Financial Issues*, *6*(2), 461-472.

Song, X. (2012). The relationship between dividend policy and stock price volatility: a Canadian study.

Tahir, M. (2017). Dividend policy as determinant of stock prices volatility: comparative analysis of financial sectors in Pakistan. *Journal of Management Research (JMR)*, *3*(2), 210-221.

Ullah, H., e Saqib, S., & Usman, H. (2016). The impact of dividend policy on stock price volatility: A case study of selected firms from textile industry in Pakistan. *International Journal of Academic Research in Economics and Management Sciences*, *5*(3), 1-11.

Zainudin, R., Mahdzan, N. S., & Yet, C. H. (2018). Dividend policy and stock price volatility of industrial products firms in Malaysia. *International Journal of Emerging Markets*, *13*(1), 203-217.