

The Impact of Dividend Policy on Share Price Volatility in the Context of Textile Sector of Pakistan

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Abstract: This study is conducted to determine the impact of dividend policy on the share price volatility of textile firms listed on the Pakistan stock exchange. A sample of 52 firms is shortlisted on the basis of data availability over the year from 2017 to 2020. Panel regression technique is adopted in light of the panel nature of the data which reported significant negative relationship between dividend policy and share price volatility. Thus, suggest that dividend play a significant role in the stability of share prices and validate the relevance of dividend in holding the shares. Moreover, among controlling variables, significant negative relationship is reported among assets size and share price volatility, suggest share price stability for large firms.

Key words: Share price volatility, dividend policy, Dividend relevant theory, textile sector.

Introduction

The firm use net income in two ways i.e. retains the earnings and distributed among the shareholders as dividend. Dividend is simply the part of net income distributed among the shareholders or dividend is the cash paid out from the firm earnings to shareholders. Dividend of a company can be paid in different forms, like cash dividend, extra dividend, special dividend and liquidating dividend. The part of net income retained by the company is called retained earnings. The Board of Directors apex body of corporation decides about whether the dividend should be paid or not and also percentage of net profit distributed as dividend. The decision about payment of dividend is called dividend policy.

In simple words dividend policy is the time pattern of dividend payments. The decision to pay or not to pay dividend is an important corporate issue which has been the focus for both executives and academicians.

There are two important theoretical views on the dividend policy which are dividend irrelevant theory and dividend relevant theory. The first school of thought proposes that dividend policy is *irrelevant* which implies that value of the firm is determined by operational efficiency and risk associated with underlying assets and not by dividend policy. Therefore, this theory concludes that dividend policy has no impact on upward and downward movement of share prices. The second school of thought is Relevant Dividend Theory. This school of thought concludes that dividend payment is relevant. It means firm with regular dividend payment are less uncertain as compare to those firms who do not pay any dividend. Relevant school of thought also states that dividend policy affects the firm's assets growth, value and share prices(Hillier, Clacher, Ross, Westerfield, & Jordan, 2014).

Considering the divergent theoretical views hold on the relevance of dividend on the share price volatility, compel us to empirically validate its relevance in the context of Pakistani listed firms. |Although the impact of dividend policy on share price volatility is the center of academician consideration for the last many decades. However results of the studies that determine the relationship of dividend policy with share price volatility reported different results for different countries but also among sectors. Moreover, these types of studies need revision due to structural and macroeconomic factors changes in the economies (Rehman, W 2020). Keeping in view the divergent results reported across the countries and sectors, this study intend to revalidate the relevance of dividend with respect to share price stability for the textile listed firms on the Pakistan stock exchange and thus will contribute to the existing literature.

Literature Review

In order to present the comprehensive perspective of the research topic there is a need to mention some important research work conducted earlier. In this direction an important research endeavor was pointed out from the Allen and Rachim(1996) and; Baskin(1989).Their research focus on dividend policy and its impact on share price volatility. The Baskin Study was in the context of United States while Allen and Rachim research was based on the firms listed on the Australian stock market. Both papers used dividend yield and dividend payout as a proxy of dividend policy whereas earning volatility, size and leverage were used as independent variables. Allen and Rachim, (1996)findings revealed that dividend yield is irrelevant in the context of Australian listed firm while (Baskin, 1989) found that dividend yield is insignificant negative relation with share price volatility for US listed firms. However, both the studies found statistically significant relationship between dividend payout and share price volatility. The contradiction in the findings about the relationship between dividend yield and share price volatility is obvious. Dividend yield is the most important variable in United States context and insignificant in Australian context. The contradiction found in the previous mentioned research studies make it necessary to observe some other studies in different contexts. In an another study conducted by Nishat (2001)for the firms listed on the Pakistani capital market. Nishat has segregated the study period into three parts (i.e., from 1981-1990, 1991-2000 and then for whole period from 1981-2000). The study used dividend yield and dividend payout as a proxy of dividend policy. Beside dividend policy, other important variables are used as controlling to capture the true relationship between dividend policy and share price volatility such as earning volatility, assets growth, leverage and size. Interestingly, findings revealed different results for different study period for the sample firms listed on the Karachi Stock Exchange. Such as results reported significant negative impact of dividend

policy on the share price volatility for the period from 1981 to 1990. Moreover among controlling variables, only firm size is reported significant variable Likewise for the second period from 1991 to 2000, dividend policy is again reported in significant negative association with stock price volatility, whereas among controlling variables earning volatility reported significant negative relationship in contrary to the previous period findings. On contrary, the overall period of study which range from 1981 to 2000 reported earnings volatility and assets growth as statistically insignificant and reported the firm size, dividend policy and leverage as statistically significant. Thus the study advocate the role of dividend policy in maintaining the stability in the share price .However, there is a need to review some more literature to correctly detect the historical perspective and view point of different researchers on this important phenomenon.

In another study conducted by Song (2012) on the firms listed on the Canadian Stock Market. Like previous findings, the study reported significant negative association between dividend policy and share price volatility. Moreover, the study also report significant positive association between firm earnings volatility and share price volatility, implying that firm with high variation in earnings are more risky in line with the findings of Baskin (1989) for US listed firms. The similarity in findings suggest that markets in the developed countries behave largely uniform.

Zakaria, Muhammad and Abdul-Hadi (2012) analyzed the relationship between dividend policy and share price volatility for the Malaysian listed firms. Their study found the dividend as irrelevant with respect to the share price volatility in contradiction to the previous findings discussed above. On contrary, a study conducted by Hashmejoo, Aref and Nejat (2012) reported significant negative impact of dividend yield on the share price volatility for consumer sector firms listed on the Malaysian stock market. However, the same study reported the dividend payout, another proxy of dividend policy, as irrelevant to the share price volatility. In other words, the results of relationships may vary among sectors and proxies for same variable for the same financial market.

In another study, Rashid and Rahman (2008) found dividend yield as positive but in insignificant association with share price volatility and dividend payout as negative but in significant negative association with share price volatility for firms listed on Dhaka stock exchange

To address the gap of missing related variables, Saifullah (2010a) employed additional variables of liquidity, profitability, dividend to total asset and actual cash dividends for more robust analysis of dividend policy impact on the share price volatility. However, the study findings are challenged for not addressing the problems of multicollinearity and heteroscedasticity in the data. During the same period, another study was conducted by (Nazir, Muhammad, Waseem, & Farhan, 2010) which reported significant positive association between asset size and share price, suggested the irrelevance of dividend policy for the firms listed on the Pakistan stock exchange.

Likewise, Asghar et al., (2011) reported no relevance of dividend policy for Pakistani listed firms but Habib, Kiyani and Khan (2012) documented the significance of dividend policy for the share price stability. In short different studies documented different results for the same financial markets raising doubt on the validity of the results. Salari and Abbasian (2012) conducted similar study in the context of Iran. The findings of this study were in line with Baskin (1989) and Song (2011). Another study was conducted during the same period in Malaysia by Zakaria et al. (2012). Results of this study revealed that dividend policy measures have no impact on the volatility of the share prices. Findings of this study were validated by the findings of (Abrar-ul-Haq, Akram, & Ullah, 2015). Another study conducted in Malaysia by Hashemijoo et al. (2012) documented significant negative association between dividend yield and stock price volatility for consumer product sector firms. Interestingly the same sample reported insignificant negative impact of dividend payout on stock price volatility, thus question the

robustness of dividend policy proxies. Onward similar findings were reported by (K. Profilet & Frank, 2013) for Malaysian listed firms; Ilaboya and Aggreh(2013)for Nigerian listed firms. and Ramadan (2013) for Jordan listed firms. However, Dewasiri (2014) for Srilanka listed firms and Kenyoru, Kundu and Kibiwott (2013) for Kenya listed firms reported significant negative impact of dividend payout on share price volatility rather than of dividend yield. On contrary, Kamyabi (2014) reported that dividend yield and dividend payout significant positive impact on share price movement, unlike past findings.

.Unlike past studies,Javed and Ullah (2014) used other fundamental variables such as Tobin's Q, return on equity, debt equity ratio and net income, asset size along with dividend policy proxies of dividend yield and dividend payout. The study reported significant positive association of dividend payout and dividend yield with share price in line with the recent findings of Khan et al. (2017). .

Methodology

In this section the research framework has been set which provide basis for the selection of research method and hypothesis development. The operational definitions and computation of dependent and independent variables of the underlying study have been established by using standard practices. The details about the methodology used in this study are mentioned below:

Method

Panel data for four years covering the period from 2017 to 2020 has been used. Share price volatility (SPV) is used as dependent variable of the study while dividend yields (DY), dividend payout (DPO), assets growth (AGR) and assets size (AS) are used as exogenous variable of the study. The regression analysis is used to determine the impact of dividend policy on share price volatility. Dividend payout and dividend yield have been used as dividend policy measure while controlling the effect of assets size and assets growth.

Data Analysis Methodology

The study is about to determine the impact of dividend policy on share price volatility in the context of textile sector of Pakistan. There are many methods to measure the variables used in this study. But the following standard methodology to measure variables is applied in this study(see Baskin, 1989; Hashemijoo, et al., 2012; Hussainey, Mgambe, & Mgbame, 2011; Imran, 2011; Irfan & Nishat, 2002; Lashgari & Ahmadi, 2014; Saifullah, 2010a).

Share Price Volatility (SPV):Annual range of share prices (Hi-Li) divided by the average of low and high share price (Hi+Li/2), and raised to the second power and apply square root transformation.

$$P_{V_{it}} = \sqrt{\frac{HP_{it} - LP_{it}}{\left(\frac{HP_{it} + LP_{it}}{2}\right)^2}}$$

HP= Highest stock price during the year

LP= Lowest Stock Price during the year

Dividend Payout Ratio (DPO): Dividend per share divided by Earning per share. i.e.

Dividend per share / Earning per share

Dividend Yield (DY): Sum of the annual dividend to common shareholders divided by the market value of the common stock at the beginning of the year i.e.

Cash Dividend/Market Value of Stock

Assets Growth (AGR): Percentage change in assets from one period to another.

Assets Growth = Assets 2014 - Assets 2013 / Assets 2013

Assets Size = Log10 (Total Assets) or Total assets with base 10 logarithm transformation.

Hypotheses

The following hypotheses are developed on the basis of the literature review explained above. The results of these directional hypotheses will be discussed in subsequent relevant section.

1. There is a negative relationship between dividend payout and share price volatility
2. There is a negative relationship between dividend yield and share price volatility
3. There is negative relationship between assets growth and share price volatility
4. There is a negative relationship between assets size and share price volatility

Study Population

The universe of the study is the textile sector of Pakistan. There are 56 companies from the textile sector are enlisted on Pakistan Stock Exchange. So, the total population of this study is 56 textile sector firms. Krejcie and Morgan sample determination chart provided in Table (1) is used to select the sample size from total population. According to the sample determination chart the sample size is 52. Sampling frame is created in which each company is assigned a number i.e., from 1 to 56. A computerized random number generator is used to pick 52 companies for analysis from total 56 companies.

Table 1 Krejcie and Morgan Sample Determination Chart

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	346
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	354
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	191	1200	291	6000	361
45	40	170	118	400	196	1300	297	7000	364
50	44	180	123	420	201	1400	302	8000	367
55	48	190	127	440	205	1500	306	9000	368
60	52	200	132	460	210	1600	310	10000	370
65	56	210	136	480	214	1700	313	15000	375
70	59	220	140	500	217	1800	317	20000	377
75	63	230	144	550	226	1900	320	30000	379
80	66	240	148	600	234	2000	322	40000	380
85	70	250	152	650	242	2200	327	50000	381
90	73	260	155	700	248	2400	331	75000	382
95	76	270	159	750	254	2600	335	100000	384

Result Estimation and Discussion

The impact of dividend policy on share price volatility may vary in different context which is quite obvious from the facts provided in literature review. However, to reach the conclusion in this study general to specific model selection approach has been applied to predict the impact of dividend policy and other study variable on share price volatility in textile sector of Pakistan. First, an unrestricted model provided in equation (1) include theoretical relevant variable used in this study will be estimated and any variable having insignificant variable will be excluded from the study

$$SPV = \beta_0 + \beta_1(DPO) + \beta_2(DY) + \beta_6(AGR) + \beta_7(AS) + \mu \text{Equation (1)}$$

SPV= Share Price Volatility

DPO= Dividend Payout

DY= Dividend Yield

AGR= Assets Growth

AS= Assets Size

Before predicting the impact of dividend policy and other relevant variables, there is a need to detect either data meet the OLS assumption like multicollinearity and heteroscedasticity or not. These problems undermine the statistical significance of individual variable used in the study. So, the multicollinearity is detected through both the techniques i.e., correlation matrix and Variance Inflation Factor (VIF). The results of correlation matrix are provided in table (2). The correlation matrix results revealed that the problem of multicollinearity does not exists. The table (2) shows that highest correlation exists between dividend yield and dividend payout which is not too high to distract the significance of parameters.

Table 2 Correlation Matrix

	D.Y	DPO	AGR	AS
DY	1			
DPO	0.32144	1		
AGR	0.009910	0.018111	1	
AS	0.061000	0.05180	0.105045	1

Another technique used to detect the multicollinearity is Variance Inflation Factor (VIF). Any variable having VIF value more than 10 should be excluded from the analysis due to the problem of multicollinearity. It also implies that VIF value less than 10 for variable negate the presence of multicollinearity problem. The VIF results provided in table (3) revealed that Dividend Payout (DPO) contain the highest VIF value i.e., 1.1612 and the rest of all other variables having VIF values less than this. Both the techniques used to detect the problem of multicollinearity unanimously deny the existence of multicollinearity problem.

Table 3 Variance Inflation Factor

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
AS	.0000	1.6011	1.0386
DY	0.0053	1.2267	1.1255
DPO	0.0004	1.5376	1.1612

AGR	0.0009	1.2334	1.0324
C	0.0003	4.7787	NA

Another important assumption of OLS linear regression is that the variance of error term should be constant. But when the variance of error term is not constant that is the existence of heteroscedasticity in the data. In order to detect either that data meet this assumption of OLS linear regression, White heteroscedasticity test without cross term is used in the study. The results of White heteroscedasticity test without cross term are provided in table (4). The results revealed that chi square is 0.4122 which implies that white heteroscedasticity test does not reject the null hypothesis of heteroscedasticity. Hence, it can be inferred from the results that there is no problem of heteroscedasticity with the data.

Table 4 Heteroscedasticity White Test without cross terms

F-Stats	.946897		Prob F(7,266)	0.4209
Obs R-Square	6.661632		Prob. Chi square(7)	0.4122
Scaled Explained SS	9.641748		Prob. Chi square(7)	0.1998
Dependent Variable: Resid^2				
Method: Least Square				
Observations: 1 274				
Variable	Coefficient	Std. Error	t-stats	prob.
C	0.017706	0.002311	7.66161	0.0000
D_YIELD^2	-0.003758	0.010863	-0.345912	0.7297
DPO^2	-0.003028	0.002355	-1.285820	0.1996
AGR^2	0.004644	0.003333	1.39333	0.1040
AS^2	-0.000528	0.001040	-0.507218	0.6124
R-Square	0.024313	Prob.(F-Statistics) 0.470771		
Adjusted R-Square	-0.001363			
F-Statistics	0.946897			

Unrestricted Model

Now the unrestricted model having theoretically relevant variables is estimated. The results of the model unrestricted model are provided in table (5). The results provided in table (4) revealed that except assets growth (AGR) all other variables are statistically significant. Because the parameter of assets growth is not different from zero or insignificant parameter (0.2685) so it is excluded from the study. Now the study will move from unrestricted model to first restricted model.

The model without assets growth (AGR) is estimated below results of which are provided in table (6).

Table 5 Estimated relationships between SPV and independent variables of unrestricted model

$$SPV = \beta_0 + \beta_1(DPO) + \beta_2(DY) + \beta_6(AGR) + \beta_7(AS) + \mu$$

Variable	Coefficient	Std. Error	t-statistics	Prob.
DY	-0.090822	0.032440	2.79969	0.0163
DPO	-.107501	0.019348	-5.556113	0.0000
AGR	-.031112	0.029869	-1.041588	0.2685

AS	-0.034192	0.008757	-3.904332	0.0001
C	0.235437	0.014539	16.19361	0.0000
R-Square	0.465979	Prob(F-Stats) (0.0000)		
Adjusted R-Square	0.450419			
F-Statistics	10.66700			

Table 6 Estimated relationships between SPV and independent variables of restricted model

$$(1). SPV = \beta_0 + \beta_1(DPO) + \beta_2(DY) + \beta_7(AS) + \mu t$$

Variable	Coefficient	Std. Error	t-statistics	Prob.
DY	-0.09821	0.032321	3.03581	0.0164
DPO	-.083772	0.015234	5.49901	0.0000
AS	-0.029077	0.007512	3.8707	0.0001
C	0.182086	0.012241	14.8750	0.0000
R-Square	0.462603			
Adjusted R-Square	0.4502			
F-Statistics	13.0584			
Prob(F-Stats)	(0.0000)			

The results of unrestricted model provided in table (6) revealed that the parameters of all the variables are different from zero or statistically significant. The parameters of these variables are statistically significant in the previous model results as well. The adjusted R-Square of the study 0.4502 which postulate that three statistically significant variables explain almost 45% changes in share price volatility.

Conclusion:

This study investigated the impact of dividend policy on the share price volatility of the firm listed in the textile sector of Pakistan. For the purpose, 52 firms are shortlisted on the basis of the availability of data. Besides dividend policy measures i.e. dividend yield and dividend payout two other exogenous variables have been included to determine the truthful relationship between dependent and independent variables.

The result of this study regarding dividend yield revealed that there is a negative relationship of dividend yield with share price volatility. It implies that high dividend yield ratio of a firm will reduce the fluctuation or risk in share prices. The result of this study about dividend yield is consistent with (Baskin (1989); Nishat (2002); Song, 2012; Profilet 2011; Ziad 2013; Masum 2014; Noshin 2014; Diwasiri 2014). However, another point of view is also available where the direction of relationship between dividend yield and share price volatility found positive in most of the studies conducted in different contexts. It implies that an increase in dividend yield will increase the share price volatility. The studies that postulate contrary findings from the underlying research work regarding dividend yield include (Allen & Rachim, 1996; Asghar, et al., 2011; Kenyuru, Kundu, & Kibiwott, 2013; Nazir, et al., 2010; Saifullah, 2010b; Zakaria, Muhammad, & Abdul Hadi, 2012). The results of the studies conducted in different contexts revealed that context will affect the relationship of dividend policy with share price volatility. It implies that share price volatility is a complex phenomenon. While determining the impact of variables on share price volatility including dividend policy, the context, economic situation and time frame are important that may change the nature of relationships. The results of this study show that assets growth is negatively correlated with share price volatility but this relationship is

statistically insignificant. The finding of this study about assets growth is consistent with many other studies conducted previously (Nishat, 2002; Nazir 2010; song, 2011; Zakariya et. el., 2012; Habib, 2012).

The underlying study found that assets size has a negative impact on share price volatility and also the relationship is statistically significant. It implies that in the context of textile sector of Pakistan size of the firm is an important consideration. Large firm share prices are less volatile as compare to small firms. In simple words as the firm size increase, the risk to invest in the firm share is reduces. The findings of underlying study related to assets size is consistent with many other studies conducted previously i.e.(Allen & Rachim, 1996; Asgharet al., 2011; Baskin, 1989; Habib, Kiani, & Khan, 2012; Kenyoru, et al., 2013; K. A. Profilet, 2013; Ramadan, 2013; Song, 2012).

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