

The Impact of Financial Constraints, Dividend Policy and Capital Structure on Share Price Volatility

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Abstract

This study is the contribution to literature of finance and accounting which divulges that how financial constraints, dividend policy and capital structure stalk the share price volatility for non-financial firms. There are several studies existing which have already established the sway of various factors on share price volatility but very few researches have strained financial constraints, dividend policy and capital structure as predictors in combination to find the impact on share price of firms in divergent markets of three different economies. To accomplish the results of this study, ten years data has been poised from thirty different companies from developed, emerging and developing countries. The findings of this study portray that each predictor has diverse impact on the share price of firms from distinct economy.

Key Words: Capital Structure, Tangibility Ratio, Dividend Policy, Share Price Volatility, Operation Cash Flow

Introduction

The most established review on dividend insignificance was presented by Miller and Modigliani (1961). Their review has turned into a benchmark for different researcher in developing different models relating to dividend policy of firms, share prices and the methods that directed the shareholder in setting up firm dividend payout strategies. Miller and Modigliani (1961) reported that firm's operations are free from dividend policy. According to Arnold (2008) dividend payout policy determined that how shareholders money can be increased and how it affects the interest of shareholders. The Dividend strategy can be a standout the most comprehensive and expected component in all options of the firms, if the firms declare a regular dividend to shareholder (Hamid, Khurram & Ghaffar, 2017). Dividend policy review on Jordan economy by Ramadan (2013) where he found that dividend policy does affect share prices and their volatilities. Financial Constraints arise and associates with data asymmetries that make outside finances more expensive than inside available resources.

Even though financial requirements are straightforward on this calculated level and it remains an exact test to measure them and to subsequently understand their recommendations. Regardless of whether firms work under financial constraints or not are normally not directly noticeable. It is expected that if

financial constraints are not controlled than firm should defer its present information for future and effects firms' performance (Love, 2003). A firm's capital structure suggests a particular way out of share price and it establishes that how the advantages of a firms are financed through the merger of shareholder's reserve on behalf of securities (Abbas, Hashmi & Chishti, 2016) while second imperative hypothesis of capital structure is the pecking order or trade-off hypothesis that was produced by Myers and Majluf (1984). Pecking order theory fundamentally describe that the cost of financing increases with asymmetric information. Firms obtain finance through internal funds, debt, and issuing new shares. When it comes to methods of increasing capital, companies will prefer internal financing, debt, and then issuing new equity respectively. The share price volatility has always been gray research debate, since its support to indicate the efficient hypothesis of the market and many studies and research has been conducted to know the reason of existence and anticipate possible significance of that volatility in order to examine either this efficient market holds.

A wide range of studies that either share price volatility is excessive with a change in fundamental or some other factor also effects like Capital Structure, Dividend policy, and financial constraints. This is stated by Vuletic and Fang (2015) that it is essential for a firm to identify the elements which can minimize financial cost to accomplish the firm performance. By studying such financial elements in Asian countries like Pakistan- a developing economy, India an emerging economy and Japan a developed economy, this study identifies those components which limit financial requirements and have effect on share price volatility. The purpose of this study is to identify the effects of Dividend Policy, Capital Structure and Financial constraints on share price volatility. As the literature of dividend policy explain that announcement or payment of dividend by the company provides the positive signal to the market player regarding company financial growth, so current study is an initiative in this regard. In the same manner another objective of the study is to examine the effects of capital structure on share price volatility. In context of capital structure, the literature suggested that debt determined firms have the problem of share price volatility than their equivalent equity principal firms so this study come to know that how the proportion of debt and equity matter in volatility of stock prices. Another core feature of the study is to determine the effects of financial constraints on the volatility of stock prices.

Generally financial constraints firms have distress risk, governance issues, bankruptcy risk and such type of other problem like default risk. On the basis of these grounds the current study derives the effects of financial constraints on share price volatility. Current study also determine overall effects and individual effects of above variables on share price volatility, which leads to the conclusion that which variable has more effects on share price volatility. This study will focus in developing, emerging and developed economies such as Pakistan, India and Japan respectively. The outcome of this study will be providing two aspects of contribution. One aspect will cover the literature and research and second one covers practical as this study will be contributing in extending the literature. Further this work will contribute in future researches for researchers to verify this study while investors, analyst, industrialist can use the outcomes of this study in designing the investment policies.

RQ1: What is the impact of Dividend policy on share price volatility?

RQ2: What is the impact of Capital Structure on share price volatility?

RQ3: What is the impact of financial constraints on share price volatility?

RQ4: Overall impact of Dividend policy, Capital Structure, financial constraints on share price volatility?

RQ5: To determine that which variable is prominent determinant of share price volatility.

Literature

Dividend payout can be considered to be an observing part of relationships among investors (Black, 1976). The firms build up higher dividend payouts when shareholders hold a lower part of share price and in this scenario operational expenses reduce (Rozeff, 1982). It is stated by Brav et al. (2005) that most firms don't utilize payout arrangement as a device to modify the extent of fundamentals among their financial experts. Dividend policy has always been an important element for companies and major source of funds which is examined by many researcher, from Lintner (1956) to Miller and Modigliani (1961) to DeAngelo et al. (1996), Fama and French (2001), Al-Malkawi (2007) and more recently by Hussainey et al (2011).

The dividend irrelevance theory described by Miller and Modigliani (1961) that dividend policy is irrelevant for investors and they are not worried and concerned with a firms dividend policy while 'Bird In Hand' theory was developed by Gordon and Shapiro (1956) and Walter (1963) as a counterpoint to the Modigliani-Miller dividend irrelevance theory, which keeps that shareholders are uninterested to whether their earnings growth increase from dividends or capital gains. The bird in hand theory describes the relationship among the companies worth and dividend payout. It defines that the dividend are not as much risky as capital gains, because the capital gains are uncertain. The Agency cost theory is the conflict of interest among investors and managing authorities (Ross et al., 2008). The conflict arises when management acts in their self-interest instead of the investors' interest who has invested in the firm. This is conflicting to the expectations of Miller and Modigliani (1961), who supposed that executives are perfect agents for investors and no clash of advantages or benefit among them.

Signaling theory describes that the dividend policy work as a foundation of announcement that deliver the statistics and data to the shareholder about the firm performance and value. The firm share price can be examined by the shareholder with these census and information and this evidence make this theory applicable for dividend policy (Al-Kuwari, 2009). Dividend announcement increased the share price value as it is associated with higher declarations of abnormal returns on announcement of dividends. A high distinctive unpredictability firm is associated with greater positive post event return point. Most of the analysts focused the capital structure and dividend payout in isolation however these two ideas are related with each other

The present form of capital structure begins with the Modigliani and Miller, starting now and into the future MM proposal of (1958). Principal theory of capital structure was proposed by Miller and Modigliani (1958). They established the ideas and provided a school of thought on capital structure. The development of latest theories (tradeoff theory, balancing theory, agency theory) on capital structure developed with reason that assumption of MM theory that was impractical. Pecking order theory describes that companies adjusted their resources to gain best leverage with three factors, specifically taxation, the impact of financial constraints and agency costs, Baxter (1967) considers that the broad usage of loans and liabilities develop probabilities of insolvency and creditors assure their finances risk with extra cost premium insurance. DeAngelo and Masulis (1980) continued efforts on MM's tax model and include some more aspects beyond the tax like share value tax and depreciation charges and named it as non-debt tax.

Besides above external source of funding which is likely to be long term debt and equities from shareholder borne with huge cost (Myers, 1977), the companies share prices volatility and variation based on decision by the management that's which kind of funding source they select and how it affect capital structure and shareholder earnings. Theory of modern capital structure proposes that

stakeholder and investors provides capital for the companies and they are the genuine owners, whereas the executive's task is to operate the firm and their objective is to work for the interest of shareholders. Capital structure decisions may cause the financial constraints for the firm (Myers & Majluf, 1984). Literature specifies that prior studies have given attention to financial constraints and firm decision. These studies focused on investment decisions rather than cash holding related decisions. As stated by Almeida et al. (2004) the financial constraints can be judged through the financial policy of an organization which can clear the organizational structure and firm situation. There are many signals that companies rebuy devalued shares and these are the firms which have an additional financial resources and reserves and not face any financial constraints (D'Mello & Shroff, 2000; Ikenberry & Vermaelen, 1996; Stephens & Weisbach, 1998).

As mentioned by Farre-Mensa, Michaely and Schmalz (2014) that financially constrained firms borrow with repurchase options and financially unconstrained companies with free cash flow are likely to be able to funds and re-buy options without any external financial resources. As Khurana et al. (2006) determined that financial constraints companies are more different in developing countries with low financial capacity institutions which look after shareholder interest. In light of Harford et al. (2008) opinion that in developing countries and low financial institution requires strong legal rights for investors and in absence of high legal rights it is stress-free for management to perform responsibilities for individual and ignore shareholders interest that maximization of wealth. According to Begley (2012) financial limitations makes the management to arrange funds for company with affordable deals that not boosted their business only but also borne limited financial cost. According to Tien and Gordon, (1963) by paying a high dividend to shareholder the risk of financial constraint reduce which finally affects cost of capital and impact on share prices of the firm.

In light of Higgins (1995) suggested that if the firms invested limited money or raise more financial from external sources like shareholder for future cash requirement will also reduce share price value, furthermore when dividend payout announced by the firms the share price value of common stock shares will be affect. Affleck-Graves and Mendenhall (1992) initiate that share price volatility occur after the announcement of 8 days on standard up to 54 days of such profit declaration as Mulugetta et al. (2002) reviewed the impact of average and lower position varies in share price while Huang et al. (2009) examined the impact of dividend payout on the share price value and determined that there significant relationship among dividend payout and profit on share price. Kalkreuth and Murphy (2005) determined that to meet the financial requirement firms should use internal funding resources to avoid financial cost but some authors like Bridges and Guariglia, (2008) suggested that firms use some portion of retained earnings and some portion of debts to meet the financial constraints. According to Musso and Schiavo (2008) the firm's performance is affected and their long term functions on risk due to financial constraints and they measure the financial constraints by using proxies like, size of the firm, age and cash flows. They determined that controlling and managing firm size, cash flows and return on stock impact the firm performance help in meeting financial constraint. As Rajan and Zeangles (1995) used leverage as proxy of capital structure for measurement and it is also known as debt-to-equity ratio. The debt-to-equity ratio shows the percentage of financing that comes through advances or shareholders. To calculate the debt-to-equity ratio, we take total liabilities divided by total equity. According to Moyen (2004) financial cash flows are used to meet the financial constraints and play vital role as an intermediary among firm performance and financial limitation hence used tangibility as proxy financial constraints and observed that firms has many cash flows like operating cash flow, investing cash flow, and financing cash flows which helps the firms to meet the financial constraints

He described that those firms which have limited assets value in tangible form e.g. land, building, machinery etc faces higher side financial constraints. Tangibility ratio is derived through shareholder equities + long term debts divided by net fixed assets = $\frac{\text{shareholder funds} + \text{Long term Loans}}{\text{Net Fixed Assets}}$. The free cash flow (OCF=EBIT-Taxes + Depreciation) is used for business expansion, increase production, develop new products, payment of dividends and reduce financial cost. Free cash flow of the firm is a measure of financial constraints that shows the net amount of availability of cash which is retained after meeting expenses, taxes and changes in net working capital and investments are deducted. It's one of the major symbols which are used to know the financial health of the firm. The third measure of financial constraints which is used by many researchers is size of the firm.

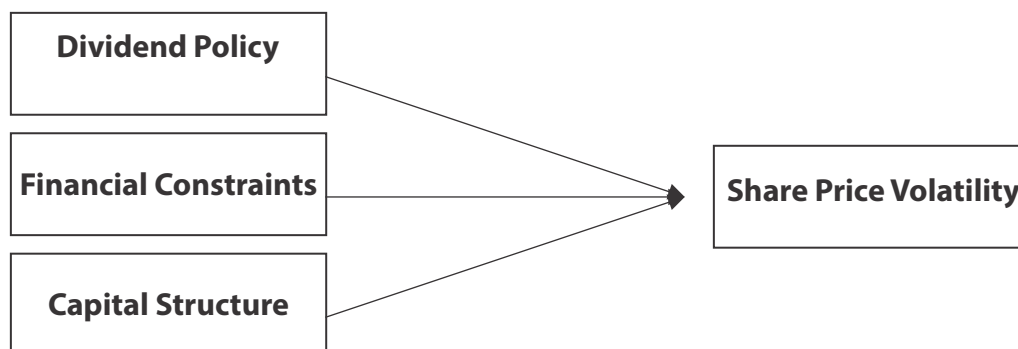
According to Almeida, Campello and Weisbach, (2004) small firms are facing more financial constraints as compared to larger size of the firms. Larger size firms have easy approach to capital market and they manage their financial needs on lower cost as compared to small size firms where they pay huge financial cost. Size of the firm can be measured by getting natural log of total assets = $\ln \frac{\sum_{i=1}^n \text{Market Value } (i)}{n}$.

As explained by (Alzomania & Al- Khadhiri, 2013) that firm size impact on dividend policy decision. It is examined that larger firms pay healthy dividend as they have many sources for funds and not only depends on reserves. By implementing regression techniques, Ferri and Jones (1979) determined significant positive association among firm size and equities. Capital structure is another significant measure of financial constraints.

According to Nazir et al. (2012) and Hussainey et al. (2011) share price volatility covers the variation in share price. The positive and high unpredictability of firm share price is related with more positive post event profit. According to Zakaria et al. (2012) study revealed the impact of dividend policy on the share price volatility in Malaysian manufacturing companies. In light of Masum (2014) study determined the role of dividend policy and its effects on share price value in Dhaka Stock Exchange (Bangladesh). According to Ali et al. (2015) to examine the impact of dividend policy on share price of forty five non-financial firms listed on KSE-100 index, showed insignificant association among return on investment and share price volatility. In Pakistan Shah and Noreen (2016) examined the interrelationship among share price volatility and dividend payout of KSE listed organizations.

Research Framework:

Figure1: Research Model (Mathematical and Graphical)



$$\begin{aligned} \text{Share Price Volatility}_{it} \\ = \beta_0 + \beta_1 \text{Size}_{it} + \beta_2 \text{DividendPayout}_{it} + \beta_3 \text{OperatingCashflow}_{it} + \beta_4 \text{Tangibilityratio}_{it} + \beta_5 \text{leverage}_{it} \\ + \epsilon \end{aligned}$$

Methodology

This study focus on identifying the impact of capital structure, dividend policy and financial constraints on share price volatility of non-financial firms of India, Japan and Pakistan. In this study the independent variables capital structure, dividend policy and financial constraints and dependent variable is share price volatility. Further, this study utilize quantitative analysis methodology to answers the research question and meet the objectives. The nature of this study is to measure quantitatively the effects of firm diidend policy, capital structure and financial constraints on non financial sector firms of three economies i.e. Japan, India and Pakistan belonging to developed and developing and emerging category. Information related to these factors is retrieved from financial statements and sources from websites like Investing, business recorder, Morningstar etc. The sample of 30 companies on this basis of their capitalization was selected in this study. And data of these companies are collected from the period of 2007-2016. Proxies used for the variables in this study along with the literature support.

Results and Discussion

Table 1: Descriptive Statistics of Pakistani firms

	Price Volatility	Size	Operating Cash Flow	Tangibility Ratio
Mean	0.303379	4.049169	2443.231	0.508554
Jarque-Bera Probability	0.000000	0.000416	0.000000	0.509469

Table 1 indicates that average price volatility, average firm size, average operating cash flow and average tangibility ratio of Pakistani firms are 0.303, 4.04, 2443.231 and 0.508 respectively while the results of this study is limited to Pakistan as Jarque-Bera Statistics is significant.

Table 2: Descriptive Statistics of Indian firms

	Price Volatility	Size	Operating Cash Flow	Tangibility Ratio
Mean	0.030079	5.115239	71712.19	0.940075
Jarque-Bera Probability	0.000000	0.000000	0.000000	0.000000

Table 2 indicates that average price volatility, average firm size, average operating cash flow and average tangibility ratio of Indian firms are 0.030, 5.12, 71712.19 and 0.940 respectively while the results of this study is limited to India as Jarque-Bera Statistics is significant.

Table 3: Descriptive Statistics of Japanese firms

	Price Volatility	Size	Operating Cash Flow	Tangibility Ratio
Mean	0.022863	6.393698	493847.8	0.933086
Jarque-Bera Probability	0.000000	0.000000	0.000000	0.000000

Table 3 indicates that average price volatility, average firm size, average operating cash flow and average tangibility ratio of Indian firms are 0.022, 6.39, 493847.8 and 0.933 respectively while the results of this study is limited to Japan as Jarque-Bera Statistics is significant.

Table 4: Regression Outcome Pakistan

Variable	Coefficient	Std. Error	t-Statistic
C	0.056078	0.737525	0.076035
Size	0.082039	0.171664	0.477907
Operating Cash flow	-3.09E-06	1.42E-05	-0.217937
Dividend Payout	-0.439198	0.292269	-1.502719
Tangibility Ratio	0.153169	0.453466	0.337773
Leverage	-0.090289	0.909580	-0.099264
R-squared	0.274701		
Adjusted R-squared	0.259203		
Durbin-Watson stat	1.887735		
F-statistic	17.72512		
Prob(F-statistic)	0.000000		

Table 5: Regression Outcome of Indian firms

Variable	Coefficient	Std. Error	t-Statistic
C	0.114280	0.018761	6.091349
Size	-0.014246	0.003358	-4.242300
Operating Cash flow	4.43E-09	2.65E-08	0.167296
Dividend Payout	-0.009581	0.009034	-1.060587
Tangibility Ratio	-0.004597	0.001941	-2.368246
Leverage	0.004389	0.003112	1.410570
R-squared		0.094308	
Adjusted R-squared		0.080481	
Durbin-Watson stat		1.830089	
F-statistic		6.820418	
Prob(F-statistic)		0.000031	

Table 4 indicates that model predictive power is 27% and is fit for study as F stat is 17.725 and significant ($p < 0.05$). Before executing the regression it was assured that data is stationary and have no discrepancies and if they occur it was assured to take steps to resolve them. Common Coefficient method is used in panel data analysis and results indicates that Firm size has no significant effects on price volatility in Pakistan. Also, operating cash flow and tangibility ration is insignificant which show no effects. Moreover, dividend payout dummy is insignificant which means firms pay dividend and those who not pay dividend have similar effects on price volatility in Pakistan. Also, capital structure has no significant effects on share price volatility.

Table 5 indicates that model predictive power is 9% and is fit for study as F stat is 6.820 and significant ($p < 0.05$). Before executing the regression it was assured that data is stationary and have no discrepancies and if they occur it was assured to take steps to resolve them. Common Coefficient method is used in panel data analysis and results indicates that firm size has a significant negative effect on price volatility in India, which means if size increases by 1 unit there was be an decrease of -0.014 in price volatility. Also, operating cash flow is insignificant which show no effects. Moreover, dividend payout dummy is insignificant which means firms pay dividend and those who not pay dividend have similar effects on price volatility in India. Also, there is a significant negative effect of tangibility ratio on price volatility, which means if there is an increase of 1 unit in tangibility ratio there was be a decrease of -0.0045 in price volatility while capital structure has no significant effects on share price volatility.

Table 6: Regression Outcome of Japanese firms

Variable	Coefficient	Std. Error	t-Statistic
C	0.095290	0.037513	2.540165
Size	-0.012856	0.005359	-2.399060
Operating Cash flow	2.76E-09	2.85E-09	0.967213
Dividend Payout	-0.000594	0.010510	-0.056505
Tangibility Ratio	-0.000295	0.000135	-2.192733
Leverage	-0.000171	0.000699	-0.245167
R-squared		0.305647	
Adjusted R-squared		0.290747	
Durbin-Watson stat		2.348229	
F-statistic		20.51285	
Prob(F-statistic)		0.000000	

Table 6 indicates that model predictive power is 30.5% and is fit for study as F stat is 6.820 and significant ($p < 0.05$). Before executing the regression it was assured that data is stationary and have no discrepancies and if they occur it was assured to take steps to resolve them. Common Coefficient method is used in panel data analysis and results indicates that firm size has significant negative effects on price volatility in Japan which means if size increases by 1 unit there was be a decrease of -0.012 in price volatility. Also, operating cash flow is insignificant which show no effects. Moreover, dividend payout dummy is insignificant which means firms pay dividend and those who not pay dividend have similar effects on price volatility in Japan. There is a significant negative effect of tangibility ratio on price volatility which means if there is an increase of 1 unit in tangibility ratio there was be a decrease of -0.00295 in price volatility. Also, capital structure has no significant effects on share price volatility.

Discussion

This study has been carried out to identify the effects of dividend policy, capital structure and financial constraints in India, Japan and Pakistan. It was found that firm size has no significant effects on share price volatility in Pakistani firm which is not aligning with the past studies of Allen & Rachim (1996). They reported that firm size has significant effects on stock price volatility. Hussainey et al. (2011) also found significant effects of firm size on share price volatility. The reason may be that the large firm size

companies has a stable and positive image in market and have more access to market and focuses on other instruments funds acquiring rather than equity so in cases of such firms size has no effects on volatility. This argument is supported by Almeida, Campello and Weisbach, (2004) study findings. Also, operating cash flows has no significant effects of share price volatility which is opposite of the findings Lamont, Polk and Requejo (2001) they stated that cash necessities of firms has a significant effects of share price variations and this variation is smaller in large size firm and bigger in small size firms. Also Musso and Schiavo (2008) found same pattern of results in their study like lamont et al. (2001). Huang et al. (2009) reported in his study that share price volatility is effects by dividend payment of firm, firm paying shares in a period of time was have higher share prices as compared to paying no dividend.

The outcome of this study indicates that dividend payout dummy has insignificant effects on share price volatility, which means that firms who pay dividend and firms who are not paying dividend have same pattern of share price volatility which is opposite of Huang et al (2009). However, Habib, Kiani and Khan (2012) also found that dividend payout has no significant effects on the share price volatility as in most cases firms when pay divided it means that they have no new projects Also Hashemijoo, Ardekani and Younesi (2012) found no effect of payout on share price volatility. Also, capital structure has no significant effects on share price volatility and it is not aligning with study of Musso and Schiavo (2007). It was found that in Indian and Japanese firms Size has a significant negative effects on share price volatility which is aligning with study of Allen and Rachim (1996), Hussainey et al. (2011), Habib et al. (2012) and Sadiq et al. (2013).. This argument is supported by Almeida, Campello and Weisbach, (2004) study findings. Lamont et al. (2001): they stated that cash necessities of firms have significant effects of share price variations and this variation is smaller in large size firm and bigger in small size firms.

Musso and Schiavo (2007) found same pattern of results in their study like Lamont et al. (2001). Similarly like Pakistani firms dividend payout has no significant effects on share price volatility in India and Japan. Sadiq et al. (2013) also found that dividend payout cause variation in share prices. However, Habib, Kiani and Khan (2012) also found that dividend payout has no significant effects on the share price volatility as in most cases firms when pay divided it means that they have no new projects. However, Tangibility ratio has significant negative effects on volatility mean higher tangibility lower share price volatility which is aligning with Almeida, Campello and Weisbach, (2004). Capital structure has no significant effects on share price volatility and it is not aligning with study of Hashemijoo et al.(2012), and Musso and Schiavo (2007).

Conclusion

This study is conducted to examine the effects of firm specific factors on firm size, operating cash flow, and dividend payout and asset tangibility on share price volatility of Indian, Japanese and Pakistani firms. Panel data analysis technique has been used in this study to analyze this relationship and it was found that majority of the available literature is applicable on emerging markets like India, Pakistan and developed market like Japan. In Pakistan case it was found that many of the firm specific factors like dividend policy firm, size, tangibility and operating cash flow has no effects on share price volatility of firms. This may be due to the dynamics of the market or firms perceived reputation in market.

However, in case of India and Japan it was found that factors like size and asset tangibility has effects on share price volatility, which means larger firm size larger the tangibility which cause volatility in share prices. Further, it was found that in all three markets firm either firm is paying dividend or not paying the dividend it has no effects on share price volatility. In short the pattern of dividend payout effects on share price volatility is identical for firms paying dividend or not paying the dividend in India, Japan and

Pakistan.

Moreover, the majority of literature which has focused the share price volatility macroeconomic factors like gross domestic production, inflation, exchange rate, industrial production has been used as predictors. It is recommended for future researchers to incorporate these factors along the firm specific factors and a larger sample size to identify their effects on share price volatility. Also, Industrial factors like market competition, industry size, entry barrier, regulatory control can be used as predictors.

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