

Determinants of Dividend Smoothing: Evidence from Pakistan

ZAHID ALI¹

Ph.D. (Accounting) Candidate

School of Accounting, Zhongnan University of Economics and Law

Wuhan, P.R. China

SHUAIB ALI

MS (Accounting) Scholar

School of Accounting, Zhongnan University of Economics and Law

Wuhan, P.R. China

NADIA HIDAYAT

MS (Accounting) Scholar

School of Accounting, Zhongnan University of Economics and Law

Wuhan, P.R. China

Abstract:

Dividend smoothing presence is evidenced continuously in corporate finance literature since 1956 when it was firstly addressed by Lintner. This article aims to determine, what causes the difference in the level of dividend smoothing across firms. The study empirically examines the determinants of dividend smoothing in the listed non-financial listed firms on Pakistan Stock Exchange for the period 2005-15. The study used two measures of dividend smoothing i.e. speed of adjustment (SOA) and relative volatility (Rel_Vol). The study incorporated Tobit regression in case of speed of adjustment and OLS in case of relative volatility for determining determinants of dividend smoothing. The study finds that small firms with low cash flows and high leverage firms smooth more in Pakistan. Similarly, old firms with more tangible assets and high stocks beta smooth more their dividends. Beside that firms whose investors are having long

¹ Corresponding author: zahidzady@yahoo.com

investment horizon, opt for low level of dividend smoothing. our results are explainable by agency and information asymmetry theories of dividend smoothing. The study is expected to contribute in designing the optimal dividend policy in accordance with the information asymmetry and agency conflict faced by the firms.

Key words: Dividend smoothing; Agency Problem; Information Asymmetry; Tobit regression; Pakistan

1 INTRODUCTION

Dividend payout policy is one of the arguable and core topics in corporate finance theories which still hold its importance. It is among the top ten unresolved economic problems. The question of how to maximize shareholder's wealth through optimize dividend policy is still unanswered. Empirical evidences and theories have been demonstrated regarding dividend payout policy by many researchers, notwithstanding still the issue is undetermined and wide open for further discussion (Allan and Michaelley, 2003; Brealey and Myers, 2005). Decision regarding to pay or retain dividend is a suspicious one for management and investors (Glen et al., 1995).

The purpose of paying dividend still bewilders various parties. Numerous grounds have been provided whether a company shall pay dividend or not. Miller and Modigliani proved in 1961 that dividend payout doesn't affect the market prices of stocks in the perfect markets under the rigid assumption of no tax environment. However, because of the market fractions like subjection of stockholders to different tax brackets, market asymmetry in reacting to dividend increases and cuts, presence of agency, transaction and flotation cost show that corporate dividend payout does matters. Litzenberger & Ramaswamy (1979) found that dividend increases may harm shareholders wealth if they don't pose the capability of generating home dividends. In contrary Dividend

payouts can positively influence the market value of share (Gordon, 1963).

The core source for internal financing is the earnings being retained; nonetheless higher retention means minimal dividends, and the other way around (Black 1976). Higher the profits of the firm, higher will the germination of internal financing and thereby the dividend will also be higher. Virtually all the businesses espouse dividend policy, which holds back a part of net profit in such a way that it will not pose any harm to dividend payment. Due to agency problems the management is also obligated to pay adequate cash dividend. Supporters of the agency theory present that dividend payouts are in existence because of the separation of ownerships, observes these payouts as the source of mitigating agency risk. On the other hand signaling theory shows that payouts are in existence because off the asymmetry of information between insiders and outsiders as these are used as signals to the market that companies are growing (John & Williams, 1985).

This article will not address the first hand question about the dividend payouts of why these are paid but will answer how corporations pay these dividends. Lintner (1956) addressed dividend smoothing for the first time in the corporate finance literature. Lintner (1956) introduced that companies have long term payout ratio and actual payouts deviates from this and companies smooth their dividends. Corporations will be reluctant to enhance dividends in response to increase in earnings until they are not sure about the permanency of these incremental earnings, and will be reluctant to cut dividends as a result of fall in earnings. Lintner proved that besides earnings, lag dividends also determines variation in dividend payouts (Leary & Michaely, 2009). Lintner (1956) is used to measure SOA as first measure of dividend smoothing and Leary & Michaely (2009) is used to measure relative volatility as the second measure of dividend smoothing. The study then

proceeds to answer one firm smooth more than other by using both SOA and relative volatility as dependent variable.

This endeavor is to identify the key factors ascertaining dividend smoothing in Pakistan by utilizing a sample of all non-listed firms on Pakistan Stock Exchange (PSE) for the period of 2005 to 2015. The contribution of the existing study to the literature is very vital because, currently most of the empirical research studies have been confined to explore the factors determining the dividend payout in Pakistan. However, no single study has analyzed determinants of dividend smoothing in Pakistan. This study attempts to fill the void in the current literature. Furthermore under the light of the results of the policy makers will be assisted to devise such dividend policies which are beneficial for the long term interest of the shareholders. The study finds that dividend smoothing in Pakistan is affected by the Size of the firm, its age, the cash flows they are generating, its leverage level, by its stocks beta and the by the amount of its shares traded in stock exchange.

The study proceeds by listing relevant theories of dividend smoothing in the second section. Section 3 showcases relevant literature and develops hypothesis of the study. next section is contributed to the methodology of the study while section 5 depicts findings and the study is concluded in the last section.

2 DIVIDEND SMOOTHING THEORIES

Dividend smoothing has sixty years history in Lintner (1956), the model found that corporations have long-run targeted payout ratio and their actual payouts deviates from it. According to the model management will be reluctant to increase dividend till they ensure themselves about the permanency of the incremental earnings. Different authors have witnessed presence of dividend smoothing on firm level e.g. Kumar and Lee (2001), Allen and Michaely (2003), and

Brav et al. (2005), Chemmanur et al (2010), Jinho Jeong (2013) Omar and Rizuan (2014), Al-Malkawi (2014).

Firm uses dividends either as signals to the market about the company prospects or as a source of agency risk mitigation. If dividends are used as signals to the market then dividend smoothing is also used in the same context. Higher dividend smoothing prevails where higher information asymmetry exists between insiders and outsiders (Jeong 2011, 2013). Newly listed firms with more intangible assets and few growth opportunities are facing higher information asymmetry therefore; they opt for higher dividend smoothing (Leary & Michaely, 2011).

In contrary to above dividend smoothing is also used as source of eliminating agency risk (Jensen, 1986). According to Jensen, commitment to higher and stable dividends will rise the need for external financing which acts as barometer. Therefore the higher the agency risk, the higher will be the degree of dividend smoothing. Under this view of higher level of dividend smoothing is practiced by the firms with low leverage, higher profitability and mature firms (Leary & Michaely, 2011).

3 LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Large and older firms have less information asymmetry issue; therefore they are expected to go for the low level of dividend smoothing as compared to firms smaller in size and younger in age (Lemmon and Zender, 2010). Beside this dividend smoothing literature has frequently controlled for the size of the firm. Jeong (2011) concluded that company size along with other firm characteristics has a crucial role in determining the level of dividend smoothing. Firms with higher information asymmetry opt for a higher level of dividend smoothing. Mostly size and age of the firm have been used as proxies of firm's information asymmetry (Jinho Jeong, 2013).

In contrast to the above under the agency view large and old firm are more capable of generating high cash flows and they are expected to have fewer growth opportunities; therefore large and old firms with fewer growth opportunities are cash cows and are exposed to the higher level of agency cost. Hence under the agency view large and old firms with fewer growth opportunities (Cash cows) are expected to opt for a higher level of dividend smoothing. Jinho Jeong (2011), Leary & Michaely (2011) and Javakhadze (2014) all hypothesized that under the Information asymmetry view and expected that firms, small in size and young in age should exhibit a higher level of dividend smoothing. Therefore, we expect that large and old firm will smooth less.

H1 Firm size and dividend smoothing are negatively associated in Pakistan.

Javakhadze (2014) expected that firms' small in size, young in age will smooth more but couldn't significant association between dividend smoothing and firm's age. Young firms are also addressed by fewer analysts and grab less attention from the media; keeping in view this scenario, young firms are expected to have high Information asymmetry. The high level of this Information asymmetry will result in high degree of dividend smoothing. Lemmon and Zender (2010) depicted that mature firms (older and larger) will smooth less. Therefore, we propose

H2 Firm's age and dividend smoothing are positively associated in Pakistan.

The supporters of the Information asymmetry theory believes dividend smoothing to be the outcome of signaling efforts. Therefore, dividend smoothing should be more pronounced among the firms who benefit the most from making signals to the market through dividend smoothing (Leary & Michaely, 2011). So, dividend smoothing should be prevalent among the

firms who are small in size, young in age, having fewer growth opportunities and possess less intangible assets (Harris and Raviv 1991). Intangible assets are difficult to be valued for outsiders than tangible assets. Leary (2011) expected dividend smoothing to be more pronounced among firms with fewer tangible assets but couldn't get support via findings. But contrary to it Javakhadze (2014) found results consistent with Information asymmetry theory i.e. firms with more tangible assets smooth least. We expect information asymmetry view of tangibility of assets in the context of dividend smoothing. Hence:

H3 Tangibility and dividend smoothing are negatively associated in Pakistan.

Dividend smoothing is the outcome of agency cost of the firm's free cash flows. According to this views firms having large free cash flows, may be exploited because of the opportunistic behavior of the managers. They have greater probability of overinvestment. By committing the firm to large and frequent payouts (dividend smoothing) will improve agency cost. While on the other hand, it may force the firm to the market for raising external capital which will help to discipline the management (Allen, 2000). Under the agency view dividend smoothing is associated with cash cows; firms with fewer growth opportunities, large in size, old in age, having more institutional owners and operating in weak corporate governance and shareholder rights environment (Leary & Michaely, 2009). Literature has mostly used the market to book ratio, free cash flows and financial slack (cash flows divided by total assets) to address this agency cost of the firm. This study uses free cash flows to address it.

H4 Cash Flow and dividend smoothing are positively associated in Pakistan.

High level of leverage increases the financial constraints and riskiness of cash flows. Hafeez & Javed (2008) reported the negative association of dividends to high leveraged. Mirza & Afza (2011) found that highly leveraged firms in Pakistan are less likely to pay a high level of payouts. Similarly, Al-Yahyaeea (2011) found that Omani firms don't smooth dividends and are willing to cut their dividends, however, their results of low dividend smoothing may not be the outcome of high leverage as they are also highly concentrated.

Firms with low leverage exhibit, low financial constraints but are exposed to higher level of agency cost. Such firms can reduce agency cost by committing to high and stable dividends policy. That is firms with high leverage should exhibit a higher level of dividend smoothing. This policy of high dividend smoothing will not affect firms access to low-cost capital rather will enhance firm's access to such like capital (Leary & Michaely, 2011). They suggested that mature firms will opt for a low level of dividend smoothing along with the low level of leverage.

Considering the fact that dividend smoothing is the outcome of Information asymmetry, firms having financial constraints will be reluctant to announce increases in dividends even subsequent to increase their earnings. Under this view, they will gradually adjust their dividends in the subsequent periods i.e. waiting for the confirmation of its permanency; here dividend smoothing is reflected by frequent small payouts (Leary & Michaely, 2011). According to the author's dividend smoothing should be more pounced among the firms having higher financial constraints and low access to low-cost capital. Therefore we expect:

H5 Leverage and dividend smoothing are positively associated in Pakistan.

Consistent with Information asymmetry theory, firms with high earnings volatility are expected to opt for higher dividend

smoothing. Investors can't predict expected earnings with accuracy for firms with higher earnings and returns volatilities. Therefore; positive association of dividend smoothing and equity risk is expected (Kumar and Lee 2001). Javakhadze (2014) expected a positive relationship between these volatilities and dividend smoothing but found a negative significant relationship in contrast to the Information asymmetry theory. While Leary (2011) expected a positive association between firm equity beta and dividend smoothing but failed to find significant association. They proceeded with the notion that dividend smoothing may be the outcome of the asymmetric risk factors of the firm. This study hypothesizes as

H6 Risk and dividend smoothing are positively associated in Pakistan.

Firms having investors with short horizon smooth more (Guttman, Kadan, & Kandel, 2010). Higher information asymmetry between insiders and outsiders exists if the shares of a company are changing hands, which leads to higher dividend smoothing. In such situation, investors demand stable dividends. Investor horizon may be measured with the inverse of stock turnover or with the level of institutional investment in the firms. If a firm is having high stock turnover, it means that investors holding period is short. Similarly, institutional investors are usually long-term investors and are not selling shares frequently. Javakhadze (2014) used stock turnover as a proxy of investors horizon and expected negative association of dividend smoothing with investors horizon but didn't found any significant relationship. Leary (2011) also found that firms with investors with long investment horizon smooth less. Based on this we expect:

H7 Investor's horizon and dividend smoothing are negatively associated in Pakistan.

4 METHODOLOGY

4.1 Sample

The sample of the study comprising of all listed non-financial firms on Pakistan Stock Exchange for the period 2005-15. While the data on EPS (Earnings per share) and DPS (Dividend per share) were used for the period 1999-2015. EPS and DPS data for calculating firm's SOA & relative volatility are acquired from balance sheet analysis of State Bank of Pakistan (SBP). Similarly data on other financial items were also extracted from BSA of SBP(State Bank of Pakistan). While data on firm's measure of risk (Beta) is collected from opendoors.pk.

We have computed the measures of dividend smoothing (both SOA and Relative Volatility). We have excluded those firms who have never paid a dividend during this period. Similarly, firms that have not paid dividends for three consecutive years were also excluded. Only those firms were retained for the sample which was having data five or more years, resultantly 255 non-financial listed firms at Karachi stock exchange (KSE) were retained in the sample which are classified in 12 industries.

4.2 Measures of Dividend Smoothing

Following Leary & Michaely (2011), two measures of dividend smoothing are used in the article i.e. speed of adjustment (SOA) and relative volatility (Re_Vol).

Speed of Adjustment (SOA)

We have followed (Fama, Babiak 1968) for measuring speed of adjustment (SOA), which is a modified form of (Lintner 1956) partial adjustment model. Given by:

$$\Delta DPS_{it} = \beta_{i,1} + \beta_{i,2} EPS_{it} + \beta_{i,3} DPS_{i,t-1} + \varepsilon_{it} \quad (1)$$

Where $\beta_{i,1}$ is the intercept, which is expected to be positive i.e. shows managers reluctance to cut dividend while ε_{it} represents

error term. Speed of adjustment (SOA) is given by $\beta_{i,3}$, conceptually ranges between 0 and 1. As SOA approaches 1, level of dividend smoothing lowers and as SOA approaches zero, reflects higher level of dividend smoothing.

Relative volatility (Rel_Vol)

Dividend smoothing is the relative volatility of dividends to the corresponding earnings (Leary & Michaely, 2011). Scaled earnings are used for the following regression. Following Leary and Michaely (2011) quadratic time trend is fitted to both dividend per share and scaled earnings. Where TPR is target dividend.

$$DPS_{it} = \beta_0 + \beta_1 t + \beta_2 t^2 + U_{it} \quad (2)$$

$$TPR_i \times EPS_{it} = \beta_0 + \beta_1 t + \beta_2 t^2 + V_{it} \quad (3)$$

Equation (2) and (3) were estimated for each firm and then their relative volatility (second measure of dividend smoothing) was measured from the standard deviations of, given by

Relative volatility = $\sigma(U_{i,t}) / \sigma(V_{i,t})$

Both of these variables (SOA & Rel_Vol) are treated as dependent variables in the study. Higher value of these variables, reflect lower level of dividend smoothing.

4.3 Econometric methodology

Theoretically SOA ranges from zero to one i.e. $0 \leq SOA \leq 1$ (Leary, Michaely 2011). SOA approaching zero, reflects higher level of dividend smoothing while SOA of one reflects that dividends move independent of previous dividends. Any value of $SOA > 1$, will be right censored at one while $SOA < 0$, will be left censored at zero. Ultimately there will be two mass points at 0 and 1. Keeping the nature of the dependent variable (SOA) in view, OLS is not appropriate methodology for analyzing dividend smoothing. The appropriate methodology here will be, censored regression introduced by (Tobin 1958). We have

followed (Leary, Michaely 2011) by using tobit model for dividend smoothing.

Following Jinho Jeong (2013) model, this study will find determinants of dividend smoothing by employing panel data of listed non-financial firms of Pakistan.

$$SOA = \beta_0 + \beta_1 \text{Size} + \beta_2 \text{History} + \beta_3 \text{Beta} + \beta_4 \text{Leverage} + \beta_5 \text{Tangibility} + \beta_6 \text{Cash} + \epsilon_{it} \quad (4)$$

$$\text{Rel_Vol} = \beta_0 + \beta_1 \text{Size} + \beta_2 \text{History} + \beta_3 \text{Beta} + \beta_4 \text{Leverage} + \beta_5 \text{Tangibility} + \beta_6 \text{Cash} + \epsilon_{it} \quad (5)$$

4.4 Variables

Table 1 displays the list of the dependent and independent variables used in the study along with their expected signs and description.

Table 1 Variables of the study

| Variable | Nature | Exp Sign | Description |
|-------------------------------|-------------|----------|--|
| Speed of Adjustment (SOA) | Dependent | | Via equation (1) |
| Relative Volatility (Rel_Vol) | Dependent | | Via equation (2 & 3) |
| Size | Independent | Positive | Natural logarithm of total assets. |
| Age(History) | Independent | Negative | The number of years listed on the KSE. |
| Risk | Independent | Positive | Firm's beta at the year-end |
| Leverage | Independent | Negative | Total debt divided by total assets of the firm |
| Tangibility | Independent | Negative | Tangible Assets divided by total assets |
| Cash | Independent | Positive | Operating cash flows |

Source: Author's calculation

5 RESULTS AND DISCUSSION

5.1 Descriptive Statistics

Table 2 displays descriptive statistics of speed of adjustment (SOA) and Relative Volatility along with independent variables of the study. We have measured speed of adjustment (SOA) with the help of Lintner (1956), modified by (Fama, Babiak 1968). Similarly relative volatility as the alternative measure of

dividend smoothing was calculated for each firm-year observation. The mean value for SOA and relative volatility were 0.488 and 1.442 consecutively. SOA is ranging from -.89 to 2.27 with a standard deviation of .52 for sample firms over the sample period 2005-15, while relative volatility was ranging from .006 to 11.2 with a standard deviation of 1.88.

Size, cash flow, leverage, tangibility, beta, age of the firm and stock turnover are used as determinants in the study. Size of the firm is computed as log of total assets of the firm while age is the log of number of years since incorporation. Size of the firm is having mean value of 15.05 while the average age of the firm for the sample is 3.43. Both of these variables will reflect the level of information asymmetry. Tangibility another measure for the information asymmetry is used as a control. Tangibility is calculated as the ratio of fixed assets to total assets. The average tangibility for the sample is 0.4946 ranging from 0.00019 to 0.989 with a standard deviation of 20.09.

Leverage as a measure of financial constraints is used as control measured by the total debt divided by the total assets. It has mean value of 0.575 for the sample with a minimum of 0.007 and maximum of 1.99. Stock's beta (a measure of systematic risk) is used as a control, having mean value of 0.495. Log of cash flow from operation is used as slack for reflecting financial constraints, its mean value 0.068 while ranging from -0.75 to 0.742. In order to control for investor horizon, I have used log of stock turnover as control, where turnover is calculated as log of 12-months average turnover. The higher the stock turnover, the shorter will be investor's horizon. Its mean value is 11.95 while it ranges from a minimum of -0.287 to maximum of 21.13 with the standard deviation of 3.008.

Table 2 Descriptive Statistics

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|---------------------|-------|----------|-----------|-----------|----------|
| SOA | 2,624 | .4886754 | .5195952 | -.8915795 | 2.268594 |
| Relative-Volatility | 2,704 | 1.442002 | 1.880919 | .0062984 | 11.20815 |
| Independents | | | | | |
| Size | 2,503 | 15.05232 | 1.57017 | 9.180499 | 20.1323 |
| Age | 2,450 | 3.436565 | .487628 | 1.386294 | 5.030438 |
| Tangibility | 2,503 | .4946621 | .209869 | .0001973 | .9892137 |
| Leverage | 2,490 | .5748821 | .2383852 | .0072174 | 1.997226 |
| Beta | 2,679 | .4951887 | .5516709 | -2.658837 | 6.898651 |
| Cash flow | 2,378 | .0686826 | .1229446 | -.7544342 | .7424878 |
| Turnover | 2,456 | 11.95753 | 3.008413 | -.2876821 | 21.12992 |

Source: Author's calculation

5.2 Correlation Analysis

Table 3 shows pairwise Pearson correlation among dividend smoothing (speed of adjustment and relative volatility) and firm's financial characteristics which are also used in the forthcoming sections of the dissertation. The independent variables of the regression are firm's size, firm's age since its incorporation, proportionate tangible assets, cash flows, leverage, stock's beta and stocks turnover.

Table 3: Pearson Correlation Matrix

| | SOA | Rel_Vol | Size | Age | Tangibility | Cash flow | Leverage | Beta | Turnover |
|-------------|-----------|-----------|-----------|-----------|-------------|-----------|------------|----------|----------|
| SO A | 1 | | | | | | | | |
| Rel_Vol | 0.311*** | 1 | | | | | | | |
| Size | 0.0288** | 0.0254* | 1 | | | | | | |
| Age | -0.0692** | -0.110*** | 0.0434* | 1 | | | | | |
| Tangibility | 0.0309 | -0.0735* | 0.0780*** | -0.107*** | 1 | | | | |
| Cash flow | 0.0667** | 0.107*** | 0.0834*** | -0.0400 | 0.0489* | 1 | | | |
| Leverage | -0.0710* | -0.107*** | -0.0191 | -0.133*** | -0.0108 | -0.231*** | 1 | | |
| Beta | -0.0163 | -0.0226 | 0.354*** | -0.0681** | 0.0831*** | 0.0317 | 0.0407 | 1 | |
| Turnover | -0.0471* | -0.0188* | 0.594*** | -0.160*** | 0.0707** | 0.124*** | -0.0734*** | 0.642*** | 1 |

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

The first two columns of table 3 show that all independent variables, except stock's beta have significant relationship with dividend smoothing. Size of the firm is positively associated with both measures of dividend smoothing. It has significant relationship ($P < .01$) of 0.0288 and 0.0254 with SOA and relative volatility consecutively. This is consistent with information asymmetry theory. As small firms are less followed by analyst, get less media coverage, resultantly faces high information asymmetry. This high information asymmetry is countered by

the stream of smooth dividends. Our result is in line to the findings of (Javakhadze et al., 2014). But our next variable age of the firm is negatively associated with both measures of dividend smoothing. It means that old firms smooth more than young one in Pakistan, which is not consistent with information asymmetry theory. This result is consistent with agency view of dividend smoothing as old firms are more capable of generating high cash flows, resultantly will be exposed to severe agency conflict and ultimately they smooth more.

The first two columns of the table shows that both dividend smoothing measures are positively associated with cash flows of the firm which is consistent with agency theory and in line to the results of the (Leary & Michaely, 2011). Firms having high cash flows are exposed the higher agency cost because of the opportunistic behavior of the managers who may invest them in negative NPV projects.

Leverage is associated negatively with both measures of dividend smoothing. This is consistent with information asymmetry theory, which considers informational symmetry to be the outcome of the financial constraints of the firm and where dividend smoothing is associated with low dividends level. Turnover of the stocks is negatively associated with SOA and relative volatility. Which is consistent to information asymmetry theory and results are in line with (Leary & Michaely, 2011). Firms having high turnover, are owned by investors with short investment horizon, ultimately face high information asymmetry which is substituted by high level of dividend smoothing. table 3 doesn't revealed significant association of tangibility and stocks beta with dividend smoothing. Further table 3 reveals that independents of the regression are having tolerable level of multicollinearity, which is also confirmed through variance inflation factors after regressing the forthcoming regression which were well below VIF 3, thus suggesting that the coefficients of the regression will not be affected by multicollinearity (Hassan, 2014) .

5.3 Firm's characteristics regression

Table 4 depicts results of the multivariate regression for the complete sample while using firms' financial characteristics as independents. Column 1 and 2 are the results while using speed of adjustment as dependent and have used Tobit techniques, where column 1 is without controlling for industry fixed effect while the author has controlled for the industry fixed effect. While column 3 and 4 are estimated while using relative volatility as dependent variable and have controlled the industry fixed effect in the last column.

Size of the firm has throughout positive and significant coefficients from column 1 through column 4 suggesting that firms with large size smooth less. This is consistent with the signaling theory of dividends and information asymmetry theory of dividend smoothing. Smaller firms get less attention of the media and are less known to investors (Jeong 2013 & Javakhadze et al., 2014). And in the same line are the results in Pakistan.

The results for the age of the firm have consistently negative sign throughout the four columns. It suggests that the old firms in Pakistan smooth more than relatively new firms. This result is not consistent with the information asymmetry theory of dividend smoothing rather the result can be explained can be efficiently interpreted by the agency theory. As older firms are relatively more

Table 4: Firm financial characteristics and dividend smoothing

| VARIABLES | (1) SOA | (2) SOA | (3) Rel_Vol | (4) Rel_Vol |
|-------------|------------------------|------------------------|-----------------------|-----------------------|
| Size | 0.0178* (0.00931) | 0.0382*** (0.00965) | 0.0776** (0.0310) | 0.118*** (0.0315) |
| Age | -0.0797*** (0.0256) | -0.0929*** (0.0269) | -0.631*** (0.0831) | -0.788*** (0.0857) |
| Tangibility | -0.0219 (0.0562) | -0.0236 (0.0661) | -0.795*** (0.186) | -0.169 (0.214) |
| Cash Flow | 0.199** (0.100) | 0.182* (0.0996) | 1.186*** (0.331) | 1.150*** (0.323) |
| Leverage | -0.272*** (0.0542) | -0.228*** (0.0562) | -0.921*** (0.176) | -0.847*** (0.178) |
| Beta | -0.104*** (0.0293) | -0.0890*** (0.0290) | -0.0588 (0.0940) | -0.104 (0.0911) |

Zahid Ali, Shuaib Ali, Nadia Hidayat- **Determinants of Dividend Smoothing: Evidence from Pakistan**

| | | | | |
|----------------|------------------------|------------------------|-----------------------|------------------------|
| Turnover | -0.0581*** (0.0222) | -0.0720*** (0.0227) | -0.0502** (0.0204) | -0.0874*** (0.0210) |
| Constant | 0.531*** (0.151) | 0.391** (0.161) | 3.795*** (0.499) | 4.054*** (0.521) |
| Observations | 2,059 | 2,059 | 2,115 | 2,115 |
| R-squared | | | 0.050 | 0.124 |
| F-Stat | | | 15.94 | 16.52 |
| Prob. > F | | | 0.0000 | 0.0000 |
| Left-censored | 387 | 387 | | |
| Right-censored | 283 | 283 | | |
| LR chi2 | 65.99 | 146.22 | | |
| Prob. > chi2 | 0.0000 | 0.0000 | | |
| Pseudo R2 | 0.0189 | 0.0418 | | |
| Log likelihood | -1715.2289 | -1675.1093 | | |
| Industry FE | No | Yes | No | Yes |

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

capable of generating large cash flows and have higher probability of being cash cows (Leary & Michaely, 2011), therefore they are exposed to higher level of agency conflict and subsequently are smoothing more than young firms. This result is in line with (Leary & Michaely, 2011). The coefficient for tangibility is negative and not significant. It depicts that firms with more tangible assets smooth more, which is not consistent with information asymmetry theory, as tangible assets are easier to be valued by the outsiders as compared to intangible assets and growth opportunities (Leary & Michaely, 2011).

The coefficient for the cash flows is positive and significant; depicting that lower level of dividend smoothing is associated with high cash flows, which is not consistent with the agency theory. This result is parallel to the result of Javakhadze (2014). Small cash flows are associated with high level of dividend smoothing firms based on both SOA and relative volatility regressions and the results are significant in both cases. This is consistent to financial constraints view of dividend smoothing, where high dividend smoothing is associated with low dividends. Therefore firms having low cash flows are reluctant to announce increase in dividends because of the precautionary motives. Remember that here high dividend smoothing is associated with low and stable dividends. Similarly leverage is associated negatively with both measures

of dividend smoothing. Depicting that high leverage is associated with high level of dividend smoothing. This is consistent with information asymmetry theory, which considers informational symmetry to be the outcome of the financial constraints of the firm and where dividend smoothing is associated with low dividends level. Therefore firms having high leverage tend to follow low and steady dividends. This result is in line to that of Leary (2011).

Firm earnings volatility measure stocks beta, is negatively associated with both measures of dividend smoothing in table 4. It suggests that firms having higher stocks beta, are smoothing more. All the four columns of the above table reveal positive association of dividend smoothing with stocks beta. This result is consistent with information asymmetry theory. The higher the firms, the greater is uncertainty about its future return and ultimately greater will be the information asymmetry between insiders and outsiders; therefore this higher information asymmetry is substituted by higher level of dividend smoothing. Leary (2011) also found similar results regarding stocks beta.

Table 4 reveals that turnover of the socks is negatively associated with SOA and relative volatility. The result is consistent along all four models of the table 4, which suggests that firms having high stock turnover, are owned by investors with short investment horizon, ultimately face high information asymmetry which is substituted by high level of dividend smoothing. Which is consistent to information asymmetry theory and results are in line with (Leary & Michaely, 2011).

Over all the results of of table 4 depicts that dividend smoothing in Pakistan is affected by the Size of the firm, its age, the cash flows they are generating, its leverage level, by its stocks beta and the by the amount of its shares traded in stock exchange. It suggests that small firms with low cash flows and high leverage firms smooth more. Similarly old firms with more tangible assets and high stocks beta smooth more their

dividends. Beside that firms whose investors are having long investment horizon, opt for low level of dividend smoothing. our results are explainable by the theories of dividend smoothing.

6 CONCLUSION

The study found that firms small in size, with low cash flows and are highly leveraged, smooth their dividends most in Pakistan. These results are consistent with information asymmetry theory of dividend smoothing. The univariate analysis also depicts that firms with high beta, older in age and with high stock turnovers turnover smooth more in Pakistan, which is consistent with agency theory.

It suggests that small firms with low cash flows and high leverage firms smooth more. Similarly old firms with more tangible assets and high stocks beta smooth more their dividends. It suggests that firms whose investors are having long investment horizon, opt for a low level of dividend smoothing. These results are explainable by the theories of dividend smoothing. Similarly, leverage is associated negatively with both measures of dividend smoothing. Depicting that high leverage is associated with high level of dividend smoothing. This is consistent with information asymmetry theory, which considers informational symmetry to be the outcome of the financial constraints of the firm and where dividend smoothing is associated with low dividends level. Therefore, firms having high leverage, tend to follow low and steady dividends.

The study concludes that dividend smoothing in Pakistan is affected by the size of the firm, its age, the cash flows they are generating, its leverage level, by its stocks beta and the by the number of its shares traded in stock exchange. It suggests that small firms with low cash flows and high leverage firms smooth more which is consistent with the information asymmetry theory. Similarly, old firms with more tangible

assets smooth more in Pakistan as these firms have high free cash flows, therefore smooth dividends by these firms mitigate agency conflict. Firms with high stocks betas and whose investors are having short investment horizon, smooth more their dividends. However, the study has employed data from a single country, therefore the results could be generalized to other developing countries with causations only keeping in view the difference in legal and culture under consideration.

References

1. Afza, T., & Mirza, H. H. (2011). Do mature companies pay more dividends? Evidence from Pakistani stock market
2. Ahmed, H., & Javid, A. Y. (2008). The determinants of dividend policy in Pakistan.
3. Allen, F., Bernardo, A.E., Welch, I.: A theory of dividends based on tax clienteles. *The Journal of Finance* 55(6), 2499-2536 (2000)
4. Allen, F., Michaely, R., 2003. Payout Policy, North-Holland Handbook of Economics. In: Constantinides, George, Harris, Milton, Stulz, Rene (Eds.), 337–429.
5. Al-Malkawi, H.-A.N., Bhatti, M.I., Magableh, S.I.: On the dividend smoothing, signaling and the global financial crisis. *Economic Modelling* 42, 159-165 (2014)
6. Al-Yahyaee, K., Pham, T., & Walter, T. S. (2011). Dividend smoothing when firms distribute most of their earnings as dividends. *Applied Financial Economics*, 21(16), 1175-1183.
7. Black, F. (1976). The dividend puzzle. *Journal of portfolio management*, 2(2), 5-8.
8. Brav, A., Graham, J.R., Harvey, C.R., Michaely, R.: Payout policy in the 21st century. *Journal of financial economics* 77(3), 483-527 (2005)

9. Brealey, R.A., Myers, S.C. and Allen, F. (2005) *Corporate Finance: 8th Edition*. New York: McGraw-Hill Irwin.
10. Chemmanur, T.J., He, J., Gang, H., Liu, H., 2010. Is dividend smoothing universal? New insights from a comparative study of dividend policies in Hong Kong and the U.S. *J. Corp. Financ.* 16, 413–430.
11. Fama, E.F., Blasi, M.: Dividend policy: An empirical analysis. *Journal of the American statistical Association* 63(324), 1132-1161 (1968)
12. Glen, J., Y. Karmokolias, R. Miller, and S. Shah, 1995, *Dividend Policy and Behavior in Emerging Markets*, IFC Discussion Paper No. 26, www.ifc.org
13. Gordon, M.J.: Optimal investment and financing policy. *The Journal of finance* 18(2), 264-272 (1963)
14. Guttman, I., Kadan, O., & Kandel, E. (2010). Dividend stickiness and strategic pooling. *Review of Financial Studies*, 23(12), 4455-4495
15. Harris, M., & Raviv, A. (1991). The theory of capital structure. *the Journal of Finance*, 46(1), 297-355.
16. Javakhadze, D., Ferris, S.P., Sen, N.: An international analysis of dividend smoothing. *Journal of Corporate Finance* 29, 200-220 (2014)
17. Jensen, M.C.: Agency costs of free cash flow, corporate finance, and takeovers. *The American economic review* 76(2), 323-329 (1986)
18. Jeong, J.: An investigation of dynamic dividend behavior in Korea. *The International Business & Economics Research Journal* 10(6), 21 (2011)
19. Jinho Jeong, 2013. Determinants of dividend smoothing in emerging market: The case of Korea. *Emerging Markets Review* 17 (2013) 76–88
20. John, K., & Williams, J. (1985). Dividends, dilution, and taxes: A signalling equilibrium. *the Journal of Finance*, 40(4), 1053-1070.

21. Kumar, P., & Lee, B.-S. (2001). Discrete dividend policy with permanent earnings. *Financial Management*, 55-76.
22. Kumar, P., & Lee, B.-S. (2001). Discrete dividend policy with permanent earnings. *Financial Management*, 55-76.
23. Leary, M. and Michaely, R. (2009), "Why firms smooth dividends: empirical Evidence", working paper, Cornell University, Ithaca, NY
24. Leary, M.T., Michaely, R.: Determinants of dividend smoothing: Empirical evidence. *Review of Financial studies* 24(10), 3197-3249 (2011a)
25. Leary, M.T., Michaely, R.: Determinants of dividend smoothing: Empirical evidence. *The Review of Financial Studies* 24(10), 3197-3249 (2011b)
26. Lemmon, M. L., & Zender, J. F. (2010). Debt capacity and tests of capital structure theories. *Journal of Financial and Quantitative Analysis*, 45(5), 1161-1187.
27. Lintner, J.: Distribution of incomes of corporations among dividends, retained earnings, and taxes. *The American Economic Review* 46(2), 97-113 (1956)
28. Litzenberger, R. H., & Ramaswamy, K. (1982). The Effects of Dividends on Common Stock Prices Tax Effects or Information Effects? *The Journal of Finance*, 37(2), 429-443.
29. M. T., & Michaely, R. (2011). Determinants of dividend smoothing: Empirical evidence. *Review of Financial studies*, 24(10), 3197-3249.
30. Omar, N., & Rizuan, S. (2014). Financial deceitful trick through dividend smoothing. *Procedia-Social and Behavioral Sciences*, 145, 300-307.
31. Tobin, J. (1958). Estimation of relationships for limited dependent variables. *Econometrica: journal of the Econometric Society*, 24-36.