What Drives the Payout Policy? Evidence from Sri Lanka: A Dynamic Panel Data Analysis

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Abstract:-

The study investigates payout policy of firms listed in the Colombo Stock Exchange. Balanced panel data of 82 firms for years are used, from 2006 to 2010. The study employs Generalized Method of Moments estimator, Dynamic Panel Data analysis. The results indicate a significant negative influence of lagged dividend on the payout behavior of firms. The firms do not pay dividends according to a target payout ratio; use dividends as a signaling device and mollify the market. Level of earnings negatively related to the probability of a dividend distribution; the dividend payments do not reflect the earnings volatility. The financial leverage is insignificant in explaining payout, and the size of the firm has no control over payout policy. Institutional shareholding is a key determinant, affects positively on payout. Results also indicate a negative relationship between dividends and Managerial ownership. The powerful principals are able to impose the firm for desired payout. These findings are consistent with agency models in which dividends reduce the problems associated with information asymmetry.

***Keywords*:-** Dividends, Dynamic Panel Data, Sri Lanka

1. Introduction

Retained earnings are a major source of finance for a firm. Earnings retained and the Dividends paid are the two slices of the same pizza. High (low) payout means a low (high) retention ratio. Those firms seek new capital from the market, distribute earnings largely. Others rely on retain earnings. According to Gunathilaka (2009) Sri Lankan firms rely largely on retained earnings; retained more than 70% of their earnings over five years 2001-2005. Table 01 indicates dividend payment pattern of Sri Lankan companies in recent years; the firms have retained about 60%-70% of their earnings.

Table 1: Payout of Sri Lankan Firms (Percent of Earnings)

	2006	*2007*	*2008*	*2009*	*2010*
Mean	*31*	*40*	*42*	*33*	*29*
SD	*76*	*54*	*79*	*80*	*75*
# Firms	*82*	*82*	*82*	*82*	*82*

The table shows the statistics of dividends paid by firms in the sample as a % of their earnings.

Dividends are irrelevant, and they have no influence on the share price (Miller and Modgliani, 1961). If there is no influence, a firm can essentially avoid distributing cash (or at least defer payouts for a very long time). But it has not been the practice of Sri Lankan firms; some of the companies distribute entire earnings while some retain the entirety. Sri Lankan firms have no constant dividend payments; successive dividends show a negative relationship (Gunathilaka, 2009). The firms use dividend as a signaling device and maintain the market. Does it mean a manipulation of the market or represent an outcome of the concentrated ownership?

Determinants

Shareholder desire dividend and managers pay or increase dividends to mollify investors (Frankfurter and Lane, 1992). DeAngelo and Skinner, (1992) documented that the current income remains a critical determinant of corporate dividend policy and regulatory constraints, investment magnitude, debt and firm size also affect dividend policy. Managerial views of dividend policy are essentially unchanged number of decades; dividends are paid because shareholders expect continued dividend growth. Managers believe that dividend payments are necessary to maintain

share price and to attract new investors. Glen (1995) found that dividend policies in emerging markets differed from those in developed markets significantly. They reported that dividend payout ratios in developing countries were only about two thirds that of developed countries and low dividend yields exist in emerging markets. Generally speaking, firms in emerging capital markets face more financial constraints, which may result in more reliance on retained earnings and accordingly result in lower payout ratios. In countries like Sri Lanka equity of companies are not widely held. Mitton (2005) showed that firms with better corporate governance pay higher dividends in emerging markets. La Porta et al. (1999) found that in countries with better shareholder protection, firms pay more dividends. According to Marc G, Renneboog and Luis (2004), firms gradually adjust dividends in response to changes in earnings. Managers change dividends primarily in response to unanticipated and non-transitory changes in their firm's earnings, and they have reasonably well-defined policies in terms of the speed with which they adjust dividends towards a long run target payout ratio.

Ownership

According to Klaus (2002), dividends signal the severity of the conflict between large- controlling and small-outside shareholders. Darren Henry (2005) found a significant negative relationship between director ownership and dividend payouts and non-linear relationship between institutional ownership and dividend payout ratios. Karathanasis and Chryshanthopoulou (1999) found inverse relationships between (1) institutional portfolios and the dividend change and (2) managerial ownership and the dividend change. In contrast, Eckbo and Verma (1994) found the dividend policy and institutional ownership are positively correlated. Short (2002) found that the UK firms' payout is positively correlated to institutional ownership while negatively correlated to managerial ownership. According to George (2000), managerial share ownership furnishes incentives to increase payouts in companies with severe agency problems.

Table 2: Sample characteristics

% of issued equity capital

Panel A: owned by Managers					
	2006	2007	2008	2009	2010
Mean	7.61	7.63	7.81	8.27	8.13
Std. D	15.53	15.53	15.69	16.32	16.14
Min.	0	0	0	0	0
Max.	65.45	67.71	66.62	66.62	66.66
Panel B: owned by Institutional Investors					
Mean	21.32	22.73	22.8	22.55	24.18
Std. D	19.06	19.92	19.61	19.79	20.59
Min.	0	0	0	0	0.96
Max.	85.65	89.2	86.9	89.7	90.82

The table depicts the statistics of share holdings by Managers and Institutional Investors.

Managers of Sri Lankan firms own about 5 to 10 percent of issued share capital of their firm. (See table 2). Institutional shareholding is about 20 to 25 percent of issued share capital of the firms. Hence, studying the dividend policy with ownership variables is much motivated. The focus of this study is to examine the dividend behavior of the Sri Lankan listed firms, in particular, examine the speed of adjustment of dividends to earnings, lagged dividends, leverage and ownership characteristics. This study provides evidence that the listed firms follow less stable dividend policies and their dividend payments are significantly affected by lagged dividends, profits, leverage and the ownership characteristics.

2. Related Evidence

According to Brealey and Myers (2003) Gordon's findings in 1959 has been a debate over number of years. Gorden proposed that the shareholder value of a firm is reflected by market value of its equity. Jensen (1993) and Eckbo *et. al*. (1994) suggest that managers will tend to reduce the payment of cash dividends in order to avoid the external market discipline. The value of a common stock is therefore, a function of its future cash flows. Harold and Villalonga (2002) find no relation between ownership structure and firm performance. Faccico and Lasfer (2000) find firms with high levels of pension fund ownership are not likely to be more efficient or to pay higher dividends than industry counterparts.

Irrelevancy: Irrelevance theory is viewed as began in 1961 with the pioneering paper of Modigliani and Miller demonstrating that the market value of a firm is independent of its dividend policy. The value of the firm

is determined solely by its earning power and investment decisions, which are independent of dividend policy.

Clientele effect : The investor evaluates the dividend payment patterns of stocks before the investment. if dividend income is taxed in the investor's hand at a higher rate than capital gains, investors (or clienteles) in high tax brackets may prefer non-dividend or low-dividend paying stocks. DeAngelo and Skinner (2002) find that dividends are highly concentrated among a small number of firms; the strong dividend concentration poses a challenge for clientele theories.

Signaling Hypothesis : Dividends contain private information and therefore, can be used as a signalling device to influence share price(Bhattacharya, 1979). According to DeAngelo *et al* (2002), signalling is not a first order determinant of corporate dividend policy. Abeydheera (2001), states that the dividend levels are determined using future opportunities available and earnings expectations in Sri Lanka. According to Shleifer (1986), when there are large shareholders, it creates incentives for them to monitor the firm's management. According to Trojanowski, (2005), the presence of strong block holders or block holder coalitions weakens the relationship between the corporate earnings and the payout dynamics. Kimie Harada, (2006) states that, firms with high ownership concentration tend to pay lower dividends both in proportion of operating earnings and in proportion of book value of equity.

Grinstein and Michaely (2005) find that the preference of institutional investors is for low dividend paying companies; institutions prefer dividend-paying firms to non-dividend-paying firms, but within dividend paying firms, they prefer lower rather than higher.

Jayesh Kumar (2005) concluded that the corporate ownership does not influence the dividend uniformly. They find different results at different time periods and across firms too. According to Samarakoon (1999) and Senaratne et al (2007) ownership is highly concentrated and most of the times, companies have a controlling shareholder in Sri Lanka.

Abeydheera (2001) found that the main factors influencing dividend policies of Sri Lankan companies are profitability, investment opportunity availability,

financing choices, lagged dividends and the liquidity position of the firm.

3. Econometric Methodology

Variables

The discussion in the section 2 suggests that the dividend payment is affected by the firm's Capital Structure, Current Earnings and Ownership Characteristics. Hence, the key variables included in the model are the annual Dividends (the dependent variable) of the companies, Net Earnings, Financial Leverage, Institutional investors' shareholding and Managerial shareholding. The size impact is controlled by annual Sales volume of the firm. Managerial ownership is proxied by the percent of directors' shareholdings as used by number of authors including Karathanassis et al (2003). (see appendix for the definitions of variables) The dividends do not include stock dividend or other forms of capitalization of profits but include the cash dividend amount paid out of the earnings of a particular financial year of a firm.

GMM Estimator

Panel data, a combination of cross sectional and time series data, is widely used to estimate econometric models (Stephen, 2002). The study uses 82 cross-sectional observations (the firms) in the sample; the time series dimension pertains to periodic observations of the variables over the period 2006 to 2010. The panel is a balanced panel of five years data, the lagged variables are used in the model since the ownership characteristics affect the other variables in the succeeding period. Hence, the data set consist of 4 years balanced panel, results in two effective periods as the model difference data in dynamic analysis. Empirical work on dividend policy can potentially suffer from two sources of inconsistency: omitted variable and endogeneity biases (Samy B, and Mohamed G, 2003). Hence, the Generalized Method of Moments (GMM) estimator which corrects for both of these biases is used in the study. If there is autocorrelation from one temporal period to another, it is possible to analyze the "differences in differences" of these observations, using the first or last as a baseline (Wooldridge, 2002). GMM with instrumental variables circumvent problems with correlations of errors.

The lagged variables of Dividends, Profit, Leverage and Sales are the specified instrumental variables in

dynamic panel data analysis. GMM with these instruments and larger orders of moments are used to obtain additional efficiency gains. For dynamic panels with lagged dependent variables, Arellano, Bond, and Bover have used general methods of moments, which are asymptotically normal (Wooldridge, 2002) The estimated model takes the following econometric interpretation.

$$D_{it} = \alpha + \beta P_{it} + \gamma S_{it} + \emptyset LEV_{it} + \theta O_{it-1} + U_{it}$$

$$U_{it} = V_{it} + \varepsilon_{it}$$

Where,

D_{it} is the gross dividends of firm *i* and at time *t*; P_{it} is the profit after tax; S_{it} is the sales; LEV_{it} is the financial leverage and O_{it-1} is the relevant ownership variable measured at the end of the preceding year. U_{it} is the composite error, where V_{it} is the idiosyncratic-the firm specific-shock. ε_{it} is the unobserved firm specific effect.

In controlling the size effect, the heteroskedasticity is allowed by specifying the composite error to be an increasing function of sales; and the variable in the model all are scaled by sales. The model estimated using dynamic panel data wizard in E-views6 software is as follows.

$$\left(\frac{D}{S}\right)_{it} = \delta\left(\frac{D}{S}\right)_{it-1} + \beta\left(\frac{P}{S}\right)_{it} - \delta\beta\left(\frac{P}{S}\right)_{it-1} + \emptyset\left(\frac{LEV}{S}\right)_{it} - \delta\emptyset\left(\frac{LEV}{S}\right)_{it-1} + \alpha\left(\frac{1}{S}\right)_{it} - \delta\alpha\left(\frac{1}{S}\right)_{it-1} + \theta\left(\frac{M}{S}\right)_{it-1} - \delta\theta\left(\frac{M}{S}\right)_{it-2} + \vartheta\left(\frac{I}{S}\right)_{it-1} - \delta\vartheta\left(\frac{I}{S}\right)_{it-2} + V_{it} + \varepsilon_{it}$$

Where, M_{it} is the Managerial shareholding of firm *i* at time *t*, and I_{it} is the Institutional shareholding. The study aims at estimating the coefficients δ, β, $\emptyset$, α, Θ and ϑ.

The consistency of the GMM estimator depends on the validity of both the instruments and the assumption that the error terms do not exhibit serial correlation. To address this, the Sargan test of over-identifying restrictions which tests the overall validity of the instruments by analyzing the sample analog of the moments conditions used in the estimation process (see: Hansen, 1982).

The Sample

The firms excluded in selecting the sample were (1) those listed during the sample period (2) those in the default board[1] for two or more consecutive

[1] majority of these companies are

years (non-availability of data) and (3) firms in Bank, Finance and Insurance and construction sectors due to their distinct operations and financial reporting practices. Firms were selected randomly based on the probability proportionate sampling. The data were obtained from the annual reports published by firms.

The variables have been tested using Augmented Dickey-Fuller (1979) test for unit root (individual unit root process) and found to be of stationary. The table 3 gives the descriptive statistics of the sample.

Table 3: Descriptive statistics

Variable	Sales Rs. Mn	NP Rs. Mn	Dividends Rs. Mn
Mean	3,915	326	163
StDev	9,033	1,220	476
Median	840	63	15

The table shows descriptive statistics of Sales, Net Profits and Dividends of the sample firms for the balanced panel over the period 2006-2010

4. Results

The mean level of director shareholdings observed to be 7.97% of the issued share capital over the five year period and across the sample, while that of institutional investors' observed at 23.3%. Institutional shareholders had more than 25% of issued share capital in 142 observations over five year period and across the sample of 82 firms; it was 212 instances that held between 1% to 25%; and 42 instances between 0.25% - 1%. Only 11 firms in the sample, observed with directors shareholding more than 25%. It is observed that the institutional shareholding is significantly higher than the individual shareholding. This observation is consistent with the prior research in Sri Lanka, (Gunathilaka, 2009). The directors' shareholding is fairly low and stable throughout the sample period. This also confirms the findings of Gunathilaka (2009). The public shareholdings were greater than 50% only in 4 firms out of 82 in the sample (about 5%). Majority of the issued share capital is held by block holders: Parent company, Directors and Institutional shareholders. Companies are not widely held, this confirms the studies of Senaratne et.al (2008) and Gunathilaka (2009) who indicate an ownership concentration in Sri Lankan firms.

categorized under default board due to non – submission of financial reports

The mean dividend payout of companies in the sample was between 29% -42% over five years. The companies retain large amount of earnings.

The estimation was carried out in steps, inserting variables one by one and finally all the variables (see appendix for estimation results). The GMM estimator results indicate that the lagged dividend (Dt-1) is a key determinant of dividend and the relationship between successive dividends is negative. This result is the same for all stepwise estimates. This suggests that there is no target payout ratio or growth in dividends paid by the firms. Instead, the firms maintain shareholder and market expectations by changing dividends annually. The firms do not pay dividends according to a target payout ratio; but mollify the market. This raise the doubt on application of constant dividend models for asset pricing in Sri Lanka.

The Profit (P_{it}) is significant in explaining the dividend and is negatively related to the dividends. When the Profits increase, the dividend payout decreases and vice versa. This suggests that the managers want to maintain corporate image by signaling the firm's strength, managers' future plans and prospects through payment of high dividends in years the firm's actual earnings are low. In years with better profits, the managers disregard dividends as the higher earnings level is self explanatory about the company future prospects. Managers believe that dividend payments are necessary to maintain share price and to attract desired investors. The firms do not adjust dividends in response to changes in earnings; the earnings volatility is not reflected by the dividends.

The firm's leverage is a less influencing variable in the model; leverage is not a key determinant of the dividend. Leverage received mixed results in step estimations; insignificant in the model alone and collectively with other variables. Size controlling variable (Sales) is insignificant; in particular, when the institutional ownership variable inserted in the model. This suggests that the size is not a firm specific variable for decision-making in financial policy of the firm.

The managerial share ownership measured towards the end of preceding year is significant and negatively related to the dividend. The ownership structure in each year affects the performance of the company in the next year, the negative relationship is

due to the fact that the concentration of the managerial ownership creates a room for managers to work on their own interests, at the expense of the interests of the external shareholders, who would prefer a higher dividend yield. Similarly measured institutional shareholding is strong in the model, and positively related to the dividend rate. The institutional shareholders desire the dividend paying firms, and the firm is forced for a higher dividend yield. This is consistent with findings in other Asian markets including India as reported by Jayesh (2005). This confirms the findings of Bhattacharya (1979) and Allen et al (2000). The firms signal institutional investors by paying dividends. The interest alignment between shareholders and managers is poor when the managers hold more equity stake because the higher controlling powers, lower payouts. These results support the hypothesis, that the interest alignment between different classes of owners is one of the important factors influencing the dividend payout.

5. Concluding Remarks

The paper investigated the payout policy of Sri Lankan firms using a sample of 82 public limited companies. The study attempts to find the solutions for the following.

1. The impact of lagged dividends, earnings, leverage, size of the firm and ownership characteristics to the payout

2. Do Sri Lankan firms follow stable dividend policies?

3. Applicability of signaling and agency models in explaining payout policy in Sri Lanka.

The model uses Generalized Method of Moments estimator. The study contributes the limited literature exist in Sri Lanka by analyzing data over five year period from 2006-2010.

The results reveal that successive dividends are negatively related, indicating an attempt of mollifying the market. Large numbers of companies increase dividends when they have low earnings, and they omit dividends when they have better earnings. The leverage as measured by debt equity ratio has no influence on dividend decision. The scale of the firm has no difference for the level of payout. Ownership concentration is critical in payout decision, in particular, the institutional investors (i.e. investment companies, unit trusts, insurance

companies, pension funds etc. Collectively) impose the firms to distribute earnings.

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Appendix

1. Results of GMM estimator:

Dependent Variable: D*it*
Method: Panel Generalized Method of Moments
Transformation: First Differences
Sample (adjusted): 2009 2010: Total panel (balanced) observations: 161
White period instrument weighting matrix: White period standard errors & covariance (d.f. corrected)
Instrument list: @DYN(DST,-1) @DYN(PST, -1) @DYN(LST, -1) @DYN(ONEST, -1)
Effects specification: Cross-section fixed (first differences)

	Coeff. (Prob.)	*Coeff. (Prob.)*	*Coeff. (Prob.)*	*Coeff. (Prob.)*	*Coeff. (Prob.)*	*Coeff. (Prob.)*	*Coeff. (Prob.)*
D_{it-1}	*-0.8237*	*-0.8660*	*-0.8248*	*-0.6427*	*-0.6350*	*-0.6504*	*-0.6473*
	(0.0000)	*(0.0000)*	*(0.0000)*	*(0.0000)*	*(0.0000)*	*(0.0000)*	*(0.0000)*
$PROFIT_{it}$	*-0.0869*		*-0.0866*	*-0.0817*	*-0.0616*	*-0.0154*	*-0.0195*
	(0.0000)		*(0.0000)*	*(0.0000)*	*(0.0000)*	*(0.0628)*	*(0.0025)*
LEV_{it}		*0.0000*	*-0.0001*	*-0.0008*	*0.00190*	*-0.0004*	*0.0018*
		(0.4405)	*(0.0000)*	*(0.0004)*	*(0.0474)*	*(0.1704)*	*(0.0026)*
$SALES_{it}$				*17.8005*	*23.6111*	*0.5196*	*-9.6618*
				(0.0000)	*(0.0000)*	*(0.9585)*	*(0.4328)*
M_{it-1}					*-2.6995*		*-1.7240*
					(0,0029)		*(0.0000)*
I_{it-1}						*0.3298*	*0.4966*
						(0.0394)	*(0.0063)*
Instrument Rank	*10.00*	*10.00*	*15.00*	*20.00*	*20.00*	*20.00*	*20.00*
Sargan j-statistic	*7.20*	*5.44*	*11.36*	*14.80*	*13.61*		*11.51*

The table shows the GMM estimator results in columns. Each column indicate the stepwise estimation results, the last column shows the parallel estimation inserting all the variables together. The Sargan statistic is a test of the over-identifying restrictions, asymptotically distributed as $\chi 2(k)$ under the null of valid instruments, with degrees of freedom (k) reported in parentheses.

Variable specifications

Dividends: Gross dividends ($\boldsymbol{D_{ti}}$) of the firm *i* at time *t*, in Rupee values. i.e. the total amount of distributed dividends for equity shareholders during a period.

Profit: Net Profit (P_{ti}) of the firm *i* at time *t*, is the net profit after tax reported by each firm in the income statement. In case of group companies, Profit **is** the company's.

Leverage: Leverage (LEV) is the gearing level of the firm, defined as the debt capital divided by Equity capital of the firm.

Institutional ownership (*I*): Institutional ownership is defined as the percentage of shares held by foreign and domestic institutional investors; those without any intention of controlling the investee through acquisition of shares, these include insurance companies, mutual funds, financial institutions, banks, unit trusts, investment banks and companies who create small portfolios of stocks not as their main business but with a purpose of having dividends and capital gains through trading etc.

Managerial Ownership (*M*): The shareholding by Board of Directors.