The Effect of Dividend Payout Ratio on Future Earnings Growth of Firms

Prasangi K.A.D[1], Wijesinghe M.R.P[2]

Department of Finance, Faculty of Commerce and Management Studies, University of Kelaniya Sri Lanka

Abstract: *The conventional theorem of dividend payout ratio and future earnings growth demonstrates a negative relationship. Several studies have produced contradictory results to this conventional aspect. This study analyses the relationship of two variables in the context of Sri Lanka and fill the empirical gap exists at the moment. The researcher has used firm level approach by considering 40 listed companies in the Colombo Stock Exchange based on the high market capitalisation over the period of 2006 to 2012. Financial institutes, companies that have not paid dividend and companies made losses during the period are excluded from the sample. Two multiple regression models test the relationship between dividend payout and future earnings growth for one and three years' time horizons. Dividend payout ratio is used as key independent variable while return on assets, firm value, leverage and past earnings growth ratios have been considered as other independent variables. The study demonstrates that the payout ratio is positively linked to future earnings growth and this relationship is significant at one year time period. The study concluded that high dividend payout ratio influence the one year future earnings growth of companies in Sri Lanka.*
Keywords: *Dividend Payout Ratio, Future Earnings Growth, Leverage, Return on Assets.*

I. INTRODUCTION

1.1. Background of the Study

The relationship between dividend payout ratio and future earnings growth is a most debated topic in corporate finance as it resulted to produce controversial ideas as higher dividend payout corresponds to lower future earnings growth or higher future earnings growth. Indeed the debate about dividend payout and future earnings growth is often referred to the dividend puzzle, a puzzle which is decisive. Firms pay a certain amount of dividend as a return to its ordinary shareholders out of the earnings generated during the period. The dividend payout ratio therefore is an indicator of profit distribution and where one minus dividend payout ratio refers to profits retained in the company. Company can pay dividend as form of cash and is called as cash dividends or as form of shares which is called as script dividends.

Dividend payout influences the return of shareholders since the total return for the shareholder comprises with two components one is capital gain and the other one is dividends. According to conventional theorem high dividend payout ratio will negatively impact on future earnings growth as the high dividend encourages cash outflow from the company and it causes to reduce future growth opportunities for the company. Instead of distributing profits to the shareholders, if the company could retain the realised profits, then the company could invest the realised profits in their current business activities or new business opportunities and gain even higher profits in the future.

Numerous researches have been conducted to prove the conventional theorem of dividend payout. Rozeff (1982) had conducted a research to find out relationship between payout and earnings & impact of dividends on capital structure. Also Miller & Modigliani's'(1961) dividend irrelevance theorem suggests that under perfect capital markets the dividend policy is independent to the value of firm and it does not matter whether the company have high or low dividend payouts. According to Myers (1984) pecking order theory companies prefer internally generated funds rather than external funds to finance new investments.
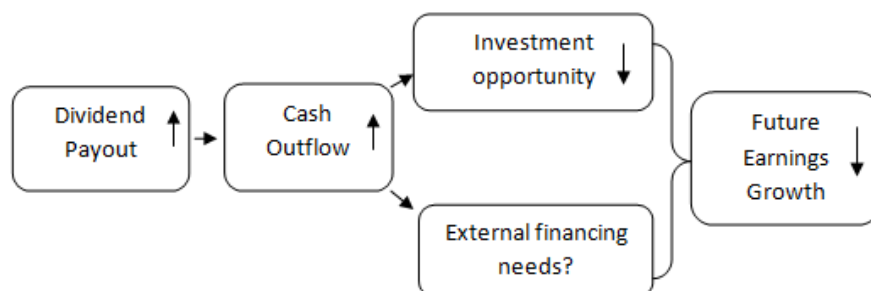

Fig. 1: Diagram of Impact of Dividend Payout on Earnings Growth - (Conventional theorem)

However Arnott and Asness (2003) were able to present a controversial result to the conventional dividend perspective for the first time by revealing that higher dividend payout ratio at the market level correspond to higher earnings growth. They reached the above conclusion for the Standard & Poor's (S&P 500).Thereafter Parker (2005) conducted a similar research for the Australian Stock market and was able to obtain similar results at market-index level. Zhou and Ruland (2006) were first able to conduct the similar at individual company level for companies listed in USA and proved the findings of Arnott and Asness (2003).
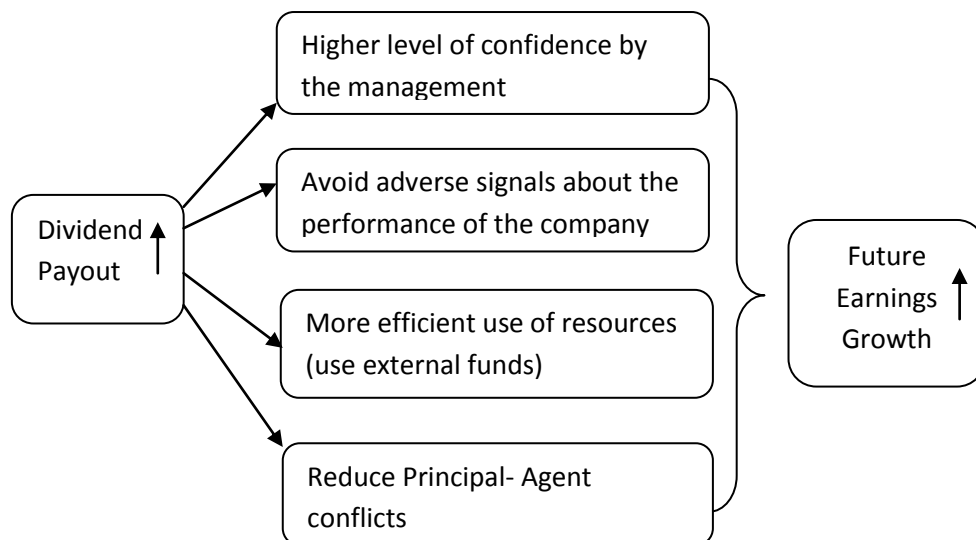
Fig 2: Diagram of Impact of Dividend Payout on Earnings Growth (Modern Aspect)

1.2. Research Problem

The payment of dividends reflects information regarding a company's stability and such information is useful for the investors in making their investment decisions hence this information will reflect from share price of the company. Numerous studies have been conducted indicating the significance of this information.

When considering the effect of dividend payment on future earnings two viewpoints to be considered. The grown-up and widely accepted research view is that there's a negative relationship between dividend payout and earnings growth. The main rationale behind this is the high amount of dividend causes to reduce funds available to finance the growth opportunities in the future. However the second view point is totally opposed to the first opinion and it was introduced in 2003. According to the second latest finding high dividend payout correspond to future earnings growth. This creates a contradictory phenomenon to the investors in their economic decision making regarding future earnings after a declaration of dividends.

Up to this point in time, no comparative study has been done for Sri Lankan Companies. Therefore, this research will fill up the gap exists in Sri Lanka at the moment by investigating the relationship between dividend payout and future earnings growth for companies listed on the Colombo Stock Exchange.

1.3. Research Question

Based on the research problem, the findings of past researchers and through a literature review, the following research questions are formulated.
- Does the dividend payout have any effect on its future earnings growth?
- What is the relationship and extent of relationship between dividend payout & future earnings growth?
- Which period's earnings growth is significantly affected by current dividend payout? Is it one year or three years or five years earnings growth

1.4. Objective of the Study

The research will attempt,
- To find out whether there is an impact in future earnings growth based on dividend payout
- To identify the nature of the relationship exists between the dividend payout & future earnings growth
- To identify the period which is mostly affected by dividend payout
- To identify the relationship and significance of other future earnings growth predictors.

1.5. Significance of the Study
- To provide guidance to financial managers, regarding the impact of dividend payout on earnings growth. Because many past researches proved that the dividends decisions are widely affecting the future earnings growth negatively, thus it is important for financial managers to determine an appropriate dividends policy, which will in turn affect financing and investment decision and ultimately on maximizing the firm's value and shareholder's wealth.
- To guide the investors to take investment decisions regarding the dividend paying companies since dividends have two perspectives which may lead to confuse investors.
- To identify the types of relationship between dividend payout and earnings growth of the firm. This will help a firm to make a good dividend decision.

1.6. Scope of the Study
This study analyze the relationship between dividend payout and earnings growth of the firm, for the purpose of the study 40 listed Companies on the Colombo Stock Exchange noted their dividend payout and future earnings growth rates of the companies for one and three year periods.

1.7. Limitations of the Study
When carrying out the research following limitations encountered:
- Only 40 companies are considered in to the sample in finding the relationship between dividend payout ratio and earnings growth. This is only 13.88% of the total population. So the results of the study limited marginally 14% of the population.
- Only maximum of three year future earnings growth has been considered in this research. It is more appropriate to consider ten year future earnings growth to predict long term impact.

II. LITERATURE REVIEW

Many researchers investigated the relationship between dividend payout and earnings growth in developed, developing and group of countries. The Previous studies have provided two different results and latest aspect they found is that there's a positive relationship between these two variables (Arnott & Asness, 2003 and Parker, 2005). The results have changed with the research methodology employed and the countries examined and most of the researchers found that, dividend payout ratio has a significant positive impact on firm's future earnings growth. In testing that relationship mean reversion in earnings was most supportive in proving the positive relation between the two variables.

The objective of this study is to investigate the relationship between dividend payout and future earnings growth of the firm in Sri Lankan context. In this study, earnings growth for one and three years periods are used as the dependent variable and five ratios such as dividend payout, firm size, leverage, return on assets and lagged earnings growth are used as independent variables. The lagged earnings growth is calculated for three periods as taken in future earnings growth and is called mean reversion in earnings which affect to create the positive relationship between dividend payout and future earnings growth. The multivariate regression model used in the study is obtained from similar study conducted by Flint, A. Tan, A. and Tian, G. (2010) on the Australian market.

Similar researches have been conducted by Arnott and Asness (2003) and Parker (2005) using market level approach where as Zhou, & Ruland, W. (2006), Flint, Tan, and Tian (2010) and Vermeulen (2011) applied the company level approach for their studies. However all of these recent studies have proved the positive relationship

2.1. Empirical Reviews
Many studies have documented the relationship between dividend payout and earnings growth of firms both at market index level and at company level. Some of the studies have examined this relationship for developed countries such as USA, UK and Australia {Arnott and Asness (2003), Vivian (2006), Anthony Flint (2010)} On the other hand some other studies have examined the situation for developing countries by Vermeulen M (2011) for South Africa. Besides, some other studies investigated for group of countries such as Parker (2005) for USA, Canada and Australia and Gwilym et al. (2006) for US and additional ten countries.

2.1.1. Previous Studies in Developed Countries
Arnott and Asness (2003) have conducted a research on "Surprise! Higher Dividends Higher Earnings Growth" and they were able to initially present a contradictory results to the traditional concept of inverse relation between payout and earnings. This research was carried out based on aggregate market level (i.e. S&P 500 Index) and suggested three explanations for research results.

- Any increase in dividends indicates a higher level of confidence by the management with regard to increasing earnings growth in subsequent years. (Payout a large share of earnings when earnings are optimistic and payout a small share when earnings are pessimistic).
- Low payout demonstrates slow growth in earnings and dividend cuts illustrate adverse signals about the performance of the company.
- High payout ratio indicates more efficient use of resources because if company's payout high proportion of earnings the company has to use external funds which are expensive compare to internal funds. Hence companies select their investments projects more carefully.

Arnott and Asness (2003) were able to find out a positive relationship between payout and ten years earnings growth over a period 1871 and 2001. The positive relationship was controlled by the use of mean reversion in earnings. As this research was carried out for 10 year earnings growth the researcher had used increased number of observations. Also the researchers have taken lagged earnings in to consideration and this has resulted in use of twenty one years observations.

A similar study had been conducted by Parker (2005) to investigate whether the positive relationship discovered by Arnott and Asness (2003) is applicable on Canadaian and Australiain stock markets. Parker considered earning growths for two periods; one is for 10 year earnings growth and the second one is for 5 year earnings growth over the period 1956-2005. As the findings of the research, Parker was able to prove the positive relationship discovered by Arnott and Asness between payout and future earnings growth. Also he observed that there's a weaker positive relationship in Australia compare to US and Canada.

Vivian (2006) conducted a research on "The Payout Ratio, Earnings Growth and Returns". The purpose of this research is to examine the role of the payout ratio as a predictor of future earnings growth and returns in UK. Initially the research investigated the relationship and time variation in the relationship between payout and earnings. This research also examined whether payout has the ability to predict stock prices. The data was collected for firms relevant to 20 industry sectors listed on London Stock Exchange for period 1966 to 2002. Main methodologies used for data analysis were descriptive statistics and panel data regression. The overall findings of this paper demonstrate that there's a positive and statistically significant relationship between industry's payout ratio and its earnings growth.

Zhou, and Ruland (2006) has conducted research on the topic of "Dividend Payout and Future Earnings Growth" at company level and was able to present a contradictory view to the conventional wisdom of negative relationship regarding dividend payout and future earnings growth. This study is different to the research of Arnott and Asness (2003), as Zhou and Ruland (2006) has focused earnings growth over short (1-year-ahead), intermediate (3-year-ahead), and long (5-year-ahead) horizons and a company level research (opposite is market level). As he states this is due to two reasons, first reason is most investors are more concern on short and intermediate term returns compare to long term returns such as 10 years time horizon. Secondly it is difficult in obtaining the data for long time periods. The sample period considered is year 1950 to 2003. All companies listed in the NYSE, Amex, and NASDAQ has been considered. However the researcher has considered some conditions in selecting companies to the sample such as the company should have paid dividends on common shares for Year 0. In addition, required companies should poses positive earnings for Year 0 and book value of equity greater than $250,000 or total assets greater than $500,000. Industries such as financial services and utilities have been excluded from the sample. The univariate association between payout and past and future earnings growth has been analysed using Pearson correlation coefficients matrix. Multivariate regression has been undertaken to estimate regression coefficients. Unlikely to other similar researchers Zhou and Ruland (2006) conducted a sensitivity analysis to identify the responsiveness. The finding of the research has been able to support the findings of Arnott and Asnesss (2003) of significant positive relationship between Dividend payout and future earnings.

Flint, Tan, and Tian, (2010) conducted a research on "Predicting Future Earnings Growth: A Test of the Dividend Payout Ratio in the Australian Market" and this research is conducted at the firm level. For the sample they used both listed and unlisted firms on Australian Stock Exchange over the period 1989 to 2008 and financial and utility firms are excluded from the sample. Data set consist of 682 firms and 3269 observations for 1 year growth, 316 firms and 1425 observations for 3 years growth and 138 firms and 533 observations for 5 year earnings growth. The research was able to support the findings of Parker (2005). In according to the research they found that increasing dividend payout ratio will experience higher future earnings growth. The relationship was found under univariate analysis with the strong positive correlation between payout ratio and earnings growth at the one, three and five years growth periods where as multivariate regression analysis with the positive and highly significant coefficients on the payout ratios in all regressions. Also it indicates that this result provides important implications for firm value.

2.1.2. Previous Studies in Developing Countries - Malaysia, Taiwan and South Africa
The first study on non-developed market was conducted by Al-Twajri (2007) in Malaysia. This study examined the relationship between dividend changes and future profitability of firms listed on Malaysian Stock Exchange over the period 1998 to 2007. OLS regressions are used to assess the relationship between dividend changes and future profitability. The overall findings of the research stated that current dividend changes are strongly related to current earnings changes. They also found limited support for the information content of dividends and only first year earnings indicated signs of significant relationship with dividend changes. The relationships are weakly significant for dividend changes, size of dividend changes, economic study and dividend stability. As important implications of the research findings the research stated two points. First one is; firms' dividends policies are based on affordability rather than earnings expectations. The second point is investor who depends upon dividend information as a basis of investment decisions are advised to look for other signalling devices to obtain clues of management perception on the future of the firms.

Another study on developing country was conducted by Huang et al., (2009) in Taiwan. The name of the research is "Dividend Payout Ratio and Subsequent Earnings Growth: Evidence from Taiwanese Stock Exchange". The main focus of the research is to examine the companies paying dual dividends (dividend in form of cash and shares) and assess whether there's a relationship between dividends payout and subsequent earnings growth. The research mentioned that the dividend distribution policy adopt in Taiwan is quite different and unique to global sense where the common Taiwanese listed companies distribute dividends as form of stocks as well as cash. The data for the analysis is obtained from a database of Taiwan economic Journal for the period of 1999 to 2005. The cash dividend sample is comprised of a total 497 firms, stock dividend sample comprise of 203 firms and dual dividend sample comprise of 1200 firms. Multiple regression model was used for statistical analysis and it is similar to Zhou and Ruland (2006) model used in measuring relationship between dividend Payout Ratio and Future Earnings Growth. The findings of the research indicated that for the dual dividend sample, high payout ratio corresponds to high earnings growth. Two important implications were found from the results. First one is; for cash dividend sample, if investor could construct their own investment portfolio based upon dividend payout ratio and yields, firms with high payout ratios with low dividend yield will have better future earnings growth performance *citric paribus*. Second finding is for dual dividends sample, if selection is based on dividends payout and firm size, investors should choose small sized companies with high payout ratios.

Another study has been conducted by Vermeulen (2011) on investigating the relationship between dividend payout and future earnings growth for one, three and five years time horizons in South African context which is considered as a developing economy and the study also concerned on comparison of the South African context to that of USA which is a developed economy. The sample period of the study considered is 1973 to 2009.However Vermeulen (2011) has considered some conditions in selecting his sample such as the company should declare dividends on ordinary shares in Year 0, the company should publish positive earnings for Year 0; the company must hold total assets greater than R10, 000,000 or the book value of equity is greater than Rs.5, 000,000 in Year 0. Also financial institutes and mining companies are excluded from his sample as their activities are different from other companies. The analytical tools used for the research are descriptive statistics, univariate analysis and multivariate analysis for all three countries i.e. South Africa, USA and Australia. According to his research findings both countries revealed a significant positive correlation between dividend payout and future earnings growth, and a significant negative correlation between dividend payout and past earnings growth. He has concluded that though South Africa reported a significant positive relationship other developing countries such as Malaysia may not show a significant relationship therefore it demonstrate that each country cannot be treated in the same manner with regard to the dividend policy.

III. RESEARCH METHODOLOGY
3.1. Data and Data Collection, Time Period
The research is carried out based on the secondary data. Year 2009 is considered as the based year to calculate ratios such as Dividend Payout, Return on Assets, Firm Size, Leverage and Yield. For the calculation of past and future earnings growth relevant to three time horizons seven years financial data of each company are used from 2006 to 2012. For this the published annual reports of selected companies were taken from the CSE website.

3.2. Sample and Sample Selection
A research population is generally a large collection of individuals or objects that is the main focus of a scientific query. The population of this study is based on the listed companies on the Colombo Stock Exchange

(CSE).Currently Colombo Stock Exchange (CSE) has 288 companies representing 20 business sectors as at 01st of September 2013, with a market capitalisation of Rs.2, 402.9 Bn.

A sample is a subset of a population that is used to represent the entire group as a whole. From the population of 288 companies, 40 companies were selected as sample for conduct this research. The samples of 40 companies were selected based on the highest market capitalisation prevailed as at 31st December 2009 and some of the highest market capitalised companies were not considered because of unavailability of data in calculating the required ratios.

Following conditions has been considered in selecting a company for the sample

* The financial companies are excluded from the sample because of the different characteristics relative to the other industrial companies.
* The company declared dividends on ordinary shares in year 2009 are only included in the sample given that the research focuses on companies which pay dividends.
* The company published negative earnings for year 2009 excluded from the sample.
* The high market capitalised companies considered in the sample

3.3. Conceptual Model
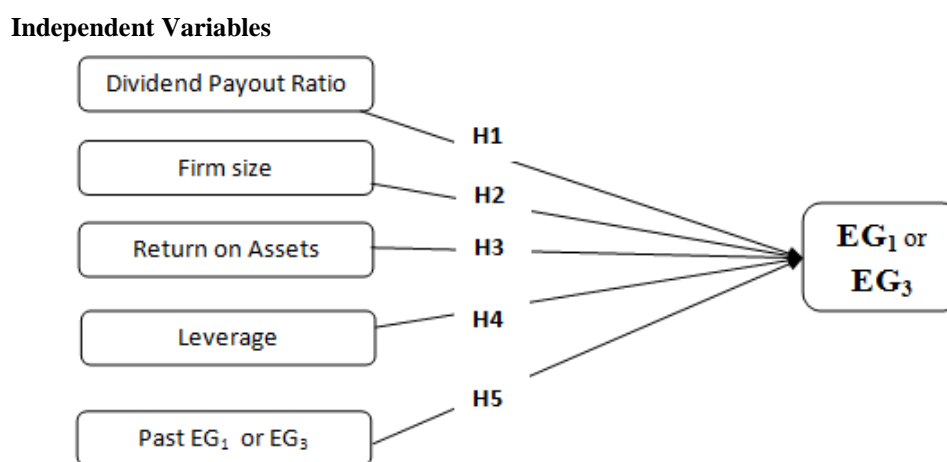Following independent and dependent variables are used to examine the relationship

Independent Variables

Figure 1: Conceptual Model

3.4. Measurement of Variables
This research is to examine the relationship between payout ratio and future earnings growth of the companies.
Independent Variable

1. Dividend Payout Ratio

$$\text{Dividend Payout Ratio} = \frac{DIV_0}{TA_0}$$

This ratio indicates what proportion of earnings should be distributed among ordinary shareholders as dividends during the period. This measure gives an idea to the investors regarding how the management use shareholders funds to maximise their wealth and whether the managers use the resources efficiently and effectively in achieving shareholders objectives rather than interests of the managers. A low percentage means company pays fewer dividends in order to retain the high amount of earnings. A positive coefficient suggests that higher payout leads to higher future earnings growth where as a negative coefficient suggests that higher payout leads to lower future earnings growth.

2. Firm Size

$$\text{Firm Size} = \ln(MVE_0)$$

This is measured by the use of natural logarithm of the company's market capitalisation at the end of year zero. The market value of equity is obtained directly from the CSE annual market capitalisation database.

3. Return on Assets

$$\text{Return on Assets} = \frac{EARN_0}{TA_0}$$

This ratio is obtained by dividing profit after tax at the year zero from total assets tax at the year zero.

4. Leverage

$$\text{Leverage} = \frac{BVD_0}{TA_0}$$

This calculation is performed as company's book value of debt divided by the company's total assets at the end of year zero.

5. Past Earnings Growth

$$\text{Past Earnings Growth} = \left(\frac{EARN_t}{EARN_{t-1}}\right)^{1/n} - 1$$

Lagged Earnings Growth is measured as compounded annual earnings from – t to time zero. The growth is calculated over one, three and five years to match the growth rate in future earnings.

Dependent variable

6. Future Earnings Growth

$$\text{Future Earnings Growth} = \left(\frac{EARN_{t+1}}{EARN_t}\right)^{1/n} - 1$$

This is measured as compounded annual earnings over one, three and five years.

3.5. Techniques used to analyse the Data

To fulfil the research objectives, descriptive statistics such as standard deviation, mean, minimum, maximum and etc. are carried out to illustrate the nature and basic characteristics of the variables used in the analysis. Then correlation is used to test the multi co linearity among independent variables. It is helpful in interpreting the results of the regression model. Finally a multiple regression analysis is carried out to draw a conclusion with respect to each time horizon as one and three year earnings growth.

3.6. Regression analysis

This study involves more than one independent variable and the dependent variable is considered for three time horizons. Therefore three separate multiple regression analysis are conducted to drive conclusion. The relationship between dependent variable Y and various independent variables are given by;

$$Y = \square + \square_1 X_1 + \square_2 X_2 + ….. + \square_n X_n + \square_t$$

In this study the following regression model is considered in conducting the statistical analysis

$$EG_{it1,3} = \square + \square_1 Payout_{it} + \square_2 Size_{it} + \square_3 ROA_{it} + \square_4 LEV_{it+} \square_5 PEG_{it-1,3+} e_{it}$$

3.7. Hypothesis Testing

For this analysis following null and alternative hypothesis are generated.

Hypothesis	Null (H$_0$)	Alternative(H$_1$)
Relationship between dividend payout and one and three year future earning growths	no relationship	positive
Relationship between ROA and one and three year future earning growths	no relationship	negative
Relationship between Firm size and one and three year future earning growths	no relationship	negative
Relationship between Firm size and one and three year future earning growths	no relationship	positive
Relationship between Past Earnings Growth and one and three year future earning growths	no relationship	negative

IV. DATA PRESENTATION AND ANALYSIS

4.1. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
EG1	40	-.6515	5.9833	.714451	1.3739372
EG3	40	-.6808	1.7416	.460534	.4248167
PAYOUT	40	.0276	2.3201	.527567	.5139701
PEG1	40	-.8944	1.5975	.046774	.4851117
PEG3	40	-.4770	1.8770	.161448	.5260947
ROA	40	.0086	.3822	.085254	.0882609
SIZE	40	21.3872	25.3784	22.75677	1.0758987
LEV	40	.0167	1.9857	.416606	.3384334

Where,

EG1 = Future Earnings Growth for one year period, EG3 = Future Earnings Growth for three year period, PAYOUT = Dividend Payout, PEG 1 = Past Earnings Growth for one year period, PEG3 = Past Earnings Growth for three year period, ROA =Return on Assets,
 SIZE = Firm size, LEV =Leverage

The mean value and standard deviation of earnings growth for one year period (EG1) indicate 71.45% and 137% respectively. This suggests that the companies considered for the analysis reported EG1 of 71.45% could deviate by +/- 137% giving values between -65.95% and 208.8%. Minimum and maximum values for EG1 are -65% and 598% respectively.

Similarly EG3 has reported a mean value and standard deviation of 46.05% & +/-42.48% respectively which resulted in arriving at value range of 3.57% to -88.53%. Also it seems that the mean value of EG3 is far less than mean value of EG1. The minimum and maximum value of EG3 is -68.08% and 174.16%.

When considering the other variables, dividend payout can be highlighted as the primary independent variable in analysing the relationship against future earnings growth. According to the data set the companies have paid out average 52.75% of earnings during FY 2009 as dividends to the shareholders. However the standard deviation of 51.4% suggests that the dividend payout vary within the range of 1.35% and -104.15%. The minimum payout reported was 2.76% where as the maximum retain at 232%.

The two independent variables of PEG1 vs. PEG3 posted a mean value and a standard deviation of -4.67% & 48% vs.16.15% & 52.6% respectively. The results of the analysis highlights that both the past earning growths are lower compare to the future earnings growths.

4.1.1 Result of multiple regression for model 1

$EG1=B_0+ B_1Payout_t+ B_2ROA_t+ B_3LEV_t+ B_4Size_t + B_4PEG_1+ {}_\varepsilon$
$EG1=2.805+ 1.430 \ Payout_t - 4.058 \ ROA_t+ 1.024 \ LEV_t -0.129 \ Size_t - 0.145PEG_1+ {}_\varepsilon$

4.1.1.1: Regression result table for model 1

Variable	Coefficients	Standard error	t Stat	P-value
Intercept	2.805	3.427	0.819	0.419
Payout	1.430	0.349	4.101	0.000
ROA	-4.058	2.067	-1.964	0.058
LEV	1.024	0.519	1.973	0.057
Size	-0.129	0.152	-0.846	0.403
PEG1	-0.145	0.372	-0.390	0.699

R Square	Adjusted R Square	Standard Error	F	Significance F
0.573	0.511	0.9611480	9.139	.000

The independent variables in the regression generally have the expected signs, while the majority of the variables are significant at ten, five and one percent level. Results of this regression show a 1.43 coefficient for dividend payout with a p-value of 0.000. This emphasise that payout is positively related to future earnings growth at one year with this relationship highly significant at one percent level.

In regards to the prior earnings growth, the past earnings growth variable is negative for one year period indicating that earnings are mean reverting. This can be identified through the coefficient of -0.145 at an

insignificant p value of 0.699. This supports the two research findings of insignificant relationship between one year past earning growth with one year future earnings growth by Ping & Ruland and Vivian.

At the same time there are -4.058 & -0.129 coefficients for ROA and firm size with p-values of 0.058 and 0.699 respectively. Therefore this indicates that there is an adverse relationship exists between one year future earnings growth and ROA which is significant at 5% or confident at 95% level. That means when return per asset increases, future profitability will be lower vice versa. This is because if the ROA is high at the moment it is clear that firms are less likely in reporting a strong earnings growth in the future. Therefore this result supports alternative hypothesis and the findings of all the other researchers. As a result null hypothesis 2 is rejected. In addition leverage ratio and future earnings have a significant positive relationship while firm size and future earnings have a negative relationship. But p-value of leverage reflects that it is not a significant relationship.

R square reflects that the 57.3% of the variability in one year future earnings growth is explained by the variables used in this model and the overall model is significant at 1% or confident at 99% level. Therefore dividend payouts, return on assets and leverage ratios have significant impact to the one year future profitability growth in listed companies in Sri Lanka. Since the regression model estimated above has multicolinearity among independent variables it is important to re-estimate the model with the use of most significant variables such as payout, return on assets and leverage ratios.

4.1.2 Result of multiple regression for model 1.1

EG1= -0.069+ 1.40 Payout$_t$ - 4.847 ROA$_t$+ 1.01 LEV$_t$

Table 4.2: Regression result for model 1.1

Variable	Coefficients	Standard Error	t Stat	P-value
Intercept	-0.069	0.290	-0.239	0.813
Payout	1.400	0.332	4.221	0.000
ROA	-4.847	1.717	-2.823	0.008
LEV	1.01	0.503	2.187	0.035

R Square	Adjusted R Square	Standard Error	F	Significance F
0.563	0.527	0.9453	15.463	.000

Accordingly it is clear that the future earnings growth for one year period is mostly explained by payout ratio, ROA and leverage. Among these three independent variables payout and ROA are significant at one percent level where as leverage is significant at five percent level.

This regression line represents a positive coefficient of 1.4 at a significant level of 1% or it is 99% confident since the p-value is 0.000. Therefore this emphasizes a positive relationship between dividend payout ratio and future earnings growth. It implies that the increase or decrease in dividend payout ratio will significantly affect future growth in profitability of the firm. The above analysis is similarly with Zhou and Ruland (2006) and Flint *et al*., (2010) studies, who mentioned that increase in all the coefficients on payout were positive and highly significant for all three the growth periods, which led to the conclusion that a positive association between dividend payout and future earnings growth for USA and Australian companies.

ROA as a vital and significant variable it incorporates a coefficient of -4.847. Since p-value of this is 0.008, as in previous models the relationship between ROA and future earnings growth is highly significant at 5% or confident at 95% level. But in contrast debt ratio shows a p-value of 0.035 which supports to conclude that there is no statistically significant relationship between leverage and future earnings growth.

R square reflects that the 52.7% of the variability in future earnings growth is explained by the selected variables in this model and the overall model is significant at 1% with the p-value of 0.000. As a result this implies that dividend payout, ROA and leverage are reasonably significant components which supports in determining the future earnings growth for one year time period of listed companies in Sri Lanka.

4.2.1. Result of multiple regression for model 2

EG$_3$=B$_0$+ B$_1$Payout$_t$+ B$_2$ROA$_t$+ B$_3$LEV$_t$+ B$_4$Size$_t$ + B$_4$PE$_3$+ ε
EG$_3$=1.609+0.149 Payout$_t$ – 1.881 ROA$_t$ -0.168 LEV$_t$ -0.043 Size$_t$ - 0.127PEG$_1$+ ε

Table 4.3: Regression result for model 2

Variable	Coefficients	Standard Error	t Stat	P-value
Intercept	1.609	1.447	1.112	0.274
Payout	0.149	0.143	1.039	0.306
ROA	-1.881	0.766	-2.456	0.019
LEV	-0.168	0.221	-0.759	0.453
Size	-0.043	0.064	-0.672	0.506
PEG2	-0.127	0.136	-0.939	0.354

R Square	Adjusted R Square	Standard Error	F	Significance F
0.244	0.133	0.3956713	2.191	0.078

Results of this regression shows that firms with high dividend payout ratio are expected to have a high level of future earnings and vice versa. The regression coefficient is 0.149 with p-value of 0.306. This demonstrates that even though there is a positive relationship it is not significant at 1%, 5% or 10% levels.

Same as dividend payout ratio, the regression output for debt ratio as a measure of firms leverage shows an insignificant relationship. Whenever firm's debt increases future profitability growth will decrease. The regression coefficient is -0.168 and the p-value indicate the result of 0.453.

Size and past earnings growths for three years period holds coefficient of -0.043 and -0.127 with p values of 0.506 and 0.354 respectively. Therefore this indicates though these two variables incorporate a negative relationship against future earnings growth they are not significant at 1%, 5% or 10% levels.

Considering Return on assets it indicates a negative relationship against the future earnings growth for three periods. The coefficient for ROA is -1.881 where as p value of 0.019.It is also noteworthy that this relationship is significant at 5% level hence 95% confidence level. Overall results for earnings growth three year period regression reflect insignificant relationship against the future earnings growth except ROA variable.

R square reflects that 24.4% of the variability in future earnings growth for three years time is explained by the selected variables in the model and the overall model is highly significant at 1%. This reveals that Dividend payout ratio, Return on asset and debt ratio are determining factors of future earnings growth of firms in Sri Lanka. This emphasise the importance of dividend payout decision as it contributes to determine the future growth potential of the company.

Since the regression model estimated above has multi co linearity among independent variables which led to explain weak the future earnings growth, it is important to re-estimate the model with the use of most significant variables such as payout, and return on assets.

4.3.1 Result of multiple regression for model 2.1
EG3= 0.576+ 0.126 Payout$_t$ – 2.131 ROA$_t$

Table 4.4: Regression result for model 2.1

Variable	Coefficients	Standard Error	t Stat	P-value
Intercept	0.576	0.105	5.471	0.000
Payout	0.126	0.121	1.047	0.302
ROA	-2.131	0.702	3.035	0.004

R Square	Adjusted R Square	Standard Error	F	Significance F
0.214	0.172	0.3866	5.038	0.012

It is clear that the future earnings growth for three year period is mostly explained by payout ratio and ROA. Among these two independent variables ROA is significant at five percent level where as dividend payout is not significant at even ten percent level.

This regression line represents a positive coefficient of 0.126 for dividend payout. Therefore this emphasizes a positive relationship between dividend payout ratio and profitability. It demonstrates that increase in dividend payout ratio will affect future earnings growth of the firm to increase over three year time horizon. The above analysis is similarly with Zhou and Ruland (2006) and Flint *et al.* (2010) studies, who mentioned that all the coefficients on payout were positive for all three the growth periods, which led to the conclusion that a positive association between current dividend payout and future earnings growth for USA and Australian companies. However it is noteworthy that the positive relationship is not significant for Sri Lanka where as for developed countries such as USA has reported a significant positive relationship for three years time period.

ROA as major future earnings growth predictor it illustrates a coefficient of -2.131. Since p-value of this is 0.004, as in previous models the relationship between ROA and future earnings growth is highly significant at 5% or confident at 95% level.

R square reflects that 21.4% of the variability in future earnings growth is explained by the ROA and dividend payout variables and the overall model is significant at 5% with the p-value of 0.012.

4.5. Correlation Coefficient(r)

Table 4.6: Correlation Matrix

Correlations

		G1	G2	PAYOUT	ROA	S	L	PEG1	PEG2
G1	Pearson Correlation	1	.350*	.636**	-.293	-.106	.513**	-.330*	-.246
	Sig. (2-tailed)		.027	.000	.067	.517	.001	.038	.126
	N	40	40	40	40	40	40	40	40
G2	Pearson Correlation	.350*	1	.136	-.437**	-.159	.012	-.343*	-.210
	Sig. (2-tailed)	.027		.404	.005	.326	.939	.030	.194
	N	40	40	40	40	40	40	40	40
PAYOUT	Pearson Correlation	.636**	.136	1	.039	.153	.458**	-.207	-.309
	Sig. (2-tailed)	.000	.404		.812	.346	.003	.199	.052
	N	40	40	40	40	40	40	40	40
ROA	Pearson Correlation	-.293	-.437**	.039	1	.275	-.007	.459**	.152
	Sig. (2-tailed)	.067	.005	.812		.085	.967	.003	.348
	N	40	40	40	40	40	40	40	40
S	Pearson Correlation	-.106	-.159	.153	.275	1	-.050	.041	-.144
	Sig. (2-tailed)	.517	.326	.346	.085		.759	.801	.375
	N	40	40	40	40	40	40	40	40
L	Pearson Correlation	.513**	.012	.458**	-.007	-.050	1	-.174	-.355*
	Sig. (2-tailed)	.001	.939	.003	.967	.759		.283	.025
	N	40	40	40	40	40	40	40	40
PEG1	Pearson Correlation	-.330*	-.343*	-.207	.459**	.041	-.174	1	.373*
	Sig. (2-tailed)	.038	.030	.199	.003	.801	.283		.018
	N	40	40	40	40	40	40	40	40
PEG2	Pearson Correlation	-.246	-.210	-.309	.152	-.144	-.355*	.373*	1
	Sig. (2-tailed)	.126	.194	.052	.348	.375	.025	.018	
	N	40	40	40	40	40	40	40	40

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

The Correlation matrix illustrates that there's a positive and significant relationship between dividend payout and EG1. These two variables are correlated at 0.636 with a p-value of 0.000. It indicates that the result is highly significant at 1% level and if the dividend payout increases it will have positive impact on the profitability of the next year. Simply this elaborates that when the company payout a higher dividend out of the current earnings it will affect next year earnings to become favourable.

As the second important variable PEG1 against the EG1 are negatively correlated at -0.330 with a p-value of 0.038. This states that the negative relationship is highly significant at 5% level. This demonstrates that greater the earnings growth in the past it will contribute to produce a lower earnings growth in the future.

Apart from the dividend payout and past earnings growth there are other factors which affect the future earnings growth of a company. Hence it is vital to assess the relationship between such variables against the future earnings growth.

Return on assets and EG1 are negatively correlated with a coefficient of -0.293 with a p-value of 0.067. This correlation is significant at 10% or confident at 90% level. Further this indicates that the increase in return on assets will influence to diminish future profits of the companies and vice versa.

Correlation matrix reveals that there's a positive relationship between leverage and one year future earnings growth which is evidenced by coefficient of 0.513 and a p-value of 0.001. Therefore results indicate this correlation is highly significant at 1%. This depicts that the greater the company use external funds through borrowings rather than use of internal funds greater the future profitability. This is consistent with the hypothetical view that similar to dividends, debt has the ability to mitigate agency cost by reducing the level of excess cash within the firm.

However the firm size generates a negative coefficient of -0.106 at a p value of 0.517. This emphasise that the negative relationship between the firm size and EG1 is not significant at 1%, 5% or 10% levels. Therefore size could not be considered as a key variable in the regression.

Further it is important to analyse the relationship exists between the independent variables against the EG3 variable. The dividend payout as the key independent variable it shows a positive relationship against the EG3 as the coefficient retain at 0.136.However the relationship is not significant at 1%, 5% or 10% levels seems that dividend payout does not strongly affect to increase the earnings growth for three years period.

The only variable that demonstrates a high significant relationship with the EG3 is Return on Assets. This comprise with a coefficients of -0.437 at 0.005 p-values. This suggests that the negative relationship is significant at 1% level with almost 99% confidence level. This explains that increase in ROA will affect to decrease the future earnings growth of 3 year period approximately by 44%.therefore it can be considered as a key predictor of future earnings growth of three years.

4.7. Hypotheses Testing

First alternative hypothesis (H1) states that there is a positive relationship between dividend payout and one and three year future earning growths. The alternative hypothesis is accepted because the correlation between dividend payout and one year future earnings growth is 0.636 in the correlation matrix while the regression coefficient of payout reflects 1.4 which is positive figure in regression model 1. When considering the dividend payout and three year future earnings growth it also replicates a positive relationship where 0.13 correlation and a 0.149 coefficient in regression model 2.

In the same way the researcher accepted the second alternative hypothesis of negative relationship between Return on Asset and future earnings growth of a firm. It is found that return on asset is the most important measure that affects future earnings growth and there is strongly negative relation in between those two. The correlation between return on assets and earnings growth one year period is -0.293 while the regression coefficient of return on assets is -4.058 in regression model 1. It is noteworthy that correlation between return on assets and earnings growth one year period is -0.437 while the regression coefficient of return on assets is -1.881 in regression model 2.

The researcher also accepted the third alternative hypothesis that the Firm size and future earnings growth are negatively correlated. Results of the sample showed a negative relation in between them. The correlation between Firm size and earnings growth one year period is -0.106 while the regression coefficient of Firm size is -0.129 in regression model 1where as the correlation between Firm size and earnings growth three year period is -0.159 while the regression coefficient of Firm size is -0.043 in regression model 2.

Additionally the researcher accepted the fourth alternative hypothesis that the leverage and one year future earnings growth are positively related and the relationship is significant with the high p-value. The correlation between leverage and one year future earnings growth is 0.513 while the regression coefficient of leverage is 1.024 in regression model 1.However fourth alternative hypothesis is rejected in consideration of leverage and three year future earnings growth as it shows a negative coefficient of -0.168 coupled with lest positive correlation value of 0.012 in correlation matrix.

Finally the researcher accepted the fifth alternative hypothesis that there is a negative relationship between Past Earnings Growth and one and three year future earning growths. Results of the sample showed a strong negative relation in between them. The correlation between past earnings growth and future earnings growth for one year is -0.33 while the regression coefficient is -0.21 in regression model 1. Also correlation between past earnings growth and future earnings growth for three years reflected same relationship by reporting a correlation of -0.145 and coefficient for model 2 of -0.127.

V. CONCLUSION

5.1. Conclusions Based on Findings

The study embarks to provide pragmatic evidence about the effects of dividend payout ratio on corporate future earnings growth for a period of one year and three years.

The descriptive statistics shows future earnings growth fluctuates with its minimum and maximum value of -0.65 and 5.98 for one year and -0.68 and 1.74 for three years respectively. At the same time on average FEG has a value of 0.71 with standard deviation of 1.37 for one year and 0.46 and 0.42 for three years respectively. On the other hand, by taking dividend payout ratio as a comprehensive measure of firms future earnings growth the finding shows that, on average dividend payout ratio takes 53% and with a minimum and maximum percentage of 2.7 and 232 respectively.

With the findings of regression analysis and Pearson's correlation analysis the researcher is able to achieve the both main and sub objectives.

Initially it was found that dividend payout is a significant component to determine the future earnings growth for one year period for the companies in Sri Lanka and there is a significant positive correlation exist between payout and future earnings growth with consenting to the prior findings of both market level and firms level such as Parker (2005), Arnott and Asness (2003), Zhou and Ruland (2006) and Flint *et al.* (2010) studies. High dividend payout ratio signals about firms future cash flows and it assist to mitigate the principal agent conflicts arising in the time of large future cash flows or low growth opportunities. Therefore this suggests that dividend policy as a most important predictor of future earnings potential of a company.

In terms of dividend payout ratio and future earnings growth for three years also illustrated a positive relationship which is not as significant compare to future earnings for one year period. Even though high dividend payout cause to reduce the cash available for future growth opportunities it is important to pay a considerable dividend for the investors to assure them a high return through mitigating principal agent conflicts, and improving efficiency in fund management.

On the other hand firms' fund could be invested in projects which yield higher returns. Therefore this emphasizes the importance of strike a balance between dividend payout and future profitability. If the company

is illiquid result of high dividend payout, external financing will be needed which responsible for higher interests hence the future profitability will be reduced and eventually impact to shareholder wealth as well.

As the sub objective of this research other key predictors of future earnings growth it was discovered that the return on asset is negatively correlated with the future earnings growth of Sri Lankan companies which consistent with the previous researches of Flint, A., Tan, A. & Tian, G.(2010) and Marise Vermeulen(2011).

The other control variables did not test as significant in Sri Lankan context as in the USA and Australia except for return on assets. Although these variables were not significant in the regression model, they still displayed the expected relationship with future earnings growth. The fact that the chosen variables explained less of the variation in earnings growth compared to the USA indicates that there are other factors influencing earnings growth in Sri Lanka. These factors are most probably related to the fact that Sri Lanka is still a developing country.

As a final point, based on the findings of the study, following summary of conclusions can be provided regarding the effect of predictors of future earnings growth of Sri Lankan companies which grants to achieve the objectives of the study,

- There is a significant positive relationship between dividend payout and one year future earning growths
- There is a positive relationship between dividend payout and three year future earning growths
- There is a significant negative relationship between ROA and one and three year future earning growths
- There is a negative relationship between Firm size and one and three year future earning growths
- There is a negative relationship between Leverage and one and three year future earning growths
- There is a negative relationship between Past Earnings Growth and one and three year future earning growths

5.2. Recommendations
- It is concluded from the study that high dividend payout ratio influence the one year future earnings growth of companies in Sri Lanka. Therefore, those charges with governance of the entities should focus more on dividend decision.

5.3. Directions for future research
- The study has concerned only 40 companies listed in Colombo Stock Exchange out of 288 listed companies for the years 2006-2012. Therefore suggestion can be provided to extend the sample size and time period which might provide a better picture regarding the effect of dividend payout ratio on future earnings growth in Sri Lankan listed companies.
- This research only considered short & medium term future earnings growth (one and three year time horizon). A new study can be conducted on impact of dividend payout ratio on future earnings growth at five & ten year time periods
- The researcher has used individual firm level approach in investigating relationship between dividend payout ratio & future earnings growth of firms. However another approach available is market level approach which has been adopted by Arnott & Asness (2003) and Parker (2005).

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