

# Earnings Fluctuation on Share Price Volatility



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## ABSTRACT

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Stock price volatility is the platform for the investment decision of investors. The common phenomena, day by day environment becomes more competitive. Success of the investors depends on the information availability of the market. It is essential to identify the how share price volatility based on the earnings fluctuations since it is main determinant, although there several environmental factors influence to share price. The sample of the study composed of 30 listed companies including Beverage Food and Tobacco, Manufacturing, Diversified Holdings from data 2011 to 2015. The results revealed the share price more volatility based on the Price Earnings Ratio and Earnings per Share of the company, it significant at 1% level.

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**KEYWORDS:** *Share Price, EPS, DPS, P/E Ratio, Dividend Pay-out Ratio*

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## Introduction

It is generally arranged maximization of shareholder wealth is a financial goal of the organization, as reflected in the market value of the firm's shares. They invest their money in the shares of a company in the expectation of a return of their invested capital. Earnings indicate whether the business will be profitable and successful in the long run. Ultimately, a business's earnings are the main determinants of its share price. So the earnings are the amount of profit that a company produces during a specific period, which is usually defined as a quarter or year. Earnings represent a measure of the change in the value of the firm to common equity shareholders during a period. The market price of the share is mainly depending on Demand and Supply of a particular security in the market. The effective

market hypothesis (Fama, 1970) asserts that financial markets are effective and that share prices reflect all the relevant information available to the market. The market would react quickly and completely too new earnings information, as a signal of the financial health and future prospects of the company (AL-Malkawii, 2007). (Basu, 1977) in the earnings Multiplier Model asserts that earnings are the most important factor that determines the real value of the company. If earnings are fluctuating that share price is changing because of that, investors use company information to determine their investment decision.

Share is an equity security which has primary and secondary market. In Colombo Stock Exchange (CSE) is a secondary market that shares are buying and selling. Several studies done in this

market have shown price volatility with different factors such as unit trust returns, general elections and inflation. Price volatility has been found to negatively correlate with investment in developing countries (Marion & Aizenman, 1999).

Management uses earnings as a tool to convey private information to shareholders (AL-Malkawii, 2007). It is important signaling devices used by managers to transmit information to the public about the state of health of the firm and the firm's future prospects (Lonie, Abeyrathna, Power, & Sinclair, 1996). (Beaver, 1998) Suggested three theoretical links between earnings and share prices. He assumed that current period earnings provide information to predict future period's earnings, which provide information to develop expectations about dividends in future periods. This in turn provides information to determine share value. New earnings information that activates a change in investors' expectations for future dividends should correspond with a change in the market value of the firm's stocks.

It was therefore important to determine the relationship between earnings and share price at the Colombo Stock Exchange (CSE). In this research, examine the how impact earning fluctuations on share price volatility.

### **Literature Review**

In this chapter includes hypothetical and empirical theories have granted many results that attempts to explain the earnings fluctuation on share price volatility. This chapter contains theoretical review and empirical review.

### **Theoretical Review**

This section contains theories and models about impact of earning fluctuations on share price volatility. It include: efficient market hypothesis, signaling hypothesis, earnings multiplier model and factors affecting share prices.

### **Efficient Market Hypothesis**

According to (Fama, 1970) efficient market hypothesis states, share prices fully reflect all

accessible information available in the market. In such case, new announcement, essential information will be immediately reflected in share prices. Market efficiency does not assume that the capital markets are omniscient. Nor does market efficiency assume prices are prescient. Market efficiency is not an absolute-it is not that prices either are or are not efficient. Instead, market efficiency is a matter of degree, which describes how much information prices reflect and how quickly prices react and reach new equilibrium levels. (Fama, Efficient Capital Market II, 1991) Proposes that the efficiency of the market can be present in three forms: weak form, semi-strong form and strong form. Weak form efficiency occurs when prices reflect only the information on historical share prices. Semi-strong form efficiency occurs when prices reflect all publicly accessible information such as dividend payment announcements and earnings forecasts. Strong form efficiency occurs when the market prices are set under the influence of historical and public information but also under the influence of private information and confidential one, which is accessed by some group of investors.

### **Signaling Hypothesis**

Management tends to have more precise and timely information about the firm than outside investors. There is therefore information asymmetry between managers and investors. To bridge this information gap, management use earnings and dividends as a tool to convey private information to shareholders (AL-Malkawii, 2007). Earnings announcements are one of the important signaling devices used by managers to transmit information to shareholders and investors about the firm's financial health and future prospects (Lonie, Abeyrathna, Power, & Sinclair, 1996). Earnings announcements are one of the critical components of testing market efficiency. Thus, earnings provide a yardstick that can be utilized by the market to assess the wealth and profitability of a firm.

## **Earnings Multiplier Model**

(Basu, 1977) in the earnings multiplier model (PE) argued that earnings is the most important factor that determines the financial health and real value of a company and which in case of rational investors it should determine the share price. Earnings multiplier (PE) model pioneered by (Basu, 1977) is a common measure used to indicate market assessment of a company's earnings relative to their current stock price. The rationale underlying the basic concept is that value of any investment is the present value of future earnings.

Many investors prefer capital gain and not dividends (AL-Malkawii, 2007) therefore focusing solely on dividend is less desirable and the earnings multiplier or P/E model remains a popular approach to valuation. Since dividend is paid out of earnings, investors must estimate the growth in earnings before they can estimate the growth in dividends or dividends themselves. To the rational investors, the earnings multiplier reflects their expectation about the growth potential of a stock and the risk involved.

## **Other Factors effects to share price**

The market price of the share is mainly determined by the forces of demand and supply of a particular security in the market (Khanna, 1982). The share price is subject to extreme fluctuations depending on several factors. Knowledge of such factors and their possible impact on share prices is highly appreciable as it would help investors make wise investment decisions and enable firms to enhance their market value. The factors that influence share prices could either be internal factors, such as earnings, dividend and book value or external factors such as interest rate, government regulations and foreign exchange rate (Nirmala, 2011). Market price of the share depends upon many factors, such as earnings per share, dividend per share, dividend payout ratio, and size of the firm and dividend yield (Singh, 2006). Gordon (1959) asserted that share price is determined by earnings and dividends. (Collins,

1957) Also suggested that dividend, net profit, operating earnings and book value are factors influencing share prices.

## **Empirical Review**

### **Developing Countries**

(Singh, 2006) Used data from 160 Indian firms between 2001 and 2005 and found that earnings per share, price-earnings ratio, dividend per share, dividend coverage, dividend payout, book value per share, and firm size are the determinants of share prices. However (Srivastava, 1984) did cross- section study of 327 companies in India. After carrying out a correlation analysis using multiple regression models he concluded that earnings have no significant effect on market prices of securities in India. Opposite to economists of Srivastava (Gordon, 1959) concentrated his study on modeling share prices. He critically evaluated three possible hypotheses with regard to the investment decision. These hypotheses which the investor considers when acquiring a share are: the earnings, the dividends or both. He studied the relationship among the share prices, dividends and earnings by regressing the share prices against dividends and earnings and used the elementary theory to explain the variation in stock prices with dividends and earnings. Gordon's findings support that both dividends and earnings have power in explaining the movement in the share prices. The dividends and income capture a substantial fraction ( $R^2 > 0.85$  in all cases) of the variation in the dependent variable, the share prices. Similarly (Brown, 1968) correlated the sign of the abnormal stock return in the month of an earnings announcement with the sign of the earnings change over that firm's previous year's earnings. They found a significantly positive correlation. A portion of the earnings increase experienced by the firms classified as 'good news firms' was a favorable surprise to the market, which led to increased security prices, (Brown, 1968) provide evidence using two earnings expectation models: a simple random walk model and a market model in

earnings. Conversely (Ndete, 1999) find out whether the P/E ratio is an indicator of investment of ordinary shares. He also sought to show whether there was a relationship between P/E ratio and three other variables; growth in earnings, variation in earnings (risk) and dividend payout. The results showed that there was a weak relationship between the P/E ratio and earnings growth, variation in earnings and dividend payout ratios. Similar to (Ndete, 1999) there was no statistically significant difference in returns of shares with low P/E and those of high PE by (Muthui, 2003). Nevertheless (Al-Deehani, 2005) examined the determinants of share price for companies listed on the Kuwait stock exchange. The empirical findings showed that the variables; previous earnings per share, previous cash dividends per share, previous cash dividends per share, previous return on equity, previous price to book value ratio and previous cash flow per share are all highly correlated with the share price. As well as (Somoye, 2009) showed the variable dividend per share, earning per share and GDP exerts a positive correlation to stock prices but are not significant determinants of share price. No local studies have been conducted to determine the relationship between earnings and share price. Agreed to past review of (Gordon, 1959), in (Zaredadeh, 2011) indicate that there is a positive and significant relationship between Earning per Share (EPS) and stock price of the company. However, there is a negative and significant relationship between Dividends per Share (DPS) and Price to Earnings ratio (PE) of the company.

### **Developed Countries**

There are several studies done in developed countries so (Hadassin, 1974) examined the behavior of earnings and stock price of South African listed companies. He found, there is positive correlation between earnings and stock prices of companies. (Healy, 2014) Investigated determinants of telecommunication stock prices. Purpose is to analyze the determinants affecting the share prices of telecommunication firms in

both developed and developing countries around the world. The test result reveals that capital expenditure and book value are the most significant factors, dividends and debt levels only affect prices significantly in specification tests with either time-series or cross sectional effects.

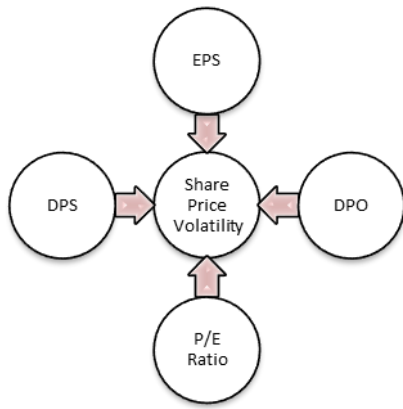
### **Sri Lankan Milieu**

(Tanweer Hasan, 1986) CSE does not conform to the weak form of the efficient market hypothesis so no any indications movement of share prices based on the EPS variations. However according to (Colombage, 2002) reveal shares displayed a positive and negative persistence in their successive returns, only a minority of securities displayed a statistically significant departure from independence. (Gunathilaka, 2014) it suggest asset price in other word share price are closely determined by the investors' expectation of both the firm related factors such as return, size, dividend policy etc. Likewise (Premkanth, 2013) expose in the separate regressions significant positive relationship between dividend payout and P/E ratio. Correspondingly (Pratheepkanth, 2015) examined the EPS and its impact on SP in Milanka companies in CSE. They find more than 70% of Milanka companies have positive relationship between EPS and SP movements. Although in developing countries identify positive relationship in between share price and dividend payout, EPS, P/E ratio, DPS ratio in Sri Lankan situation it is varies from time to time. Hence there is prerequisite further elaboration to identify this situation in Sri Lanka.

The next chapter deliberate tool to identify this most essential relationship in between how share price volatile based on the earnings fluctuations.

### **Conceptualization**

Identify the relationship in between share price volatile based on the earnings fluctuations. Independent variables are EPS, DPS, PE Ratio, and Dividend Payout Ratio. Dependent variable is Share Price Volatility. It illustrated as below;



**Figure 1 : Conceptualization**

**Research Hypothesis**

- H<sub>1</sub>:** There is a positive relationship between EPS and Share price Volatility
- H<sub>2</sub>:** There is a positive relationship between DPS and Share price Volatility
- H<sub>3</sub>:** There is a positive relationship between P/E Ratio and Share price Volatility
- H<sub>4</sub>:** There is a positive relationship between Dividends Payout Ratio and Share price Volatility

**Operationalization**

**Independent/ Explanatory Variables**

EPS	Total Earnings for the year / No. of Equity Share outstanding
DPS	Total of Dividend paid to Equity shareholders / No. of Equity share outstanding
P/E	Market price per share / EPS
DPO	DPS/EPS
Dependent/ Explained Variable	
Share Price(SP)	(Highest Price + Lowest Price)/2

**Figure 2 : Variable Description**

**Data Description and Sample**

**Data Collection**

Pool of possible cases is too large, would cost too much and take too long so according to statistics this study used stratified random sampling techniques to collect secondary data from CSE.

**Sample Selection**

This study utilizes the listed companies in Sri Lanka as its population. As sampling methods it

select stratified random sampling to conducted research. It ensures that only those firms continuously listed and active in the entire period between 1st April 2010 and 31st March 2015 were studied. It also ensured that the sample represented all the sectors of the economy.

Sector	Sample
Beverage Food & Tobacco	09
Manufacturing	12
Diversified Holding	09
Total	30

**Figure 3 : Sample Selection**

**Method of Data Analysis**

Current study has analyzed based on classical linear regression assumptions. To analyze the data used SPSS package version 21.0 and output of raw data analysis respectively given below;

**Descriptive Statistics**

It is the data analysis which summarizes statistical data in meaningful way. As a example Maximum, Minimum, Mean Standard Deviation Of the Study.

**Correlation Analysis**

It deal with linear association among the variables

**Regression Analysis**

It involves identifying the relationship between dependent variables and one or more independent variables. A model of the relationship is hypothesized; estimates of the parameter values are used to develop an estimated regression equation. According to this study multiple regression equation is below;

$$P_t = \infty + B_1EPS_t + B_2DPS_t + B_3PE_t + B_4DPO_t + U_i$$

Where;

- $\infty$  = Intercept
- B = Slope
- EPS = Earnings per Share
- DPS = Dividend per Share
- PE = Price Earnings Ratio
- DPO = Dividend Pay-out Ratio



## Data Analysis and Interpretation

This chapter involves the findings and discussion of the results. The study targeted to find the earnings fluctuations impact on share price volatility of companies listed in CSE and interpret the results study used five year data of thirty selected companies.

### Descriptive Statistics

**Table 1:** Descriptive Analysis

	N	Minimum	Maximum	Mean	Std. Deviation
EPS	150	.04	82.43	13.84	13.56
DPS	150	.03	43.60	4.96	8.26
P/E	150	.81	107.62	17.23	15.39
DPO	150	.01	3.00	.36	.33
SP	150	3.10	2105.00	2.2	329.54

Descriptive Statistics measures central tendency it means the tendency of data values to cluster or group around a central value. Mean of all independent variable arranged 0.36 to 17.23 and

**Table 3** Regression Analysis

Model	Unstandardized Coefficient		Standardized Coefficient	T	Sig.
	B	Std. Error			
(Constant)	-172.658	35.943		-4.804	.000
EPS	14.438	2.295	.595	6.292	.000
DPS	4.541	3.493	.114	1.300	.196
PE	11.902	1.022	.556	11.641	.000
DPO	31.899	54.984	.032	.580	.563
R-Square	.71				
Adjusted R-Square	.70				

a. Dependent Variable: SP

According to regression coefficients in table 3 above, the following regression equation was estimated;  $P_t = -172.658 + 14.438EPS + 4.541DPS + 11.902PE + 31.899DPO + U_i$

The coefficient consists with EPS (14.438) was positive indicating a direct relationship in which higher value for EPS were associated with higher

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altogether this five years EPS and P/E Ratio indicates favorable mechanism to investors which mean values are 13.84 and 17.23. In all cases this distribution is relatively flat of the variables.

### Correlation Analysis

**Table 2 :** Correlation Analysis

	EPS	DPS	PE	DPO
EPS				
DPS	.741**			
PE	.629**	.180*		
DPO	.036	.423**	.269**	
SP	.577**	.639**	.561**	.270**

According to correlation coefficient of the variables of the study, all independent variables positively correlate with share price. There is moderate positive relationship between SP with EPS, DPS and P/E Ratio at 1% significant level.

Regression Analysis

value for share price constant for other variables, if EPS increased by 1 unit share price would increase by 14.438 units. It is significant at 1% level. The coefficient consists with price earnings ratio (11.902) was positive indicating a direct relationship in which high value for price earnings ratio were associated with high value for share

price constant for other variables, if price earnings ratio increased by 1 unit share price would increase by 11.902 units. It is significant at 1% level. As per above table EPS and P/E ratio are only significant at 1% level. It means to reflect share price only influence come from Earnings per share and Price Earnings Ratio. However according to model summary value Adjusted R-square value is 0.70 or 70% thus Dependent variable of share price explained by its selected independent variables around and large impact come from EPS and P/E Ratio.

The efficient market hypothesis (EMH) (Fama, 1970) asserts that financial markets are efficient and that share prices replicate all the applicable information available to the market. The empirical results of the study approve with the hypothesis in that changes in EPS are related with changes in the share prices. The findings also support the signaling hypothesis which states that there is information irregularity between investors and firm managers. The investors use information released by the company, such as earnings information, as a signal of the financial health and future prospects of the company (AL-Malkawii, 2007). As a result change in earnings result in change in share prices of firms.

The findings have shown that DPS has a stronger significant positive correlation with share price than EPS. This shows that investors in the Kenyan market value dividends more than capital gains. This approves with the bird in hand theory of dividend policy which suggests that investors would rather accept dividends which is more certain than capital gains, (Gordon, 1959) found that although EPS is a strong predictor of share prices DPS had stronger descriptive power than EPS. (Gordon, 1959) Stated that investors invest in shares either for dividends or earnings or for both dividends and earnings. Current period earnings provide information to guess future periods' earnings. The future periods' earnings provide information to develop prospects about dividends in future periods. The future period's

dividends in chance provide information to determine share value and hence the share price.

## Conclusion

The present study was undertaken to examine the earnings fluctuations impact on share price volatility of firms listed at the CSE. The results show that there is a significant relationship between earnings fluctuations and share price volatility. The study also showed that earnings and dividends are among the strongest predictors of share price. It was also establish that there were other variables that were significantly correlated with share price. EPS and PE significant positively impact on share price volatility, DPS not significant positively impact on share price behavior and PE significant negatively impact on share price behavior. In this research accept objectives of the research.

It recommends Earnings are strongly affected to the share price. The investors need to consider change in earnings when making investment decisions in order to maximize their returns. It is important that company managers make decision that develops increase in earning that will attended by increase in share prices. It affects to increase the value of the firm. Because of that if increase of earnings investor invests more funds for buy shares. Result of study also showed that dividend is a strong factor of market price. Liberal dividend policy recommended and it is suggested that companies pay regular dividends. This policy positively affects to increase of market share price.

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