THE IMPACT OF ACCOUNTING INFORMATION ON SHARE PRICES: A STUDY OF LISTED COMPANIES IN SRI LANKA

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Abstract

The stock price of securities is one of the most important variables for valuation. Managers are looking for information that can assist them in predicting stock prices. This enables managers to develop dimensions that better decisions based on accurate information on financial variables can make the necessary. The main objective of this study is to explore the relationship between equity price with earnings, dividends and net asset. The present study examines the impact of Earning per share,(EPS) Dividend per share (DPS) and Net assets value per share (NAVPS) in the formulation of stock prices on a sample of 65 companies listed on the price in Colombo Stock Exchange (CSE) during the 2010-2014 period. The resulting evidence suggests that the joint explanatory power of the above parameters in the formation of stock prices increases over time. Earnings are the most widely used accounting information for investment decisions in Sri Lanka, followed by dividends and net book value. Therefore, the study suggests that companies should improve the quality of earnings as manipulated earnings (of which Dividends are subsets) have significant effects on share prices.

Keywords: Accounting information, Stock prices, Stock returns, Dividend per share, Book value

1. INTRODUCTION

Capital markets are considered as one of the most important economic sectors of countries. Economic decision making requires comprehensive and timely available information that helps them to be the optimal way of allocating resources that the capital market is responsible for this important. The stock price is one of the most important variables for valuation of securities. On the one hand investment development Attract efficient capital and led them to the productive sectors of the economy and the other hand, orientation of investors (based on risk and returns), will be led investments in industries that have benefit and This will result in resource allocation (Jones,2005).

Historically, market data have always conquered over accounting data when it comes to identifying the factors that affect stock prices. In the recent years, an increasing number of empirical studies indicate that the financial statements of entities certain parameters that play a critical role in the course of their respective equities in the stock market.

The scope of this study is to examine the effect of the accounting information on the Colombo Stock Exchange (CSE), by analyzing data extracted from the financial statements of a sample of CSE listed companies.

1.1 Statement of the problem
The stock market has become a popular subject among the public especially among investors as well as academic researchers. Particularly, they are concerned about the predictability of share prices and the variable related to it. Financial analysis is the process of determining the significant operating and financial characteristics of a firm from accounting data and financial statements. The financial statements contain a wealth of information, which, if properly analyzed and interpreted, can provide valuable insights into a firm’s performance. These statements provide investors with essential information to evaluate their investments decisions. Therefore, this research study carried out to investigate the impact and relationship between financial information content in annual reports and share prices of listed shares in Sri Lanka.

1.2 Research Question

Whether a listed company’s accounting information is useful to explain its market value, in the context of the share market in Sri Lanka?

1.3 Research Objectives

1) To investigate the dynamic relationship between accounting numbers and market values of listed companies on the Colombo Stock Exchange.

2) To analyze the ability of accounting information to affect share prices of firms listed on the Colombo Stock Exchange;

2. LITERATURE REVIEW

By reviewing the previous researches, there are number of evidence on the importance of financial information and their value relevance is publicly available. Among them different studies have paid attention on different ways like value relevance of earnings, value relevance of net asset, value relevance of dividend and the overall value relevance of accounting and non-accounting variables.

Value relevance is defined in the extant literature as the association between accounting variables and equity market values. Although the literature examining such associations extends back at least 30 years (Miller and Modigliani, 1966) the first study of which are aware that uses the term “value relevance” to describe this association is Amir, Harris and Venuti (1993). Beaver (1999) and Barth (2000) provide formal definitions that are closely related to above. The key commonality in the definitions is that accounting variables are estimated value relevant if it has a significant association with equity market value.

Stock price changes are often used to explain the accounting data referred to in the relevant literature. Perera and Thrikawala (2010) have revealed statistically relationship between Accounting Information and Market Price per Share. This study finds that investors use accounting information for making their investment decisions. Karunaththne and Rajapakse (2010) reported that the value relevance of accounting information is more value relevant under the Price model than under the Return Model.

Collins, Maydew and Weiss (1997) have revealed that the joint explanatory power of earnings and book values has not declined in the last forty years. To the contrary, they stated that their
explanatory power has increased in the same period. This conclusion is reached by several other authors as Barth, Beaver and Landsman (1998) and Keener (2011, while Burgstahler and Dichev (1997) suggested that the function which defines the relationship between stock prices and earnings and book values is convex. Also, Holthausen and Watts (2001) and Negakis (2005), after reviewing the relevant literature, concluded that earnings and book values do not affect in the same manner stock prices. Other studies (Hirschey et al., 2001; Aaker and Jacobson, 2001; Graham et al., 2002; Al-Harbi, 2003; Liang and Yao, 2005; Junttila et al., 2005; Tan and Lim 2007), have identified a variety of relationships between the above parameters. Vijitha and Nimalathasan (2014) revealed that accounting variables have significantly explanatory power over share price. And also a number of researchers have provided evidence that the effect of earnings and book values on stock prices is different for different industries (Hughes, 2000; Boone, 2002; Riley et al., 2003; Zhao, 2010) or different countries (Filip and Raffournier, 2010; Alsaman, 2003; Martinez, 2003; Habib, 2004; Junttila et al. 2005; Goodwin and Ahmed, 2006; Ibrahim et al., 2009; Bo, 2009). Chandrapala (2013) reported that the value relevance of earnings and book value is below average and the value relevance of accounting information of firms with ownership concentration is higher than that of ownership non-concentrated firms.

Chandrapala (2010) found that EPS, BVPS and ROE have positive relationship on market value of securities. Chandra and Ro (2008) found that the value relevance of earnings and revenues remained constant over time, while Jenkins, Kane and Velury (2009) have proved that future business expectations kept value relevance of earning high. Canibao, Garcia-Ayuso and Rueda (1999) examined accounting data taken from Spanish companies, showing that the joint explanatory power of earnings and book values has not declined in the latest decades. However, their results demonstrated a slight decline in the marginal explanatory power of book values in relation to earnings. Musthafa and Jahfer (2013) revealed that book value per share (BVPS), earnings per share (EPS) and operating cash flow per share (OCFPS) have a positive and statistically significant relationship with market value per share (MVPS). Tharmila and Nimalathasan (2013) found that earning per share EPS and net assets value per share NAVPS have significantly positive relationship with market price per share (MPPS).

3. METHODOLOGY

This study reflects the relevance of earnings, dividends, and net asset value and their contribution for explaining share price with the Ohlson (1995) model with respect to listed companies in Sri Lanka.

3.1 Conceptual framework

Based on the Ohlson (1995) model, the conceptual framework of this study has been derived (see figure 1) this would also help the study to explore the relationship of accounting variables to equity price of a firm’s shares. Thus the present study uses the model that includes all of the main financial statement measures as follows (Fig. 1):

Figure1: Conceptual model of value relevance
There are three independent variables (Earnings, Dividend and Net asset) and they have been measured on per share basis.

Equity price is considered as a dependent variable and it is in simple term the market price of particular company’s shares at a particular time.

3.2 Hypotheses

Based on the conceptual framework, the following hypotheses are developed in order to achieve the aim of this study.

H1: There is positive relationship between net asset value and market value of equity.
H2: There is positive relationship between earnings and market value of equity.
H3: There is positive relationship between dividend and market value of equity.

3.3 Operationalization

This study considers market value of equity as the dependent variable and earnings, dividends and net assets are as the independent variables on per share basis. The operationalization is also considered in the same context. (See table 1)

<table>
<thead>
<tr>
<th>Dependent(explained) variable</th>
<th>Independent (explanatory) variables</th>
<th>Indicators to measure the variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Share price market value per share</td>
<td>Net asset value per share</td>
<td>Total net asset &amp; No. of shares</td>
</tr>
<tr>
<td></td>
<td>Earnings per share</td>
<td>Net earnings &amp; No. of shares</td>
</tr>
<tr>
<td></td>
<td>Dividend per share</td>
<td>Gross dividend &amp; No. of shares</td>
</tr>
</tbody>
</table>

(Source: operationalization for this study based on the Ohlson (1995) model)

3.4 Model of the Study

Basically, the Ohlson (1995) model considers the relationship between accounting numbers and equity price of a firm for measuring its market value. Some studies have reformulated the ohlson (1995)model to explore the relevance accounting numbers with different contexts(e.g.; Senthil nathan 2009a;brief and zarowin 1999;hand and landsman 2005;ota 2001).most studies consider the Ohlson (1995) model as the key and appropriate model for examining the value relevance of accounting variables and other information.in the same context, this study also
reformulates the ohlson (1995) model and attempts to examine the relevance of net asset value, earnings and dividends as content values in the equity price, at time t, as implied in Ohlson (1995).

Basic and simplest form of ohlson’s (1995) model is

\[ p_t = y_t + \alpha_1 x_t^{AR} + \alpha_2 V_t \]  \hspace{1cm} (1)

Where,

- \( p_t \) = Equity share price at time t,
- \( y_t \) = Book value at time t,
- \( \alpha_1 \) = Parameter of autoregressive process of earnings,
- \( x_t^{AR} \) = Abnormal earnings per share at time t,
- \( \alpha_2 \) = Parameter of other earnings related information and
- \( V_t \) = Other earnings related information at time t.

This study empirically evaluates the data with regression analysis by employing the above reformulated equation (1). Hence, the empirical linear regression model of this study is:

\[ MVPS_{t_i} = \beta_0 + \beta_1 EPS_{i,t} + \beta_2 DPS_{i,t} + \beta_3 BVPS_{i,t} + \epsilon_{i,t} \]  \hspace{1cm} (2)

Where,

- \( LDSP \) = Last Day Price per share
- \( VRDPS \) = Dividends per Share
- \( VRBVPS \) = Book value per share
- \( VREPS \) = Earnings per Share
- \( t \) = Time dimension
- \( i \) = Individual firm

3.4 Sample and data collection
The paper obtains all necessary data from the Colombo Stock exchange. These data sets span the 5 year period from 2010 to 2014. The sample is consisting of companies listed in Colombo Stock Exchange representing food & beverage, tobacco, manufacturing, plantation, land & property and chemicals & pharmaceutical. These industries are considered as largest sectors since these sectors representing higher number of companies and also these sectors would contribute significantly to the economy. Bank, Finance & Insurance sector is excluded from the sample even it is a largest sector in Sri Lanka. Thus the accounting practices for the financial companies are different from other companies.

4. DATA ANALYSIS AND PRESENTATION

4.1 Descriptive statistics
This study attempts to measure the relevance of accounting variables for explaining the contemporaneous equity price. On per share basis, net assets, earnings and dividends are considered as the independent variables and equity price as the dependent variable. Descriptive results indicate that the value of net assets ranges between 1.98 and 1613.6 with a mean value 1.15 and standard deviation 219.63. Similarly, the results indicate that earnings have the range 0.04 and 368.4 with the mean value and standard deviation as 16.44 and 38.71, respectively. Dividends have dispersed within 0.1 as minimum to 65 as maximum with the mean 4.87 and standard deviation 8.6. Comparatively, the coefficients of variance of the independent variable indicate that there is lower dispersion of dividends than other independent variables, comparatively. The descriptive results indicate that equity price ranges from 0.22 as minimum to 15000 as maximum with the mean value 3 and standard deviation 1146. The descriptive statistics indicate high dispersion of data for every variable in this study, thus questioning the usefulness of the data.

<table>
<thead>
<tr>
<th>Table 2: Descriptive Statistics of the variables</th>
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<tbody>
<tr>
<td><strong>N</strong></td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>EPS</td>
</tr>
<tr>
<td>DPS</td>
</tr>
<tr>
<td>NAVPS</td>
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<tr>
<td>MVPS</td>
</tr>
</tbody>
</table>

4.2 Correlation Analysis

**Correlation between Equity Price and Net Assets**

The correlation analysis reveals that there is positive significant relationship between net assets and the equity price (R = 0.776, p < 0.01), thus implying that net assets as the independent variable have explanatory power for explaining the contemporary equity price. Barkham and Ward (1999) and Liow (2003) explores the usefulness of net assets value as a factor in determining a firm value in property development business, thus implying a positive correlation between net assets value and equity price. Consistently, our results also spell the same as positive relationship of net assets value to equity price.

<table>
<thead>
<tr>
<th>Table 3: Result of correlation between variables</th>
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</thead>
<tbody>
<tr>
<td>EPS</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>EPS</td>
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<tr>
<td></td>
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<td>DPS</td>
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</table>
Correlation between Equity Price and Earnings

Similarly, earnings also have a positive significant correlation with the equity price (R = 0.388, p < 0.01). Many studies endorse that there is a positive relationship between non-negative earnings and equity price (e.g., Senthil Nathan, 2009c; Alfaraih and Alanezi, 2011; Graham and King, 2000; Karunaratne and Rajapaksa, 2010).

Alfaraih and Alanezi (2011) also evaluate correlation coefficient for the relationship between earnings and equity price. This study reveals that earnings and equity price have positive significant correlation (R = 0.71, p < 0.05) at the 5% level and our study also consistently reports such a significant relationship between earnings and equity prices. Further, Karunaratne and Rajapaksa (2010) also indicates that there is positive significant correlation between earnings and equity price (R = 0.590, p < 0.01) in relation to the firms in Sri Lanka. Notably, our correlation results (R =0.388, p < 0.01) for the relationship between earnings and equity price are also very close and supportively consistent with their study.

Correlation between Equity Price and Dividends

The results indicate that dividends also have a positive significant coefficient for explaining the equity price (R = 0.266, p < 0.01). According to Ohlson (1995), the model endorses negative relationship between dividends and equity price (see equation (3.14) in Chapter 3). The positive significant correlation coefficient (R = 0.266, p < 0.01) between dividends and equity price in this study is not consistent with Ohlson's (1995) specification. However, the dividends declaration would take place after the forming of the fiscal yearend equity price. Hence, dividends in this study possibly explore a positive relationship with equity price, since the dividends declared (after the formation of fiscal yearend equity price) might have been representing the information as the proxy for expected dividends that has been incorporated in the yearend equity price.

Overall results of the correlation coefficients between independent and dependent variables have meaningful significant relationship. It simplifies that accounting variables of net assets, earnings and dividends have individual explanatory power for explaining contemporaneous equity price.

4.3 Regression Analysis
Regression analysis shows how to determine nature of relationship between two or more variables. The known variables are called the independent variables. The variable that is to be predicted is the dependent variable.

Table 4: Model summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.835&lt;sup&gt;a&lt;/sup&gt;</td>
<td>.698</td>
<td>.693</td>
<td>634.45801</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), NAVPS, DPS, EPS

The Model summary (table 4) shows the impact of independent variable and dependent variable. According to that Adjusted R square is 0.698. It means that there is 69.8 % of the impact of the independent variable on the dependent variable. It indicates that value relevance of accounting information has 69.8% impact on stock price.

Table 5: Coefficients summary

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
<th>B</th>
<th>Std. Error</th>
<th>Beta</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>-80.969</td>
<td>51.445</td>
<td>-1.574</td>
<td>.117</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EPS</td>
<td>-8.999</td>
<td>1.666</td>
<td>-.304</td>
<td>-5.402</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>DPS</td>
<td>-31.426</td>
<td>6.413</td>
<td>-.235</td>
<td>-4.900</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>NAVPS</td>
<td>5.908</td>
<td>.307</td>
<td>1.132</td>
<td>19.216</td>
<td>.000</td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: MVPS

This linear regression equation shows that β equals to -8.999, -31.426, and 5.908. That means slop of the regression line, which simply indicates that there is a positive relationship between the EPS and DPS, NAVPS. DPS has a significant positive relationship with stock price (p (0.000) < 0.05). NAVPS also has a significant positive relationship with stock price (p (0.000) < 0.05) and also EPS has the positive relationship with stock price at 5% significant level (p (0.000) < 0.05). The value of “α” (Constant Value) is -80.969.

4.4 Hypothesis Testing

H1: There is a significant relationship between NAVPS and stock price
According to the result of correlation analysis refers in the Table 3; there is a strong positive relationship between Net asset value per share and stock price at 1% significant level. Its p value (0.000) is less than 0.001. Hence the researcher rejects the null hypothesis (H0) and accepts H1.

Table 6: Summary of the Hypothesis Testing

<table>
<thead>
<tr>
<th>No</th>
<th>Hypothesis</th>
<th>Results</th>
<th>Tools</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
<td></td>
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</tbody>
</table>
H1: There is a significant relationship between EPS and the stock price
Accepted
Regression
/Correlation

H2: There is a significant relationship between DPS and the stock price.
Accepted
Regression
/Correlation

H3: There is a significant relationship between NAVPS and the stock price.
Accepted
Regression
/Correlation

H2: There is a significant relationship between EPS and the stock price
According to the result of correlation analysis refers in the Table 3; there is a strong positive relationship between Earning per share and stock price at 1% significant level. Its p value (0.000) is less than 0.001. Hence the researcher rejects the null hypothesis (H0) and accepts H2.

H3: There is a significant relationship between DPS and the Stock price.
According to the result of correlation analysis refers in the Table 3; there is a strong positive relationship between Dividend per share and Stock price at 1% significant level. Its p value (0.000) is less than 0.001. Hence the researcher rejects the null hypothesis (H0) and accepts H3.

5. CONCLUSION AND RECOMMENDATIONS

This study compares the incremental value relevance of net assets, earnings and dividends for explaining the contemporaneous equity price in Sri Lankan share market. In this study, reformulated incremental value relevance model has been used to explain the equity price in Sri Lankan share market by employing the Ohlson (1995) model. Hence, this study attempts to associate the accounting variables with equity price to evaluate the correlation coefficient and regression results for examine the impact of accounting information on share prices in Sri Lanka share market. Especially, sixty five companies have been tested for a five years period from 2010 to 2014.

The correlation coefficient results suggest that there is a positive significant value relevance of net assets, earnings and dividends for explaining the equity price. This indicates that the independent variables have explanatory power for explaining the contemporaneous equity price at the significant level. Overall results of the correlation coefficients between independent and dependent variables have meaningful significant relationship. It simplifies that the accounting variables of net assets, earnings and dividends have individual explanatory power for explaining contemporaneous equity price.

The regression pooled, fixed-year, and fixed-sector results reveal that there is a positive significant incremental value relevance of net assets, earnings and dividends to explain the equity price at the 1% level. However, the regression results of individual accounting variables do not reveal sufficient information for valuing a firm. Comparatively, this result reveals inconsistent relationship between dependent and
In this study, the relevance of dividends is explored, since the dividends are proposed after the fiscal year end; and the information of dividends to be proposed (not the contemporaneous earnings information) would have acted as the proxy for future earnings by the end of each fiscal year. Hence, the dividends reveal positive significant incremental relevance, beyond earnings. This is inconsistent with the assumption of Ohlson (1995) model, Miller and Modigliani (1961). And also the same inconsistency prevails in the particular reformulation of Ohlson (1995) model of this study (insisting negative relationship of dividends with equity price), that current earnings can be the proxy for future earnings, since this study reveals that dividends, instead of current earnings, act as the proxy for future earnings.

Generally, the Ohlson (1995) model incorporates accounting variables to explain the contemporaneous equity price. This Ohlson (1995) model and related with reformulated model (e.g., Senthil nathan 2009b; Fama, 1970; Kothari, 2001; and Nilssion, 2003) explain that if the stock market is not efficient, financial statements are not useful and they do not provide information as enough as possible in valuing a firm. Hence, these studies suggest that no fundamental analysis is useful, if the market is inefficient. According to these arguments, this study confirms that this study's inconsistent results do not play major role for valuing a firm which implies that the Sri Lankan share market accounting information are not useful to explain the contemporaneous equity price and it leads to the inefficiency of Sri Lankan share market.

This study attempts to suggest that there are some possibilities of market efficiency for developing the Sri Lanka share market: the firm should disclose the relevant accounting information; they should provide sufficient financial information to the investors to make better decision for their investment; misstatement and error of financial information should be kept away from the financial disclose. It implies that the financial statement should be prepared clearly through the Sri Lanka Financial Reporting Standards.

In this context, this study also attempts to point out the usefulness of accounting information for valuing a firm and assisting the inefficient sectors in getting the proper way of using the accounting information, educating how to handle and direct the accounting variables with proper profit-oriented systems. Furthermore, this study urges the investors in deciding the investment dictions. Final decision in their investment towards successful investing ways for their natural sustainability in their field based on usefulness of accounting information.

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