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Impact of Book Value on Market Value of Equity Shares of Non Financial Companies in Pakistan

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Abstract:

The purpose of the paper is to study the relationship between book value and market value in Pakistani stock market. For this purpose the data of 50 companies listed in Karachi stock exchange for the period of 5 years i.e. from year 2007 to 2011 was collected from SBP Analysis. The data used was panel data so technique of panel data regression was used. Results indicate that there is a significant relationship between book value and market value.

Key words: Book Value, Market Value and Panel Regression

Introduction

The goal of the companies is to increase the value that is offered to their customers. Book value can be used as the measure to check the company's performance in the market as the book value changes market value of the equity also changes. If a company has a high book value then its market value tends to be high, this means that the company has high market capitalization and this will result in higher dividends and hence will attract more and more investors. Book value and market value are of pivotal importance to the company in financial perspective.

Book value and market value are two important indicators of how a firm is performing and to find out if there exists a significant relationship between the two variables this study was conducted. A similar type of study was conducted in India (Bhatt and Sumangala 2013, 109), but no study was found from Pakistan's perspective, so an effort was made to fill this gap in literature, though the study is replication but there is uniqueness in it because of differences in the data. A different technique and arrangement of data is used which was lacking in the previous studies. Some contribution to the existing body of knowledge was intended. This effort might result in fruitful information that can be used for policy making.

The book value affects the market value and this in turn affects the position of the company in the market. Thus it can predict the movement of investors i.e. whether they will sell the shares of a particular company or buy them. The study is an important one in regard of being a very distinct study in the context of Pakistan. The paper is structured as follows: the literature regarding the very title of the paper, the technique that has been applied to gauge the relationship is discussed, then the study discusses the results and discussion tab and concludes with limitation and future research and the conclusion.

Literature Review

To create a better understanding the related terms and the variables used in this research are defined.

Share / stock: when a company needs money it issues shares to the general public so that it can gather money from public and use that money for the business. There are two modes of financing, the company may choose to borrow money and in return it has to pay interest to the lender and the amount borrowed at maturity period or the company may offer ownership of company in exchange of cash invested by shareholders in the company - in return the company has to pay dividends to the shareholders and the money invested in case the company is liquidated or ownership of the company is transferred (shares are sold). The shareholder may not get all the money back that was invested or he may get more that the invested amount; it all depends on the mps and financial condition of the company. (Khan Academy 2011)

Equity shares: People are offering money; in return the company is offering ownership of the company, so the person who is purchasing shares of the company becomes owner of the company. (Khan Academy 2011)

There are two types of shares, namely preferred stock (preference shares) and common stock (ordinary shares). But ordinary shares are of interest to us as in Pakistani stock market most companies have issued common stock, with only few having issued preferred stock.

In the past studies people have used different variables to study their effect on other variables and sometime more than one variable are used to account for one variable. Only some of the past researches are discussed to build the background, being impossible to take into account all the work done.

Collins, Pincus and Xie (1999, 21) discussed what role the book value of equity plays in the valuation of equity.

Burgstahler and Dichev (1997, 187) measured the value of firm's resources irrespective of how they are used in terms of earnings and book value.

Stewart (1997) and Bild (1998) argued that there is difference because market value is governed by future expectations that how company will perform in future and book value is governed by regulations and implementations.

Negative relation is eliminated if book value of equity is included in specification for the process of valuation. (Collins, Pincus and Xie 1999, 21)

Stewart (1997), Kaplan & Atkinson (1998), Fincham & Roslender (2003) Kanodia, Sapra and Venugopalan (2004, 89) have worked on the relationship between market value and book value of equities and have found that there is a difference between them and they have also tried to account for this difference. Fincham & Roslender (2003) argued that the difference in book value and market value of equity is due to the intangible assets.

Singhania (2006) has studied the relationship of different variables such as earning per share, book value, growth rate and dividend per share with market value of equity. Sharma (2011, 51) also conducted a similar study to see the effect of different variables on the market value of equity.

Bhatt and Sumangala (2013, 109) found that the variation in market value of equity can be explained on the basis of explanatory power of earning per share (EPS).

A study was conducted to assess the impact of book value of equity shares on the market value of equity shares in Indian stock market Bhatt and Sumangala (2013, 109). In this article an effort has been made to replicate the study using data from Pakistani stock market.

Methodology

The population for this study is represented by companies listed in KSE. 50 companies are selected partly according to convenience sampling, random selection and partly on the basis of availability of data for five consecutive years. Data is collected from State Bank of Pakistan analysis report available online. Data used is panel data as it is a combination of time series and cross sectional data. So, panel data regression is the technique used for analysis of data.

Data used is already prepared by State Bank of Pakistan in financial statements analysis of companies (non-financial) listed at Karachi stock exchange (State Bank of Pakistan, 2011). The desired data was extracted from the report. In the case data was not available it could be extracted from company's financial statements.

Book value of Equity Shares: The formula to find the book value of one equity share is given below:

$$\text{Book value of Equity per Share} = \frac{Total\ Shareholders\ Equity}{Number\ of\ Shares\ Outstanding}$$

Book Value of equity shares means the value of one share in the company, what amount of money will be paid to a person once the company is liquidated and all its debts are paid. (Khan Academy 2011) (Spaulding) The Book value of equity per share is multiplied with the number of outstanding shares to get Book value of all Equity Shares of a company.

Market value of Equity shares: Market value of one equity share is simply current market price of the equity share. But if there is a need calculate the market value of all equity shares of a company then the market price per share is multiplied with the number of outstanding shares.

$$Market\ vlue\ of\ Equity\ per\ Sahre = Market\ price\ per\ share$$

$$Market\ value\ of\ Equity\ shares = Market\ price\ per\ share \times Number\ of\ shares\ outstanding$$

Market value of equity shares is also known as market capitalization.

Once data is collected, first of all correlations are checked for the two variables. Then the suitable model is determined for regression on the basis of p value, t statistics and Durbin Watson stats.

Common effect model was applied in e-views, the results were significant but to choose between the common and fixed effect model, the fixed effect model was also applied. The results of fixed effect model were significant and more appealing on basis of Durbin Watson stats. Random effect model has to be considered as well; to make a distinction between both fixed and random effect models, the Hausman test was applied. The results of the Hausman test were not significant, so finally it was concluded that fixed effect model should be used.

Results & Discussion:

Mean, median and standard deviation of book value and market value is given in the table 1.

	Book Value	Market Value
Mean	70.60900	148.1096
Median	38.75500	44.14000
Standard Deviation	76.26179	502.4295

Table 1 Mean, Median and Standard Deviation

On the basis of the correlation coefficient (0.379322), t statistic (6.456057) and probability (0.0000) (table 2), it can be stated that there is significant co-movement between book value and market value.

	Book Value	Market Value
Book Value Correlation t-Statistic Probability	 1 ----- -----	
Market Value Correlation t-Statistic Probability	 0.379322 6.456057 0.0000	 1 ----- -----

Table 2 Correlation Matrix

As mentioned in the table, fixed effect has highest values of beta, Durbin Watson stats and R^2 and its t statistic and intercept is the lowest as compared to common and random effect models.

The beta value of fixed effect tells us that if there is a 1 unit change in book value (independent variable) it will cause 2.76 units change in the market value of shares.

	Common Effect	Fixed Effect	Random Effect
Intercept (C)	-28.34617	-47.01207	-41.84287
Beta	2.499054	2.763410	2.690201
P Value	0.0000	0.0000	0.0000
t statistic	6.456057	5.756214	6.414141
Durbin Watson	0.160205	0.911836	0.730042
R^2	0.143885	0.846620	0.142733
Adjusted R^2	0.140433	0.808083	0.139276
Housman Test P Value	-	0.7540	

Table 3 Common, Fixed and Random effect models

Results show that the relationship between book value and market value is significant as the p value is less than 0.05; t statistic is greater than 2 and R^2 (coefficient of determination) value shows that 84.6 % of variation in market value is explained on the basis of book value. The rest is due to alpha and error term; of course, besides book value, there are other participants also that can explain the variation/fluctuation in market value.

Conclusion:

The focus of the study was to determine the relationship impact of book value on market value of equity shares in the perspective of the Pakistani stock market. The data collected was of 5 consecutive years i.e. from 2007 to 2011. Data used was panel data for 5 years of 50 companies registered at KSE and the technique applied was panel data regression within which fixed effect model was used according to the prevailing choices. Results showed that 84.6 % of the variation in market value can be accounted on the basis of book value and the remaining can be explained on the basis of other variables. So, it is concluded that book value has a significant effect on the market value of equity shares in Pakistan.

Limitations and Future work:

Limitations:

- Time constraint: Due to lack of availability of time, data was limited to 5 years.
- Availability of data: Consecutive data of only 5 years was available; there were gaps in the data otherwise.
- Fewer stock markets in Pakistan: there are only 3 stock exchanges in Pakistan.

Future work:

- To establish a generalization, data of more than 50 companies should be used and for 10 to 20 years' time period or frequency of data may be increased by taking monthly, weekly or daily data.
- Data from more than one stock market from different countries may be used to establish international generalization.

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