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Impact of Book Value on Market Value of an Equity Share – An Empirical Study in Indian Capital Market

KEYWORDS: Book Value, Market value of Equity shares, Cross-sectional data, Time series data.

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ABSTRACT *Equity Valuation is a central question which the academicians and researchers in the field of Capital Markets are trying to address through different angles. At the same time, the practitioners in the field of stock trading have been working through different clues. Use of accounting information for equity valuation is a field of research that has seen a lot of activities. In the recent past this field made seminal contribution with the publication of Ball and Brown (1968). The literature has grown rapidly with over 1000 publications in leading International Accounting and Finance journals in the past three decades. A number of accounting variables have been used to explain equity value and equity return. Book value is an important variable affecting the market value of equity share. It shows worth of shareholders stake in a company. Book value is affected both by investment decisions and dividend decisions of a company. Both investment and dividend decisions in turn affect the market value of an equity share. Hence assessing the effect of book value on the market value of equity needs a careful effort. A lot of research in this area has taken place internationally especially with the data of USA. An attempt is made in this paper to study the impact of book value on the market value of an equity share in the Indian context. The study is based on data of 50 companies over a period of 5 years. It is a cross-sectional time series study. Correlation and regression analysis are used to assess the strength of impact of book value on market value of equity.*

INTRODUCTION:

Equity Valuation is a central question which the academicians and researchers in the field of Capital Markets are trying to address through different angles. At the same time, the practitioners in the field of stock trading have been working through different clues. Use of accounting information for equity valuation is a field of research which has seen a lot of activities. In the recent past this field made seminal contribution with the publication of Ball and Brown (1968). The literature has grown rapidly with over 1000 publications in leading International academic Accounting and Finance journals in the past three decades.

A number of accounting variables have been used to explain equity value and equity return. Book value, Profitability in many forms, operating assets, earning, earning per share, residual value, growth in earnings per share, growth in profitability, growth of the company measured in different ways, dividend per share, growth in dividend per share, real option to grow, , real option to abandon are some of the variables used to explain equity valuation.

Book value is one of the important variable which affect the market value of equity share. It is the value of own funds of a company per share. The book value of a company tells us the worth of each share in a company. Generally Book Value helps in fundamental analysis of shares. To know the value of the investments, we shall study the book value of a company. To calculate the book value one shall divide the Net worth (value of own funds) of a company by the number of shares in the market.

Book value it shows worth of shareholders stake in a company. This includes equity capital and reserves and surplus. Capital reserve consisting of share premium, capital redemption reserves, investment allowance reserve and the like forms one part is not available for distribution to shareholders as dividends. Revenue reserve or free reserves arises from business operations of the company and can be distributed to shareholders as dividends.

The book value is a reflection of the past earnings, dividend distribution policy of the company and investment decisions. A high book value indicates that a company has huge reserves and is a potential bonus candidate. A low book value signifies a liberal distribution policy of bonus and dividends, or a poor track record of profitability. Reinvesting retained earnings in profitable business opportunities of the company results in growth of the company. This in turn results in enhancement of equity market value. But book value gets depleted as a result of investment in new business opportunity. Also re-investing retained earnings in unprofitable business will adversely affect both equity market value and book value. Thus both dividend decision and investment decisions affect book value. Also both dividend decision and investment decisions affect equity market value. Hence, what is the relationship between equity value and book value is a relevant question.

REVIEW OF LITERATURE:

Zhang.et.al (2011) has found a complex relationship between equity market value and equity book value. This paper also includes relationship of equity market value with investment growth and profitability.

Gerald A. Feltham, James A. Ohlson (1995) discuss the role of firm's market value and accounting data concerning operating and financial activities.

Daniel W. Collins, Morton Pincus, Hong Xie (1999) Equity Valuation and Negative Earnings: The Role of Book Value. This study finds that including book value of equity in the valuation specification eliminates the negative relation.

Collins. D.W, Morton Pincus, Hong Xier (1989) study the role of book value of equity in the equity valuation.

David C. Burgstahler, Ilia D. Dichev (1997) study the role of Earnings and book value which provides a measure of the value of the firms' resources, independent of how the resources are currently used.

In the Indian context, Singania (2006) establishes a relationship between earning per share (EPS), book value (BV), dividend per share (DPS), growth rate etc and equity market value.

A similar study Sharma (2011) uses several determinants like earning per share (EPS), book value (BV), dividend per share (DPS), dividend pay out ratio, size of the company etc to explain equity market value.

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But the above studies do not raise the issue of explanatory power of each of the variables separately. What is the role of each of the different factors like earning per share (EPS), book value (BV), dividend per share (DPS), dividend pay out ratio, size of the company etc in explaining the variation in market value. This is a relevant question.

Bhatt and Sumangala (2011) have addressed the issue of explanatory power of earning per share (EPS) in explaining variations in market value of equity. The present study makes an attempt to assess the explanatory power of book value (BV) in explaining the variations in market value of equity.

OBJECTIVE OF THIS RESEARCH:
As detailed in the above discussion we have seen that many variables impact the market value of equity. As per research in international level as well as in the Indian context book value is an important variable affecting the equity market value. This paper attempts to find the explanatory power of book value in explaining the variations in equity market value. Then attempt is made to compare the same with the same of earning per share (EPS).

The specific objectives of this research is

- To assess the explanatory power of book value in explaining the market value of equity.
- To compare the explanatory power of book value with that of earning per share (EPS).

DATA:
We use the data available in capital line database of top 50 companies in the ranking of companies by market value as listed by Business To-day survey for 2010. We exclude Banking and other Finance Companies from the sample.

We consider the average closing price of equity market value of the selected companies. Market value of the equity share is the arithmetic mean of the closing price of the equity share for one year. Then we consider book value (adjusted value whenever applicable) for the sample companies

We have collected data about book value and market value of equity share of 50 companies for 5 years from 2006-07 to 2010-2011.

DESCRIPTIVE STATISTICS
We have the following descriptive statistics regarding the variables of the present study.

Table – 1 Market value of equity share

Year	Arithmetic Mean	Std deviation
2006-07	174.55	175.14
2007-08	165.49	157.39
2008-09	106.93	104.48
2009-10	107.97	105.53
2010-11	109.07	97.94

Table 1 gives the details of arithmetic mean, median, and standard deviation of market value of equity of the sample companies of all the 5 years under study. The mean market value is fallen from 2006-07 to 2008-09. It is the lowest in the year 2008-09. It has picked up in the year 2009-10 and continued till 2010-11. This behavior is understandable, since in the year 2008-09 there was a global financial crisis and later years have seen erratic recovery process.

Table – 2 Book Value per share.

Year	Arithmetic Mean	Std deviation
2006-07	34.00	25.67
2007-08	28.42	22.26
2008-09	24.28	21.27
2009-10	20.06	18.38
2010-11	14.63	14.08

Table 2 gives the details of arithmetic mean, median, and standard deviation of book value per share for 50 sample companies. Book value has been highest in the year 2006-07 and it is lowest in the year 2010-11. Book Values have been falling in the period under study.

Table – 3 Correlation coefficient between Market Value and Book Value

Year	Correlation Coefficient
2006-07	0.51
2007-08	0.44
2008-09	0.43
2009-10	0.43
2010-11	0.41

Table 3 shows the correlation coefficient for different years. The values are small but significant at 5% for all the years.

REGRESSION ANALYSIS
We proceed to perform further detailed analysis. A simple linear regression has been attempted as it is the usual starting point.

Table – 4 Intercept Analysis between Market Value and Book Value.

Year	Intercept	t – values	Remarks
2006-07	55.42	3.65	Significant
2007-08	76.49	2.59	Significant
2008-09	55.53	1.46	Not sig
2009-10	58.61	2.32	Significant
2010-11	67.52	1.55	Not sig

Table 4 shows the intercept values between market value and book value. For the year 2006-07, 2007-08 and 2009-10 the values are significant, but for the years 2008-09, and 2010-11 the values are not significant.

Table- 5 Analysis of regression coefficient between Market Value and Book Value.

Year	Regression Coefficient	Standard Errors	t – values	Remarks
2006-07	3.50	0.91	3.09	Significant
2007-08	3.13	0.83	2.94	Significant
2008-09	2.12	1.18	1.79	Not Significant
2009-10	2.46	0.91	3.04	Significant
2010-11	2.84	0.84	4.14	Significant

Next, in Table 5 we have the details regarding the regression coefficient values between Market Value and Book Value all the years from 2006–07 to 2010–11. The above analysis finds that in all the 5 years are significant at 5% level, except in the year 2008-09. This shows that in the Indian context there is a linear relationship between market value and book value.

Table- 6 Analysis of R^2 values of the Regression between Market Value and Book Value

Year	R^2 in %
2006-07	26.01
2007-08	19.36
2008-09	18.49
2009-10	18.49
2010-11	16.81
Arithmetic mean	19.83

Next, in Table 6 we have the details regarding the R2 values between market value and book value for all the years from 2006–07 to 2010–11. R2 is 26.01 in 2006-07. It means 26.01% of variation in equity market value is explained by book value. The R2 value ranges from 16.81% to 26.01% averaging to 19.83%. It means book value explains 19.83% of variation in market value in the period under study. Bhatt and Sumangala (2011) in a similar study regarding. EPS (Earnings Per Share) find that 45% of value of variation in market value is explained by EPS. Thus book value has comparatively less explanatory power than EPS in the impact on market value of equity. In the words of an equity analyst 'The relationship

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between book value and equity market value is not simple as in the case of EPS. While using book value in fundamental analysis, we have to use a lot of judgment'.

This means when a linear relationship is established EPS has a stronger explanatory power in explaining equity market value as compared to book value. Also book value has a complex relationship with equity market value. The explanatory power of book value will increase when we try a non linear relationship along with other variables like profitability and growth on the lines of Zhang 2011.

LIMITATION:

The study has a number of limitations. The conclusions are based on an analysis of only five year data. To make generalizations of strength, we need to take samples of companies over about 10-15 years, and run a panel data regression. Also, there are a number of other accounting variables. When they are also considered, the explanatory power of the regression will improve.

SUMMARY AND CONCLUSION:

In this paper our focus is on the strength of impact of book value on the market value of an equity share. The study is based on the cross – sectional time – series data of 50 companies. From the summary of regression values R^2 ranges from 16% to 26% averaging to 19.83%. The explanatory power of the book value is smaller than that of earnings per share (EPS).

To fully use the potential explanatory power of book value, a non-linear relationship with other variables like profitability and growth should be attempted.

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