

Value Relevance of Accounting Information: An Empirical Study on Construction Companies Listed on Bombay Stock Exchange

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This study aims at providing empirical evidence related to value relevance of earnings per share, book value per share, dividend per share, price-to-book value per share, cash flow from operations, net worth and assets turnover ratio on the share price of construction contract of real estate companies listed on Bombay Stock Exchange (BSE). The study is conducted using secondary data. Two panel data techniques, i.e., fixed-effect model and random effect model, are employed to examine the value relevance of accounting information in construction companies listed on BSE. Earnings per share and price-to-book value per share are reported to have positive and statistically significant relationship with share price.

Introduction

Accounting information provided by financial statement is required to serve different users for a variety of decisions. While different users have different needs for the accounting information of the organization, an investor is definitely expected to look into the financial performance of the company before deciding to invest in it. The decision of the investors is reflected in the stock price movement. Stock prices can also be referred to as market price of shares. After investment, it is the right of the stockholder to be aware as to how his investment is being utilized. Thus, there is lot of emphasis by Company's Act and SEBI on transparency in financial practices for specially listed companies.

Value relevance of accounting information is the ability of accounting numbers in influencing equity share price of listed companies. Accounting information is defined as value relevant if it has a predicated association with equity market values, i.e., stock returns (Sharma *et al.*, 2012). Value relevance studies are designed to assess whether particular accounting figures reflect information that is used by investors in valuing firms' equity (Barth *et al.*, 2001).

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Listed companies use financial statements as a means to communicate with investors and general public. Many studies have examined the impact of Earnings per Share (EPS), Book Value of equity per Share (BVPS), and cash flows on market price of the shares. Such studies have reported that earnings and book values have significant information content for equity valuation of a firm (e.g., Holthousen and Watts, 2001; and Choi *et al.*, 2006). Earnings and book values are considered more value relevant for firm's valuation than cash flows, as cash flows usually have severe matching and timing problems (Ohlson, 1995; and Barth *et al.*, 1998). Studies have also suggested that the value relevance of earnings and book values move inversely to one another, and that decline in value relevance of earnings is accompanied by increase in value relevance of book values (Burgstahler and Dichev, 1997; and Collins *et al.*, 1997).

The aim of the present paper is to judge if an investor gives due importance to the financial information presented by the listed companies. This phenomenon is called value relevance. It later can help answer major questions like: Should SEBI really stress on more transparency norms or not? Every new norm brought in by SEBI makes the financial statement bulky and increases the burden on the companies. But all this is useful only if the end-user understands its importance.

Literature Review

Value relevance is defined as the ability of information that is presented by financial statements to capture and summarize firm value. Oyerinde (2009) defines value relevance as the ability and influence of accounting numbers in capturing equity share price of listed companies at Nigeria stock exchange. According to Beisland (2009), value relevance is the ability of accounting information in capturing and summarizing share price.

Kargin (2013) defines value relevance as the ability of information disclosed by financial statements to capture and summarize firm value. Value relevance can be measured through the statistical relations between information presented by financial statements and stock market values or returns (Suadiye, 2012).

Miller and Modigliani's (1966) study was one of the first studies investigating relations among accounting figures and other financial parameters. Miller and Modigliani investigated equity values that involved cost of capital in electric utility industry. Ball and Brown (1968) highlighted the relationship between stock prices and information disclosed in financial statements. Ohlson (1995) model relates market value of a firm to accounting data (earnings, book values and dividends). The model has been tested by many studies for many countries.

Using a return and price model, Chen *et al.* (2001) examined the relationship between accounting information represented by EPS and BVPS, and stock price in the Chinese stock market during 1991-1998. Their findings showed that accounting information was value relevant according to both pooled cross-section and time series regression.

Safajou *et al.* (2005) examined the empirical relationship of EPS and BVPS with stock market value, using the Ohlson (1995) model for the period 1997-2003. The results showed that there was a significant relationship between EPS, BVPS and price.

Sharma (2014) studied the value relevance of accounting information of book value, earnings and dividend on the share price of public and private sector companies listed in Indian stock market. The results showed dividend and book value to be more relevant in private sector but in public sector only dividend was found to be more relevant, while book value and earnings reported decline in their value relevance.

Charumathi and Suraj (2014) examined value relevance of earnings and book value on the share price of 14 banks (six banks from private banks sector and eight banks from public banks sector) listed in Bombay Stock Exchange (BSE) from 2001 to 2010. They employed regression analysis with theoretical framework of Ohlson (1995) valuation model and reported accounting information of book value and earnings per share to have positive and significant relationship with share price of 14 banks' stock. Similar results were found in another study done by Khanna (2014) on BSE. Further, Sharma *et al.* (2012) used a sample of 71 nonfinancial companies listed on National Stock Exchange (NSE) and reported accounting information of return on equity to be more relevant for equity valuation in Indian market.

Objectives

The main objectives of the study are to:

- Investigate if there is a relationship between accounting information and share price of construction contract of real estate companies listed on BSE.
- Identify accounting information, which is more relevant for equity valuation of construction contract of real estate companies listed on BSE.

Data and Methodology

Market Price of the Share: Market share price, defined as the price that the market assigns to the company's stocks by Oyerinde (2009), is considered as the dependent variable. For the purpose of this study, closing market price is taken as a proxy of market price of the share.

Independent Variables

Book Value per Share: Book value is a company's assets minus its liabilities. In simple terms, it would be the amount of money that a shareholder would get if a company were to liquidate.

Earnings per Share: EPS is the portion of a company's profit allocated to each outstanding share of common stock. EPS serves as an indicator of a company's profitability.

Dividend per Share: Dividend is a payment made by a company to its shareholders usually as a distribution of profits. When a company makes profit it can either re-invest it in the business or distribute it to its shareholders as dividends. The dividend payout ratio is the amount of dividends paid to shareholders relative to the amount of total net profit of a company. A reduction in dividends paid is not appreciated by investors and usually the

stock price moves down as this could point to difficult times ahead for the company. On the other hand, a stable dividend payout ratio indicates a solid dividend policy by the company's management.

Price-to-Book Value Per Share: The Price-to-Book (P/B) ratio is used to compare a stock's market value to its book value. It is calculated by dividing the current closing price of the stock by the latest quarter's book value per share.

Asset Turnover Ratio: Total assets is the sum of all assets, current and fixed. The asset turnover ratio measures the ability of a company to use its assets to efficiently generate sales. The higher ratio indicates that the company is utilizing all its assets efficiently to generate sales. Companies with low profit margins tend to have high asset turnover.

Net Cash Flow from Operating Activities: Cash from operating activities focuses on the cash inflows and outflows from a company's main business activities of buying and selling merchandise, providing services, etc.

Cash from operating activities excludes the amount spent on capital expenditures such as new equipment and new facilities, the cash used for other long-term investments, and the cash received from the sale of long-term assets. Cash from operating activities also excludes the amount paid to stockholders in dividends or to acquire treasury stock, the amounts received from issuing stock and bonds, and the amounts spent to retire bonds.

Net Worth: It is the difference between a company's total assets and its total liabilities. It is also known as shareholder's equity.

Data

The study covers a period of five years from 2011-12 to 2015-16. Secondary data is used for the purpose of the study, including accounting information sourced from the annual reports of construction companies listed on BSE and data related to market share price sourced from the official website of the BSE. For the purpose of examining the value relevance of accounting information on the share price of public sector banks, two panel data techniques, i.e., FEM and REM model, are used and correlation analysis is also used.

Sample

The sample of the study is drawn from the construction contract of real estate companies listed on BSE. Data was obtained from www.moneycontrol.com. Top 20 companies based on their market capitalization were considered for the study. Among them, only 15 companies were selected based on the following criteria:

- Availability of basic accounting information needed for the study.
- Availability of market share price from 2011-12 to 2015-16.
- The companies with negative earnings between 2011-12 and 2015-16 were excluded from the sample.

The sample period of five years used in the study covers a shorter period as compared to the previous study done by Charumathi and Suraj (2014), i.e., 10 years. However, the sample used in the study is regarded to be satisfactory for the analysis. Table 1 shows the list of companies included in the sample.

Model Specification

Fixed-Effect Model

According to Telmoudi *et al.* (2010), fixed-effect model is used to take into consideration the heterogeneity of the companies used in the study as a sample. It is the most commonly used regression model for panel data.

Random-Effect Model

The random-effect model is a regression model used for panel data to take into account the influence of the heterogeneity in the behavior of breaking down the error term into two components (Telmoudi *et al.*, 2010).

The following regression model is developed for the purpose of examining the relationship between EPS, BVPS, ROE, assets turnover ratio and share price:

$$MPS_{it} = \beta_0 + \beta_1 BVPS_{it} + \beta_2 EPS_{it} + \beta_3 DPS_{it} + \beta_4 PBVPS_{it} + \beta_5 ATR_{it} + \beta_6 CFO_{it} + \beta_7 NW_{it} + \mu$$

where $\beta_0, \beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6$ and β_7 are the regression coefficients of accounting variables, MPS is closing market price per share, $BVPS$ is book value per share, EPS is earnings per share, DPS is dividend per share, $PBVPS$ is price-to-book value per share, ATR is assets turnover ratio, CFO is net cash flow from operations, and NW is net worth, μ is the stochastic error correctional term, and i and t represent firm and time (year) respectively.

Results and Discussion

Table 2 shows the descriptive statistics of all the variables. NW shows the highest value of standard deviation (17450.77) and $PBVPS$ shows the lowest standard deviation (1.316520). CFO shows the minimum value (-541.63). The highest mean value is shown by NW (4976.044) and lowest by DPS (1.53).

Table 3 shows the results of correlation analysis between variables. All the variables are correlated to each other. There exists a significantly positive correlation between P/B value

Table 1: List of Companies Included in the Sample

S.No.	Name of the Company
1.	DLF
2.	Oberoi Realty
3.	Godrej Properties
4.	Prestige Estates Projects
5.	Phoenix Mills
6.	Indiabulls real estate
7.	Omaxe
8.	Shobha
9.	Brigade Ent.
10.	Sunteck Realty
11.	Anant Raj
12.	Purvankara
13.	SRS Real Infra
14.	Kolte-Patil Developers
15.	Hub Town

Source: Bombay Stock Exchange Official Website (www.bseindia.com)

Variable	Mean	Maximum	Minimum	Std. Dev.
ATR	21.99652	157.2900	0.180000	29.37658
EPS	6.681304	22.24000	0.200000	5.349349
BVPS	113.9504	239.2100	10.60000	51.62783
MPS	153.3439	403.4500	17.55000	96.11854
DPS	1.539710	7.000000	0.000000	1.402224
CFO	103.4029	1616.890	-541.63	322.7868
NW	4976.044	144614.2	213.1400	17450.77
PBVPS	1.804638	6.840000	0.240000	1.316520

Source: All the Numerical Figures in the Table Calculated from Eviews 9 Version

Variable	ATR	EPS	BVPS	MPS	DPS	CFO	NW	PBVPS
ATR	1							
EPS	-0.069	1.000						
BVPS	-0.404	0.316	1.000					
MPS	-0.334	0.277	-0.062	1.000				
DPS	-0.062	0.728	0.359	0.105	1.000			
CFO	-0.022	0.019	0.060	-0.172	0.045	1.000		
NW	-0.117	-0.107	-0.067	0.092	0.048	0.028	1.000	
PBVPS	0.245	0.119	-0.434	0.722	0.030	-0.182	0.052	1.000

Source: All the Numerical Figures in the Table Calculated from Eviews 9 Version

and MPS. Further, MPS is positively correlated to NW and negatively correlated to ATR, BVPS and CFO. Also, PBVPS is positively related to all other variables, except BVPS and CFO.

Table 4 shows the results of panel data regression obtained from fixed-effect model and random-effect model. The results of fixed-effect model indicate that PBVPS has a large beta coefficient of 53.025, while beta coefficient of EPS is 3.662. Thus, EPS and PBVPS show a positive significant impact on MPS. While DPS, reports negative significant impact on MPS, CFO and ATR show negative insignificant impact on the share price. Thus, it can be concluded that stock investors still rely on the earnings performance (EPS and PBVPS) rather than the BVPS, CFO, NW and ATR.

The results of random-effect model indicate that EPS and PBVPS have positive significant impact on MPS at 95% level of significance. However, DPS and ATR have negative significant impact on MPS. BVPS, CFO and NW have insignificant impact on MPS.

Table 4: Results of Panel Data Regression Analysis of Fixed-Effect Model and Random-Effect Model						
	Fixed-Effect Model			Random-Effect Model		
Variable	Coefficient	t-Statistic	Prob.	Coefficient	t-Statistic	Prob.
Constant	14.658	0.460	0.648	39.096	1.465	0.148
EPS	3.662	2.582	0.013*	4.977	3.782	0.001*
BVPS	0.456	1.793	0.079	0.251	1.351	0.182
DPS	-10.893	-2.102	0.041*	-13.771	-2.354	0.022*
CFO	-0.015	-1.744	0.088	-0.019	-1.511	0.136
NW	0.000	0.709	0.482	0.000	0.496	0.622
PBVPS	53.025	9.962	0.000*	57.532	12.057	0.000*
ATR	-0.716	-0.969	0.337	-1.418	-4.532	0.000*
R-squared	0.971			0.749		
Adjusted R-squared	0.959			0.720		
SE of Regression	23.989			24.166		
F-Statistic	75.954			26.022		
Note: * Correlation is significant at 0.05 level.						
<i>Source: All the Numerical Figures in the Table Calculated from Eviews 9 Version</i>						

The adjusted R-square of fixed-effect model and random-effect model are 0.95 and 0.72 respectively, which show the explanatory variables are significant. It means that 95% of the variation of market share price has been explained by accounting information in fixed-effect model, while the remaining 5% has been explained by factors other than the accounting information. While in random-effect model, only 72% of the variation of market share price has been explained by accounting information, and remaining 28% has been explained by factors other than the accounting information.

Conclusion

The study was conducted to examine the impact of EPS, DPS, BVPS, PBVPS, ATR, CFO and NW on market price of the share of construction contract of real estate companies listed on BSE. It is an attempt to determine the most value relevant accounting information used for equity valuation in the selected companies.

Fixed-effect model, random-effect model and correlation were used to analyze the data. EPS and PBVPS were found to have positive and significant influence on market price per share. The results match with the findings of previous studies like Mulenga (2015) on India and Vijitha and Nimalathasan (2014) on Sri Lanka. However, it is contradictory to the findings

of Khanna (2014) in which book value per share was found to have a negative and insignificant impact on share price. Thus, it can be concluded that investors give importance to EPS and PBVPS while taking investment decision.■

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