Factors Affecting the Value Relevance of Accounting Information

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Abstract

The present study examines the factors affecting the value relevance of accounting information for investors in the Tehran Stock Exchange over the period of six years. In this study, the effect of four factors; being profitable or loss generating, company size, earnings stability and company growth on the value relevance of accounting information have been studied. For this purpose Ohlson model and the cumulative regression analysis is used in order to examine the hypotheses and as the basis of data analysis T-test by Regression coefficient analysis is deployed. Findings confirm that these factors influence on the value relevance of accounting information for investors in Tehran Stock Exchange. Based on this study it can be concluded that accounting information of companies with profitability, small companies, companies with stable high earnings and companies with high growth rate are more value relevant in the Tehran's stock market. These results are more useful for Iranian investors in their investing decision makings.

Keywords: Value-Relevance, Accounting Information, Stock Exchange, Earnings Stability

Introduction

Investors in the stock exchange require information for their financial decisions. A source of information for investors, are the financial statements provided by the companies. If this resource provides useful information to investors, it is used by them in their evaluation of corporate stock. Two qualitative features associated with the content of information that can help distinguish more useful information from the other data are the relevance and the reliability of the information (ASCC, 2002). The more relevant and reliable the information is the more demanded commodity the information will be. In other words, information that possesses these two features will be beneficial in decision making and is more valuable. If either the two features totally fades out the information will no longer be useful.

Review of the relevance and reliability of accounting information separately would be very difficult; cause that the relevance and reliability are conflicting criteria and in theoretical concepts of

87

financial reporting of the degree of relevance or reliability of the information has not been determined for the applicability of the said standards. In other words, these two criteria are not quantitative and are rather arbitrary. These issues explain why studies on the presence or absence of these two criteria have been connectedly; it means they can not be considered separately (Barth et al., 2001).

Study on the value-relevance of accounting information involves reviewing the information relevance and reliability criteria at the same time. In other words, the value relevance of accounting information is in fact the operationalized form of information relevance and reliability criteria. Accounting figures can be held value relevant when investors find them relevant in their assessment of the company and also find them reliable in order to reflect the stock price (Barth et al., 2001). In general, the main purpose of conducting tests on the value relevance of accounting data is to expand information on the relevance and reliability of accounting figures as the figures being considered in stock valuation. Important to note is that although the value relevance of accounting information indicates the relevance and reliability of the information, if the accounting information is not of relevant it would be difficult to judge whether the cause of this is irrelevance or unreliability of the information (Barth et al., 2001). Sammy and Chao defined the value relevance of accounting information as the ability of accounting figures in explaining stock price or stock returns (Sami and Zhou, 2004).

Most research on the value relevance of accounting information has emphasized accounting profit as a measure of profit and loss. Accounting profit is significant as a source of information and is used by many investors and analysts in financial markets because it allows them to gain an idea of the real performance of companies and help valuate them. Based on accrual accounting, the value of companies is a function of their future performance that is closely related to the realized profit (Bnayed and Abaoud, 2006). Ohlson's research added a new dimension to this research. Using a model named that is after him, he associated stock price with earnings per share and book value per share [18]. In this model, in addition to profit and loss index, the balance sheet index is also used to determine the value relevance of accounting information.

Relationship (1) shows Ohlson's model:

$$MV_{jt} = a_0 + a_1 BV_{jt} + a_2 E_{jt} + e_{jt} \qquad (1)$$

In this model MV_{jt} represents market value per share of Company at the end of the month financial statements are presented, BV_{jt} represents book value per share of Company j In year t and E_{jt} represents the reported earnings per share of Company j In year t. After Ohlson, a lot of studies were conducted on the value relevance of accounting information and factors affecting it. Heine (1995) studied the effect of the company being loss generating or profitable in the value relevance of accounting information and claimed that the loss generating companies have less relevant value than profitable companies. Accordingly, if the number of Loss generating companies increases over time, the value relevance of accounting information is reduced (Hayn, 1995). Elliott and Hanna (1996) also claimed that the items after operating profit in the profit and loss influence the value relevance of accounting information are effective and in case of growth in these items, the value relevance of accounting information is reduced.

Collins et al (1997) studied the change in value relevance of accounting information in the period 1953 to 1993 in the US capital market. Using Ohlson's Model they found that in that period the value relevance of information has not decreased. However, the value relevance of accounting earnings has declined in that period but instead the relevance of stock book value has offset this decline.

They continued their research to study the effects of four factors on the value relevance of accounting information. These four factors include;

a) Intangible assets,

b) Nonrecurring items,

c) Company being profitable or loss generating,

d) The size of the company.

They found by controlling these four factors in Ohlson model, regardless of the criteria considered in the regression (stocks earnings or book value) time process loses its significance. Accordingly, they considered these four factors the reason for the decrease of the value relevance of earnings and the increase of the relevance stocks book value (Collins et al., 1997). Francis and Schipper (1999) also achieved similar results with the difference that they focused in their tests on the profit before extraordinary items. King and Langly (1998) studied the value relevance of accounting information in Germany, Norway and Britain in the period 1982 to 1996. They found that in the studied period, the value relevance of accounting information in Germany and England has not decreased while in Norway the value relevance of accounting information has significantly decreased.

Lou and Zarvin (1999) examined the relevance of accounting information in the period 1978 to 1996. They claimed that the relevance of accounting information has decreased in that period and not reporting intangible assets over time has had a negative impact on the value relevance of financial reports. The reason that they raised for their claim was that a lot is spent on intangible assets but were not identified as an investment, while the costs are expected to generate future economic benefits.

Ali and Hwang (2000) showed that the difference in value relevance of accounting information based on accepted principles in different countries is due to differences in special factors in those countries. They concluded that in countries with a Continental-European model, the value relevance of accounting information is less than countries with an Anglo-American investor-oriented model.

Chen et al (2001) studied the value relevance of accounting information in Chinese capital market in the period 1991 to 1998. They also studied the effects of such factors as being profitable (loss-generating), company size, earnings stability and stocks liquidity on the value relevance of accounting information. Their research results showed that the accounting information in Chinese capital market value is of relevant value. Also being profitable (Loss-generating) and the stock liquidity influence the value relevance of accounting information and company size only has significant effect in efficiency model. Frank (2002) examined the effect of the growth of company on the value relevance of accounting information and found out that the growth of a company has negative effect on the value relevance of accounting information. Goodwin and Ahmed (2006) studied the effect of intangible assets on the value relevance of earnings in the Australian capital markets. They concluded that unpredictably, intangible assets have a positive impact on the value relevance of earnings in Australia.

Gjerde et al (2007) studied the value relevance of accounting information in capital markets in Norway, in the period 1965 to 2004. They found that the value relevance of accounting information

has not decreased in that period and the change from the Continental-European model, Anglo-American model has had a positive effect on the value relevance of financial reports' information. Hassan et al. (2009) examining the value relevance of forced and voluntary disclosure of information in the Egyptian Capital Market concluded that forced disclosure has and significant yet negative relationship with the company value and voluntary disclosure has a positive but non-significant relationship corporate value.

In Iran many researches of this kind have been done. For example Pouheidari et al. (2005) studied the information content of accounting profit and book value in determining the price of the stock of companies listed companies in Tehran Stock Exchange during 1996 to 2004. They concluded that a significant proportion of corporate value is determined by the profit and the book value of a company is of no good representation power compared to earnings per share. Saghafi and Talaneh (2006) also studied the role of book value and earnings and transfer option in the evaluation of equity rights in the years 1994 to 2001 and showed that the relationship between price and earnings and book value variables is separately and collectively for different profit and loss situations. Thus the coefficient of the profit variable in loss situations is smaller than that of profit situations and vice versa.

Research Theories

The studies have shown that the value relevance of accounting information is higher in profitable companies than in loss-generating companies (Collins et al. 1997; Hayn, 1995). Therefore:

Hypothesis 1: "The value relevance of accounting information is higher in profitable companies in comparison to loss-generating companies."

Based on researches conducted by Collins et al (1997), company size has a negative relationship with value relevance of accounting information. Because a there a variety of information sources to access the information related to large companies but these resources are more limited about small companies, and therefore investors give more importance to the information provided in the financial statements in their decisions. Therefore:

Hypothesis 2: "The value relevance of accounting information is higher in large companies than small companies."

Elliott and Hanna (1995) showed that investors attach more value to operating profit. Collins et al.(1997) also demonstrated that the transfer of the value relevance from profits to book value is caused by increase of items after operating profit in the profit and loss account or in other words the decrease of earnings stability. Therefore:

Hypothesis 3: "The value relevance of accounting information in companies with high sustainable earnings is higher than companies with sustainable profits."

Frank's study showed as the company grows value relevance of its accounting information decreases (Frank, 2002). This is because when a company is in the growing conditions the accounting figures are often poor measures of corporate performance, they are management decisions about investment opportunities, which are not carefully measured by the accounting system (Skinner, 1993). Therefore:

Hypothesis 4: "The value relevance of accounting information decreases with the growth of the company."

Research Methodology

This is an applicable study in terms of purpose and is a survey in terms of the method by deploying correlational analysis. Applied research, is one that employs theories, principles and techniques to solve real and practical problems, and this study is also after such a purpose. Descriptive research, however, describes what there is with no manipulation and this study also follows such a method. This study was conducted in three stages. In the first stage using the library method the theoretical bases related to research topic were extracted from local and international resources. In the next step of the research data were analyzed and tested using Rahavard Novin Software; and in the last step the data analysis test were performed by the help of EXCEL and SPSS software. To check the effects of the factors on the value relevance of accounting information adjusted determination coefficient and t test was used and the data were pooled.

Study Sample

Statistical research community included all listed companies in Tehran Stock Exchange that has the following features:

1- They are listed before 2001 in Tehran Stock Exchange and have continued to be present on the stock until the end of July 2007.

2 - Their financial year ends on 20 March each year.

3- Their stock transactions in the period 2001 to 2007 have not been suspended except for the usual period for holding the General Assembly of shareholders.

According to the above conditions among listed companies in Tehran Stock Exchange, a total of 106 companies were qualified. In this study, sampling is not used and all community members have been statistically analyzed.

Research Findings

For the first hypothesis test the statistical community is being divided into two groups based on being profitable or loss-generating and for each group Ohlson model is estimated separately. Test of the second and third theories is done by dividing the statistical community into two equal groups based on relevant indicators average (the corporate value natural algorithm, the compared difference between and profit before tax and operating profit before tax) and Ohlson model is performed for each group. For the test of the fourth hypothesis two indicators namely ratio of property, machinery and equipment to book value and the ratio of the company market value to the book value of the company's stock; and the statistical community are divided into four equal groups based on each of these indicators. Then Ohlson model is run for the first and last group that is companies with high growth and with company low growth.

Ohlson Model Estimation Results for profitable and Loss generating companies are presented in Table (1). Accordingly the adjusted R square for the profitable companies is about 57% which shows the model's independent variables (earnings per share and book value per share) in the profitable companies account for about 57 percent of changes in stock prices, but the index for loss-generating companies is very low at about 8 percent. So the factor of the company being profitable or loss-generating is influential on the value relevance of information and the accounting information of profitable companies is of more relevant value. In addition, none of the variables of earnings per share and book value per share in loss-generating companies is meaningful but they are meaningful profitable companies.

Table 1. Ohlson Model Estimation Results for profitable and loss-generating companies

Company Type	Adjusted R^2	β		T test			
		EPS	BV	EPS		BV	
				T statistic	P-value	T statistic	P-value
Profitable	0.569	8.604	-0. 950	27.709	0.000	-3.230	0.001
Loss-generating	0.077	1.296	-0.650	1.029	0. 328	-0.652	0.529

Table (2) shows Ohlson model estimation results for large and small companies. Adjusted R square for small companies than large companies (small companies 63% and large companies 55%). So the value relevance of accounting information in small companies is higher. The results also show that book value of stocks in small companies is not significant while it is significant in large companies. In other words, investors also benefit from the accounting book value for the stock valuation for decisions about large companies, but they are more focused on accounting profits for small companies.

Table 2. Ohlson model estimation results for large and small companies

Company Type	Adjusted R^2	β		T test			
		EPS	BV	EPS		BV	
				T statistic	P-value	T statistic	P-value
Large	0.552	9.232	-1.325	19.279	0.000	-2.629	0.009
Small	0. 627	4.804	0.191	19.656	0.000	1.224	0.222

The third hypothesis test results are presented in table (3). The adjusted R square is higher in companies with highly sustainable profit (companies with highly sustainable profit 63% companies with slightly sustainable profit 57%). Therefore the accounting formation of these companies is of more relevant value. On the other hand, the book value of stocks in companies with slightly sustainable profit is not significant. This shows that when profit is just slightly sustainable investors pay more attention to book value of stocks as an alternative index.

Table 3. Ohlson model estimation results for companies with highly sustainable profit and companies with slightly sustainable profit

Company Type	Adjusted R^2	β		T test			
		EPS	BV	EPS		BV	
				T statistic	P-value	T statistic	P-value
highly sustainable profit	0.625	4.880	0. 236	21.064	0.000	1.174	0.241
slightly sustainable profit	0566	9.462	-1.635	20.019	0.000	-3.600	0.000

For the fourth hypothesis test two indices are used. The first index is the ratio of assets, machinery and office equipment to stock book value (PPE/V). The higher 'this ratio is the less has been the company's growth. Another index is the ratio of stock market value to book value (MTB). The larger this ratio the more growth companies have had. Hypothesis test results are depicted in Table 4.

Table 4. Ohlson model estimation results for companies with high and low growth

Indices	Company Type	Adjusted R^2	β		T test			
			EPS	BV	EPS		BV	
					T statistic	P-value	T statistic	P-value
PPE/V	High Growth	0.675	6.744	0.017	18.042	0.000	0.038	0.970
	Low Growth	0.746	8.189	-1.909	18.673	0.000	-4.397	0.000
MTB	High Growth	0.464	8.671	1.215	10.118	0.000	0.953	0.342
	Low Growth	0.723	1.641	0.347	10.673	0.000	6.345	0.000

Based on both indicators the adjusted determination coefficient for companies with high growth is lower than companies with low growth which shows that accounting information of companies with low growth is of more value relevance and company growth has a negative effect on the value relevance of accounting information. Of course, based on stock market value to book value, the difference is greater. Also, in addition to earnings, the book value of stocks in the companies with low growth is significant, but in companies with high growth it is not significant. This shows that in their decisions about the valuation of companies with low growth investors regard book value of stocks as relevant. But in companies with high growth, this criterion is paid less attention.

Conclusions

Based on research findings, all research theories have been established. Based on the first hypothesis, investors distinguish between the accounting information of profitable companies and that of loss-generating companies and pay more attention to accounting information of profitable companies in their valuation decisions. This result is similar to research results of Hayn (1995) and Collins et al.(1997) showing that accounting information of profitable companies if of more value relevance. Based on the second hypothesis investors distinguish between accounting information of large and small companies and show more reliance on small companies accounting information. The study of Collins et al. (1997) also showed that company size affects value relevance of accounting information and small companies are of more value relevance. Based on the third hypothesis investors are much more responsive to accounting information of companies with high profit sustainability. Collins et al.(1997) and Elliott and Hanna(1996) stated that the sustainability of profit affects the value relevance of accounting information and the accounting information of companies with high profit sustainability, is more relevant. Also based on the fourth hypothesis, company's growth has a negative impact on value relevance of accounting information. Frank (2002) also showed that the growth of the company has a negative impact on the value relevance of accounting information.

Research Proposals

1- Investors and financial analysts are recommended to pay more importance to operating profit and financial ratios including these factors in their decision-making models. Because the results of this study shows that profit has a continuously significant impact on stock price.

2- Investors and financial analysts are recommended to consider such factors as being profitable or being Loss-generating, company size, earnings stability and growth of the company in their decision-making models and place more emphasis on accounting data when dealing with profitable companies, small companies, large companies and companies with sustainable earnings growth of less.

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