

Comparing Information Content of Accounting in Companies with Growth and Value Stocks in Tehran Stock Exchange

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Abstract Disclosure of information to the market is followed by different behaviors and reactions on the part of analysts and investors. Type of stocks in the market and amount of information content also affect the strength and extent of this reaction. The present study investigates the differences between the information content of accounting in companies with growth and value stocks. The statistical population was the companies listed on Tehran Stock Exchange from 2007 to 2013, out of which the statistical samples were selected. In order to analyze the research hypotheses, analysis of variance and significance test for the equalization of coefficients of determination were used. The results showed no significant difference between the information content of accounting of growth and value stocks in Tehran Stock Exchange.

Key words Growth stocks, value stocks, information content of accounting, Tehran Stock Exchange

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1. Introduction

During several decades, financial professors at management faculties in the world have closely examined the financial information files related to the price of securities and accounting information in order to find patterns and clues about the causes of market behavior. The important evidence effective for investment has turned into a bulk of information, based on which investors overreact to the past performance of companies and determine the price for the growth and value stocks. Growth stocks are the stocks whose price is higher than the average value compared to their current cash flows, earnings, dividend, and book value. As a result of this overreaction in a long run, expensive stocks, i.e. growth stocks, would produce low returns for the investors who have bought them at their high price. In contrast, cheap stocks (value stocks) would have higher return for the investors who have bought them at very low prices (Haugen, 2001, p. 127).

An increasing volume of experimental accounting investigations has been conducted based on forecasting approach. There are two types of thoughts in this regard. The first one tests the ability of accounting data in explaining and forecasting economic events. The second type tests the market reaction to the disclosure of information based on accounting data. The accounting literature has always made emphasis on providing information that could help forecasting and decision-making process (Belkaoui, 1966). If accounting information could express changes in the stock price among companies over time, this study is expected to focus on the use of accounting information for the evaluation process. But, inaccurate models would lead to incorrect analysis results. Hence, econometric issues are among the major challenges faced by most of the experimental studies. The purpose of this study is to investigate the difference between growth and value stocks in the information content of accounting in the companies listed on Tehran Stock Exchange.

2. Literature review

2.1. Growth and value stocks

Growth stocks are the stocks which are purchased by investors with the purpose of using future growth of company's profits; in fact, this type of stock belongs to the companies that have not reached maturity yet and are expected to have many development programs in the future and, consequently, to experience high growth in the profit or sale rate. Therefore, growth stocks are expected to have a price which is higher than the average value compared to their current cash flows, earnings, dividend, and book value. As a result of this overreaction in a long run, the expensive stocks (i.e. growth stocks) would produce low return for the investors who have bought the mat high prices and the growth stocks are associated with higher risks. However, value stocks are the ones in which investors are looking for those companies with satisfactory economic condition, but the market has temporarily valued them below the intrinsic value; therefore, they are known as cheap stocks with higher return for the investors who have bought the mat low prices and investment in them has greater margin of safety than that of growth stocks. According to the previous studies, value stocks are associated with lower risks than growth stocks and, thus, are expected to produce higher return. In contrast, value stocks have more constant periodic return. Therefore, an investor, during the market boom, would attain higher risk premium by buying growth stocks than value stocks (Donyapour, 2011).

3. Methodology of research

In the study by Yeh and Hsu (2014) entitled "Exploring the dynamic model for the return of value and growth stocks using time extraction", it was assumed that growth and value stocks were two-dimensional concepts; also, price-to-book ratio and return on equity were defined as a measure of value and measure of growth, respectively. They divided the measures into four models including high value stocks (expensive), low value stocks (cheap), high growth stocks, and low growth stocks and proposed a dynamic model which indicated the returns on growth and value stocks, called exponential discounting model. In order to investigate the model performance, stock information of the markets in Taiwan during years 1995-2009 was used. In addition, they investigated changes in stock prices and stock returns for these four models before and after the formation of investment portfolio and concluded that high growth stocks (expensive) had the highest return and the stock market could not show a significant response to the unusual information.

In the study by Chebaane and Othman (2014) entitled "Impact of adopting IFRS on the value relevance of earnings and book value of equity: A case in emerging markets in African and Asian regions", effects of the adopting international financial reporting standards on value relevance and book value of equity in markets of Tunisian was studied. The findings particularly showed whether IFRS was useful for the emerging economies and developing countries. Results demonstrated that value relevance of information decreased; however, using IFRS improved the value relevance, earning per share, and book value of equity for the emerging economies.

In the study by Blazenko and Yufen (2010) entitled "Value versus growth stocks: Dynamic investment in stock market", two growth and value stock portfolios were formed for the years 1976 to 2007. Using dynamic evaluation model for shareholders' equity, they proposed new measures for evaluating the expected return, which was called static growth expected return (SGER). Their research showed that increase in the return associated with increase in the profitability was higher for the value stocks than growth stocks.

In the study by Arnott *et al.* (2009) entitled "Realistic value and growth-value cycle", the relationship of the existing differences between growth as well as value stocks and growth-value cycle was examined.

Growth-value cycle is the process of migration of stocks from growth to value or neutral, and vice versa. They found out that, in an inefficient market, if access to market information were limited, the growth stocks would have increased excess return; in contrast, when access to market information were widely possible, value stocks would have higher excess return. Thus, when access to market information was limited, an investor with a focus on growth stocks can achieve unusual profit. Also, when access to market information is expanded, an investor with a focus on value stocks can achieve unusual benefit.

In the study by Sakos (2009) entitled "Value versus return of growth and value stocks", stock values were investigated from 1985 to 2005 in prosperous markets as well as markets in recession and in recovery periods in Canada. These studies showed that processing information based on P/E compared to P/BV was a better criterion for identifying stock value and concluded that, in portfolio formation based on value investment approach compared to portfolio based on growth investment approach, the value investment approach could help investors overcome the criteria and achieve a superior long-term performance.

3.1. Research hypotheses

The research hypotheses were as follows:

There is a significant difference between information content of accounting in companies with growth and value stocks.

3.2. Statistical population and sample

The statistical population in this study consisted of all the companies listed on Tehran Stock Exchange during the fiscal period 2007 to 2013. The statistical sample examined in this study included the companies within the statistical population with the following criteria:

1. The company has not changed its fiscal year during 2009-2013 and its fiscal year is the middle of March.
2. The company makes the required information available during 2007-2013.
3. The company must be listed on the stock exchange before 2007 and has been active during 2007-2013.
4. The company must not be among holding, investment, financial intermediary, banks, or leasing companies.

3.3. Variables studied in this research

Independent variable

Company's information content of accounting indicators:

- *Book value*: Book value per share is defined as total equities of shareholders to the number of shares issued by each company.
- *Earnings per share*: Earnings per share are defined as net profit to the number of shares issued by each company.

Dependent variable

Each company's stock price was considered at the end of middle of June of the next year as the dependent variable.

In this study, the price-earnings ratio, which is recognized as one of the most well-known ratios of the market, was used to identify whether the stock was of value or growth types.

$$\text{Price-earnings ratio} = \frac{\text{Stock price at the end of the fiscal year}}{\text{Earnings per share (Net profit of shareholders divided by the number of shares)}} \quad (1)$$

3.4. Analytical model

Estimation of models:

A) Value:

The assumed model was as follows:

$$\ln P_i = \beta_0 + \beta_1 BV_{it} + \beta_2 PE_{it} + \varepsilon_i \quad (2)$$

Null and alternative hypotheses in this model were as follows:

$$\begin{cases} H_0 : \beta_1 = \beta_2 = 0 \\ H_1 : \beta_1, \beta_2 \neq 0 \end{cases}$$

H0: The model is not significant

H1: The model is significant

Results of regression analysis are provided in the following table 1:

Table 1. Analysis of variance to test significance of the model

Value/growth	Source of variations	Sum of squares	Degree of freedom	Mean square	F value	Significance level
Value	Regression	24.24	2	12.12	14.73	0.000
	Residual	171.98	209	0.82		
	Total	196.22	211			

F significance level was equal to 0.000. This value was smaller than 0.05; therefore, the null hypothesis was rejected at 95% confidence level; i.e. there was a significant model at 95% confidence level.

Table 2. Multiple-correlation, coefficient of determination and Durbin-Watson statistic

Value/growth	Multiple correlation	Coefficient of determination	Modified coefficient of determination	Standard deviation	Durbin-Watson statistic
Value	0.35	0.12	0.12	0.91	1.64

Coefficient of determination was 0.25, indicating that about 25% of variations in the dependent variable was explained by the independent variables. Value of Durbin-Watson statistic was equal to 1.64. Values close to 2 implies lack of auto-correlation of residual values, which is another assumption of regression analysis.

B) Growth

The considered model was as follows:

$$LnP_i = \beta_0 + \beta_1 BV_{it} + \beta_2 PE_{it} + \varepsilon_i \tag{3}$$

Null and alternative hypotheses in this model were as follows:

$$\begin{cases} H_0 : \beta_1 = \beta_2 = 0 \\ H_1 : \beta_1, \beta_2 \neq 0 \end{cases}$$

H0: There is no significant model

H1: There is a significant model

The following table 3 presents the results of regression analysis:

Table 3. Analysis of variance for testing significance of the model

Value/growth	Source of variations	Sum of squares	Degree of freedom	Mean square	F value	Significance level
Growth	Regression	23.97	2	11.98	13.38	0.000
	Residual	72.53	81	0.90		
	Total	96.50	83			

F significance level was equal to 0.000. This value was smaller than 0.05; therefore, the null hypothesis was rejected at 95% confidence level; i.e. there was a significant model at 95% confidence level.

Table 4. Multiple-correlation, coefficient of determination, and Durbin-Watson statistic

Value/Growth	Multiple correlation	Coefficient of determination	Modified coefficient of determination	Standard deviation	Durbin-Watson statistic
Growth	0.50	0.25	0.23	0.95	2.04

Coefficient of determination was 0.25, indicating that about 25% of variations in the dependent variable was explained by the independent variables. Value of Durbin-Watson statistic was equal to 2.04.

Research hypotheses

H0=Information content of accounting information is not significantly different in growth and value companies.

H1=Information content of accounting information is significantly different in growth and value companies.

4. Interpreting the results of hypothesis testing

Table 5. Coefficients of determination and test of significance for equality of coefficient of determination

Companies	R Sq.	VAR	Z	Z*	N
Value	0.124	0.098	0.124	-1.321	211
Growth	0.248	0.157	0.254		84

The final judgment was as follows. If Z value were located in the rejection region, then the null hypothesis would be rejected. Test results showed no significant difference in the coefficient of determination value between value and growth companies, because Z value (-1.32) was located in the non-rejection region of the null hypothesis.

5. Conclusions

The results showed no significant difference in the information content of accounting between the companies with growth and value stocks, which was probably because the accounting information did not have any great impact on the stock price. The reason was that testing of the hypotheses showed that coefficient of determination in two categories of companies, namely companies with growth and value stocks, was low and equal to 25 and 12%, respectively. Also, findings of the study showed that the application of information content of accounting indicator which included book value per share and earnings per share demonstrated a decreasing behavior in Iran's market. Also, according to the results, it can be expressed that investors and financial analysts in Tehran Stock Exchange pay no attention to the information content of accounting indicator when choosing growth and value stocks.

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