The relationship between evaluation criteria and economic value added among accepted companies in Tehran Stock Exchange

Ayoub Mahdian Fard[1], Omid Derakhshani[1], Madjid Shafei[2], Vahid Amin[1]

[1]Department of Accounting, Payame Noor University, Iran; [2]Department of Accounting, Borujerd Branch, Islamic Azad University, Borujerd, Iran

Abstract

The economic value added (EVA) can be regarded as one of the new criteria indicating the real performance of any company and an alternative to traditional criteria based on accounting profits as earnings per share (EPS), rate of return on equity (ROE), price to earnings per share ratio (P/E) and the rate of return on assets (ROA). In the present study, we obtained the relationship between traditional criteria for performance evaluation with new criteria (EVA) by regarding the hypothesis that whether there is a relationship between the criteria listed with EVA. This research is based on descriptive correlation method. The samples include those companies accepted in Tehran Stock Exchange which were active members in the period of 2007 to 2011 in Stock Exchange and have no stopped funding. Results of the study showed that there is a significant relationship between company market value and economic value added and there is no significant relationship between ROE, ROA, EPS, P/E variables, and economic value added.

Keywords: investment, performance evaluation criteria, the economic value added.

Introduction

With the appearance of societies and business growth, the appearance of large and multinational companies, the creation of capital market, buying and selling shares, shareholders and the investment issue have taken on a new color. Besides, the issues of resource optimal allocation and the separation of ownership from management and the representation issue were established and shaped by. According to the issue, this question arises for shareholders: to what extent do the directors consider the interest of shareholders? (Maury, 2006). In other words, how to measure and assess the management performance is the issue under question.

To answer this question, different methods and criteria have been proposed, which have been divided into two categories including accounting criteria that are mainly based on accounting profit such as ROE, ROA, EPS, P/E, etc and economic criteria which includes economic value added (EVA) and market value added (MVA).

In these years, the economists' objection to accounting is that whatever accounting is reported as profit is a result of assumptions that do not mainly reflect reality. In terms of economic, benefit means to increase the wealth or wealth difference between the beginning and end of every period (Healy, 1988).

In recent years, financial professionals believe in weakness and imperfection of accounting criteria of performance evaluation due to their use of accounting profit. Because they believe accounting profit is influenced by output price calculation of cash, and also accounting profit experiences some changes with the choice of accounting methods by management. According to accounting profit objections, economic value added (EVA) has been recommended for performance criteria which have

Corresponding author: Ayoub Mahdian Fard, Department of Accounting, Payame Noor University, Iran.
E-mail: ayoub.mahdian@yahoo.com.

focused on production actual efficiency and economic profit (Taghavi, 2006).

Statement of the problem

Since investors and decision makers have had a fundamental role in the capital market, they need to know the true value of company and shares while deciding to purchase stock.

However, in recent years, the performance evaluation criteria is more based on accounting income while accounting income is suffering from clear shortcomings and weakness because financial experts believe that accounting income do not reflect true value of a company. Economists believe that the company's ultimate goal should be to maximize the present value of future shareholder wealth. Thus, EVA or economic value added is a new analytical tool that can be used to create company wealth and selection process that should be far from the shortcomings of the accounting income and is based on economic profit. EVA was adopted early by the society because it was regarded as an innovative technique to find the true value of a company unlike traditional accounting criteria such as ROA, ROE, EPS and P/E which consider only the cost of debt EVA, direct costs and indirect debt of shareholders rights, i.e. accounting criteria which does not assume implicitly the ordinary shareholders cost free of charge.

Now, given the current realities of the advantages of using EVA and traditional performance criteria based on accounting income, this study has examined the following issues including the relationship between criteria of earning per share (EPS), return on equity (ROE), rate of return on assets (ROA), earnings per share ratio (P/E) and market value (MV) and economic value added (EVA) in those companies accepted in Tehran stock exchange.

Significance of study

Nowadays, in countries with low economic growth, it is necessary for planners to consider the efficient use of resources. On one hand, encouraging the current generation of investors requires integration techniques and new methods that reduce the risk for investors (Healy, 1988). On the other hand, the unnecessary costs occurs too much in Iranian companies and in spite of the lack of capital in the country, financial resources are not managed well.

Currently, in advanced capital markets, new ways are used in addition to the models and procedures for evaluating the financial and economic performance of companies. Furthermore, testing phase is reached in order to compensate for the shortcomings and faults of performance criteria to help manage resources in the right direction. Finally, it is ideal for investors to set a real basis for measuring operational status and evaluating the performance.

Economic value added can be regarded as one of the new techniques that reflect the true value of companies and does not include the drawbacks of the previous performance evaluation criteria based on accounting income (Chen & Doddi, 1997). For example, a company may be profitable but it has negative EVA. It means that the company is not profitable as investors expected to have while it is contrary to the goal of financial management to increase shareholders wealth. Also, today, financial reporting has been criticized due to the low quality and lack of provided information and AICPA committee has proposed to improve financial reporting for internal and external corporate decisions to use (EVA) which provided real information of company.

This study sought to evaluate a new model for the performance evaluation of an economic unit. This model is called economic value added, which is used to determine the true value of a company in stock exchange.

Research Objectives

Regarding the objectives of this study, the following can be mentioned:

• To examine the relationship between the rate of return on equity (ROE), earnings per share (EPS), price to earnings per share ratio (P/E) and the rate of return on assets (ROA) with economic value added (EVA).

• To examine the relationship between MV (market value) with economic value added (EVA).

• To increase the knowledge of shareholders and other users about financial information for making rational decisions.

• To evaluate the possibility of replacing EVA with ROA, ROE, EPS, P/E and MV criteria.

Research Hypotheses

By considering the above-mentioned objectives, the following research hypotheses were raised:

• There is a significant relationship between the economic value added (EVA) and earnings per share (EPS) among the companies accepted in Tehran Stock Exchange.

• There is a significant relationship between the economic value added (EVA) and return on equity (ROE) among the companies accepted in Tehran Stock Exchange.

• There is a significant relationship between the economic value added (EVA) and the rate of return on assets (ROA) among the companies accepted in Tehran Stock Exchange.

• There is a significant relationship between economic value added (EVA) and the ratio of price to earnings per share (P/E) among the companies accepted in Tehran Stock Exchange.

• There is a significant relationship between economic value added (EVA) and market value (MV) among the companies accepted in Tehran Stock Exchange.

Previous research

Research done in Iran

First, in 2001, Jalili in his master's thesis studied the EVA ability for presenting proper information on stock return and EVA was compared with the older criteria and performance measures (Operation Income). The results indicated that, among two criteria such as EVA and OI, just operation income has information about stock returns change and in this regard EVA has not valid information. It did not confirm the claims that EVA is the best evaluation criteria and stated that it does not mean EVA weakness, but also it is an objection to the stock market. These results may be because of the lack of efficiency and also market greater attention on criteria that do not show the actual performance.

Izadi Nia (2004) did another study in which he selected 57 companies accepted in stock exchange in 11 industry groups between the years of 1994 to 2001 and examined the relationship between company market value and EVA. The result

of this study confirmed the significant relationship between the dependent and independent variables.

Research done in other countries

Doddi and Chen (1997) studied the relationship among three criteria including EVA, additional income, and operational income. They concluded that although economic value added was related to stock return, the relationship strength is much lower and far from that is noted by EVA supporters.

Abayron used economic value added as an independent variable and the dependent variable was the market value adjusted by capital. He found that the level of economic value added explained 31 % of variance in market value while the level of operational income of net operational level after taxes explained 17 % of market value variance.

Methodology

This study was done between the years 2007 to 2011 in Tehran Stock Exchange. The statistical sample of this research includes those companies accepted by Tehran Stock Exchange during the afore-mentioned period that have been regarded as active members of the Stock Exchange.

Results

After collecting the data, t-test was used in order to see whether there is a significant relationship between the variables taken into account in this study including economic value added (EVA), earnings per share (EPS), rate of return on equity (ROE), rate of return on assets (ROA), the ratio of price to earnings per share, P/E and market value of the company (MV). It should be mentioned that confidence level of .95 was considered as the significance level in this study. Table 1 indicates the results of data analysis.

Table 1. The correlation coefficient between variables and the economic value added.

Variables	EPS and EVA	ROE and EVA	ROA and EVA	P/E and EVA	MV and EVA
Sample	250	250	250	250	250
The error level	0/05	0/05	0/05	0/05	0/05
R	0/008	0/089	- 0/041	0/012	0/649
Error obtained	0/905	0/160	0/518	0/852	0/000
t calculated	0/126	1/41	- 0/650	0/190	13/54
t Table	1/96	1/96	1/96	1/96	1/96
Accepted hypothesis	H0	H0	H0	H0	H1

Table 2. Correlation coefficient between independent and dependant variables.

Hypothesis	Variable	R	P	Calculated t	Table t	Results
First	EPS EVA	0/008	0/905	0/126	1/96	Since calculated t is smaller than table t, H1 is rejected
Second	ROE EVA	0/089	0/160	1/41	1/96	Since calculated t is smaller than table t, H2 is rejected
Third	ROE EVA	0/041	0/518	-0/650	1/96	Since calculated t is greater than table t, H1 is rejected
Fourth	P/E EVA	0/012	0/852	0/190	1/96	Since calculated t is smaller than table t, H1 is rejected
Fifth	MV EVA	0/649	0/000	13/52	1/96	Since calculated t is greater than table t, H1 is accepted

Table 2 shows the correlation coefficient (r) and the error obtained (sig) with regard to t and calculated t for the entire period of study.

Conclusions

As the above tables indicate, there is a significant relationship between economic value added (EVA) and market value (MV) and the lack of a significant relationship between the rate of return on equity (ROE), return of assets (ROA), earnings per share (EPS) and the ratio of price to earnings per share (P/E) with economic value added (EVA). It can be concluded that economic value added (EVA) can be a substitute for market value (MV). However, in terms of outcomes based on the lack of a significant relationship between economic value added (EVA) and criteria EPS, P/E, ROE, ROA, it can be inferred that if we use the economic value added criterion, a business result of this assessment will be achieved and if we use the EPS, P/E, ROE, ROA criteria, an accounting result will be achieved.

Recommendations

There are powerful databases in the most important stock exchanges around the world including Frankfurt, Amsterdam, Tokyo, New York, London, etc. These databases which collect financial information from member companies attempt to calculate the values of different parameters. Variables such as EVA, Q Tobin, financial ratios, growth rate (g), rate of return, ROA, Return Weighted Average Cost of Capital (WACC) and other variables used by the database are being presented to the users. By providing such information, stock exchange can support their investors to make decisions about resources optimal allocating on one hand and support the researchers for the desired analysis in many ways on the other hand. Such actions are very important from different viewpoints for the stock exchange.

First, by calculating finance criteria and diverse variables to users, they can play the role of informing effectively and can be regarded as the main reason for clarifying information in the capital market.

Second, stock exchange can publish a list of top companies to compare based on different criteria.

According to the above-mentioned issues and thanks to the lack of databases on the Tehran Stock Exchange, it is recommended that Tehran Stock Exchange apply for creating such database information. Finally, by comparing the results of this study with some major stock exchanges such as New York, lack of a significant relationship between ROE, ROA, EPS and P/E with economic value added (EVA) can be related to an incompetent Tehran Stock Exchange and lack of real and clear information. Therefore, such steps can eliminate shortcomings in offering information.

References

Azar A. and Momeni M., 2002. Statistics and its application in management, SAMT Publication.

Brigham F., 2002. Financial Management (A. Tabrizi, H. Moshyrzadeh, P. Moayedi, Trans.). Didavar Publication.

Chen S. and Doddi J., 1997. Economic value added. Journal Managerial Issue, 19.

Davani Gh., 2002. The collection of indirect taxes, regulations (1st edition). Kiomars Publications, Tehran, Iran.

Healy R., 1988. How does performance evaluation perform. Journal of Portfolio Management, 15–19.

Izadi Nia N., 2004. Evaluating commercial units using economical value added models and free cash flow (FCF) and determining the gap between price and stock value. Ph.D dissertation, Allame Tabatabai Univ., Tehran.

Jhahankhany A. and Parsayan A., 2001. Financial Management (Vol.2), SAMT Publication.

Khaki G., 1999. Research methodology with an approach toward writing dissertation. Scientific Research Center Publication.

Maury B., 2006. Family ownership and firm performance: Empirical evidence from Western European corporations. Journal of Corporate Finance. 12: 321–341

Taghavi M., 2006. Financial Management 1. Payam Noor Publication, Tehran, Iran.