

The Study of the Effect of Relationship between Value Added Economic, Operating Cash Flow, and the Stock Market Value of Pharmaceutical Companies

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Abstract

Financial statements based on generally apply to judgments and methods of computation are about different aspects related items. In this study, indices of Value Added Economic (EVA) were compared mutually in relation with stocks market value of the companies. In order to perform this research pharmaceutical companies listed in Tehran Stock Exchange were selected and 30 companies were chosen as instances. Data analysis is done using descriptive statistics and correlation coefficient and finally model test. Results showed that the mean stocks market value 1.9 and Value Added Economic is 0.16. Correlation coefficient between Value Added Economic (42%) and variables of stocks market value 53(%) is positive and significant at the level of 1%. results showed that the Value Added Economic is a major index in predict of stocks market value in pharmaceutical companies.

Keywords: EVA, pharmaceutical companies, Tehran Stock Exchange.

Introduction

Financial statements based on generally apply to judgments and methods of computation are about different aspects related items. Because of this feature, we examine the relationship between the various items (Eg level debtors than sell) a better view of the financial position, entity's financial performance and financial flexibility achieved. This type of analysis is sometimes Ratios that can be compared over time and between different business units. Performance evaluation is a formal process to provide information about the results; it identifies the strengths and exaggerates it. In order to create more values and the performance is better. In the measurement of performance based on traditional profit of accounting, the cost of financing is considered only through debt and stocks while, in the concept of economic value added, the quality is important in addition to its amount, and that, the profit has been earned from how much investment and how much the cost of investment is (Vakilian et al., 2009). Therefore, the value of each company depends on this subject that, how much the future expected profits are more than the cost of capital. So, if the used money have fluctuations every year, the ratio of profit to capital should be considered as criterion which is hidden in the concept of economic value added. Since accounting profit and consequently traditional profit and criteria of accounting change through change in accounting; so, managers can play with the figures by some strategies but, economic value added attempts to minimize income figures manipulation by required adjustments. Numerous companies around the world use this criterion to evaluate management performance of internal and external sections, and rewarding and motivating plans of the managers; and in this companies, the fundamental criterion for these evaluations is based on creating a value which ultimately causes to increase stockholders' welfare (Fatemi et al., 2003). Economic value added is a performance evaluation criterion which is apparently complicated; but, the researchers have provided a more appropriate understanding of this criterion by summarizing the computations of economic value added in a mathematical equation. Solaimani (2001) investigated the relationship between economic value added and market value of listed

companies in Tehran Stock Exchange, and concluded that, there is no significant correlation between economic value added and market value of the companies. Beizadeh Milani (2003) studied the relation of return of asset (ROA) and return of equity (ROE) with economic value added (EVA) and profit margin in evaluating the performance of listed companies in Tehran Stock Exchange for the food industry, and showed that, there is no correlation between ROA, ROE and EVA and profit margin. Daryabeigi (2003) conducted a comparative study on economic value added with accounting profit in determination of market value, and concluded that, correlation of accounting profit with company market value is higher than correlation of EVA with company market value. Kavooosi et al. (2004) studied the relationship between ratio of Q and EVA in the companies listed in Tehran Stock Exchange, and concluded that, there is a significant correlation between ratio of Q and EVA. Karami and Salehi (2004) investigated the relationship of operating cash, operating profit and economic value added with created wealth for stockholders and concluded that, 1) EVA is a more appropriate criterion to predict created wealth for stockholders. 2) EVA is a more reliable to measure created wealth for stockholders. Aghvarlikhani (2004) studied the relationship between EVA and return of stocks in chemical and pharmaceutical industry companies, and concluded that, 1) there is a weak significant correlation between EVA and stock returns of a financial period, 2) there is no significant correlation between EVA and return of the next year company stocks. Noorvash and Mashayekhi investigated the incremental information content of economic value added and cash value added against accounting profit and operating-resulted cash, and the results of hypothesis test showed that, accounting benefit as the is still most important accounting variable in financial and investment decisions and is considered by decision makers in exchange market and in most of cases has incremental information contents compared with other variables. Khadem et al (2009) studied "The relationship between dividend policy and stock price changes" has been proposed two main hypotheses: H 1) a significant relation exists between changes in stock price and dividend policy of the companies listed in Tehran Stock Exchange. H 2) a significant relation exists between changes in the stock price of the companies that distribute cash dividend with high and low level if all other conditions being equal. This is the first study that was conducted in Iran. According to author the following results were obtained. The first result showed that there isn't any significant relationship between the stock price changes in the high and low distributed cash dividend companies in 1994 – 1998 (Khadem, 2009).

Ahmadpoor (2010) in their study of the subject "The effect of financial and non-financial variables conditional on the issuance of the audit opinion (Firms listed in Tehran Stock Exchange)" argue that today has mentioned the importance of competition in the auditing profession. In this study the relationship between financial and nonfinancial variables were evaluated by qualified accounting. The population of this study, listed companies in Tehran Stock Exchange is between 2004 until 2007. For data analysis, artificial neural network approach and removal methods for determining the neural network input variables are significant relation. The results of this study showed that nine variables expected issuance of the audit report, provided they have a significant effect, the frequency of inventory turnover, leverage, Ratio of accounts receivable to total assets, the issuance of the audit report provided were significant. Khorsand in a study entitled "The effect of dividend on stock price changes" came to the conclusion that increasing in the earning per share can increase the price of each share (Khorsand, 2009). Amani in a study entitled "The relationship between dividend and stock prices" came to the conclusion that the dividend will increase the stock price (Amani, 2010). Manjajy and Phillips (2012) in his article titled "The effects of financial variables on the performance of the stock and the stock price Philippines" in 2009, the 50-stock company statement said. In this study, using econometric models, the estimated and research shows that many financial variables and profitability have a positive effect on the performance of listed

companies and variable-yield corporate debt stock exchange had a negative effect. In terms of information content on other financial instruments such as income, is to predict stock returns. Thus, evidence and data relating to the selected companies listed in Tehran Stock Exchange Has been enjoying. The main findings of this study show deviations to predict stock returns, net income index (NI) or cash flows are better than EVA index.

In this study, some indices such as operating Value Added Economic (EVA) and stock market value of companies are compared mutually.

Materials and methods

In this research, two independent variables is Value Added Economic and dependent variable stocks market value. Is there any relationship between Value Added Economic and stocks market value of pharmaceutical companies listed in Tehran Stock Exchange?

Considering the conditions above, 30 companies were selected. The study data were collected through collecting the data of selected companies by referring to financial states, notes, weekly and monthly reports of securities exchange and official site of Tehran securities exchange.

Statistical models and operating definition of the variables

After data collection, in order to have an overall scheme from the data statistical distribution, descriptive statistics including mean, median, maximum, minimum and standard deviation are produced. At the second stage, Pearson correlation coefficients test was performed to investigate the existence and direction of linear correlation between the variables.

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$$EVA_{it} = (r_{it} - coc_{it}) \times Capital_{it} \quad (1)$$

$$MV_{it} = \alpha + \beta_1 EVA_{it} + \beta_2 EBT_{it} + \varepsilon_t \quad (2)$$

Where, MV is stocks market value, CFO is operating cash flow, EBT is the earnings before tax. EVA is also economic value added which is calculated by: $EVA_{it} = (r_{it} - coc_{it}) \times Capital_{it}$

In this equation, r_{it} is the return resulted from stocks buy and maintenance policy. $Capital_{it}$ is the company economic capital which is equal to the sum of stockholders' rights plus its long term debts (or equal to total assets minus the company current debts). coc_{it} is weighted mean of company capital which is calculated via the equation below:

$$coc = k_e \left(\frac{E}{E+D} \right) + k_d \left(\frac{D}{E+D} \right) \quad (3)$$

Where D is the total debts, E is total equities of stockholders and K_e is the cost of common stocks capital. In this study, it was attempted to calculate the cost of common stocks capital using Capital asset pricing model (CAPM):

Data analysis method

In order to analyze the research data and models estimation, pooled data approach was used. Pooled data explain cross-sectional units' movement over time. Models based on this kind of data are named pooled data regression.

Results

Descriptive statistics of this research including mean, median, maximum, minimum and standard deviation of the research data have been presented in Table 2. The mentioned values propose only an overall scheme of the research data distribution status.

Results of Table 1: showed that, mean (median) of stocks capital cost is 0.18, debt cost is 0.06, weighted average cost of capital is 0.16, stocks market value 1.9, Value Added Economic is 0.16.

Table 1: Descriptive statistics of this research

Variables	Mean
Ke	0/18
Kd	0/04
COC	0/11
MV	1/50
EVA	0/13
:Variables description Stocks capital cost :Ke Debt cost :Kd Weighted mean of capital cost :COC Stocks market value :MV Earnings before tax :EBT Operating cash flow :CFO Value Added Economic :EVA	

Standard deviation of stocks capital cost is 18%, debt cost is 0.03%, weighted mean of capital cost is 13% and Value Added Economic 34%. Pearson correlation coefficients test was performed to investigate the existence and direction of linear correlation between the variables, and its results have been presented in Table 1.

Table 2. Pearson correlation coefficients

EVA	MV	COC	Kd	Ke	
				1	Ke
			1	-0/16** (0/05)	Kd
		1	-0/10* (0/09)	0/96*** (0/00)	COC
	1	0/45*** (0/00)	-0/30*** (0/00)	0/25*** (0/00)	MV
1	0/53*** (0/00)	0/10* (0/10)	-0/15** (0/03)	0/09 (0/32)	EVA

The presented results indicate that, correlation coefficient between Value Added Economic (-0.30) and stocks market value (-0.15) is negative and significant at the level of 1%, Correlation coefficient between Value Added Economic (42%) and variables of stocks market value 53(%) is positive and significant at the level of 1%.

In order to test research hypothesis, Table 3 was estimated using pooled data approach and its results have been presented in Table 4.

$$MV_t = \alpha + \beta_1 EVA_t + \beta_2 CFO_t + \varepsilon_t$$

Table 4. Results of model estimation

Significance	t-student	Coefficient		Variables	
0.003	6.12	1.12 ^{***}		Intercept Adjusted determination coefficient Fisher's test (significance) F Limer test (significance) Hausman test (significance) Assumption:	
0.005	6.58	1.45 ^{***}			
0.0032	5.42	1.68 ^{***}			
		32.2%			
		(0.0021) 48.43 ^{***}			
		(0.0432) 16.23 ^{***}			
		(0.89) 0.67			
	(0.42) 0.22				
significant at the level of 1% ***					

Significance of Limer statistic (48.43 %) and Hausman statistic (16.23%) at level of 1% shows that, Model 1 should be estimated by fixed effects approach. The results of model (2) estimation by the mentioned approach show that, intercept (1.68%) and coefficient of earnings before tax (1.45%) are significant at level of 1%.

Wald statistic's significance (0.22 %) shows that, coefficient of Value Added Economic are effect on stocks market value. in petrochemical and pharmaceutical companies, earnings before Value Added Economic (42%) has a stronger correlation with stocks market value than operating cash flow. This means the research hypothesis rejection.

Discussion and conclusion

Stock Exchange has an important role in improving and the quality of financial structure in its accepted firms. Also the firm's financing decisions associated with the allocation of earning per share (dividend and retained earnings) has an effective role in pushing the private sector savings to the production and capturing public participation through investing in companies. After financial markets around the world got accustomed to the efficient market hypothesis and belief in market efficiency, random walk and impossibility of price forecasting gained strength day by day, phenomena and dynamics challenging market efficiency were discovered in financial markets. Statndard deviation of stocks capital cost is 18%, debt cost is 0.03%, weighted mean of capital cost is 13% and Value Added Economic 34%. Pearson correlation coefficients test was performed to investigate the existence and direction of linear correlation between the variable (Table 1). Results

showed that the presented results indicate that, correlation coefficient between Value Added Economic (-0.30) and stocks market value (-0.16) is negative and significant at the level of 1%, Correlation coefficient between Value Added Economic (43%) and variables of stocks market value 53(%) is positive and significant at the level of 1% (table 2). Overall results showed that the Value Added Economic is a major index in predict of stocks market value in pharmaceutical companies in Stock Exchange.

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