



AENSI Journals

Journal of Applied Science and Agriculture

ISSN 1816-9112

Journal home page: www.aensiweb.com/jasa/index.html



The Relationship between Economic Value Added with Liquidity and Returns in Companies Listed in Tehran Stock Exchange

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ARTICLE INFO

Article history:

Received 20 March 2014

Received in revised form 20

April 2014

Accepted 15 May 2014

Available online 25 May 2014

Keywords: Economic added value, liquidity, returns.

ABSTRACT

Background: Economic Value Added is one of the most useful measures for managers' performance evaluation. Another economical criterion used for distinguishing between company's market value and invested capital in the company is market value added. **Objective:** In this paper it has been tried to study the relationship between economic value added with liquidity and returns of listed companies in Tehran Stock Exchange. For this purpose we have a sample of 510 companies who have been present in exchange market during the years of 2005-2010. The companies selected for our sample are those which their financial statements are available for the mentioned period, their fiscal year hasn't been changed during the above mentioned period, the end of their fiscal year is the same, i.e. the last month of each year and their stock have been traded during the mentioned years. With application the above mentioned conditions the number of research sample reduces to 98 companies. Liquidity and returns are dependent research variables, economic value added is independent variable and controlled variables include company size and the ratio of book value to market value of equity. In this paper the regression model has been used. **Results and Conclusion:** The results of the research indicate that there is a positive and significant relationship between economic added value and stock liquidity. Also there is a significant and positive relationship between economic added value and returns. Finally the results indicate that there is a significant difference in the relationship between economic added value with liquidity in listed companies in Tehran Stock Exchange and returns.

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To Cite This Article: Amir Houshang Nazarpouri, Reza Sepahvand, Kasan Kazemi, Ali Pirzad, The Relationship between Economic Value Added with Liquidity and Returns in Companies Listed in Tehran Stock Exchange. *J. Appl. Sci. & Agric.*, 9(6): 2692-2699, 2014

INTRODUCTION

The managers' of takeover companies, recognize takeover as the fastest way for acquiring growth, acquiring new markets, entering global trading zone, increased profit and creating economic added value. On the other hand there is another view based on negative effect of companies' takeover on the wealth of the shareholders of purchasing companies and the companies which have been taken over. The opponents of this belief believes that growth through internal development (starting new projects and newly established companies) is more desirable comparing to purchasing active companies and due to the conducted studies, they claim that most of takeovers and merging companies after takeover faces some kind of decrease in the performance from the point of view of financial indicators. One of the motivations and reasons that encourages companies top managers to adopt takeover and merging strategies is economic added value (Piqueira, 2006).

Stock return volatility is one of the controversial financial topics which has attracted the attention of capital market researchers in new emerging markets (KielGeoffrey *et al.*, 2003). The reason of this inclination goes back to the relationship between price volatility and in turn on return and its effect on the financial section performance as well as the whole economy. On the other hand, the usefulness of stock return volatility on the side of investors is due to the fact that they consider stock return volatility as a risk criterion and also strategy makers of capital market can use this criterion as a means for measuring vulnerability rate of stock market (Yang, 2006).

On the other hand, liquidity is one of the desirable characteristics of competitive markets. Liquidity is defined as the possibility of performing deals in a fast manner with small expenses and without severely affecting the price and has been named as the main determinant of the possibility of markets' survival. This phenomenon in future markets is also the source of durability and an important indicator for studying efficiency

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and maturity of these markets (Rarvenscraft & Scherer, 1978). On one hand, stock return is one of the most important and complicated concepts which is affected by a variety of factors. Stock return is affected by factors including changes in economical, political, cultural, social conditions, sentiment reactions in purchasing stock, risk, assets return and especially financial statements items and information provided by them and so many other factors such as these. Today analysis of accounting variables is a powerful technique and a proper instrument for investors toward a far better recognition and evaluation of past and present performance as well as prediction of future performance and return.

Also since the time of Adam Smith the predominant view regarding organizations is that they derive their forces from investors, employees and suppliers to produce and provide their products and services to their customers. In this view organizational performance refers to the financial return which is received by shareholders (Deuskar, 2006). Therefore the importance of stock return prediction has made scholars to try to find the variables and indicators which have a significant relationship with stock return as well as the variables which are influential on this relationship. They have always tried to find the influential variables on returns and base their decisions making on them. The obtained results from studies in this field indicate that financial and non-financial information both have effect on stock return (Mehrani *et al.*, 2004).

Understanding the mechanism of Tehran Stock Exchange from different aspects and angles can reduce the risk of investment and in the meantime can predict the future of the market and its changes in a better way. Stock return is one of the most important factors in selecting the best investment. Investors in addition to considering so many company internal and external financial and non-financial factors for prediction and decision making, with awareness of effective factors on stock return can determine stock price behavior with more accuracy and a better quality and as a result can make more effective decisions. Hence, one of the criteria for organization's performance evaluation in this study is stock return.

A Review of Theoretical and Research Background:

Normally the works which are studying the information content of variables make their assumption on complete reflection of accounting information and then study the connection between liquidity and stock return. Most of the previously conducted studies indicate to a relationship between economic added value and stock return and in this section we will review some of these works.

Austin (2006) in his work has studied the economic added value as an indicator of performance evaluation of New Zealand Airlines during the years 1995-2003. The findings of his study indicate that economic added value is used as an indicator for pricing the company products (Aitken, Comerton Forde, 2003). Piqueira (2005) believes that trading activities can describe expected return changes in a cross-sectional manner. Evidences of this study indicate the existence of a relationship between the expenses of illiquidity and the size of the company. Also the effect of the stock of large companies with high liquidity on trade volume is significant. In this study he introduces trading activities as the only indicator of liquidity (Piqueira, 2006).

Marshal and Yang in (2006) have studied the relationship between normal stock return in Australian market and factors such as: Beta risk and the size of company, price offer to buy and sell, flow rate and ratio of illiquidity and their findings indicate that among different indicators of illiquidity, the ratio proposed by Amihoud justifies surplus of stock returns better (Marshal & Martin, 2006). Marcello & Quiros in (2006) have studied the illiquidity risk factor in Spain Stock Market during 1994-2002. In this study they have used the control factor of size and ratio of book value to market value as the illiquidity indicator proposed by Amihoud (2002). The findings of this study indicate that illiquidity factor should be considered as one of the key elements of assets pricing (Marcello, Quiros, 2006).

Deuskar in (2006) have proposed a model for liquidity behavior and stock price volatility. In this model, the investors predict the recent price changes for the changes of an asset with risk. When the asset changes are high, the risk premium of it will be high and the current return of the asset will be low, the return rate of assets with risk will also also low and market will face illiquidity (Deuskar, 2006). Du to conducted studies in Iran also, Yazyzadeh and Khoramdin in (2008), have studied "the role of liquidity factors and illiquidity risk on stock return surplus in stock exchange". In this study due to the importance of the relationship between risk and return, the effect of illiquidity risk and liquidity factors including market return surplus, company size and ratio of book value to market value on stock return surplus. In this study the time series model for a time period of Farvardin of 1999 to Esfand of 2005 have been used in monthly manner in Tehran Stock Exchange that includes all the existing companies in Stock Exchange that their stock have been traded at least 100 days during at least a time span of 9 month in exchange market. Also for reducing the correlation between these variables portfolio formation method has been used. The findings of this study indicate that all 4-folds independent variables have significant effect on research dependent variable. It means that the effect of illiquidity and company size on stock return surplus is negative while the effect of market return surplus and ratio of book value and market value on stock return surplus is positive (Yahyazadeh, Khoramdin, 2008).

Mahdavi and Goyandeh in (2009), have studied "the relationship between economic added value and refined economic added value with stock return". The main aim of this paper has been to study the relationship

between economic added value and refined economic added value with stock return in companies listed in Tehran Stock Exchange. In line with this aim, with the use of combined data, company and year 71 companies listed in Tehran Stock Exchange during the past 10 years have been tested. The research hypotheses have been tested with the use of Pearson's correlation coefficient. The result of the research indicates that there is no significant relationship between economic added value and refined economic added value with stock return (Mahdavi, Goyandeh, 2009).

Darabi and Esfandyari in (2009) have studied "the relationship between adjusted economic added value, profit prior to interest and tax deduction and cash flow of operational activities with stock market value of food industry companies listed in Tehran Stock Exchange". The aim of this paper is to study the amount of correlation of adjusted economic added value with stock market value of companies and have compared it with the correlation amount of two more important accounting indicators namely profit prior to interest and tax deduction and operational activities cash flow with stock market value of companies. In other words, whether adjusted economic added value comparing to two other indicators have the capability to better describe the stock market value of companies? In order to answer this question, companies active in food industry listed in Tehran Stock Exchange have been considered and required statistical tests have been conducted. The findings of the study indicate that at the confidence level of 95% it can be claimed that adjusted economic added value and operational cash flows show similar correlation with market value. It is while the profit prior to deduction of interest and tax comparing to two other indicators have a bigger correlation with stock market value (Darabi, Esfandyari, 2009).

Hasas yeganeh and Delkhoush in (2009) in a paper have studied "the relationship between economic added value with dividend per share and stock price in companies listed in Stock Exchange". The focus of attention of economic added value as one of the indicators of performance measurement is on topics such as capital cost and created value for shareholders. One of the basic principles in economic added value concept is that managers are responsible for creating value and maximizing the wealth of shareholders. Hence we can use economic added value as an indicator for measurement of manager's commitment and efficiency and in fact the economic added value pattern is capable to give this answer to shareholders that how much management is involved in increasing their wealth. Since we can measure the company's economic profit correctly with economic added value indicator, therefore it can be a proper indicator for measuring the company's operational efficiency and we can estimate the effect of management decisions on stock price and company's dividends with it. Therefore, in this paper we have studied the relationship between cash return and stock price with economic added value in companies listed in Stock Exchange during 2000 to 2004. The findings of the study indicate that there is no significant relationship between economic added value and dividends, while a significant relationship have been observed between economic added value and stock price. Therefore economic added value can be a better estimator for stock price (Hasas Yeganeh, Delkhoush, 2009).

Methodology:

Research Hypotheses:

1. There is a significant and positive relationship between economic added value and liquidity of companies listed in Tehran Stock Exchange.
2. There is a positive and significant between economic added value and stock return.
3. There is a significant difference in the relationship between economic added value with stock liquidity of companies listed in Tehran Stock Exchange and stock return.

Research Population and Sample:

The research population includes all the companies listed in Tehran Stock Exchange with 510 companies which have been present in exchange market during 2005 to 2010 with the conditions that their financial statements will be available, their fiscal year hasn't been changed during these years and their fiscal year end will be in the end of the month of Esfand of each year and their stock have been traded during the mentioned years. With application of the above mentioned conditions the number of companies is reduced to 98 companies.

From all the qualified companies based on the above stated criteria, 98 companies have been selected during 5 years. The sampling method is all and all of these 98 companies are considered as sample.

Research Variables and Their Measurement Method:

In this research we are seeking to study the relationship between economic added value with liquidity and stock return; and for this purpose we are using both kinds of dependant and independent variables which will be both describe below.

A. Dependent variable

Dependent variables of this research are:

1) Liquidity:

In this research in compliance with various studies such as Marshal (2006), Marcellor, Quiros, p.254-267), Chan and Faaf (2003), (Bortolotti *et al.*, 2006), Baker and Austin (2003) and Austin, 2006, p. 138-150 we have used flow rate indicator as stock liquidity indicator. Flow rate indicator is calculated as the ratio of trade's volume to the number of outstanding shares:

$$\text{Liquidity} = V / N$$

Where V refers to trade's volumes and N refers to the number of company's share.

2) Stock Return:

The 2nd dependent variable in this study is stock return which is calculated as per the following:

$$\frac{P_t(1 + \alpha + \beta) - (P_{t-1} + c\alpha) + D}{P_{t-1} + c\alpha}$$

Where P_t and P_{t-1} is stock price at the end and beginning of period of α , t is capital increase percentage from receivables and cash, β is the percentage of capital increase from reserve, c is price of new shares underwriting and D is dividends in the period of t .

B. Independent Variables:

The research main independent variable is economic added value and the calculation method of it as per the following:

$$\text{E.V.A} = (\text{Rate of return on capital} - \text{Rate of weighted average cost of capital}) * \text{capital employed}$$

C) Controlled Variables:

In this research for a better specification of the model, we have used controlled variables of company size (SIZE) and ratio of book value to market value of shareholders (BTM). The company size is measured with the use of natural sales logarithm.

The used models for hypothesis test and analysis

A) Secondary research hypothesis 1

For testing this hypothesis we have used regression model:

$$\text{Liquidity}_i = \beta_1 + \beta_2 \text{E.V.A}_i + \beta_3 \text{SIZE}_i + \beta_4 \text{BTM}_i + \epsilon_i$$

Liquidity_i: stock liquidity indicator of i company in the period of t

E.V.A_i: economic added value of i company in the period of t

SIZE_i: size of i company in the period of t

BTM_i: ratio of book value to market value of i company in the period of t

B) Secondary research hypothesis 2

For testing this hypothesis regression model has been used:

$$\text{Rit} = \beta_1 + \beta_2 \text{E.V.A}_i + \beta_3 \text{SIZE}_i + \beta_4 \text{BTM}_i + \epsilon_i$$

Rit: stock return of i company in t period

E.V.A_i: economic added value of i company in the period of t

SIZE_i: size of i company in the period of t

BTM_i: ratio of book value to market value of i company in the period of t

Methodology:

In this research statistical tests regarding the possibility of using regression model, correlation between variables, hypotheses test, significance of the regression and significance of coefficient have been used.

Pearson correlation coefficient (r), is a parametric method which is used for data with normal distribution or with large number and the coefficient is calculated with the following equation:

$$r = \frac{\sum xy - n\bar{x}\bar{y}}{\sqrt{\sum x^2 - n\bar{x}^2} \sqrt{\sum y^2 - n\bar{y}^2}}$$

Spearman correlation coefficient (r_s), when the number of data is small or when the assumption of data normality is not reasonable another correlation coefficient is used which is not based on main values and is calculated with the following equation and based on data ranks:

$$r_s = 1 - \frac{6(\sum x_i^2)}{n(n^2 - 1)}$$

The significance concept in correlation refers to whether the obtained correlation among two variables can be considered random or it really indicates that a correlation exists between them. This is done with the use of t -statistics with the following assumptions:

Ho : $\rho_i = 0$: there is no significant correlation

H1 : $\rho_1 \neq 0$: there is significant correlation

If at the confidence level of 95% (error of $\alpha=5\%$) the calculated t-statistics from regression equation will be smaller than the obtained t from the table the assumption of H0 will be confirmed and otherwise it is rejected. It is obvious that in case of rejection of H0, a significant correlation exists.

A multiple regression has different methods. The difference between its methods is in the way of selecting predicting variables.

In this paper the following equation have been used for determining the regression:

$$Y = a + b_1x_1 + b_2x_2 + \dots + b_nx_n + u_t$$

Y: ratio of profit to first market value of the period

a: Intercept

x_1, x_2, \dots, x_n : all the variables used in this paper

b_1, b_2, \dots, b_n : obtained regression coefficients of all the variables in this paper

u_t :error phrases

Wald statistics:

For testing the research main hypothesis, first the regression models (1) and (2) are fitted and with the use of t student statistics, significance of the relationship between economic added value with variables of stock liquidity and stock return is tested (secondary research hypotheses 1 and 2).

In the next stage the Wald statistics test is used in order to test the significant difference of the relationship of economic added value with stock liquidity and stock return (main hypothesis). The z statistics value of this test is obtained by the following equation:

$$Z = \frac{(\beta_1^* - \beta_2^*)}{\sqrt{SE_1^* + SE_2^*}}$$

Where β is the coefficient of economic added value variable in regression models (1) and (2) and SE is standard error of compared models. With comparing the obtained statistics and statistics critical value in normal standard table, the significance of the difference of economic added value relationship with liquidity and stock return is tested.

Results:

Testing secondary hypothesis 1:

In this study for testing the research secondary hypothesis 1 (relationship between economic added value with stock liquidity) the below multi-regression model has been fitted:

$$(1) \text{ Liquidity}_{it} = \beta_1 + \beta_2 \text{ E.V.A}_{it} + \beta_3 \text{ SIZE}_{it} + \beta_4 \text{ BTM}_{it} + \epsilon_{it}$$

Table 1: obtained results from fitting regression equation (1)

(1) $\text{Liquidity}_{it} = \beta_1 + \beta_2 \text{ E.V.A}_{it} + \beta_3 \text{ SIZE}_{it} + \beta_4 \text{ BTM}_{it} + \epsilon_{it}$				
Variable name	Variable symbol	Variable coefficient	t statistics	Significance level
Constant value	Constant	1.12	5.5074	.000
Economic added value	E.V.A _{it}	0.365	2.108	0.036
Company size	SIZE _{it}	0.248	2.871	0.004
Ratio of book value to market value of equity	BTM _{it}	-0.125	2.63276	0.0086
Determining coefficient	0.444	F statistics		13.418
Adjusted determining coefficient	0.411	Significance of (p-value)		.00
		Durbin Watson statistics		1.789

As it is shown in table 1, determining coefficient is 44.4% and adjusted determining coefficient is 41.1%. The reason of using adjusted determining coefficient is that with adding the number of independent variables to regression model it is possible that the value of R^2 will be increased. For preventing this and controlling inflation of R^2 , R^2 adjusted statistics is used which solves the R^2 problems. The high value of adjusted determining coefficient (0.411) of fitted regression indicates the high descriptive power of the model.

As per table 1, the significance level of economic added value variable is equal to 0.036, which is smaller than the determined significance level in the current study (5%); on the other hand the absolute value of t statistics relate to this variable $|2/108|$ is bigger than the obtained t statistics from the table with the same freedom degree (1.96). therefore this variable is significant in the fitted regression of model (1) and we can use the estimated coefficient for it. The significance level of the variable of company size is equal to 0.004, which is less than the determined significance level for the current study (5%); also the absolute value of the t statistics related to this variable $|2.871|$ is bigger than the obtained t statistics from the table with the same freedom degree (1.96). Also the variable of the ratio of book value to market value of equity has a smaller significance level comparing to the one determined for this study (0.0086 against 0.05) and on the other hand the absolute value of the t statistics related to this variable $|2.63271|$ is bigger than the obtained t statistics from the table with

the same freedom degree (1.96), and therefore this variable is also significant and we can use the estimated coefficient for it.

In general the results of table 1 indicate that at the confidence level of 95% the variables of economic added value and company size have a positive and significant relationship with stock liquidity and the variable of the ratio of book value to market value of equity has a negative and significant relationship with stock liquidity. Therefore hypothesis 1 of the study indicating a positive and significant relationship between economic added value and stock liquidity is confirmed.

Testing Secondary Hypothesis 2:

In this study for testing the research secondary hypothesis 2 (relationship between economic added value with stock return) the below multi-regression model has been fitted:

$$(2) R_{it} = \beta_1 + \beta_2 E.V.A_{it} + \beta_3 SIZE_{it} + \beta_4 BTM_{it}$$

Table 2 presents the obtained results from fitting the above regression model.

Table 2: obtained results from fitting regression equation (2).

(2) $R_{it} = \beta_1 + \beta_2 E.V.A_{it} + \beta_3 SIZE_{it} + \beta_4 BTM_{it} + \epsilon_{it}$				
Variable name	Variable symbol	Variable coefficient	t statistics	Significance level
Constant value	Constant	0.621	8.127	.000
Economic added value	E.V.A _{it}	0.471	2.843	0.005
Company size	SIZE _{it}	0.367	-2.619	0.009
Ratio of book value to market value of equity	BTM _{it}	-0.215	-2.380	0.018
Determining coefficient	0.541	F statistics		15.678
Adjusted determining coefficient	0.505	Significance of (p-value)		.00
		Durbin Watson statistics		1.947

As it is shown in table 2, determining coefficient is 54.1% and adjusted determining coefficient is 50.5%. The reason of using adjusted determining coefficient is that with adding the number of independent variables to regression model it is possible that the value of R^2 will be increased. For preventing this and controlling inflation of R^2 , R^2 adjusted statistics is used which solves the R^2 problems. The high value of adjusted determining coefficient (0.411) of fitted regression indicates the high descriptive power of the model.

As per table 2, the significance level of economic added value variable is equal to 0.005, which is smaller than the determined significance level in the current study (5%); on the other hand the absolute value of t statistics relate to this variable $|2/843|$ is bigger than the obtained t statistics from the table with the same freedom degree (1.96). Therefore this variable is significant in the fitted regression of model (1) and we can use the estimated coefficient for it. The significance level of the variable of company size is equal to 0.009, which is less than the determined significance level for the current study (5%); also the absolute value of the t statistics related to this variable 2.619 is bigger than the obtained t statistics from the table with the same freedom degree (1.96). Also the variable of the ratio of book value to market value of equity has a smaller significance level comparing to the one determined for this study (0.018 against 0.05) and on the other hand the absolute value of the t statistics related to this variable 2.38 is bigger than the obtained t statistics from the table with the same freedom degree (1.96), and therefore this variable is also significant and we can use the estimated coefficient for it.

In general the results of table 2 indicate that at confidence level of 95% the variables of economic added value and company size have a positive and significant relationship with stock return and the variable of the ratio of book value to market value of equity has a negative and significant relationship with stock return. Therefore hypothesis 2 of the study indicating a positive and significant relationship between economic added value and stock return is confirmed.

Testing research hypothesis 3:

$$(1) Liquidity_{it} = 1/12 + 0/365 E.V.A_{it} + 0/248 SIZE_{it} - 0/125 - BTM_{it} + \epsilon_{it}$$

$$(2) R_{it} = 0/621 + 0/471 E.V.A_{it} + 0/367 SIZE_{it} - 0/215 - BTM_{it} + \epsilon_{it}$$

As it was mentioned in the research method section for studying the significant difference of the relationship between economic added value with stock liquidity (0.365) and stock return (0.471) the Wald test has been used. The mentioned statistics at the confidence level of 95% is equal to 2.12 and therefore H_0 hypothesis indicating non-existence of a significant difference of coefficients at the confidence level of 95% is rejected and H_1 hypothesis indicating existence of significant difference of the relationship (coefficients) between economic added value with liquidity and stock return is confirmed. Therefore as it can be seen in the above table economic added value have a positive and significant relationship with stock liquidity in a way that the coefficient of economic added value in model (1) is equal to 0.365 and descriptive power of the model is

41.1%. On the other hand economic added value has a positive and significant relationship with stock return in such a way that economic added value in Model (2) is equal to 0.471 and the descriptive power of the model is also 50.5%. Hence this relationship is stronger regarding stock return and therefore main hypothesis is confirmed.

Table 3: Comparison of the relationship between economic added value with stock liquidity and stock return.

Variable name	Variable symbol	Regression model	Variable coefficient	t statistics	Significance level
Constant value	Constant	1	1.12	5074	.000
		2	0.621	8.127	.000
Economic added value	E.V.A _{it}	1	0.365	2.108	0.036
		2	0.471	2.843	0.005
Company size	SIZE _{it}	1	0.248	2.871	0.004
		2	0.367	-2.619	0.009
Ratio of book value to market value of equity	BTM _{it}	1	-0.125	2.6327	0.0086
		2	-0.215	-2.380	0.018
Determining coefficient		1	0.444		
		2	0.541		
Adj. determining coefficient		1	0.411		
		2	0.505		
Wald statistics			2.126		

Conclusion:

The liquidity topic as a determining factor of stock return was first presented in the beginning of 80s (Chan, Faff, 2003). Liquidity reflects the effect of order flow on price. This effect can be observed in the form of a discount given by a seller or in the form of a reward received by a buyer at the time of ordering in the market. In general, the question that "whether liquidity can affect asset return or not" have not been answered completely and with confidence. Studies show that liquidity factor have effect on asset return and investors have always given attention to it (Omari *et al.*,). The role of liquidity is important in determining assets' price; because investors always give attention to the fact that if they want to sell their assets, whether there is a proper market for them or not? As much as the liquidity potential is less for a share, it will have less attraction for investors, unless they would receive more returns from it (Keil Geoffrey *et al.*, 2003). At the macro and national levels it is expected that as much as the liquidity of a stock is more, it will contain new information for gradual stock changes which leads to increasing the return level (Bortolotti *et al.*, 2006).

Due to the multi-dimensional property of liquidity, reflecting all the properties of it in one single criterion is difficult. In a categorization by Aitken & Comerton Forde liquidity measurement indicators are divided into two indicators based on orders and based on trades. The indicators based on trades are more focused on the past rather than advancing forward and therefore they necessarily don't indicate the capability of investors for doing fast trades and the related expenses to them. But emergence of electronic trade systems have made possible achievement of more detailed data and as a result new liquidity indicators due to the existing orders in the market. These indicators with more accuracy study the capability of doing a trade fast and the expenses related to it. One of the most important of these criteria are breaking the offered buying and selling prices of the market and the market depth. The most common criteria of liquidity include market width (range), market depth, and market flexibility as well as time (speed of trades).

From macro point of view, existence of liquid capital markets as one of the most effective factors on stock return has so much importance, because liquidity indicates the status of investment environment and macroeconomic. Form micro point of view, liquid capital market has the potential of attracting various investors with a variety of trade strategies. Illiquidity of an asset, prevents on time sale of it at the time decline of the price in the whole market (Acharya & Pedersen, 2005).

One of the limitations of this study is regarding the sample selection which includes use of companies with having fiscal year ending of the month of Esfand, no change in fiscal year, necessity of stock trade in the month of Esfand and most important than all the availability of required information for variables. Definitely using a longer period of time span and more companies will increase the validity and reliability of the study. Another limitation of this study is that the findings of the studies conducted regarding the efficiency of Tehran Stock Exchange don't confirm the market efficiency at a weak level as well (including Sinaei, 1994; and Namazi and Shoshtariyan, 1995) and this will distort the market prices to a great extent. In the current study for calculation of the ratio of market value to book value and also stock return we have use stock market value, therefore lack of efficiency of Tehran Stock Exchange will reduce the possibility of reliance on results in this regard.

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