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INVESTIGATING THE RELATIONSHIP AMONG PROFIT, RISK, AND LIQUIDITY WITH RETURN ON EQUITY IN TEHRAN STOCK EXCHANGE (2001-2012)

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ABSTRACT

The stock profit, liquidity, and risk are basses for stakeholder decision-making and predicting in the companies listed in Tehran Stock Exchange. Indeed, the present is a systematic effort to investigate the relationship among profit, risk, and liquidity with return on equity in Tehran Stock Exchange from 2001 to 2012. The research was a descriptive-analytical study. The research data were collected through exploring companies' documents and reports and conducting RAHAVARDE-NOVIN software in the Excel. In order to analyze the research data and the test the hypotheses, Pearson Correlation Coefficient Test and Ordinary Least Squares were employed. In this regard, t-value and F were the main criteria were used in analyzing the research data. The findings revealed that there is a significant positive relationship among profit and liquidity with stock return. Also the findings showed that there is a significant negative relationship between risk and stock return. Based on the results of regression model, it can be inferred that profit has the most effect on return on return on equity and also risk has the least effect on return on equity.

Keywords: Profit, Liquidity, Risk, Return

INTRODUCTION

Predicting return on equity is one of the main goals of financial engineering and reporting. Such a prediction helps the investors in making the best economic decisions. There are several effective factors in the prediction of return on equity such as profit, systematic

and nonsystematic risks, liquidity of operational activities, and debates. The above-mentioned factors can be influenced by other variables such a company size. The present study is a systematic effort to investigate the relationship among profit, risk, and liquidity with return on equity of companied listed in Tehran Stock Exchange from 2001 to 2012.

The investments, which result in maximization of profit, require sound prediction of return on equity in the future and selection of the most appropriate portfolio. Risk is one of the main controllable factors which results in variations in the stock return. Indeed, risk is a factor which cannot be reduced the diversity of portfolio. Therefore, analysis of risk is an important factor in the prediction of return on equity and maximization of shareholder profit. Risk also is influenced by a set of economic factors such as money supply, inflate, industry policy, and other factors. It also influences performance of all active companies in the market. The importance of risk and its management will be increased with development of economic activities and businesses bankrupt. This is why that the present study was aimed to investigate the relationship among profit, risk, and liquidity with return on equity.

Profit is one of the main factors which can be used for measuring businesses performance. It also is considered as an important factor in the decisions of investors.

The difference between economic and accounting approaches of profit results in two different perspectives in profit including economic and accounting perspectives. Indeed, accountants use direct linear methods in calculating depreciation, but economists use interest-based methods. It is the main point which makes two of them. The present study was aimed a systematic effort to investigate the relationship among profit, risk, and liquidity with return on equity in Tehran Stock Exchange from 2001 to 2012.

Review of literature

Profit and its applications

Profit is one of the practical concerns which are important for every business. Utilization of profit for particular goals such as measurement criteria of management efficiency, criteria of future performance measurement, basis for tax calculation, basis for company rules, and criteria of judgment in the resources allocation **(Clide, 2007)**.

Accounting profit, which is measured through debate system, is a good tool for measuring company performance from perspective of users of the financial report. The concept of company performance

measurement refers to overall evaluation of financial conditions and results of operational activities in making rational decisions. For example, accounting profit can be used as a basis for company credibility by banks. The economic concept of profit is suggested by economists such as **Helks (1939)**. From this perspective, the purpose of profit measurement is to inform people about their consumption levels. Although Helks focused on the individual definition of profit, but this concept can be used for basis of commercial profit. Therefore, commercial profit can be defined as variation in the net assets in the result of commercial activities during an accounting period. It should be noted that this definition of profit is known among accountants as capital preservation **(Barker, 2008: 7)**.

Investment risk

Investment risk refers to a person's chance of success or failure in an investment opportunity. It is necessary to find a quantitative definition for risk in the financial market analysis. Such a definition should be able to measure risk in a quantitative manner directly or indirectly. The use of return probabilities distribution is the singular way for quantifying risk. In such conditions, it can be said that return is the singular outcome of investment **(Markowitz, 1998)**.

Return on equity

Currently, return on equity is the main criteria of performance evaluation in many companies. This criterion has sufficient informational content for investors and also can be used for performance evaluation. Drop in this criterion, which shows inappropriate performance of the company, is an alarm for companies. This criterion has several informational contents, as performance evaluation based on the market value reflects investors' information appropriately. Indeed, return on investment is a rehearsal factor which motivates employees. It also is considered as a reward for investors. The overall return refers to the set of benefits (both increase in its price and profit) of a share.

Generally, return of a share refers to all incomes of its owner. In order to calculate share return, variation in price and liquidity should be measured in the investment period. All in all, share return consists of two parts:

1) Return of profit per every share (paid profit)
2) Return of variation in price (capital incomes).

Relationship among risk, return, and liquidity with float share

Since rational investors attempt to form the best portfolio in their investment, their

portfolio is influenced by systematic risk. In order to measure risk of such shares, their systematic risk should be calculated. Bet coefficient is a good criterion of systematic risk measurement. Indeed, Beta plays an important role in important role in the financial literature. Predicted Betas and their prediction can be used in assets pricing, evaluation of liquidity, risk management, making investment decisions. Since Beta, as the main criterion of systematic risk, is the only risk which is considered by investors. Estimation of Beta helps investors in make their investment decisions better and simpler **(Choudhry and Wu, 2007)**.

Liquidity is a complex concept which cannot be observed directly. Different definitions and perceptions of liquidity have been formed. On the other hand, liquidity and lack liquidity are two sides of a cony which are used rather each other. In the simplest definition, liquidity refers to the market ability in attracting macro investments with our any considerable variation in the price.

The seasonal liquidity of companies in the research period is considered as dependent variable in our study. In order to define stock liquidity, the criteria of seasonal liquidity were used. Indeed, liquidity is a number which shows liquid-ability of a share in the stock exchange. In order to calculate liquidity ratio, factors such as number of buyers, stock repurchase, number of stock days, number of companies, exchange volume during a period, number of exchanged shares, and daily value are the main factors which should be considered.

It can be said in terms of the relationship among risk, return, liquidity, and float stock that relations should be calculated for every company. In the second step, the first and later ranks should be calculated.

Related studies

Hejazi and Dostian (2006) examine and compare the relationship among net profit and variations in the liquid operational flows with variations in the stock return. They found that there is a significant positive relationship between net accounting profit and variations in the return, another part of our findings revealed that there is not any significant relationship between liquid operational flows and variations in the stock return. In addition, the findings showed that the correlation between net accounting profit and return on equity is more than the correlation between operational flows and variations in the stock return.

Hoseynzade and Ahmadinia (2009) investigate the relationship between appropriateness of accounting profit components and liquid operational flows with

stock return. Their findings showed that operational profit (profit before tax) and net profit has the most ability to explain stock return. Based on another part of our findings, net profit has the most ability in explaining return on equity so much that it explains 37% of variations in the stock variation. Also they found that debates and liquid operational flows are not related to the stock return.

Saeidi and Ghaderi (2007) refer to predictability of book value, net profit, liquid operational flows, and liquid flows of investment activities are related factors in terms of company value. They also found that book value and accounting profit are more related factors in this area. Finally, liquid flows are not effective in the predictability of stock return.

Shahmoradi (2001) studies the relationship between accounting profit (operational, net, and comprehensive profits) and stock return. He found that there is a significant relationship between operational and comprehensive profits with stock return. Another part of findings also revealed that there is not any significant relationship between net profit and stock return.

Anthony and Petroni (1997) investigate the effect of profit prediction on the company return. They found that here is a significant relationship between company return and its profit. They also found that correction of the past estimation errors improve appropriateness of financial reporting information.

Barth *et al*. (2002) study the effect of profit analysis on the estimation of unnatural profit estimation. They also attempt to answer this question "are the components of profit are related to prediction of unnatural profits and explain the variations of market value of ordinary stocks?" the results of their study revealed that categorization of profit into two groups (liquid and debate) decreases prediction error of stock market price. In other words, liquid and debate parts of profit have particular informational contents and are considered as unnatural factors for profit estimation.

Bard and Di (1989) investigated the role of accounting profit and liquid operational flows in explaining stock return. They found that the effect of accounting in explaining return on equity in more than the role of liquid operational flows. They also explain that people are familiar with accounting profit and this is why that they do not change their behavior.

Khajoyi and Nazemi (2003) investigated the relationship between profit quality and debate part of profit. They found that debate accounting has not any significant effect on

the stock return. Also any significant relationship was not observed between ordinary return of companies with levels of debates and their stock return.

Slough and Taw (2007) investigate the relationship between stock return, profit, and liquid flows before and after representation of financial reports. They found that the relationship between liquid flows and return was improved after representation of financial reports. Another part of their findings revealed that the relationship between profit and return was decreased after representation of financial reports.

Shian (2004) investigates the ability of profits in comparison to liquid flows in reflecting companies' performance at international level. For this purpose, he selects six countries including France, Italy, England, Germany, Canada, and Japan. The study was conducted in both short-term period (one year) and long-term period (four years). The results of his study revealed that there significant relationships among profit, net liquid flows, and profit flows with net liquid flows and liquid operational flows in the countries. Also his findings revealed that profit coefficients were more than net liquid flows and liquid operational flows.

Lev and Ohlson (1982) investigate the effect of liquid flows on the relationship between return and profit and found that liquid flows influence the relationship between return and profit significantly. They also found that the market consists of two parts of profit differently.

Hirshlifer *et al*. (2009) examine the relationships among debates, liquid items, and stock returns. They found that unlike to past studies, debate items are more positive and powerful predictor of stock return.

RESEARCH METHODOLOGY

The present study is a descriptive-correlational research. In order to collect the research data, both library and field study methods were employed. The sample members were selected based on the systematic elimination method. In this regard, 106 companies listed in Tehran Stock Exchange were selected as sample members. A part of research data were collected through exploring companies' documents and reports and RAHAVARDE-NOVIN software in the Excel.

Hypotheses development

Main hypothesis: there are significant relationships among risk, liquid flows, and return on equity of companies listed in Tehran stock exchange.

Secondary hypotheses

H1: there is a significant relationship between equity profit and return on equity.

H2: there is a significant relationship between liquid flows and return on equity.

H3: there is a significant relationship between stock risk and return on equity.

H4: return on equity can be predicted through stock return, liquid flows, and return on equity.

Conceptual model

The regression model of this study is shown in the following section.

$$RE = \beta_0 + \beta_1 PRO + \beta_2 CFO + \beta_3 RIS + \beta_4 SIZ + \varepsilon_t$$

In order to investigate the relationships among risk, liquid flows, and stock return, the regression model should be employed.

The main parameters of the model are presented in the following section.

RE: return on equity

PRO: equity profit

CFO: liquid flows

RIS: equity risk

SIZ: company size

In order to investigate significance of β_i, t-value and significance levels should be attended.

Regression analysis

The results of **Table 1** revealed that the significance level of the relationship among risk, liquid flows, and return on equity is acceptable (0.05). So it can be said that there are significant relationships among risk, liquid flows, and return on equity. Indeed, the relationship between profit with return and liquid flows is positive and the relationship between risk and return is negative. The results of data analysis support the research hypotheses. Also any significant relationship was not observed between company size and return.

Investigation of the statistic of variables

In order to estimate the dependent variable (return), three independent variables (including profit, liquid flows, and risk) and a secondary factor (company size) were used. Since the research data were a type of times series, the Dikey-Foller technique was employed for investigating static of research data. The results of this technique are presented in **Table 2**. Since the value of statistic is in the acceptable scope, it can be said that the model is acceptable. In other words, it can be said that part of AR1 should be used for regression model.

The results of regression model

The relationships among research variables were investigated through ordinary least squares (OLS). The results are presented in **Table 3**.

According to t-value for independent variables, it can be said that the hypotheses are supported. So it can be said that profit, liquid flows, and risk influence stock return

significantly. Also it should be noted that t-value is not significant for company size and its hypothesis is not supported. Based on the results of regression mode, the regression model of this study can be shown as following.

$$RE = 0.0363 + 0.3056\,PRO + 0.0978\,CFO - 0.0805\,RIS$$

Table 1: the results of correlation coefficients among independent and dependent variables

variables	coefficient	Sig
Profit	**0.213**	**0.001**
Liquid flows	**0.197**	**0.001**
Risk	**-0.150**	**0.010**
Company size	**0.052**	**0.102**

Table 2: the results of Dikey-Foller technique

Variable	Dikey-Foller value	Critical value	Result
Return	-4.14	-3.08	I (1)
Profit	-8.45	-3.53	I (1)
Liquid flows	-6.02	-3.06	I (1)
Risk	-3.60	-353	I (1)
Company size	-5.05	-3.11	I (1)

Table 3: the results of OLS model for return as dependent variable

Variables	Coefficient	Standard error	t-value	Sig
Fixed value (c)	**0.0363**	**0.0044**	**8.15**	**0.001**
PRO	**0.3056**	**0.0563**	**5.24**	**0.001**
CFO	**0.0978**	**0.0112**	**2.88**	**0.001**
RIS	**-0.0805**	**0.0208**	**-3.52**	**0.001**
SIZ	**0.0020**	**0.0901**	**0.52**	**0.301**
F: 6.09 Prob. : 0.001				

Our findings revealed that the partial elasticity of profit, flows, and risk are 0.3056, 0.0978, and -0.0805 respectively. Partial elasticity of profit shows that a unit variation in the profit results in 0.3056 variations in the stock return. Partial elasticity of liquid flows shows that a unit variation in the liquid flows results in 0.0978 variations in the stock return. Finally Partial elasticity of liquid flows shows that a unit variation in the risk results in 0.0805 variations in the stock return. Finally, it should be remembered that adjusted determination coefficient (adjusted R^2) showed that 11.4% of variations of stock return can be explained through three independent variables (profit, liquid flows, and risk).

CONCLUSION

The results of this study revealed that profit, liquid flows, and risk influence stock return significantly. Also the R^2 coefficient showed that 11.4% of variations of dependent variable (stock return) can be explained by independent variables (profit, liquid flows,

and risk). The findings also revealed that both financial and accounting information influence stock price and its return. Also other factors should not be ignored. For example, **Hagen (1995)** concluded that dissemination of important financial and accounting information explains about 25% variations of stock return. Indeed, he stresses that informational contents are important part of evaluation process.

Like to the results of past studies, the findings of our study revealed that liquid operational flow has a little ability in predicting company performance. Because of the poor relationship between liquid operational flow and stock return, it is not possible to compare the findings of this study with past studies. Indeed, it is one of the main limitations of our study.

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