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Relationship between Short-Term Stock Returns and Market Ratios in Iran

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Abstract

The study aims to investigate the relationship between short-term return and market ratios in Tehran Stock Exchange. Statistical society of the study contains 180 companies that 95 companies have been selected as a sample. The results of the study show that there is no relationship between short-term stock returns and the market ratios during 2006 -2010 in Iran.

Keywords: Short-term stock return, price/ earnings ratio, earning per share, price market / book ratio.

1. Introduction

The study evaluates the relationship between stock return and the market ratio in Tehran Stock exchange. By occurring stock companies and forming the large discussion of ownership's separation from management and creation a large profit contrast between owners and managers, evaluation of their companies' and their managers' and conductors' performance is from issues which is taken into consider by different classifications like investors credit takers government and even managers.

Also from shareholders viewpoint, the amount of wealth increasing is important either from the price increasing and the company value or from the yield.

By separation of ownership from management, some criteria should be considered for evaluating companies' managers and their performance and also a significant criterion for rewarding them such as total income, performance profit, total profit stock temporary yield, value added, Tobin's Q and etc.

For absorbing capital and encouraging investors, the commercial units have to obtain enough profit for providing expected yield of the investors. The most important parameter for investing in a company is income and then its profit. Companies which obtain much profit, because the hypothesis is on the fact that this succession will be continued in the future, they are faced with increasing stock buying request and consequently their stock price will be increased and vice versa.

According to the above explanations, this research is going to make clear the existence of correlation relationship between the project variables by finding the correlation relationship between stock temporary yield and the market ratios.

2. Theoretical Issues

Optimal equipment and allocation of the capital has a very important role in the country economical growth and development. Stock markets are the most basic ways of optimal equipment and allocation of capital and the investment development. The main aim of investment is obtaining the yield. Profits or yields which are obtained by the investors are manifested in the form of payment profit, increasing the stock price or both. Basically, investment in the Stock exchange affects the shareholders wealth from the changes in the stock price and pecuniary profit.

Undoubtedly, the most important element in selection and decision making is the existence of relevant and on time information. By presenting the relevant and on time information, the possibility of correct decision making for investors for selection, the most suitable and profitable stock will be provided. If the relevant and on time information is provided for the investors, he will not strayed and can make decision with confidence. Financial notes should provide some information for investors, actual and potential credit takers and other users so that based on that they can make sensible decisions about credit granting investment and other similar issues.

Calculation financial ratios which are based on the figures of financial notes and other financial reports are a suitable instrument for analyzing financial notes. So the financial ratios can help the users at least in evaluating the present and future results of the company. One of the consequences of accountancy evolution is using the financial ratios in analyzing and decision making. The advent of these ratios returns back to the late nineteenth century and from that time analyzers developed the financial ratios. Today analyzing the financial ratios is a suitable tool for evaluating the financial performance of economical unit, analyzing the credit condition of the customers and determining Stock value. In this research, the market ratios are used among financial ratios so, the purpose is to provide an introduction for people who make decision about the companies' performance by using these ratios.

2.1. Yield

Yield in simple term, is total earning that an investor obtains in an investment period. The yield rate shows the speed of increasing or decreasing the investors' wealth and it is shown as percentage from the primary investment. The purpose of the share yield is the total advantages which are belonged to a share in a financial year.

With a casual look to the shareholders who invest in the stock of different companies, we find out that two kinds of profit are considered for the shareholders one is pecuniary profit which is paid by the capital receiving company and naturally people who can accept fewer dangers expect this kind of profit. It should be considered that this kind of profit causes of withdrawal the capital from the company and decreasing company stock value because it weakens the foundation of the stock. The other is the profit of increasing the stock value that is because of the price changes due to different factors such as the remainder profit, increasing the demand on supply, economical political and etc issues. A lot of groups attend to this yield because:

1. It has greater risk.
2. They benefit from this yield by continuing connection to the investment market and getting information from the price fluctuations and on time stock sale.

The stock yield is calculated as following:

Stock returns = stock pecuniary returns + stock price changes return.

According to the above formula, we can infer that for investors of first group, the pecuniary yield of stock is larger and changes yield of stock price is lower and for the investors of the second group is vice versa. The basic criticism to this criterion as a performance evaluation criterion is that the stock yield and generally the yield part of the stock price changes are due to the factors which are idiomatically foreign and is not under the control of the management and so wanting responsibility is an uncontrollable and irrational factor. Of course there is another criticism and it is the lack of using the analyzing information of accountancy that has high reliance ability so is has more safety than the

market information and the other effective criticism on this criterion is the existence of lack of information in different levels.

2.2. Market Ratios

Investors and shareholders usually accentuate to the market price and its ratios because investors should pay the market price for obtaining the stock of a company.

These ratios are a combination of financial notes and the market information in fact it can be said that the market ratios are criteria which communicate between market price and book value per share and profit.

3. Literature Review

According to Fama and French (1995) if stocks are priced rationally, systematic differences in average returns are due to differences in risk.

Therefore, with rational pricing, size as measured by the market value of equity and book to market equity (BE/ME) must proxy for sensitivity to common risk factors in returns. The evidence that size and book to market equity proxy for sensitivity to risk factors in returns is consistent with a rational-pricing story for the role of size and BE/ME in average returns.

However, the Fama and French model is purely empirically motivated. Size and BE/ME remain arbitrary indicator variables that, for unexplained economic reasons, are related to risk factors in returns (Fama and French, 1995).

Fama and French (1993) argue that size and BE/ME play a dominant role, explaining cross-sectional differences in expected returns for non financial firms propose an alternative model that includes apart from the market factor, a factor related to size, and a factor related to BE/ME. Therefore, our first proposition is that the Fama and French three factor model explains the variation of expected stock returns in the Japanese stock market better than the CAPM pricing model.

Sialm (2006) finds the coefficient on the interaction term significantly positive and the coefficient on dividend yield is not significantly different from zero. Both papers, however, acknowledge that the dividend yield and the interaction term have very high correlation. Abdoli (2000) considered the relationship between the debt ratios and return of shares. The results of research showed that there is a direct and important relationship between the debt ratios and the expected yield only in pharmacy industry and for other industries the relationship is weak or there is no relationship. Ou and Penman (1989) conducted a research about the ability of the B/M ratios in predicting the stock yield. In this project the relationship between the stock yield and price market / book ratio according to the industrial standard average has been considered (Dow Jones index). The results of the research state that this variable can predicate the yield better than other variables such as divided yield to the price per share and the interest rate. Lau et al. (2002) conducted a research about the relationship between the stock yield and some of the financial variables in Malaysia and Singapore exchange in 1996 & 1998. In this research the data was analyzed for 82 Singaporean companies and 163 Malaysian companies. The results showed that in both countries market, the relationship between yield and the extent in the market is negative. In Singapore there is a negative relationship between yield and the profit growth and in Malaysia there is a positive relationship between yields E/P. Basu (1983) had confirmed the reverse relationship of earning/ price ratio and the stock yield.

Clemens (2007) finds that when used appropriately, the Fed model can be a useful tool. The difference in the optimal horizon is of course useful for investors and may be due to P/E ratios being more persistent than the E/P-Y spread in the model. Like the prediction models often do, the Fed model is found to work best at extreme observations.

Giot and Petitjean (2006 a) form a valuation model with intent to predict stock market returns. Their model includes both valuation ratios and bond market components, with both short-and long-term bonds. The short-term interest yield and, to a lesser extent, the long government bond yield are

found to be the best out-of-sample predictors of stock returns. However, the out-of-sample predictive power of these variables does not appear to be economically meaningful across countries and investment horizons.

Stock returns of the U.S. appear to be predictable in-sample. While such evidence does not completely forecasting gains appear to be very limited. The economic analysis of predictive regression strategies generally confirms these findings.

Giot and Petitjean (2006 b) create a bond-equity yield ratio (BEYR) pricing tool to dynamically allocate capital between equities and long-term bonds on a monthly basis. More precisely, they assess the short-term predictive ability of the BEYR from an economic perspective by implementing trading strategies that rely on either the extreme values or regime switches of the BEYR. They also state that active strategies outperform passive benchmark portfolios in the US market with a relatively high Sharpe ratio, somewhat validating the Fed model approach. They conclude that the regime-switching strategy appears to be the best strategy to time the market. However, the performance of the regime-switching strategy is closely correlated to the extreme value strategy (which is based on the 90th percentile of the historical distribution of the BEYR). When one of the two strategies fails to beat the buy-and-hold benchmark portfolios, the other usually fails too (and vice versa).

Durré and Giot (2007) estimate cointegrated models for thirteen countries and ascertain if there exists a long-run relationship between the earnings index, the stock index and the long-term government bond yield. Their empirical results show that such a long-run relationship indeed exists for many countries (including the United States and the United Kingdom) but that the long-term government bond yield is not statistically significant in this relationship. Put simply, the long-term government bond yield does not affect the 'equilibrium' stock market valuation. They also test the short-term effects, and show that rising/decreasing bond yields do impact contemporaneous stock market returns and thus have an important short-term impact on the stock market.

4. Research Methodology

According to the above mentioned literature the following hypothesis are postulated in the study:

1. There is a significant relationship between price/ earnings ratio and short-term stock return.
2. There is a significant relationship between earning per share and short-term stock return.
3. There is a significant relationship between price market/ book ratio and short-term stock return

These researches, from the purpose point of view are classified into two kinds of applied and fundamental and from the method and nature viewpoint to historical descriptive, correlation coordination and experiential researches. So, this research from the purpose point of view is applied research and from the research viewpoint method is correlation type. The studied society in this research is all the accepted companies in Tehran Stock exchanges, except the investment companies. 60 companies were selected from the statistical society members by random sampling from different groups of industry. The necessary information are gathered and classified from the existent deeds and documents of the exchange organization for studying the relationship between variables. In this research, the market ratios are as independent variables and stock temporary yield is as dependent variable.

5. Results of the Study

The analyses of the hypotheses are done in four stages:

1. Kolmogorov–Smirnov test for determining the data normality.
2. The linear relationship of variables by using multiple linear regression.
3. Correlation coefficient test.
4. Results of the information analyses.

Table 1 presents the results of the normality of data.

Table 1: Condition of variables data's normality

Amounts of significant level of stock	Sig. level of EOS	Sig. level of P/E	Sig. level of P/B	Year
0.104	0.338	0.238	0.039	2006
0.509	0.229	0.226	0.046	2007
0.324	0.077	0.074	0.350	2008
0.432	0.666	0.666	0.919	2009
0.214	0.793	0.776	0.827	2010

Testing of considering the correlation relationship between the research variables correlation coefficient is the best recognition criterion of existence or non existence of relationship between two or few variables and stating its intensity or weakness. If the correlation is only between two variables it is related to simple correlation and if it is among more than two variables it's related to multivariable correlation.

Table 2: Results of the first hypothesis

Variable/year	2010	2009	2008	2007	2006
Sample	95	95	95	95	95
D.f	93	93	93	93	93
Calculated T amount	0.206	0.136	0.0362	0.265	0.249
T amount	2.064	2.064	2.064	2.064	2.064
Line amount (a)	0.05	0.05	0.05	0.05	0.05
Pearson correlation coefficient	-0.044	-0.029	0.088	0.0221	0.053
Determining coefficient	0.0019	0.008	0.0077	0.0533	0.0028

As it is observed at the above table, P/E ratio in 2007 with the correlation of 0.0221 has the most relationship with the stock temporary yield. And as it is observed, the amount of correlation coefficient in 2006 to 2010 during 2006 to 2008 has straight direction and in 2009 to 2010 has reversed direction. So according to the calculated t amount which is lower in compare with table, it is observed that the zero hypothesis in the confidence level of 95% will be accepted and there is no significant correlation between stock temporary yield and P/E ratio in different years.

Table 3: Results of the second hypothesis

Variable/year	2010	2009	2008	2007	2006
Sample	95	95	95	95	95
D.f	93	93	93	93	93
Calculated T amount	0.209	0.198	0.361	1.102	0.256
T amount	2.064	2.064	2.064	2.064	2.063
Line amount (a)	0.05	0.05	0.05	0.05	0.05
Pearson correlation coefficient	-0.043	0.041	0.078	0.0230	0.052
Determining coefficient	0.0018	0.0016	0.0060	0.0059	0.0029

As it is observed in the above table EPS in 2007 with the correlation coefficient of 0.230 has the most relationship with the stock temporary yield. And as it is observed, the amount of correlation coefficient for 2006 to 2010 has straight direction in 2006-2008 and has reverse direction in 2010. So according to the calculated t in compare with table t, it is observed that the zero hypotheses in the confidence level of 95% will be accepted and there is no linear relationship between the stock temporary yield and EPS in different years.

Table 4: Results of the third hypothesis

Variable/year	2010	2009	2008	2007	2006
Sample	95	95	95	95	95
Freeness degree	93	93	93	93	93
Calculated T amount	0.648	0.0845	0.519	0.348	0.239
T amount	2.064	2.064	2.064	2.064	2.064
Line amount (a)	0.05	0.05	0.05	0.05	0.05
Pearson correlation coefficient	-0.137	0.018	0.110	0.074	0.051
Determining coefficient	0.0187	0.00032	0.0121	0.0054	0.0026

As it is observed in the above table the stock temporary yield in 2006-2010 has a weak correlation with P/B ratio. As it is observed the amount of Pearson correlation coefficient for 2006 to 2008 has straight direction and in 2009 has reverse direction. So according to the calculated t amount in compare with table t, it is observed that the null hypothesis in confidence level of 90% will be accepted and there is no linear relationship between the stock temporary yield and P/B ratio in different years.

6. Conclusion and Remarks

After gathering necessary information and data, the market ratios (P/B, EPS, P/E) of sample companies were calculated and the correlation relationship was measured by the Pearson correlation coefficient and then T test is used for significance of correlation relationship between these market ratios with the degree of freedom and confidence level of 95%. All postulated hypotheses are accepted and the authors came to conclusion that the results of the research show that there is no significant relationship between stated variables i.e. P/E, EPS, P/B and the short-term stock return. And changes in P/E, EPS and P/B ratio are not in the same direction with the changes of short-term sock return.

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