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The relationship between stock portfolio returns formed based on PE, PEG and PERG techniques in TSE

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ABSTRACT

In investment approach, it is used from fundamental and logical investment for business at stock exchange and a significant weight of investments value relates to companies analysis by the use of financial ratios. As you see investing in stocks has allocated a great amount of country cash, this issue will make the importance of investment more clear. The importance of this issue is understandable for great number of investors, too. Investors always pursue the best combination for their total investment; a combination which has the most profit or efficiency for them. Investing at stock can be done as investing at stocks of a company or complex of companies. Investing at stocks of several companies is recognized as investment portfolio. There has been introduced different methods for investment portfolio, so in this research we analyze the output of portfolios based on PE & PEG & PERG methods and the accuracy of theory in a way that in which try to consider the output of portfolios due to low PE 7 PEG & PERG methods are more than the output of portfolios based on high PE & PEG & PERG methods. Sample of research includes 80 companies in years 2010, 2011, 2012, 2013. In this research we have used from EVIEWS and EXEL software and in order to reach the differences of considered results, Wilcoxon test method has been used. The results show that portfolios output which are categorized based on PE, PEG and PERG strategy are more than portfolios output which are formed based on PE, PEG and PERG methods.

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1. Introduction

Market stock exchange is a condition that savors invest their fund directly in it. They use from different methods for choosing the proper or optimized portfolio. Investors face with different variables such as risk, portfolio, profit growth and DPS, EPS and etc. in choosing these methods. Analysis of these methods will form concerns for investors that finally leads to choosing a better portfolio in a way that which stock portfolio gain the most output in relation with desired investment. There has been presented several methods and one of them is choosing portfolio based on price/earnings (P/E) ratio or coefficient (Ebrahimi, 2004). So through considering the profit growth rate, another coefficient called PEG is formed. Researchers in further studies tried to present PERG coefficient through adding ‘risk’. Mentioned coefficients are methods that can help investors at choosing proper portfolio in order to gain more output from investing at stock (Shavakhi, 2004).

1.1. Problem statement

The term ‘investment’ covers most of activities and means spending money for buying a property as real or financial in order to gain profit in future. Many investors believe that this is an amazing and interesting business and also can be excitement, whether in theoretical world or real world in which a person enters the investment scene and this issue is more obvious about financial properties (Bakhtiari, 2003). P/E is a valuable basis in order to gain these ratios. The nest coefficient is PEG; in fact it is P/E coefficient and the growth rate of company has been included in it and finally PERG is the same as PEG and R factor has been added to it. These conceptions have been made on these hypotheses that stock with ratio of low P/E and PEG and PERG will give us more output than average output of market to us (Estrada, 2005). As the result of conducted research we can express this issue that there is significant relation between the output of companies stocks and ratio of PE and PEG and PERG and the question of research will be asked in this way that if the portfolios output which are formed based on low P/E, PEG and PERG

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are more than portfolios output that are formed based on high P/E, PEG and PERG?

2. Research variable and calculation

Ratio of Price-Earnings:

$$\boldsymbol{P/E} = \frac{\mathbf{P}}{\mathbf{E}}$$

Ratio of PEG:

$$\boldsymbol{PEG} = \frac{\mathbf{PE}}{\mathbf{G}}$$

Ratio of PERG:

$$\mathrm{PERG} = \frac{\mathrm{PE}}{\mathrm{G}} \times \beta$$

Stock Returns:

$$\mathrm{R}_i = \frac{(\mathrm{P1} - \mathrm{P0}) + \mathrm{D}}{\mathrm{P0}}$$

Return on Total Investments or Portfolios:

$$R_P = E(R_P) = \sum_{i=1}^{n} W_i . E(R_i) = \sum_{i=1}^{n} W_i . R_i$$

3. Literature of research

These efficient were used by Estrada for the first time. He introduced this coefficient at 2005 and comprised it with PEG and P/E coefficients. His research sample is 100 accepted companies at stock exchange of America with this limitation that their output was available and their profit growth rate was positive. The period of research was between 1975-2002 which in divided in two ways: four five-year period and one three-year period, two ten-year period and one three-year period. A research has been done by Rahimi and Jahankhani (1995) entitled “The relation of normal stock output with P/E coefficient”. The results of this research showed that stock with low P/E coefficient formed more output towards high coefficient. A research has been done by Basu in 1989; the results show that formed portfolios based on P/E coefficient have better performance towards portfolios with high P/E. A research has been done by Fama and French (1995) entitled "comparison of output of value stock and growth stock at eleven Europe countries". The results of this research showed that value stock (low P/E) has more output towards growth stock (high P/E).

4. Hypotheses of research

H_1: Portfolio returns composed based on low PE strategy is more than Portfolio returns composed based on high PE strategy.
H_2: Portfolio returns composed based on low PEG strategy is more than Portfolio returns composed based on high PEG strategy.
H_3: Portfolio returns composed based on low PERG strategy is more than Portfolio returns composed based on high PERG strategy.

5. Method of research

The method of this applied research is ex-post facto research which is applied due to its goal and its method is descriptive. In order to gathering the mentioned data in research literature, we used from library method by referring to several resourced and magazines. Likewise in this research we have used from information about investments of companies which are the members of stock exchange. The population of research is all the accepted companies at stock exchange until the end of March of 2013.

5.1. The results of hypothesis test

Due to the results of the first hypothesis of research by the use of Wilcoxon method you can see that the significance level of this research is lower than 0.05 (Table 1). So the zero hypothesis be rejected in relation with first hypothesis and the opposite hypothesis, namely first hypothesis of research is accepted. In other word the output of formed portfolios due to strategy of low PE is more than output of formed portfolios of high PE.

Table 1: The results of the first hypothesis test- Wilkakson

	Sig.	Compared with 0.05	Result
H_0	0.001	Lower	Rejected

Due to the results of the second hypothesis of research by the use of Wilcoxon method you can see that the significance level of this research is lower than 0.05 (Table 2). So the zero hypothesis be rejected in relation with second hypothesis and the opposite hypothesis, namely second hypothesis of research is accepted. In other word the output of formed portfolios due to strategy of low PEG is more than output of formed portfolios of high PEG.

Table 2: The results of the second hypothesis test- Wilkakson

	Sig.	Compared with 0.05	Result
H_0	0.021	Lower	Rejected

Due to the results of the third hypothesis of research by the use of Wilcoxon method you can see that the significance level of this research is lower than 0.05 (Table 3). So the zero hypothesis be rejected in relation with third hypothesis and the opposite hypothesis, namely third hypothesis of research is accepted. In other word the output of formed portfolios due to strategy of low PERG is more than output of formed portfolios of high PERG.

Table 3: The results of the third hypothesis test- Wilkakson

	Sig.	Compared with 0.05	Result
H_0	0.000	Lower	Rejected

6. Results and suggestions

Due to the subject of research and fluctuations of research results it can be resulted that higher output of portfolios based on strategies of low PE than output of portfolios based on strategies of high PE,

more output of portfolios based on strategies of low PEG than portfolios based on strategies of high PEG and also more output of portfolios based on strategies of low PERG than portfolios output based on strategies of high PERG can be acceptable because this claim has been implemented due to hypothesis testing in all hypothesis, regarding this issue that low strategies of these coefficients following stocks has potential value which is more than market price and were predictable. Therefore there is not a satisfying reason about P/E coefficient and very better performance of low strategy of this coefficient towards its highness. However some believe that high P/E of a stock indicates an expectation of high growth rate at stock profit and most likely (except in rare cases) drop of indexes will more affect these kind of stocks than a stock with low P/E. that you can see this issue in this research. So that we can change this issue into a principle and follow it or can use it in order to invest with the expectation of high output of these strategies for analysis of companies past procedure and then invest in a portfolio which is at low level based on every one of these three strategies: P/E, PEG and PERG in order to gain higher output average.

Suggestions obtained from results of research as follows: Due to the results of research hypothesis test, it is recommended to investors to analyze the output process of companies in terms of low PEG-high PE, high PEG-low PE strategies and also high PERG and low PERG and invest in companies that have higher output in each strategy.

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