

Extended Abstract

A Study of the Effects of Company Size on Systematic Risk Based on the Capital Asset Pricing Model

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Introduction

Investment is one of the fundamental and crucial elements in the process of economical development of any countries. Stock markets as the symbol of investing fluctuate due to economical changes. Investing managers, managers and other people exchange their stock and other properties in this market. In order to sustain their funds and gain more profits these investors need to scrutinize factors affecting these markets under different economical situations. They try to invest their properties to gain the most profits and the least risk. Systematic risk (beta) as one of the most effective factors in predicting the appropriate required rate of return of portfolios helps investors in this regard. Understanding systematic risk of usual portfolio of various companies, investors consider financial investment more confidentially.

Research questions and hypotheses

The aim of the present study was to investigate any significant relationship between company sizes (Market value of stocks, Book value of stocks, level of company sale, and trade volume of stocks) and ratio of price on benefit as an independent variable and systematic risk of usual portfolio as a dependent variable. The study includes *SIDE* main hypothesis and five minor hypotheses. The main hypothesis states that there is a significant relationship between company size and systematic

risk based on the capital asset pricing model.

The other research hypotheses are as follows

- 1) There is a significant relationship between market value of stocks and systematic risk based on the capital asset pricing model.
- 2) There is a significant relationship between book value of stocks and systematic risk based on the capital asset pricing model.
- 3) There is a significant relationship between level of company sale and systematic risk based on the capital asset pricing model.
- 4) There is a significant relationship between trade volume of stocks and systematic risk based on the capital asset pricing model.
- 5) There is a significant relationship between prices to earnings per share ration P/E systematic risk based on the capital asset pricing model.

Method

This research is an applied research because the results of the study can directly be applied for analysis of the amount of stock systematic risk from financial lists. According to the types of variables regression and correlation confined equations were applied in this research. The statistical sample of this study was all accepted companies in Tehran stock markets. 112 companies were selected according to systematic deletion rule based on screening financial lists. The study covered the period of 1383-87. The research hypotheses were tested with Pearson correlation to find any relationship. To measure the impact of each variables individually on dependent variable step by step regression analysis using the least square in the level of 95, Coefficient of determination (R^2), adjusted coefficient of determination index (R^2) were used. SPSS and Excel were applied for presenting statistical graphs, tables, modeling and analysis of data.

Results

The findings of the research revealed that there is no relationship between market value of stocks and systematic risk based on the capital asset pricing model CAPM. No relationship was found between book value of stocks and systematic risk based on the capital asset pricing

model. Moreover, the data showed that there is a significant relationship between level of company sale and systematic risk based on the capital asset pricing model. The analysis of data disclosed that there is a significant relationship between trade volume of stocks and systematic risk based on the capital asset pricing model. However, no relationship was found between price to earnings per share ration P/E systematic risk based on the capital asset pricing model. Based on step by step regression results it become clear that two variables--level of company sale and trade volume of stocks--which had significant relationship with systematic risk can predict 0.0317 systematic risk fluctuations.

Discussion and Conclusion

The impacts of factors such as company size on systematic risks can shed some lights on this issue and guide investors to experience less risks. The sufficient information regarding company size and beta factor and the ease of their calculation persuade other researchers to study these concepts in depth. The empirical results provided support for significant relationship between variables; however some of these relationships were not significant and were not reliable. In other words, the under investigated variables could not meet more that 0.317 systematic risk changes. Although linear regression was applied to predicting the relationship between variables in this study, it is suggested to use non-linear, second level, algorithmic equation for further research because weak or no relationship in linear method does not indicate the lack of correlation or no significant relationship among variables.

Keywords: Market value of stocks, Book value of stocks, level of company sale, trade volume of stocks, Price dividend ratio, Systematic risk (Beta)