IJEBAS
International Journal of Economic, Business, Accounting, Agriculture Management and Sharia Administration

TOPOLOGY OF INVESTMENT RESULTS FROM A 100 SHARE PORTFOLIO ON THE INDONESIAN STOCK EXCHANGE PERIOD 2006-2015

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Abstract

In this research, the Fama and French model is used with five independent variables with data from 100 sample shares to explain the influence of these five independent variables on returns. This observation was carried out using quantitative methods for company financial reports which included a sample of 100 shares during the period January 2006 – December 2015. The total number of research samples was 100 (one hundred) companies that consistently had market capitalization values and share prices during the research period. The results of the research show that Market premium (market premium) is significantly positive explaining portfolio excess returns, size (size premium) is significantly positive explaining portfolio excess returns, value (value premium) is significantly positive explaining portfolio excess returns, profitability (profitability premium) is not significantly explaining portfolio excess return, and investment (investment premium) are significantly negative in explaining portfolio excess return. Suggestions for future researchers are to conduct research using more data to obtain a higher level of accuracy, such as increasing the number of companies and extending the research period to more than 10 years. Then you should choose a research period that does not involve certain conditions or phenomena, because in this research period, namely 2006 to 2015, there was a crisis in 2007-2009, which had an impact on investor behavior in considering investing. It is hoped that this will provide better research results.

Keywords : ***Stock Returns, Market Premium, Size (Size Premium), Value (Value Premium), Profitability (Profitability Premium), Investment (Investment Premium)***

1. INTRODUCTION

The capital market is a means for making investments, namely allowing investors to diversify investments, forming portfolios according to the risks they are willing to bear with the expected level of profit. Investment is a method that can be used to increase asset value, because investors can obtain income or returns on investments in the future. This income can be in the form of cash receipts or increases in investment value. So, investors really need analysis of share price movements on the stock exchange/market which will help investors to make investment decisions. This is because investors need to assess the future prospects of a company they will invest in. There are several models for analyzing the average level of return from a stock.

In science, to see the relationship between risk and return, many models have been discovered by experts. However, as time went by, the model was refined to find the right Asset Pricing Model. Starting from CAPM (Capital Asset Pricing Model), Three Factor Model, Four Factor Model, Five Factor Model. The first model that suggests the relationship between risk and return is CAPM. CAPM was first introduced by William Sharpe in 1964. This model states that systematic risk is considered relevant and influences the amount of expected return from an asset. The assumptions used by CAPM are (a) All risky assets are owned by all investors, (b) All investors will have the same portfolio of risky assets, (c) The portfolio is a market portfolio where the weighted portfolio value of all risky assets, (d) All investors Use the same information to

produce an efficient investment frontier, (e) Have a one-period time horizon, (f) Can borrow or lend money at a risk-free rate of return, (g) No transaction costs, no taxes private, there is no inflation, (h) No single investor can influence stock prices, (i) The capital market is in equilibrium. (Source: Brigham & Daves, 2004).

CAPM uses a single factor, namely beta, to compare the excess return of a portfolio with the excess return of the market as a whole. In the asset pricing theory developed by Sharpe (1964), Lintner and Black (in Pasaribu, 2010) it is assumed that there is only one systematic risk factor, namely market β risk, which influences stock returns. However, the reality is that stock returns cannot be fully described by a single Beta factor.

Banz (1981) tested other factors besides market risk that might influence stock returns, namely market value or market capitalization. He found that stocks with a low market capitalization value or small firm size can produce higher returns than stocks with a large firm size. This influence became known as the Size Effect. Apart from that, Staatman (in Fama and French, 1992) found that companies with a high book to market ratio showed high returns as well. Book to market ratio (B/M ratio) is a ratio used as an indicator to measure a company's performance through its market price. Book to market ratio is a comparison between the book value per share and the market value of the share. The book value per share reflects the company's value, namely the value of its economic net worth. Meanwhile, the market price is the price formed as a result of buying and selling activities on the stock market. Research by Chan et al (1985) also shows something similar to Staatman, namely that there is a correlation between returns and the book to market ratio. Fama and French (1992) in a journal entitled The Cross Section Of Expected Stock Return show that the relationship between book to market and returns is stronger than firm size.

Fama and French (1992) found that adding size and book to market factors can increase the explanatory power of CAPM, namely that stocks with small size and stocks with high book to market have higher returns. Furthermore, Fama and French (1993) used these findings as the basis for the SMB (small minus big) and HML (high minus low) factors as systematic risk variables other than the market premium, which until now is known as the three factor model or Fama-French model can increase the explanatory power of CAPM, namely showing more influence on returns, and is repeatedly used as a benchmark model in subsequent research.

However, Novy-Marx (2013), Titman, Wei, and Xie (2004), said that the 3 factor model cannot fully show the influence on returns, because variations in average returns are also related to profitability and investment, but are not explained by the 3 model. Fama and French factors. Aharoni, Grundy, and Zeng (2013) said that it is statistically proven that there is a relationship between profitability and investment with average returns. So the average return is connected by 5 model factors. This led the author to test a model that adds profitability and investment factors to the market premium, size premium, and value premium from the Fama and French models. three factors. The companies that will be studied are company shares that have been selected as 100 shares that consistently during the research period have market capitalization and share price values. This research aims to see which sources of factors can produce maximum returns, how to choose shares to produce maximum portfolio returns, and provide information to help investors by considering market premium, size premium, value premium, profitability premium, and investment premium in prior decision making.

2. IMPLEMENTATION METHOD

This research aims to find out how much influence market premium, size (size premium), value (value premium), profitability (profitability premium) and investment (investment premium) have on the excess return of a portfolio of 100 shares listed on the Stock Exchange Indonesia (Indonesian Stock Exchange). To achieve the final objective of this research, it is necessary to carry out a number of certain steps. Research methodology is an explanation of the process stages or activities that need to be carried out.

Data source

To test whether portfolio excess returns are significantly influenced by market premium, size premium, value premium, profitability premium, and investment premium as study objects in this research, secondary data is needed. , namely data obtained indirectly through intermediary media.

Sample Data

The data sample is 100 shares that consistently during the research period have market capitalization values and share prices, and go public companies listed on the Indonesia Stock Exchange. The research data period used is January 2006 - December 2015. Stock data uses monthly data, where the data taken is stock prices, stock market capitalization, dividends per share, price to earnings, and average stock returns.

To determine the total number of shares studied in this research, a list of shares included in KOMPAS 100 is required. Then a selection is made of shares that consistently have market capitalization values and share prices during the research period. Those KOMPAS 100 shares that do not have a consistent market capitalization value and share price during the research period will be replaced with shares of other companies that have a consistent market capitalization value and share price during the research period.

Data analysis technique

a. Descriptive statistics

Descriptive statistics is a quantitative discipline that describes the main features of data collection (Anderson, Sweeney and William, 2008). Descriptive statistical tests are used to provide brief descriptions for statistical research variables. It provides a simple summary about the sample and about the observations that have been made. Such summaries may be quantitative or visual in nature in that they may either form the basis of initial descriptive data as part of a wider statistical analysis, or they may be sufficient in and of themselves for a particular investigation. Quantitative summaries can be in the form of mean, median, mode, standard deviation, variance, maximum, minimum, sum, range, and skewness.

Meanwhile, visual summaries can be in the form of histograms, dot plots, scatter diagrams, box plots and others. Through descriptive statistical tests, we can test data quality and test classical assumptions.

b. Classic assumption test

Before the regression analysis is carried out, the classical model assumptions are first tested on the regression model used so that it can be seen whether the regression model can be used. This test was carried out to ensure that the model used did not deviate from the assumptions of the classical model in multiple regression analysis. The goal is to avoid estimation bias, because

regression cannot be applied to all types of data. There are four classical model assumption tests carried out in the OLS regression model.

3. RESULTS AND DISCUSSION

Descriptive statistics

The results of descriptive statistics for the final 120 data samples are as follows:

Table 1. Descriptive statistics

	RI_T__RF_T_
Mean	0.013458
Median	0.016907
Maximum	0.099721
Minimum	-0.064000
Std. Dev.	0.030911
Skewness	-0.231988
Kurtosis	3.122687
Jarque-Bera	1.151633
Probability	0.562246
Sum	1.615002
Sum Sq. Dev.	0.113702
Observations	120

RM_T__RF_T_	SMB	HML	RMW	CMA
0.010302	0.009269	-0.010497	0.012184	-0.053878
0.014720	0.014202	-0.013552	0.014053	-0.055201
0.072018	0.063886	0.127919	0.076755	0.028826
-0.075604	-0.060727	-0.129258	-0.075298	-0.118738
0.040254	0.031319	0.048889	0.039352	0.038740
-0.424046	-0.534792	0.175733	-0.185325	0.303803
2.278878	2.159624	3.203859	2.216296	2.014455
6.196381	9.251199	0.825434	3.757865	6.702416
0.045131	0.009798	0.661850	0.152753	0.035042
1.236223	1.112331	-1.259693	1.462139	-6.465381
0.192824	0.116724	0.284432	0.184285	0.178591
120	120	120	120	120

Source: Eviews9 Processed Results, 2017

Mean is the average value for both independent and dependent variables. This is the central location of all observed data. The average value for return in period (t) minus the risk free rate is 0.013458 or 1.3458%, which means that for every 100 samples of investment shares observed, the average growth is 1.3458% above the risk free return. The average market risk premium value is 0.010302 or 1.0302%. The average value for SMB (Small Minus Big) is 0.009269 or 0.9269%. The average value for HML (High Minus Low) is -0.010497 or -1.0497%. The average value for RMW (Robust Minus Weak) is 0.012184 or 1.2184%. The average value for CMA (Conservative Minus Aggressive) is -0.053878 or -5.3878%.

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Median is the middle value when the data is arranged in order from smallest value to largest value. The difference between median and mean values shows the range of data values. The greater the difference, the wider the range of data values. In this study, one dependent variable and five independent variables only had slight differences in value between the mean and median. So it can be concluded that almost all the data values studied are close to each other. *Skewness*is an important numerical measure of the shape of the distribution. This shows how much the data is skewed from a symmetric distribution. If the Skewness value is close to zero the distribution is close to symmetrical. From the descriptive statistics table above, $R_{i(t)} - RF_{(t)}$, $RM_{(t)} - RF_{(t)}$, $SMB_{(t)}$, $HML_{(t)}$, $RMW_{(t)}$, $CMA_{(t)}$has Skewnes close to zero, respectively with values -0.231988, -0.424046, -0.534792, 0.175733, -0.185325 and 0.303803.

Classic assumption test

Classical assumption testing is carried out before conducting hypothesis and regression testing. The classical assumption test is a test carried out to ensure that the model used is normally distributed and free from multicollinearity and heteroscedasticity. The classic assumption tests that will be carried out in this research are the Normality Test, Multicollinearity Test and Heteroscedasticity Test.

a. Normality test

The normality test is a test used to see whether the residual values are normally distributed.

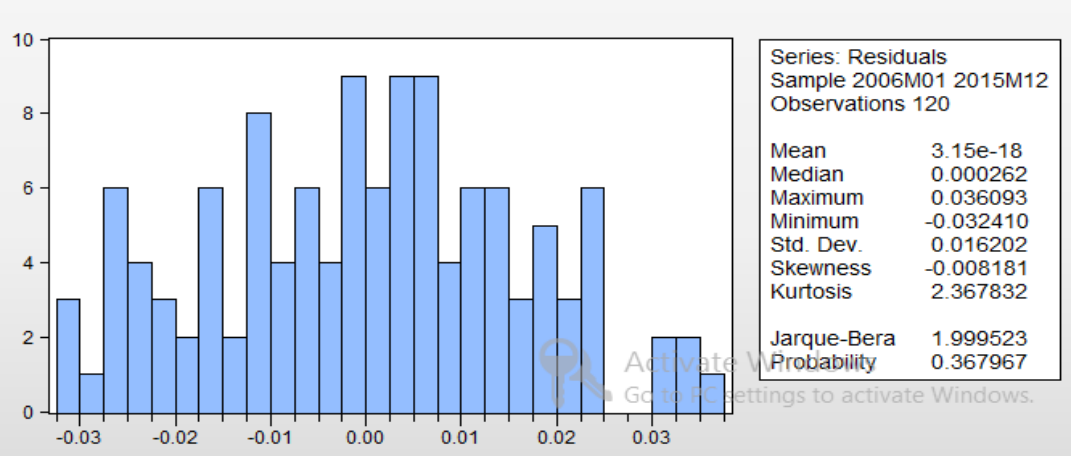

Figure 1. Normality
Source: Eviews9 Processed Results, 2017

The results of the normality test above show that the probability value of 0.367967 is greater than 0.05, this shows that the data is normally distributed so that further testing can be carried out.

b. Multicollinearity Test

Multicollinearity means that there is a perfect linear relationship between the independent variables in the regression model. Strong correlation between independent variables indicates multicollinearity. According to Nachrowi, 2006, the correlation between variables is considered strong if the correlation coefficient value is greater than 0.8.

Table 2. Multicollinearity Test

Correlation					
	RM_T__RF_T_	SMB	HML	RMW	CMA
RM_T__RF_T_	1.000000	0.015370	0.234756	-0.151740	0.201347
SMB	0.015370	1.000000	-0.091830	-0.054468	0.007776
HML	0.234756	-0.091830	1.000000	-0.129184	0.107808
RMW	-0.151740	-0.054468	-0.129184	1.000000	0.067656
CMA	0.201347	0.007776	0.107808	0.067656	1.000000

Source: Eviews9 Processed Results, 2017

Based on the processed eviews results above, it shows that there was no multicollinearity found because each independent variable did not have a coefficient greater than 0.8.

c. Heteroskedasticity Test

Heteroskedasticity test is a condition where all disturbance factors do not have the same variance. If there is a heteroscedasticity problem it will cause the estimation of the regression coefficient to be inefficient.

Table 3. Heteroskedasticity Test

Heteroskedasticity Test: White

F-statistic	1.213584	Prob. F(20,99)	0.2598
Obs*R-squared	23.62751	Prob. Chi-Square(20)	0.2590
Scaled explained SS	14.58370	Prob. Chi-Square(20)	0.7997

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 03/06/17 Time: 04:10
Sample: 2006M01 2015M12
Included observations: 120

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.000114	8.55E-05	1.337888	0.1840
RM_T__RF_T_^2	0.010938	0.018852	0.580192	0.5631
RM_T__RF_T_*SMB	-0.023296	0.023981	-0.971435	0.3337
RM_T__RF_T_*HML	-0.007306	0.019555	-0.373599	0.7095
RM_T__RF_T_*RMW	-0.010463	0.021784	-0.480306	0.6321
RM_T__RF_T_*CMA	-0.004766	0.021377	-0.222938	0.8240
RM_T__RF_T_	-0.000538	0.001663	-0.323640	0.7469
SMB^2	0.042352	0.034905	1.213358	0.2279
SMB*HML	0.022509	0.020751	1.084737	0.2807
SMB*RMW	-0.045461	0.023825	-1.908106	0.0593
SMB*CMA	0.007531	0.024398	0.308681	0.7582
SMB	0.000984	0.001825	0.539034	0.5911
HML^2	0.010739	0.009989	1.075044	0.2850
HML*RMW	0.008040	0.014514	0.553937	0.5809
HML*CMA	2.58E-05	0.019577	0.001318	0.9990
HML	0.001977	0.001580	1.251594	0.2137
RMW^2	0.009516	0.020113	0.473121	0.6372
RMW*CMA	-0.013668	0.019800	-0.690339	0.4916
RMW	0.000195	0.001364	0.142589	0.8869
CMA^2	-0.030657	0.022839	-1.342280	0.1826
CMA	-0.003685	0.002461	-1.497429	0.1375

R-squared	0.196896	Mean dependent var	0.000260
Adjusted R-squared	0.034653	S.D. dependent var	0.000306
S.E. of regression	0.000300	Akaike info criterion	-13.22543
Sum squared resid	8.93E-06	Schwarz criterion	-12.73762
Log likelihood	814.5257	Hannan-Quinn criter.	-13.02733
F-statistic	1.213584	Durbin-Watson stat	2.093980
Prob(F-statistic)	0.259767		

Source: Eviews9 Processed Results, 2017

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Heteroskedacity test based on eviews results using the White Heteroskedacity test obtained a probability value of 0.259767, which is greater than 0.05, so there were no Heteroscedacity problems in the test in this period.

Regression Results

Regression test to explain the relationship between stock returns, market premium, size (size premium), value (value premium), profitability (profitability premium), and investment (investment premium). Based on the regression results using eviews9, the adjusted R2 regression value is 0.713221, namely 71.3221% of the regression which can explain variations in the independent variables.

Table 4. Regression Results

Dependent Variable: RI_T__RF_T_
Method: Least Squares
Date: 03/06/17 Time: 22:35
Sample: 2006M01 2015M12
Included observations: 120

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.000715	0.002878	-0.248399	0.8043
RM_T__RF_T_	0.620552	0.039869	15.56486	0.0000
SMB	0.136346	0.048797	2.794156	0.0061
HML	0.106298	0.032351	3.285813	0.0014
RMW	0.012783	0.039513	0.323506	0.7469
CMA	-0.138770	0.040314	-3.442213	0.0008

R-squared	0.725270	Mean dependent var	0.013458
Adjusted R-squared	0.713221	S.D. dependent var	0.030911
S.E. of regression	0.016553	Akaike info criterion	-5.315753
Sum squared resid	0.031237	Schwarz criterion	-5.176379
Log likelihood	324.9452	Hannan-Quinn criter.	-5.259152
F-statistic	60.19062	Durbin-Watson stat	2.042922
Prob(F-statistic)	0.000000		

Source: Eviews9 Processed Results, 2017

From the output table above, it can be seen that the regression equation has an F-Statistic of 60.19062 which is greater than the F table of 2.76. Then it has a profitability of F-Statistics which is 0.000000 which is smaller than α 0.05. This comparison shows that there is an influence of the independent variable on the dependent variable. The variable t-statistic test from the regression results shows that the independent market premium variable has a probability t-statistic value of 0.0000 which is smaller than α = 0.05. This shows the influence of the market premium on stock returns with a coefficient of 0.620552, which means positive. This shows that H1 cannot be rejected, which means the market premium has an influence on the excess return of the portfolio of 100 shares tested. The second t-statistical test is for size (size premium) or SMB where the probability t-statistic value for size (size premium) or SMB is 0.0061 which is smaller than α = 0.05. This shows the influence of size (size premium) or SMB on stock returns with a coefficient of 0.136346, which means it has a positive effect. This shows that H2 cannot be rejected, which

means that size (size premium) or SMB has an influence on the excess return of the portfolio of 100 shares tested. The third t-statistic test is for value (premium value) or HML where the t-statistic value of probability value (premium value) or HML is 0.0014 which is smaller than α = 0.05. This shows the influence of value (value premium) or HML on stock returns with a coefficient of 0.106298, which means it has a positive effect. This shows that H3 cannot be rejected, which means value (value premium) or HML has an influence on the excess return of the portfolio of 100 shares tested.

The fourth t-statistic test is for profitability (profitability premium) or RMW where the t-statistic value of the probability of profitability (profitability premium) or RMW is 0.7469 which is greater than α = 0.05. This shows that there is no influence from profitability (profitability premium) or RMW on stock returns. This shows that H4 is rejected, which means that profitability (profitability premium) or RMW has no influence on the excess return of the portfolio of 100 shares tested. The fifth t-statistic test is for investment (investment premium) or CMA where the t-statistic value of investment probability (investment premium) or CMA is 0.0008 which is smaller than α = 0.05. This shows the influence of investment (investment premium) or CMA on stock returns with a coefficient of -0.138770, which means it has a negative effect. This shows that H5 cannot be rejected, which means that investment (investment premium) or CMA has an influence on the excess return of the portfolio of 100 shares tested.

Discussion

This research was conducted using five independent variables, to explain the influence on the excess return of a portfolio of 100 shares which were tested as dependent variables. The five independent variables are market premium, size premium (SMB), value premium (HML), profitability premium (RMW), and investment premium (CMA). The five independent variables have been believed by previous researchers to have an influence on stock returns in various industrial and market sectors. *Market Premium*(market premium) is an independent variable discovered by Sharpe. Researchers after Sharpe also always prioritized the market premium to find out the risk beta and return premium given by the market compared to risk free.

Size(size premium) is the next independent variable which according to Fama & French has an influence on returns. Size (size premium) is measured by the market capitalization of the relevant company's shares, which shows how large or small the company's shares are. The size of a company will affect its ability to bear risks that may arise. The cause of the increase in company size (size) is because large company size (size) can increase the company's stock returns. Likewise, vice versa, the cause of the decline in company size is due to the small size of the company which can reduce stock returns (Ismail, 2004). In theory, larger companies can achieve economies of scale, where the larger a company's production, the lower the cost of production. Shares of companies with large market capitalization will theoretically produce more returns than shares of companies with small market capitalization. And from the results of the regression test for 100 investment shares, it can be seen that these shares are positively affected by size (size premium).

The next independent variable is value (value premium) or book to market (HML). This variable measures how expensive or cheap the stock price is compared to the company's book value. Value (value premium) is positively correlated with stock returns. Where the company will be assessed as having a higher value when the company has a high book to market ratio. Fama and French (1992) in their research explain that investor decisions are greatly influenced by the book to

market ratio. Furthermore, in their research, Fama and French (1992) explained that companies with high book to market values can produce higher levels of return.

The next independent variable is profitability (profitability premium). Profitability Premium is a ratio used to see a company's ability to generate profits. In this study, earnings per share were used to rate 100 samples of investment shares. In an efficient capital market, where share prices reflect actual information, a low PER value of a share indicates that the share price is cheaper than the price of similar shares, so that at some point when the share price begins to experience an upward correction (rebound), it is hoped that investors will buy Stock prices with low PER will get high profits. So the price earnings ratio has a negative effect on stock returns. The research results of Sri Artatik (2007) show that EPS and PER simultaneously influence stock returns. Partially, EPS has an effect on stock returns. Meanwhile, PER partially has no effect on stock returns.

The next independent variable is investment (investment premium). Investment (investment premium) is a ratio used to measure company performance and the company's success in managing investments. Investment ratio, which shows the ratio used to measure a company's ability to generate profits from investment activities. Return on investment measures the level of management effectiveness in generating profits by utilizing the company's assets. Meanwhile, according to Tandelin (2001: 40) return on assets describes the extent to which the assets owned by the company can generate profits. Return on total assets shows how much net profit can be obtained from all the assets owned by the company, therefore the profit after tax figure and (average) company assets are used. Djazuli (2006) who examined the influence of ROI and ROA on stock returns in Manufacturing Sector Companies on the Jakarta Stock Exchange (BEJ). The results of this research reveal that simultaneously ROI and ROA have a significant effect on stock returns.

***Market Premium* (Market Premium) and Return**

Premium market(market premium) shows additional risk arising from the market to support a higher expected return. In financial science, it is known that high risk has high return and low risk has low return, so the market premium provides information about the risks in a financial market. Based on the results of the eviews regression, market premium shows significant results and has a positive effect. A significant and positive market premium indicates that the return generated will be greater if the value of the RM-RF variable is also greater. This also means that the Indonesian market can provide returns and can also be used as a reference variable for investors.

***Size* (Size Premium) and Return**

Firm size(Size Premium) is the market value of a company which can be obtained from calculating the share price multiplied by the number of shares issued (outstanding shares). This market value is what is usually called market capitalization. Market capitalization reflects the current value of wealth. In other words, market capitalization is the total value of all existing outstanding shares. Size (size premium) is the size of a company. The size factor (size premium) is one of the reasons that investors invest their capital by considering the size of a company. Based on the eviews regression results, size shows significant results and has a positive effect on returns. Shares of companies with a small size get lower returns compared to shares of companies with a larger size. A company with a larger size allows the company to obtain a lot of capital.

Value (Value Premium) and Return

Value(value premium) is one of the factors which according to Fama and French (1992) is able to explain stock returns. This variable measures how expensive or cheap the stock price is compared to the company's book value. Companies with high book-to-market (value stock) provide higher returns compared to low book-to-market (growth stock). Value (value premium) is positively correlated with stock returns. Where the company will be assessed as having a higher value when the company has a high book to market ratio. Based on the results of the regression test, it shows that value (value premium) is positively correlated with stock returns. This reflects that investors in Indonesia prefer value stocks to growth stocks.

Profitability (Profitability Premium) and Return

The next independent variable is profitability (RMW). The profitability premium is a ratio used to see a company's ability to generate profits. In this research, Price to Earning is used as a proxy in calculating profitability. In an efficient capital market, where share prices reflect actual information, a low PER value of a share indicates that the share price is cheaper than the price of similar shares, so that at some point when the share price begins to experience an upward correction (rebound), it is hoped that investors will buy Stock prices with low PER will get high profits. So the price earnings ratio has a negative effect on stock returns. Based on the regression results in this test, it shows that Price to Earning has no significant effect on stock returns.

Investment (Investment Premium) and Return

Analysis of company performance requires joint analysis, where we can assess one measure relative to other measures. The relationship between return and investment is a widely recognized measure of company performance. With investment, you can compare the company's success in managing investments. This measure also allows us to assess stock returns. In this research, the average stock return is used as a proxy in investment calculations. Based on the regression results, it shows that investment has a negative influence on stock returns.

4. CONCLUSION

To conclude the research in this thesis, the analysis carried out and the discussion in the previous chapter as well as the five hypotheses consisting of five independent variables and their influence on stock returns, the results of this research can be concluded as follows:

1. *Market Premium*(Market Premium) significantly explains excess returns and is positively correlated in this research.
2. *Size*(Size Premium) significantly explains excess returns and is positively correlated in this study.
3. *Value*(Value Premium) significantly explains excess returns and is positively correlated in this study.
4. *Profitability*(Profitability Premium) does not significantly explain excess returns in this study.
5. *Investment*(Investment Premium) significantly explains excess returns and is negatively correlated in this study.

REFERENCES

Banz, Rolf W. 1981. "*The Relationship between Return and Market Value of Common Stocks." Journal of Financial Economics* 9 (1): 3–18.

Basu, Sanjoy, 1977. *Investment performance of common stocks in relation to their price-earnings ratios: a test of the efficient market hypothesis*. *Journal of Finance* 32, 663–682.

Blume, Marshall E., dan Irwin Friend, 1973. A *new look at the capital asset pricing model*. *Journal of Finance* 28, 19–33.

Brooks, Chris, 2008. *Introductory econometrics for finance*. New York: Cambrige University Press.

Chan, Louis K.C., Yasushi Hamao, dan Josef Lakonishok, 1991. *Fundamentals and stock returns in Japan*. *Journal of Finance 46*, 1739–1789.

Fama, Eugene Francis, dan James D. MacBeth, 1973. *Risk, return, and equilibrium: empirical tests. Journal of Political Economy* 81, 607–636.

Fama, Eugene Francis, and G. William, Schwert. 1977. "*Asset Returns and Inflation." Journal of Financial Economics* 5 (2): 115–46.

Fama, E.F. & French, K.R. 1992. *The Cross-Section of Expected Stock Returns. Journal of Finance*, Vol.47, pp.427-466.

Fama, E.F. & French, K.R. 1993. *Common Risk Factors in the Returns of Stock and Bomds. Journal of Finance Economics*, Vol.33, pp.3-56.

Fama, E.F. & French, K.R. 1995. *Size and Book to Market Factors in Earnings and Returns. Journal of Finance*, Vol.50, pp.131-155

Fama, E.F. & French, K.R. 1996. *Multifactor Explanation of Asset Pricing Anomalies. Journal of Finance*, Vol.51, pp.55-84.

Fama, E.F. & French, K.R. 1998. *Value versus Growth: The International Evidence. Journal of Finance*, Vol.53, pp.1971-1999.

Fama, Eugene Francis, dan Kenneth Ronald French, 2004. *The capital asset pricing model: Theory and evidence*. *Journal of Economic Perspectives* 18, 25–46.

Fama, Eugne Francis, dan Kenneth Ronald French, 2006. *Profitability, investment, and average returns. Journal of Financial Economics* 82, 491–518.

Fama, Eugne Francis, dan Kenneth Ronald French. 2008. *Dissecting anomalies. Journal of Finance* 63, 1653–1678.

Fama, Eugne Francis, dan Kenneth Ronald French. 2012. *Size, value, and momentum in international stock returns. Journal of Financial Economics* 105, 457–472.

Fama, Eugne Francis, dan Kenneth Ronald French. 2014. *Dissecting anomalies with a five-factor model. Unpublished working paper.* University of Chicago and Dartmouth College.

Fama, Eugne Francis, dan Kenneth Ronald French. 2014. *Two Pillars of Asset Pricing. American Economic Review* 104 (6), 1467-1485

Fama, Eugene Francis, dan Kenneth Ronald French, 2015. *A Five-Factor Asset Pricing Model. Journal of Financial Economics* 116, 1-22

Hatta, A.J., and Bambang, S.D. 2012. *The Company Fundamental Factors and Systematic Risk in Increasing Stock Price. Journal of Economics, Business, and Accountancy Ventura*, 15(2), pp: 245-256

Hardianto, Damar & Suherman. 2009. Pengujian *Fama-French Three Factor Model* di Indonesia. Jurnal keuangan dan Perbankan, Vol 13, 198-208.

Hermawan, Dedi Aji. 2012. Pengaruh *Debt to Equity Ratio, Earning Per Share dan Profit Margin* Terhadap Return Saham. Management Analysis Journal, 1(5), h: 1-7

Hwang, Young Soon, Hong Ghi Min, Judith A. McDonald, Hwagyun Kim, dan Bong Han Kim, 2010. *Using the credit spread as an option-risk factor: size and value effects in CAPM. Journal of Banking & Finance* 34, 2995–3009.

Lintner, J. 1965. *The valuation of risk assets and these lection of risky investments in stock portfolios and capital budgets. Review of Economics and Statistics* 47, 13–37.

Loughran, T. 1997. *Book-to-market across firm size, exchange, and seasonality: Is there an effect? Journal of Financial and Quantitative Analysis* 32, 249–268.

Markowitz, Harry, 1952. *Portfolio selection*. *Journal of Finance* 7, 77–91.

Mona Al-Mwalla. 2012. *"Can Book to Market, Size, and Momentum be Ekstra Risk Factor That Explain The Stock Rate of Return? Evidence from Emerging Market". Journal of Finance, Accounting and Management* Vol.3(2), 42-57

Novy-Marx, Robert. 2013. *The other side of value: The gross profitability premium*. *Journal of Financial Economics* 108, 1–28.

Novy-Marx, Robert. 2014. *"Understanding Defensive Equity".* University Rochester, NBER.

Pástor, L.,Stambaugh,R., 2003. *Liquidity risk and expected stock returns. Journal of Political Economy* 111, 642–685.

Perold, Andre F., 2004. The capial asset pricing model. *Journal of Economic Perspectives* 18, 3–24.

Sharpe, William, F. 1964. *Capital asset prices: A theory of market equilibrium under conditions of risk. Journal of Finance* 19, 425–442.

Silviana and Rocky. 2013. *Analysis of Return On Assets and Earnings Per Share on The Stock Market in The Banking Companies in Bursa Efek Indonesia (Indonesia Securities Exchange).* Journal of Global Business and Economics, 7(1), pp: 119-125

Sun, Lan. 2012. *Information Content of PE Ratio, Price to Book Ratio and Firm Size in Predicting Equity Returns. International Conference on Innovation and Information Management,* 36, pp: 262-267.

Titman, S. Wei, K. Xie, F. 2004. *Capital investments and stock returns. Journal of Financial and Quantitative Analysis* 39, 677–700.

Trisnadewi, Mariana. 2012. Analisis Pengaruh Risiko Pasar, *Size, Book to Market,* dan Momentum Terhadap *Return* Saham. Skripsi Sarjana Fakultas Ekonomika dan Bisnis Universitas Diponegoro Semarang.

Vassalou, Maria, dan Yuhang Xing, 2004. *Default risk in equity returns*. *Journal of Finance* 59, 831–868.