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TESTING FAMA & FRENCH THREE FACTOR MODEL ON BANKING COMPANIES IN INDONESIA STOCK EXCHANGE

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Abstract:
This research aims to test the influence of Fama & French Three Factor Model and CAPM on the stock return of banking companies in Indonesia. The samples used were 29 companies that were registered in banking sector from January 1st, 2010 to December 31st, 2013. The period of research is from January 2010 to December 2013. It used multiple linear regression. The result indicates that banking companies in Indonesia can accept the CAPM in predicting the stock return. On the other hand, the Fama & French Three Factor Model cannot entirely be used in Indonesia. Only excess market return and firm size that can influence the changes in stock return, while book to market equity does not show any significant influence.


Introduction
On September 30th, 2014, Indonesia Financial Services Authority (OJK) released a regulation involving the limit of bank deposit interest rate due to tighter competition among banks in Indonesia in raising funds. This regulation aims to ease this competitive situation and hence, strengthen the banking sector. Strong banking sector will later lead to an enhancement in investors’ confidence to invest in Indonesia.

Investors’ confidence is crucial in deciding the stock prices’ direction of banking companies. Going back to the Global Financial Crisis in 2008 where the too-big-to-fail Lehman Brothers collapsed. The bankruptcy spilled over to the other banking companies in America and even in other countries. It leaded to a big fall in stock prices due to the loss of investors’ confidence.

The case of Century Bank was the biggest issue that happened in Indonesia. Due to the crisis in 2008, government was forced to save Century Bank in order to reduce the crisis effect. This issue engaged the politics and kept seizing the government at that time (Movanita, 2014). The other issues that happened in Indonesia were the cases of Citibank and Mega Bank in 2011 which also captured the attention of investors (Purnomo, 2011). These cases portrayed how vulnerable the banking companies towards negative issues. Banking is all about trust. Trust is the crucial reason for depositors to confidently give their money to the banks. Declining trust will lead to a lower banking performance and hence, will negatively affect the stock prices.
Stock market is currently growing in a rapid pace. Investors have chosen stock market as the alternative investment from bank deposits. Even though the bank interest rate is attractive currently, the return from stock investment is still more appealing.

Indonesian investors put more concerns on return in choosing among various investment alternatives. The higher the return of an investment, the more attractive it becomes. Most Indonesian investors still do not take risk as their concerns in investing. It can be seen in the case of Boss Ventura & Brent Ventura’s illegal mutual funds in which the victims (investors) are still left with uncertainty regarding their invested funds up until now (Laoli, 2014). There are three types of investor as noted by Elton, et al. (2003). The first type is risk-averse investor which refers to the investors who always avoid risks. Safety and security in investing are the main concern for this type of investors. The second type is the risk-neutral investor. Investors that fall in this category will be more daring in risk acceptance. However, they are still cautious in dealing with larger risks. The last type is risk seeking investors who welcome any risks involved and will love to gamble in a fair manner. Indonesian investors fall into this third category and therefore, they tend to seek high risk investments.

Investment decisions are still surrounded by the idea of high risk high return which means the higher the risk of an investment, the higher the return offered. In financial theory, even though there are three different types of investors, overall investors are still rational individuals who are risk averse. Investors always expect to obtain the highest return with the lowest risk. However, this is impossible. Markowitz (1952) offered a solution through asset diversification which is by including assets with negative correlation into the portfolio in order to get the highest possible return with limited risk. The risks faced by investors can be classified into two types which are systematic and unsystematic risks. Systematic risk is also referred as market risk or beta. This type of risk will affect all companies or the whole market. On the other hand, the second type of risk which is unsystematic risk will only affect one or several companies. Unlike unsystematic risk, systematic risk is relevant to portfolio analysis because it cannot be eliminated through diversification. Additionally, it is market risk that affects the size of the return obtained. This theory is called Capital Asset Pricing Model (CAPM) (Black et al., 1972).

CAPM emphasizes that market risk is the one that influence the stock return. However, Ross (1976) denied this idea and argued that besides market risk, there are still other factors that can affect the stock return and this research was later known as Arbitrage Pricing Model. This study was supported by Fama & French (1993) who found that market risk is not solely the factor that can affect stock return. It can also be influenced by firm size and book to market equity. This study was called Fama & French Three Factor Model. In their research, it was found that firm size and book to market equity can better explain the change in the stock return compare to CAPM which only uses one factor. This research was supported by studies conducted by Liew & Vassalow (2000), Davis et al. (2000), Charitou & Eleni (2003), Ajili (2003), Taneja (2010), Al-Mwalla et al. (2012), and some other studies.

Martini & Dede (2008) had done research in Indonesia and it resulted in a better use of CAPM in measuring stock return of Indonesia Stock Exchange compare to the Fama &
French Three Factor Model. This research was supported by Sudiyatno & Irsat (2011). However, Hardianto & Suherman (2009) and Ferdian et al. (2011) showed a possible application of Fama & French Three Factor Model in Indonesia Stock Exchange in their studies. So far, the studies about Fama & French Three Factor Model have not included the banking sector in the discussion. The same goes to the studies conducted in Indonesia. In fact, banking sector is an important aspect of a country which is vulnerable and full of risks. Hence, this research will examine the application of Fama & French Three Factor Model in the banking sector in Indonesia Stock Exchange.

**Literature Review**

Modern portfolio theory was started from the research done by Markowitz (1952) with the assumption that investors would tend to avoid risks (risk aversion). Markowitz offered the investors to diversify their assets in portfolios in order to get optimal returns. An optimal return means earning relatively high return with relatively low risk. When high risk assets are combined in a portfolio, the risk exposed by investors will be lower compare to owning the high risk assets individually.

Research on the relationship between stock return and risk continued. As a development of the theory, Markowitz (1952) came out with CAPM. Black et al. (1972) developed a model about the relation between stock return and risk where the risk is stated in beta (market risk). In Markowitz theory, risk is denoted as standard deviation and it can be reduced through asset diversification (portfolio). Reduction in risk will be more effective when the correlation between assets is negative. The closer the correlation value to negative one (-1), the more effective the risk reduction will be. However, risks in a portfolio cannot be entirely eliminated. Although more assets are added in the portfolio, the risk can only be eliminated up to a certain limit. In CAPM, the risk that cannot be eliminated is called systematic risk or market risk while the risk that can be eliminated through diversification is called unsystematic risk. The sum of both risks will then become the total risk. Since unsystematic risk cannot be eliminated through diversification, this type of risk is not relevant in the risk equation. Research done by Black et al. (1972) resulted in the positive and significant relationship between systematic risk (beta) and the stock return.

The law of one price by Ross (1976) stated that there will be no possibility for mispricing which means the same stocks sold in two different places will not be priced differently. When mispricing exists, there will be a chance for arbitrage as what is explained in the Arbitrage Pricing Theory (APT). Based on Ross (1976), stock return is not influenced only by the market risk. Instead, there are other factors that will affect the return such as those factors that involve macro economy and the company itself.

Fama & French (1993) did another research by combining the theory by Ross (1976) and Black et al. (1972). By taking samples from New York Stock Exchange (NYSE), AMEX, and NASDAQ from 1963 to 1991, it was found that systematic risk in CAPM has not explained the changes in stock return completely. Therefore, Fama & French came out with the Fama & French Three Factor Model by adding other risk factors such as firm size and book to market equity which is better in explaining the changes in stock return.
Firm size factor was first studied by Banz (1981). By taking samples from NYSE from 1936 to 1975, it was found that firm size can explain the changes in the stock return. This result was also supported by the study done by Blume & Stambaugh (1983) on NYSE and AMEX for the period of 1963 to 1980. On the other hand, the research about book to market equity was first conducted by Rosenberg & Lanstein (1985). NYSE was taken as the sample from the period of 1973 to 1984 and the result indicated that there is a book to market equity effect. This research was also supported by Davis et al. (1994), Chan et al. (1991), and Capaul et al. (1993). All these researches supported the Fama & French Three Factor Model.

Fama & French did the research on American Stock Market and the result was supported by another study done by Davis, Fama & French (2000) on Moddy Industrial Stock for the period of 1929 to 1997. It was found that the Three Factor Model is suitable to measure the changes in the stock return. Liew & Vassalow (2000) tested the Three Factor Model on 10 countries which are Australia, Canada, France, Germany, Italia, Japan, Netherlands, Switzerland, UK and USA from 1978 to 1996 and the result also supported the Three Factor Model. The same result was also obtained by Charitou & Eleni (2003) who did research on UK Stock Market for the period of 1992 to 2001 and Ajili (2003) who took France as the sample for the period of 1976 to 2001. However, research done by Griffin & Lemmon (2002) on NYSE, NASDAQ and Amex for the period of 1965 to 1996 showed that Three Factor Model cannot properly explain the changes happened on stock return.

Chan et al. (1991) did a research on Japan Stock Market from 1971 to 1988 and firm size effect and significant positive relationship from book to market equity were found. However, Djajadikerta & Gilbert (2009) who did research on New Zealand Stock Market from 1994 to 2002 confirmed that firm size can indeed explain about the changes in stock return, but not for book to market equity. Hence, Three Factor Model was not supported. The same result was also obtained by Drew et al. (2003) and Wang & Xu (2003) who studied the Chinese Stock Market. Based on Wang & Xu (2003), two-thirds companies in China were owned by the state. Besides, the shares owned by insurance companies, mutual funds and pension investment were only less than 10%. The private companies only owned 30% of it. The remaining 60% was owned by individual investors who were more likely to be the speculators in the short term rather than investing for a long term period. They did not really look at companies’ fundamental and also had limited understanding about the financial statements. This might explain the reason for the absence of book to market equity in Chinese Stock Market.

Meanwhile, the research done in Indian Stock Market showed a different result. Both studies done by Taneja (2010) for the period of 2004 to 2009 and Senthilkumar (2009) for the period of 2002 to 2008 on Indian Stock Market indicated that Three Factor Model was applicable in Indian Stock Market. Only that Senthilkumar (2009) found a negative and significant relationship for the firm size, while positive and significant relationship for book to market equity.

The research about Fama & French Three Factor Model on emerging market was also done by Al-Mwalla (2012). Amman Stock Market was taken as the sample for the
period of 1999 to 2010. The result indicated that both firm size and book to market equity have really convincing roles in explaining the changes in stock return and this also means that Three Factor Model was applicable there. On the other hand, research done by Rehman et al. (2013) on Karachi Stock Exchange in Pakistan for the period of 2003 to 2007 showed a different result. It was found that CAPM can better explain the changes in stock return in Pakistan compare to the Three Factor Model. The research on Colombo Stock Exchange done by Shafana et al. (2013) also explained that Three Factor Model is not completely effective in explaining the changes in stock return. Book to market equity has a significant but negative relationship, while firm size has a positive but not significant relationship. Similar result was also obtained by Eraslan (2013) who studied Istanbul Stock Exchange for the period of 2003 to 2010. It was found that firm size only has significant influence on medium to big companies, but not on small companies. However, book to market equity can well explain the changes in stock return. Hence, the Three Factor Model was not fully applicable in emerging market. It is only the research done by Drew & Veeraraghavan (2002) which confirmed the well application of this theory in Kuala Lumpur Stock Exchange. Studies done in Indonesia Stock Exchange also ended up with various results. On one side, Hardianto & Suherman (2009) who studied the companies in Indonesia Stock Exchange for the period of 2000 to 2004 and Ferdian et al. (2011) who took the sample from companies in Jakarta Islamic Index for the period 2007 to 2009 obtained the result that confirmed with the Three Factor Model. They concluded that Three Factor Model can well explain the changes in stock return in Indonesian Sharia Market compare to CAPM. Only that the influence of book to market equity was negative even though it was significant. On the other hand, research on LQ-45’s companies by Murtini & Dede (2008) for the period of 2000 to 2007 and Sudiyanto & Irsad (2011) for the period of 2007 to 2009 resulted in the same conclusion where CAPM can better explain the changes in Indonesian stock return compare to Three Factor Model. It can be seen that inconsistency exists from the studies done on emerging market, especially on Indonesia Stock Exchange where a contrastive research result was obtained. Besides, the research done by Fama & French in Indonesia is still very limited, particularly in the banking sector. Hence, this research will examine the Fama & French Three Factor Model on banking sector in Indonesia Stock Exchange.

Hypothesis
Based on the explanation above, this study hypothesizes that:

H1 : Excess market return significantly influences the stock return.
H2 : Firm size significantly influences the stock return.
H3 : Book to market equity significantly influences the stock return.

Research Methodology
Sample
This research aims to examine the changes in stock return due to the influences from firm size and book to market equity. Samples were taken from banking companies that were listed on Indonesia Stock Exchange from January 2010 to December 2013. The companies chosen cannot have negative equity and earnings. After the data collection, 29 companies were selected.
Definition of Operating Variable

Every variable needs to be defined in order to have the same perception.

Market Return ($R_M$)

Market return refers to the return gained by the market, in which Jakarta Composite Index (JCI) is used in this case. Monthly JCI calculation is used in order to get the monthly market return. The following is the formula for market return.

$$R_M = \frac{P_t - P_{t-1}}{P_{t-1}}$$ (1)

Where:

- $R_M$: Market Return
- $P_t$: JCI at month t
- $P_{t-1}$: JCI at month $t-1$

Stock Return ($R_i$)

Stock return is the return gained from the difference in current month with the previous month stock trading. The formula used will be the same with the calculation for market return.

$$R_i = \frac{P_t - P_{t-1}}{P_{t-1}}$$ (2)

Where:

- $R_i$: Stock Return
- $P_t$: JCI at month t
- $P_{t-1}$: JCI at month $t-1$

Firm Size

Firm size is obtained by the multiplication between the number of outstanding shares and the stock price on companies that are included in the sample. The result will be used to classify big companies (B) and small companies (S). After the result is ordered from the biggest to the smallest value, median will be calculated. The companies that are located above the median will be classified as big companies (B), while companies that are located below the median will be classified as small companies (S).

Book to Market Equity Ratio (BE/ME)

Book to market equity ratio is also referred as BE/ME. BE/ME is obtained by dividing the book value by the market value of the firm. The book value represents total equity minus preference stock, while the market value is the calculation of the number of outstanding shares with the stock price in the market. The result of BE/ME will be ordered from the highest to the lowest value. The upper 30% is classified as high (H), the next 40% is classified as medium (M), and the remaining 30% is classified as low (L).

After that, classification based on firm size and BE/ME will be done as follow: S/L, S/M, S/H, B/L, B/M, and B/H. Portfolio will be formed for every group created.

Small Minus Big (SMB)

In this research, Small Minus Big (SMB) serves as the proxy of firm size. SMB can be obtained from the difference of average monthly return of the three small companies’ portfolios ($S/L$, $S/M$, $S/H$) with average return of the big companies’ portfolio ($B/L$, $B/M$, $B/H$). Alternatively, it can be obtained through the following formula:

$$SMB = \frac{1}{3} (S/L + S/M + S/H) - \frac{1}{3} (B/L + B/M + B/H)$$ (3)

Where:
SMB: The monthly difference between average portfolio return of small companies (S/L, S/M and S/H) and the average portfolio return of big companies (B/L, B/M and B/H).

S/L: Small portfolio size and low BE/ME.
S/M: Small portfolio size and medium BE/ME.
S/H: Small portfolio size and high BE/ME.
B/L: Big portfolio size and low BE/ME.
B/M: Big portfolio size and medium BE/ME.
B/H: Big portfolio size and high BE/ME.

High Minus Low (HML)
High Minus Low (HML) is the proxy of book to market equity ratio. HML is the difference between the average return of two portfolios with high BE/ME (S/H and B/H) and the average return of two portfolios with low BE/ME (S/L and B/L). The formula is as follows:

\[ HML = \frac{1}{2} (S/H + B/H) - \frac{1}{2} (S/L + B/L) \]  

Where:
HML: The difference between the average return of two portfolios with high BE/ME and the average return of two portfolios with low BE/ME.
S/H: Small portfolio size and high BE/ME.
B/H: Big portfolio size and high BE/ME.
S/L: Small portfolio size and low BE/ME.
B/L: Big portfolio size and low BE/ME.

Risk Free (R_F)
Risk Free (R_F) is the interest rate expected that is not affected by any macro economic factors. Monthly risk free in Indonesia refers to the monthly SBI interest rate. SBI interest rate is considered independent from any risks and hence, can be used as the representative of R_F.

Data Analysis Technique
In order to test the Fama & French Three Factor Model, this research will use the developed model as follows:

\[ R_i - R_F = a + b_1(R_M - R_F) + b_2(SMB) + b_3(HML) + e \]  

Where:
R_i: Return of stock “i”.
R_F: Risk free rate (monthly SBI).
R_M: Market return which is represented by JCI return.
SMB: Small minus big.
HML: High minus low.
a: Constant.
b_1: Regression coefficient or market risk.
b_2: Regression coefficient of stock “i” for SMB.
b_3: Regression coefficient of stock “i” for HML.
e: error term.

Results and Discussion
The table below contains descriptive analysis that shows the changes in stock return, market return, firm size and book to market equity for the period of 2010 to 2013.

**Table 1: Descriptive Analysis of Stock Return \((R_i - R_F)\), Excess Market Return, SMB, and HML.**

<table>
<thead>
<tr>
<th>Variable</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>(R_i - R_F)</td>
<td>0.04452</td>
<td>-0.01396</td>
<td>0.00947</td>
<td>-0.01346</td>
</tr>
<tr>
<td>(R_M - R_F)</td>
<td>0.02643</td>
<td>-0.00238</td>
<td>0.00625</td>
<td>-0.00598</td>
</tr>
<tr>
<td>SMB</td>
<td>-0.06906</td>
<td>0.02972</td>
<td>0.01613</td>
<td>0.00467</td>
</tr>
<tr>
<td>HML</td>
<td>0.04588</td>
<td>-0.01317</td>
<td>-0.04617</td>
<td>0.00807</td>
</tr>
</tbody>
</table>

Indonesian economic condition in 2010 experienced a pretty good improvement as its growth increased to 6.1% from 2009. Indonesia’s balance of payment also incurred a surplus of USD 30.3 billion in 2010 (Bank Indonesia, 2010). The other positive factor is the swift capital inflow from foreign investors to Indonesian capital market. It indicates that Indonesian economy has recovered from the crisis in 2008 and 2009. This condition leaded to positive returns on stock prices. The positive growth was depicted in the market return that reached 0.02643 or 2.643% in 2010 and also followed by the growth in banking companies’ stock return that reached 0.4452 or 4.452% in 2010. Book to market equity also showed a positive growth which is 0.04588 in 2010. Only firm size that experienced a decline to -0.06906 in 2010 and this was the effect from the crisis in 2008 and 2009.

Indonesian economic condition was considered very good in 2011 since the growth reached 6.5% which was the highest growth in the last ten years. Along with the inflation rate which only reached 3.79%, Indonesia’s balance of payment also experienced a surplus even though it was not as high as the one in 2010 (Bank Indonesia, 2011). Unfortunately, this kind of good condition was not supported by a development in financial sector. Uncertainty due to the European debt crisis and concerns over the prospect of economic recovery in US created fluctuation in Indonesian financial market. Uncertainty and concerns leaded the global investors to withdraw their funds from the emerging markets including Indonesia. Indeed, foreign capital inflow will make Indonesian financial sector vulnerable against fluctuation. It was reflected in the declining market return in 2011 by 109% compared to the stock return in 2010 and was followed by the decline in stock return in Indonesian banking sector by 131.35% compared to 2010. The same condition went to book to market equity where it fell by 128.71% from 2010. Only firm size of banking companies that rose by 143.03% compared to 2010. In fact, these indicated that although the financial sector was exposed to uncertainty of European and American condition, Indonesian economic condition was fundamentally strong enough.

Economic challenges in 2011 continued in 2012 as the global economic condition was still worrying. Global economic growth was expected to improve in 2012. In fact, it slowed to 3.2% which was lower compared to 2011 where the growth could reach 3.9%. The slowing growth of global economy was mainly caused by the decreasing in economic performance of European countries which were still faced with debt problems, rising unemployment rate, and vulnerability of financial sector. The slowing economic
growth of developed countries started to affect the economic development of emerging market. China and India, which were the driving force of economy in emerging market countries, also experienced an economic slowdown in 2012 and this affected the economy of Indonesia. The economy of Indonesia was still stable since it was mainly supported by the high domestic demand (Bank Indonesia, 2012). It made the stock returns of companies in Indonesia positive and better than 2011. In 2012, the market return increased by 362.61% from 2011. Pretty good market return was maintained in Indonesia due to the investors’ trust towards Indonesia’s fundamental economy. This was also followed by increase in banking companies’ stock return by 167.84% compare to 2011. Unfortunately, it was not accompanied by an increase in the firm size and book to market equity. It means that the decline in firm size and book to market equity of banking companies were more due to the influence from global economy. Although Indonesia’s fundamental economy was quite good, the dependence towards foreign funds was still too big. The existence of foreign funds that were invested in financial sector created a vivacious capital market.

The development of global economic condition in 2013 was not as expected. The economy of China that acted as a driving force in Asian economy including Indonesia still had not show any recovery. This kind of global economic condition gave repeated pressures towards Indonesia’s economic durability. The growth of Indonesia’s economy that was used to depend on domestic demand also experienced deterioration by 5.8% compare to 2012. Rising domestic demand leaded to an increase in import due to a huge dependence on import in satisfying domestic demand, especially fuel oil. Rising import and declining export caused a deficit in Indonesia’s balance of payment. To overcome the deficit in the balance of payment and State Budget Revenue and Expenditure (APBN) Year 2013, government was encouraged to increase the price of fuel oil. The increase in fuel oil price leaded to a rise in inflation rate to 8.38% in 2013 which made Bank Indonesia (BI) increase the BI rate by 175 bps to 7.5%.

The growth of economy that was full of pressures caused the market return to fall by 242.13% from 2012. It was also followed by the decline in banking companies’ stock return by 195.68% from 2012. Slump in stock performance caused the firm size to decline by 28.95% from 2012. However, it is interesting to find that in 2013, book to market equity experienced a huge hike which was 117.47% compared to 2012.

Hypothesis Testing
In testing linear regression model, not only Fama & French Three Factor Model that is examined, but also Capital Asset Pricing Model (CAPM). Test on Fama & French Three Factor Model involves examining the influence of excess market return, firm size (SMB), and book to market equity (HML) on stock return, while CAPM only examines the influence of market return on stock return. The table below shows the results obtained from the tests.
Table 2: Result of Hypothesis Testing

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>COEFFICIENT</th>
<th>SIG.</th>
</tr>
</thead>
<tbody>
<tr>
<td>FF 3 FACTOR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Market</td>
<td>0.143</td>
<td>0.000</td>
</tr>
<tr>
<td>SMB</td>
<td>-0.151</td>
<td>0.001</td>
</tr>
<tr>
<td>HML</td>
<td>-0.028</td>
<td>0.533</td>
</tr>
<tr>
<td>F-Ratio</td>
<td>18.458</td>
<td>0.000</td>
</tr>
<tr>
<td>Adj R²</td>
<td>0.037</td>
<td></td>
</tr>
<tr>
<td>CAPM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Market</td>
<td>0.149</td>
<td>0.000</td>
</tr>
<tr>
<td>F-Ratio</td>
<td>31.001</td>
<td>0.000</td>
</tr>
<tr>
<td>R²</td>
<td>0.022</td>
<td></td>
</tr>
</tbody>
</table>

The result of model and hypothesis above is the answer for the problem in this research. While the hypothesis developed previously are as follows:

H1 : Excess market return significantly influences the stock return.
H2 : Firm size significantly influences the stock return.
H3 : Book to market equity significantly influences the stock return.

The following are the models that have been developed:

- **Fama & French Three Factor Model**
  \[ Y_{SR} = 0.001 + 0.679 X_{MR} - 0.345 X_{SMB} - 0.055X_{HML} \]
  (0.917) (0.000) (0.001) (0.533)

- **CAPM Model**
  \[ Y_{SR} = 0.007 + 0.710X_{MR} \]
  (0.148) (0.000)

From the two models developed which are Fama & French and CAPM, generally it shows good results. F-ratio obtained for Fama & French Model is 18.458 with 0.000<0.05 significance. Hence, null hypothesis is rejected. This means that Fama & French Three Factor Model is capable to explain the changes in stock return. The same condition goes to CAPM where the F-ratio obtained is 31.001 with 0.000<0.05 significance. Therefore, null hypothesis is also rejected and CAPM can well explain stock return changes. By observing the coefficient of determination for Fama & French Three Factor Model and CAPM which are 0.037 and 0.022 respectively, it can be indicated that the Fama & French three factors which are excess market return, firm size (SMB), and book to market equity (HML) can explain the changes in stock return by 3.7%, while the remaining 96.3% must be explained by other factors in banking companies. Additionally, for CAPM, it was shown that excess market return can explain the changes in stock return by 2.2%, while the remaining 97.8% must be explained by other factors in banking companies.

The results of multiple linear regression for both CAPM and Fama & French Three Factor Model show that excess market return is significant (sig. 0.000<0.05) and hence, null hypothesis is rejected. It means that CAPM model is able to answer the changes on stock return. Firm size (SMB) in Fama & French Three Factor Model is also indicated as significant (sig. 0.001<0.05) and it makes the null hypothesis rejected. Only book to market equity (HML) that is insignificant (sig. 0.533>0.05) and cause the null hypothesis to be accepted. Therefore, only excess market return and firm size in Fama &
French Three Factor Model that significantly influence the stock return, while book to market equity has a negative influence on stock return.

**Conclusion and Recommendations**

From the results obtained, it can be indicated that CAPM model in banking companies can well explain the changes in stock return. It corresponds with the studies done by Ross (1976) and Rehman et al. (2013). Meanwhile, the studies done in Indonesia that correspond with this result are conducted by Murtini & Dede (2008) and Sudiyatno & Irsad (2011). However, the research results do not match with the study conducted by Ferdian et al. (2011) on sharia companies in Indonesia. It shows that Indonesian investors do not give much consideration on market risk in the sharia companies in Indonesia. On the other hand, they give much concern on the market risk in banking companies.

The research results also indicate that Fama & French Three Factor Model can be well applied on banking companies. The role of excess market return in explaining stock return changes is recognized by the banking companies in Indonesia. This result is consistent with the studies conducted by Fama & French (1993), Davis et al. (2000), Charitao & Eleni (2003), Ajili (2003), Taneja (2010), and Al-Mwalla (2012). Meanwhile, the studies conducted in Indonesia that correspond with this result are done by Murtini & Dede (2008), Hardianto & Suherman (2009), Ferdian et al. (2011), and Sudiyatno & Irsad (2011) and they are all agree with excess market return’s influence on stock return changes.

The second factor of Fama & French Three Factor Model is firm size (SMB). This research shows that banking companies approve the role of firm size in explaining stock return changes. The researches done by Banz (1981), Blume & Stambaugh (1983), Chan et al. (1991), Fama & French (1993), Liew & Vassalow (2000), Davis et al. (2000), Charitao & Eleni (2003), Ajili (2003), Taneja (2003), Drew et al. (2003), Wang & Xu (2003), Djajadikerta (2005), and Al-Mwalla (2012) support the influence of firm size on changes in stock return. Meanwhile, the studies done in Indonesia that agree with the firm size’s role are done by Hardianto & Suherman (2009) and Ferdian et al. (2011). However, the results do not correspond with researches conducted by Shafana et al. (2013) on Colombo Stock Exchange and Eraslan (2013) on small firms in Istanbul Stock Exchange. There are also some studies done in Indonesia that do not support the role of firm size such as those conducted by Sudiyatno & Irsad (2011) on LQ-45 companies for the period of 2007 to 2009. It means that only investors in manufacturing sectors who do not put much concerns on firm size.

Book to market equity (HML) which is the third factor of Fama & French Three Factor Model do not get a good respond from investors of banking companies in Indonesia. The research results do not support the role of book to market equity and this idea is consistent with studies conducted by Griffin & Lemmon (2002), Drew et al. (2003), Wang & Xu (2003), Djajadikerta (2005), and Rehman et al. (2013). On the other hand, the researches done in Indonesia that support these results are done by Martini & Dede (2008) and Sudiyatno & Irsad (2011). There are many studies that support the role of book to market equity such as studies done by Rosenberg & Lanstein (1985), Fama & French (1993), Capaul et al.(1993),

The coefficient of determination of Fama & French Three Factor Model which is 3.7% and CAPM which is 2.2% show that the contribution of these two models are very small in explaining changes in banking stock return. There are many other factors that can explain the changes in banking stock return in Indonesia such as global and domestic economic condition and Indonesia’s politic condition. It means that although the results indicate that CAPM and Fama & French Three Factor Model are significant, they are incapable to explain the changes in banking stock return in Indonesia.

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