

PERFORMANCE ANALYSIS OF SHARIA AND CONVENTIONAL MUTUAL FUNDS DURING 2008 AND 2013 CRISIS PERIODS

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ABSTRACT

This research has a purpose to analyze the performance of sharia and conventional mutual funds, particularly equity mutual funds in Indonesia during 2008 and 2013 crisis periods. Within 2008 crisis period, the data set comprises of 51 equity mutual funds in which 4 were sharia mutual funds while 47 others were conventional mutual funds. Moreover, within 2013 crisis period, the data set comprises of 110 equity mutual funds in which 12 were sharia mutual funds while 98 others were conventional mutual funds. To measure the mutual funds' performance, three methods were used, which are Sharpe, Treynor, and Jensen alpha methods. Furthermore, to test whether there is any performance difference between those two types of mutual funds, the author used Mann-Whitney U test. The results indicated that in the 2008 crisis period, the entire samples cannot really withstand from the crisis. In comparison, generally the conventional equity mutual funds managed to give a better performance than the sharia equity mutual funds. Moreover, there is no performance difference between sharia and conventional equity mutual funds. Meanwhile, in the 2013 crisis period showed a more diverse result. In comparison, generally the sharia equity mutual funds managed to develop its performance during this particular crisis period compare to the previous period. Apparently, there was a performance difference between those two types of mutual funds in the 2013 crisis.

Keywords: *Sharia mutual fund, Conventional mutual fund, Sharpe measure, Treynor measure, Jensen alpha.*

1. Research Background

Recently, the development of the investment mechanism, particularly on the financial assets, has increased significantly. It is supported by the investment instruments that getting more diverse, the increasing level of money invested, and the raising number of investors year by year (Maharani, 2014). The number of listed companies also showed a relatively similar phenomenon; for instance at the end of 2010, there were initially 452 listed companies and recently the number already jumping up into about 505 listed companies on the floor market (Indonesian Stock Exchange, 2010, 2013). Moreover, the number of mutual funds was also increased from 328 in the year of 2005 to 823 in

December, 2013 (Indonesian Financial Service Authority, 2014).

As it offers attractive returns as well as diversified risk, a mutual fund is considered as one investment instrument that quite promising for the investors. According to Brigham, Houston, Chiang, Lee, & Ariffin, 2010, mutual funds are corporations that collect funds from savers and the use these funds to buy stocks, long-term bonds, or short term debt instruments issued by business and government units. Moreover, each investor has a claim to the portfolio established by the investment company in proportion to the amount invested (Bodie, Kane, & Marcus, 2011). One of the characteristics of mutual fund investors is they own limited time

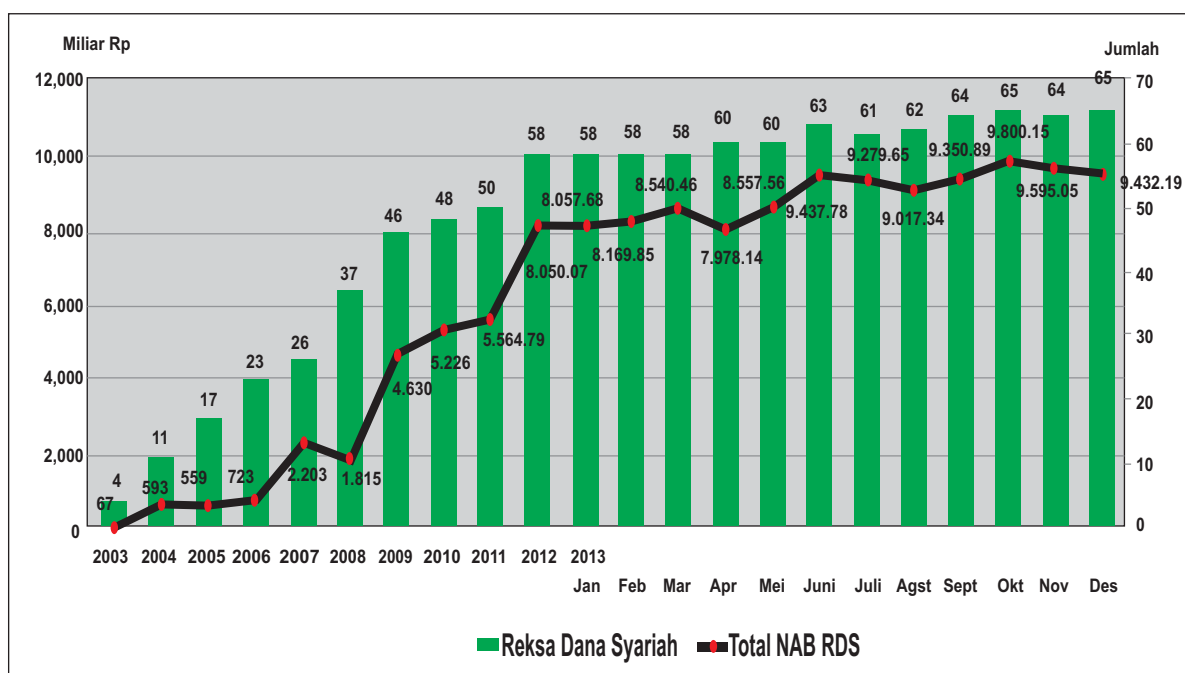
and knowledge to calculate the risks of their investments, therefore investment manager or investment companies would be needed to help them manage their portfolios (Kamil, 2014).

Meanwhile, to provide an alternative of investment, sharia mutual fund had been introduced to the Indonesian market since 1997. Accordingly, the development of sharia products started to grow afterwards. Sharia mutual fund is pretty similar to the conventional fund, but in contrast, sharia mutual must comply with sharia principles for its operation and scope, by which fund manager needs to invest in a portfolio that followed sharia rules. El-Gammal (2000) argued that sharia funds not only focusing on the return rate of investment, but put more focus on the legality of instrument to be bought, which is the instrument that not performs any usury (riba). The sharia principal encourages the application of profit sharing and partnership scheme, and forbids riba (interest), maysir (gambling and pure games of chance) and gharar (selling something that is not owned or that cannot be described in accurate detail in terms of type, size, and

amount). Elfakhani, Hassan, & Sidani (2005) and El-Gammal (2000) argued that in term of the company, sharia funds allowed their investment into the company that is not associated either directly or indirectly with things like alcohol, cigarettes, gambling, armament, nuclear project, pornography, prostitution and other respects illegitimated by Islamic law.

As a matter of fact, as the Indonesian society recently is being more aware of the Islamic principle, particularly in banking and investment industry. Sharia mutual fund, as one popular investment instrument in Indonesia, plays an important role in the development of Sharia investment mechanism. One of the supporting evidence, as depicted in Figure 1 below, the number of sharia mutual funds as well as the total net asset value (NAV) has gradually increased in the last ten years. In a decade, from 2003-2013, initially, there were only 4 products and significantly become increased into 63 products. The net asset value was following the increase, from only Rp67 billion in 2003, the total net asset value had raised rapidly up to Rp9.8 trillion in

Figure 1.1 The number of sharia mutual funds and its NAV in 2003-2013



Source: Indonesia Financial Service Authority, 2014

2013 (Indonesian Financial Service Authority, 2014)

With regards to the fact above, the potential growth of sharia mutual funds is quite promising. Not only because of the Indonesian economic growth and as the public awareness towards investment is getting better recently, but it's also driven by the reality that Indonesia is the most populous Muslims country in the world. Furthermore, the development of sharia investment in Indonesia capital market also supports the backbone of the overall sharia economic development in Indonesia. In a matter of fact, sharia capital market in Indonesia is associated with the Jakarta Islamic Index (JII), which only composed following-sharia-principles securities listed in Indonesia Stock Exchange (IDX).

Table 1.1 above depicted the growth of Jakarta Capital Index and its market capitalization during 2007-2013. In terms of index, there were significant decline in 2008 and slight downturn in 2013. Technically, 2008's index had significantly decreased from 2745.8 in 2007 down to 1355.4. It was a disastrous disaster hitting the market floor at that time. The market shook down to more than 50% compared to the previous year. Meanwhile, even though it was not

as severe as 2008, the overall market in 2013 also experienced a dilapidated period. However, this decline was not accompanied by a decrease in market capitalization. Meanwhile, the market capitalization seems to be increased slightly, although not as big as previous years.

Figure 1.2 above, technically explained what actually happened in the 2008 crisis and impacted the overall market condition. There was a significant decline where in January 2008 the JCI still on 2810 points, but then it decreased significantly down to 1111 as the lowest point in October 2008. There was about 60% decline in the market index. In addition, figure 1.3 below explained more about 2013 economic crisis. Technically the market showed a decrease from its highest point within that particular period of time, which is 5206 points in May 2013, down to 4208 points in August 2013. It took a significant impact as the market was consolidated about 20% to the lowest point during the year.

Figure 1.2 Market condition in 2008's crisis period (January-October)



Source: Danareksa, 2014

Figure 1.3 2013's crisis period (May-August)



Source: Danareksa, 2014

Table 1.1 The Growth of Index and Market Capitalization

Year	Index		Capitalization (Trillion Rp)	
	JCI	JII	IDX	JII
2007	2,745.826	493.014	1,988.33	1,105.90
2008	1,355.408	216.189	1,076.49	428.53
2009	2,534.356	417.182	2,019.38	937.92
2010	3,703.512	532.901	3,247.10	1,134.63
2011	3,821.992	537.031	3,537.29	1,414.98
2012	4,316.687	594.789	4,127.01	1,644.94
2013	4,274.177	585.110	4,219.02	1,679.07

Source: Indonesia Stock Exchange
(www.idx.co.id),

Indonesia Capital Market Supervisory Agency
(www.bapepam.go.id)

As the nature of the investment mechanism, considering both the risk and return become the factors that should be put an attention to as an effective investor. Therefore the better the performance of the mutual funds would provide an expected result, particularly during the crisis period. Hence, in this particular study, the author will conduct a study of PERFORMANCE ANALYSIS OF SHARIA AND CONVENTIONAL MUTUAL FUNDS DURING 2008 AND 2013 CRISIS PERIODS. To analyze the performance, the author would apply *Sharpe*, *Treynor*, and *Jansen alpha* measures.

2. Problem Statement

Based on the research background that already stated above, the author may formulate the research questions as below:

- a. Is equity sharia mutual funds' performance different than equity conventional mutual funds' performance during the 2008 crisis period?
- b. Is equity sharia mutual funds' performance different than equity conventional mutual funds' performance during the 2013 crisis period?

3. Research Objectives

With regard to the problem statement above, the objectives of this particular study are as below:

- a. To analyze the performance of equity sharia mutual funds and equity conventional mutual funds during the 2008 crisis period.
- b. To analyze the performance of equity sharia mutual funds and equity conventional mutual funds during the 2013 crisis period.

4. Theoretical Review

4.1. Investment

Investment is a current commitment to the fund to one or more assets that will be held over

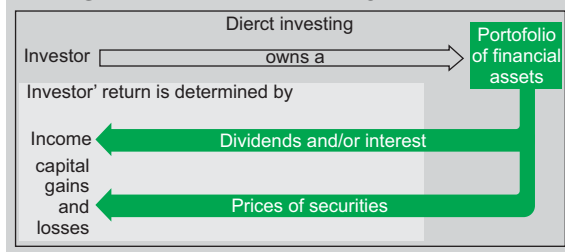
some future time period, in the expectation of reaping future benefits (Jones, 2010; Tandelilin, 2010; Bodie, Kane, & Marcus, 2011). Moreover, according to Oxford Dictionaries, 2014, the term “investing” means that when putting money into a particular financial scheme, shares, property or a commercial venture in order to achieve a profit. The source of funds to be invested may originate from assets already owned, borrowed money and savings.

Investing the funds into two types of assets, real assets (the land, buildings, and machine) and financial assets (stocks and bonds) are the common activities made by the investors (Tandelilin, 2010). Real assets are assets used to manufacture goods and services (building, land, equipment, gold, and knowledge to produce goods and services) that generate income to the economy, while financial assets are claims on real assets controlled by an entity (stocks, bonds, warrants, mutual funds, options, deposits, and savings) and simply define the allocation of income or wealth among investors (Bodie, Kane, & Marcus, 2011). Investing is about taking investment choices and decision: choosing the right securities and instruments in portfolio, perfect timing in executing the investment decision, and extensiveness in doing investment (US Securities and Exchange Commission, 2010). Based on the availability of any intermediaries within the activities, Investing can be divided into two categories, which are indirect investing and direct investing (Jones, 2010).

4.1.1 Direct Investing

As depicted in Figure 2.4, Jones, 2010, stated that by direct investing, investors may do buying and selling securities by themselves, typically through brokerage accounts. Direct investing can be in form of investing in money market, nonmarketable securities, capital market, and/or derivatives market.

Figure 2.4 Direct Investing Mechanism



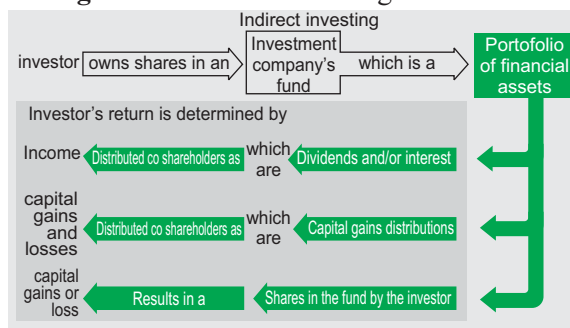
Source: Jones, 2010

By performing direct investing mechanism, investors may have a direct control over their own securities. As a result, the risk associated with the investment decision is borne by the investors themselves. The investors' ability and expertise in analyzing and evaluating their portfolios were really crucial for their success of investing.

4.1.2. Indirect Investing

Figure 2.2 explains Indirect investing mechanism, where there is an intermediary within the process, which are investment companies. Furthermore, Jones, 2010, defines indirect investing as the buying and selling of the shares of investment companies which, in turn, hold portfolios of securities. Instead of buying the securities directly by themselves, investors may purchase some type of investment company fund, which then relieves them from making decisions about that portfolio.

Figure 2.2 Indirect Investing Mechanism



Source: Jones, 2010

The most common risk associated with this type of investing mechanism is about the credibility and professionalism of the investment

companies (Kamil, 2014). Through investment companies, investors may get various types of investment products, such as unit investment trust, open-end funds (money market mutual fund, stock, bond, and income funds, closed-end fund, and exchange-traded funds (Jones, 2010).

4.2. Mutual Funds

Jones, 2010 defines mutual fund as an open-end investment company, selecting and managing a portfolio of securities. In 2009, mutual fund was considered as the dominant investment instrument in US, which account for more than 90% of investment company assets (Bodie, Kane, & Marcus, 2011).

Based on Indonesian Capital Market Law no 8 year 1995, article 1 paragraph 27, mutual fund is a set of funds collected from the investors and would be managed and reinvested by investment managers in form of portfolio or securities. Portfolio could be formed by combination of securities; stock, bonds, money deposits, or any other financial instruments. Moreover, mutual fund should be purchased by group of investors, which can be in the form of individual or a company (Tandelilin, 2010; Giles, Alexeeva, & Buston, 2003). Investors in mutual funds own a pro rata share of the overall portfolio (Fabozzi & Modigliani, 2003).

Each mutual fund has a specified investment policy and strategy, which is described in the fund's prospectus (Bodie, Kane, & Marcus, 2011). The policy and strategy is set by the investment managers or investment companies. They manage an entire collection of fund and then collect a management fee for operating them. By organizing a collection of funds under one control, these companies facilitate their investors to easily allocate their assets across market sectors and to switch assets across funds while still get benefit from a centralized database (Bodie, Kane, & Marcus, 2011). The investment

company is responsible to perform crucial market research and to professionally handle the portfolio, as well as to handle the administrative chores, for which it receives a fee (Jones, 2010).

4.2.1. Type of Mutual Fund based on its Legal Form

According to Tandelilin (2010), based on its legal form, mutual fund can be classified into two forms, which are 1) enterprise fund and 2) collective investment contract fund. The investment companies which issue enterprise funds collect the fund by trading fund shares, and invest the fund into various types of securities in capital market or money market through investment manager. Furthermore, enterprise fund, then divided into two types, which are open-end fund and closed-end fund.

Open-end mutual funds stand ready to redeem or issue shares at their net asset value. As a result, whenever the investors in open-end funds wish to “cash out” their shares, they may sell them back to the investment company at NAV (Bodie, Kane, & Marcus, 2011). This definition supported by the Indonesian Capital Market Law, Law no 8, year 1995, open-end funds are defined as ready to purchase and redeem funds, investment company is willing to buy it back from investors up to certain amount of their capital. In addition, expected profit from open-end funds consists of dividend income, capital gain distribution, net change of NAV.

In contrast, closed-end funds do not redeem or issue shares. Investors in closed-end funds who wish to redeem their funds must sell their shares to other investors through the market (Bodie, Kane, & Marcus, 2011). The investors cannot sell back their own shares to the issuing company (Tandelilin, 2010). Shares of closed-end funds are traded on organized exchanges and can be purchased through brokers just like other common stocks, hence their prices may be different from its NAV (Bodie, Kane, & Marcus,

2011). The price, which solely defined by the equilibrium of supply and demand within the market, may be bigger than the NAV (at its premium), or may be less than the NAV per share (at a discount) (Kamil, 2014).

Meanwhile, a collective-investment-contract fund is an agreement or contract between an investment manager and a custodian bank on behalf of the investors (Tandelilin, 2010). This contract authorizes the investment manager to handle the collective investment portfolio as well as custodian bank to provide collective custody service. Investment manager collects funds from the investors through issuing fund participation units, to be invested into securities traded whether in capital market or money market (Tandelilin, 2010).

4.2.2. Type of Mutual Fund based on its Securities Composition

Based on its composition, mutual funds can be classified into five types, which are money market funds, fixed income funds, equity funds, balanced funds, and capital protective funds. As explained below:

Firstly is money market fund that typically invests in money market securities such as commercial paper, repurchase agreements, or certificates of deposit. The average maturity of these assets tends to be a bit more than 1 month (Bodie, Kane, & Marcus, 2011). Hallman & Rosenbloom, 2009 argued that these funds were highly secure, liquid investment that frequently used by investors for cash portion of their portfolio. Due to its liquidity, banks and other financial institutions have recommended this instrument as the savings or even as interest-bearing checking accounts for investors (Jones, 2010; Brigham, Houston, Chiang, Lee, & Ariffin, 2010).

Secondly, is fixed income funds which specialized in fixed-income sector, such as corporate bonds, treasury bonds, mortgage

backed securities, or municipal (tax-free) bonds (Bodie, Kane, & Marcus, 2011). Furthermore, fixed income funds mainly focused to put its funds into bond securities, at least 80%, and another 20%, can be invested into other instrument (Indonesian Financial Service Authority, 2014). This kind of mutual fund has a relatively greater risk compared to money market funds, but relatively less risk compare to equity and balanced mutual funds. Therefore, this type of funds well suited for those who prefer safety (Brigham, Houston, Chiang, Lee, & Ariffin, 2010).

Thirdly is equity fund, which invests mainly in stock, although, at the portfolio manager's discretion, also put their funds into fixed-income or other type of securities. This type of funds would invest at least 80% of its total composition into equity securities or stocks and another 20% invested into another instrument, such as bonds or money market securities (Kamil, 2014). Equity funds commonly will hold between 4% and 5% of total assets in money market securities to provide liquidity essential to meet potential redemption of shares (Bodie, Kane, & Marcus, 2011). This fund may have a tendency to have the highest return compare to other types of mutual funds, correspondingly the risk is also being considered as the highest as well. Therefore, this type of funds would be great for long-term investment and for risk-taker investors. Long-term orientation in investment means that investors will not be affected when stock prices decline in the short term (Manurung, 2007).

Fourthly is balanced fund, which holds both equities and fixed-income or bond securities in relatively similar proportions (Bodie, Kane, & Marcus, 2011). Another scholar described this fund as mutual fund which invests their funds into various securities, whether in capital market or even in money market (Tandelilin, 2010).

Last but not least, capital protected funds is a mutual fund that gives protection towards its

investor's initial investment value through portfolio management mechanism (Tandelilin, 2010). Investment manager commonly invests the funds in the securities that relatively safe, such as T-bonds and high ranks corporate bonds (Tandelilin, 2010). Moreover, there is a predetermined time period to own started from the purchasing date. If the funds were redeemed before a predetermined time period to get fulfilled, there would be a penalty as stated on the agreement (Manurung, 2007).

4.3. Risks and benefits investing in mutual funds

Risks and returns become the things that cannot be separated from any investment mechanism. In this section, the risks and benefits investing in mutual would be specifically discussed. According to Indonesian Stock Exchange, 2010, there are several risks and benefits investing in mutual funds, stated as below:

To begin with, one of benefits investing in mutual funds is investors with smaller budget be able to invest diversely in their securities to minimize the risks. For instance, an investor with limited fund can have bond funds, which is difficult to purchase if he/she does not have an enough budget to do so. Secondly is that investment manager really helps for those who inexperienced in investing. Determining the timing and the stock-pick is not easy. It needs specific knowledge and experience, which not all investors may have. Next is time efficiency. As the fund invested is managed and maintained by a professional investment manager, investors may not need to monitor their investment performance all the time.

In terms of risks, as any other investment instruments, mutual funds also bear some risks with regard to its decline in price, liquidity risk and also default risk. Firstly, as the price of the fund's NAV is dynamic, therefore there still any

possibilities to decline. Secondly is the liquidity risk. This risk is related to the difficulty faced by the investment manager if most of their investors redeem their units. As a consequence, the investment manager will find it difficult to convert it into cash. Thirdly is default risk. It may happen when there is inability to fulfill the liabilities of parties related to the mutual funds, brokerage, custodian bank, payment agent, or catastrophic events that negatively affect the performance of mutual funds.

4.4. Sharia Mutual Funds

Islamic finance is a closed financial system with the objective to implement the teachings of the *Quran* as opposed to get maximum returns on financial assets (Zaher & Kabir Hassan, 2001). This system is based on five main principles, which take into account of the prohibition of interest (*riba*), excessive uncertainty (*gharar*), speculation (*maysir*), risk and return sharing, and the exclusion to invest in 'unethical' industries (Shanmugam & Zahari, 2009). Consequently, these principles imply that muslims are prohibited to put their money in futures, options and other speculation based derivatives yet muslims cannot apply for conventional credit. These principles also create some limitations for many other structured financial products. Notwithstanding the boundaries of Islamic finance, taking entrepreneurial risk and get some benefits from it is permitted. This means that investing in mutual funds is allowed, provided that they stick on to the five main Islamic finance principles (Hayat & Kraeussl, 2011). Since the principle of not receiving or paying any interest is too restrained for most otherwise eligible companies, some leniency has been applied here. According to Visser, 2009, the criteria set up by the *Dow Jones's Sharia Supervisory Board* seem to be the standard in the investment industry. The following financial criteria must be obeyed by

firms in order to be classified as halal (permissible according to Islamic law), which are (1) Total debt divided by the trailing 12-month average market capitalization has to be less than 33%; (2) Cash plus interest-bearing securities divided by the trailing 12-month average market capitalization has to be less than 33%; (3) Accounts receivable divided by the 12-month average market capitalization has to be less than 33%.

Hence, as one of Islamic finance products, sharia mutual fund should also obey the five main principles stated above. According to *Fatwa No.20/DSNMUI/IV/2001* which issued by *National Sharia Board*, sharia mutual fund is mutual fund which operated according to provisions and Islamic principles, whether in form of investor as the fund owner (*sahib al-mal / rabb al mal*) with investment manager as the representative of *sahib al-mal* or investment manager with investment user. Operational mechanism in the sharia mutual fund is a system of *wakalah* (power of attorney/ representative) between investors with investment managers and also *mudharabah* system between investment managers with investment users. *Mudharabah* is a form of contract/cooperation of the parties acting as capital providers and others as manager of capital (*mudharib*).

In Indonesia, sharia mutual fund managers can only invest in a number of securities that meet the requirements of the National Sharia Board (DSN-MUI) which is not against Islamic sharia principles. Type of activities that are not allowed according to Islamic sharia principles are (1) Business gambling or gambling game or belonging to a banned commercial, (2) Conventional financial institution (*ribawi*) including conventional banking and insurance, (3) Producer, distributor, and trader of forbidden food and beverages, (4) Producer, distributor and/or supplier of goods and services that

endanger moral and harmful for the society (*mudharat*).

4.5. Economic Crisis in the year of 2008 and 2013

US subprime mortgage crisis turned out to be deeper and wider than previously thought. In November 2007, the financial markets come under pressure due to the housing crisis pushed the economy into recession, accompanied by the loss of a series of large financial institutions. At the same time, crude oil prices approaching \$ 100 per barrel. These developments encouraged the flow of foreign funds out of Indonesia.

Dollar again depressed to the range of Rp9.700,-/USD and ever touched the level of Rp11.000,-/USD. The impact of the crisis slammed the economy at the end of 2007, continued to affect the Indonesian market during the year 2008, as a result, by the end of 2008, Jakarta Composite Index (JCI) has decreased and is the third-biggest decline in the Asia-Pacific region. The index at the end of 2008 was at 1.355.41, down 50.64% compared to the position at the end of 2007 the position of 2745.83. At that time, almost all regions experienced a decline due to the impact of the subprime mortgage financial crisis. The majority of markets in the Asian region was lowering down and declining significantly, up to more than 40 percent (Shenzhen and Shanghai Stock Exchange, India Stock Exchange, Singapore Stock Exchange, Hongkong Stock Exchange, etc)(Bloomberg, 2014).

Meanwhile, Indonesia started the journey in 2013 with a large trade deficit reached USD1.63 billion. As of February 2013, Central Statistics Agency (BPS) registering the total imports during the year 2012 reached USD191.67 billion and the total exports by USD190.04 billion. Furthermore, from the beginning up to around the

middle of 2013, fiscal deficit became a serious threat to the Indonesian government. The national subsidy budget threatened the position of 2013 state budget; therefore, again government took the controversial step by reducing the amount of subsidy on subsidized fuel consumption.

Apart from the domestic side, the external side also continued to attract the government attention. The Fed tapering-off, the withdrawal of economic stimulus by the US Federal Reserve, has alarmed the world, particularly the emerging market countries. Indonesian Minister of Finance explained that since Quantitative Easing (QE) initiated by the Fed in 2011(Michel & Moore, 2014), capital inflows into Indonesia reach the largest number in history. As a result, when the Fed planned to pull out the stimulus, likely capital outflow would be happened by itself.

In general, the process by mid-2013, apart from the internal side where deficits are forcing governments to make budget adjustments primarily related to fuel subsidies, external factors where the vagueness plan about the Fed tapering off is affecting the Indonesian economic condition. As a result, in August 2013, Central Statistics Agency released the fact that year on year inflation to reach 8.6 percent. The pressure also occurs in the IDR-USD exchange rate, which 11.000/USD as well as the condition of the JCI touched its lowest level in 4208.

However, it should be mentioned here that *the cause* described above are *the immediate causes*, not *the root of the problem*. Discussion about *the root of the problem* is beyond the scope of this paper. Therefore, in this paper, to define the crisis period as the period of observation, the author tends to put a perspective using a technical analysis that's been derived from daily JCI chart during 2008 and 2013 (Figure 1.2 and Figure 1.3).

4.6. Mutual Fund's Performance Evaluation

Evaluating portfolio performance only based on the average return is not very comprehensive; therefore returns must be adjusted for risk before they can be compared meaningfully (Bodie, Kane, & Marcus, 2011). There are several methods which already involved risk and return in their calculation, such as: Sharpe's measure (1966), Treynor's measure (1966), Jensen's measure (1968).

4.6.1. Sharpe's measure

This measure was developed by William Sharpe (1966). This measure divides average portfolio excess return over the sample period by the standard deviation of returns over that period (Bodie, Kane, & Marcus, 2011). This measure is also known as reward to variability (RVAR). Sharpe's measure is calculated by dividing premium risk of portfolio by its standard deviation. Premium risk, by definition, is the excess return of the portfolio. Standard deviation is overall risk. On the other word, Sharpe measure is meant to measure risk premium of a single total risk (standard deviation) of portfolio. Moreover, this measure applies ex post capital market line approach. RVAR could be noted as follows:

$$RVAR = \frac{\overline{TR_P} - \overline{R_F}}{\sigma_P}$$

Notation:

RVAR	= reward to variability or Sharpe measure.
$\overline{TR_P}$	= the average total return for portfolio during the observation period.
$\overline{R_F}$	= the average risk-free rate of return during the observation period.
σ_P	= variability as measured by the standard deviation of return for portfolio p during the period.
$\overline{TR_P} - \overline{R_{BR}}$	= the excess return (risk premium) on portfolio.

RVAR value shows the performance of the portfolio. The larger the RVAR value, the better the performance of portfolio.

4.6.2. Treynor's measure

Like Sharpe's, Treynor's measure gives excess return per unit of risk, but it uses systematic risk instead of total risk (Bodie, Kane, & Marcus, 2011). This method is also well known as Reward to Volatility Ratio (RVOL). To get a figure of performance index of portfolio, Treynor did a comparison of risk and return. As Sharpe's, Treynor's also based on risk premium ($R_p - R_f$). Beta (β_p) is used in this method as a parameter in measuring risk, since this model underlined assumption is market fluctuation. This method is using Security Market Line (SML) ex post approach. RVOL is noted as follows:

$$RVOL = \frac{\overline{TR_P} - \overline{R_F}}{\beta_P}$$

Notation:

RVOL	= reward to volatility or Treynor measure.
$\overline{TR_P}$	= the average total return for portfolio during the observation period.
$\overline{R_F}$	= the average risk-free rate of return during the observation period.
β_P	= volatility as measured by beta for portfolio in certain period.
$\overline{TR_P} - \overline{R_F}$	= the excess return (risk premium) on portfolio.

RVOL value shows performance of portfolio. The larger the RVOL value, the better the portfolio performance. Unlike Sharpe's, Treynor divided portfolio return (reward) with beta portfolio. Treynor assumed that its portfolio already well-diversified, hence the unique risk (unsystematic risk) can be ignored and that remains is systematic risk as measured by Beta.

4.6.3. Jensen's Measure

Jensen's measure is the average return on the portfolio over and above that predicted by the CAPM, given the portfolio's beta and the average market return (Bodie, Kane, & Marcus, 2011). Moreover, Jones (2010), stated that actually Jensen's measure of portfolio performance calculated as the disparity between the actual earning and the expected earning of portfolio in a given level of systematic risk. This method is applied as a complementary method of Sharpe and Treynor's measure, in which alpha (differential return measure) considered as a benchmark of market performance. Jensen's Alpha is calculated as follows:

$$\alpha_P = (\overline{TR_P} - \overline{R_F}) - [\beta_P(\overline{R_M} - \overline{R_F})]$$

In which:

α_P = Jensen's alpha

$\overline{TR_P}$ = the average total return for portfolio during the observation period.

$\overline{R_F}$ = the average risk-free rate of return during the observation period.

β_P = volatility as measured by beta for portfolio in certain period

$\overline{R_M}$ = the average market return during the observation period.

If the alpha shows positive result, meaning that portfolio performance is superior toward the market, and the other way around, if the alpha shows negative result, means that portfolio performance is inferior to the market. In addition, if alpha shows zero result, means the portfolio performance has no difference toward the market (Hartono, 2013).

5. Hypothesis Development

Elfakhani, Hassan, & Sidani (2005) conducted a research about the comparative performance between sharia mutual funds and conventional mutual funds. Furthermore, they examine the performance of Islamic mutual

funds in order to authenticate whether the implementation of the Islamic investment guidelines in asset allocation and portfolio selection has had a downside effect on investors' wealth in terms of risk-adjusted returns relative to the market benchmark. Using samples of 46 Islamic mutual funds classified into eight sector-based categories, the performance of each fund and fund category is analyzed and sided to the performance of two market benchmarks, Islamic index and the S&P 500. Funds are then classified into eight categories according to their regional or sector investment exposure; these are: Global equity funds, American equity funds, European equity funds, Asian equity funds, Malaysian equity funds, Emerging markets equity funds, emerging markets-South Africa and Small Cap/Technology funds. This classification gives further insight about the sector performance. In terms of fund category, four of the eight fund categories outperform their benchmarks regardless of what performance measure was used. The main finding of this study is that actually the performance of Islamic mutual funds does not differ from that of other conventional funds, with several numbers of Sharia compliant mutual funds over-performing their benchmarks and others under-achieving them.

Dewi & Ferdian (2009) conducted the performance analysis on sharia mutual funds based on the region where the funds operate, which is Indonesia and Malaysia. The observation period of this study started from on October 1, 2005 and ends on April 30, 2007 using 5 Indonesian sharia mutual funds and 20 Malaysian sharia mutual funds. The empirical finding gets from the research may come to the conclusion that Malaysian sharia mutual funds seem to be outperformed the Indonesian sharia mutual funds. This phenomenon can be happened due to the fact that the Malaysian Islamic Capital Market is relatively more established than the

market in Indonesian. Another finding is that Islamic mutual funds are relatively outperforming the market; therefore these instruments can be an alternative for the investors for their portfolio selection.

Hoepner, Rammal, & Rezec (2011) investigated a strongly growing mutual fund type: Sharia mutual fund or Islamic funds. They analyzed the performance and investment style for about 265 Islamic equity funds spread in twenty countries. They applied a (conditional) three level Carhart model to simultaneously control for exposure to different national, regional and global equity markets and investment styles since sharia funds often have diverse investment regions. They found that actually Sharia fund performance can also be explained by the heterogeneity of national characteristics. This research employed sharia funds from the six largest Islamic financial centres in their research (the GCC countries and Malaysia) competitively performed or even outweigh international equity market benchmarks. Conversely, in most other nations with less developed Islamic financial services, sharia fund portfolios significantly underperform their benchmarks. Particularly, sharia funds from predominantly non-Islamic economies trail their benchmarks.

The overall result of the research actually shows a consistency with recent evidence for conventional funds, they found sharia funds to display better performance in more developed Islamic financial markets. While sharia funds from these markets are competitive to international equity benchmarks, funds from particular Western nations with less Islamic assets tend to significantly underachieve. Sharia funds' investment style is somewhat shifted towards growth stocks. Funds originally from predominantly Muslim economies also show a clear small cap preference.

Kaminsky, Lyons, & Schmukler (2004) put more focused on the mutual funds trading strategies in emerging markets and during crisis. Using 13 Latin America Funds obtained from US Securities and Exchange Commission and combined with the data from Morningstar and Bloomberg, they develop a method for disentangling the behavior of fund managers from that of underlying investors. One of their findings shows that emerging-market mutual funds engage in momentum trading – systematically buy winners and sell losers. Furthermore, they distinguish between contemporaneous momentum trading (buying current winners and selling current losers) and lagged momentum trading (buying past winners and selling past losers). During crisis, contemporaneous momentum trading is best applied, and equally strong for managers and investors. Lagged momentum trading is stronger for fund managers.

In addition, another strategy also being analyzed is contagion trading, by which funds systematically sell (buy) assets from one country when asset prices fall (rise) in another. Contagion trading is inclined to be implemented by both managers and investors, but is more common among investors. This strategy is robust to controlling for local market returns, own-stock returns, and US-market returns.

From above studies, which elaborate the comparative performance between sharia mutual funds and conventional funds based on certain time range (Elfakhani, Hassan, & Sidani, 2005), comparative analysis based on mutual fund performance based on region in Indonesia and Malaysia (Dewi & Ferdian, 2009), sharia mutual funds performance and its investment style based on 265 funds spread of internationally (Hoepner, Rammal, & Rezec, 2011) and mutual funds trading strategies during crisis: momentum trading and contagion trading (Kaminsky, Lyons,

& Schmukler, 2004), it appears that actually there might be a different performance between sharia mutual funds and conventional funds. Furthermore, the financial crisis occurred in Indonesia in the year of 2008 and 2013 can be included as other circumstances that interesting to be explored. Therefore, the author develops the hypothesis as below:

Hypothesis 1:

H₀: there is no performance difference between sharia equity funds and conventional equity funds during the crisis period of January-October 2008.

H_a: there is a performance difference between sharia equity funds and conventional equity funds during the crisis period of January-October 2008.

Hypothesis 2:

H₀: there is no performance difference between sharia equity funds and conventional equity funds during the crisis period of May-August 2013.

H_a: there is a performance difference between sharia equity funds and conventional equity funds during the crisis period of May-August 2013.

6. Research Method

This research can be classified into quantitative-descriptive research. The author will apply descriptive analysis by thoroughly explain

the research object. While, the sampling method used in this research is purposive sampling method. The author will only examine samples determined by non-probability sampling, using pre-determined criteria. The criteria for the sampling of this research include:

- Mutual funds both sharia and conventional are stated as active mutual fund products by Capital Market Supervisory Agency (Bapepam) during the study period, January-October 2008 and May-August 2013.
- Mutual funds which are newly established which having an effective date within study periods will be excluded from the sample as well as mutual funds that being terminated during the period of the study.

After applying purposive sampling using the criteria above, during the crisis period of 2008, there would be 51 equity mutual funds, which consist of 4 sharia mutual funds and 47 conventional funds, and for the 2013 crisis period, there would be 110 equity mutual funds, which consist of 12 sharia mutual funds, and 98 conventional funds.

7. Discussion

7.1. Descriptive Statistics

Descriptive statistic is beneficial as it provides simple summaries and features about the sample and about the observations that have

Table 4.1 2008's Equity Mutual Funds Descriptive Statistics

Type		N	Minimum	Maximum	Mean	Std. Deviation
Sharia	Average Return	4	-10,2988	-7,4429	-8,5646	1,2246
	STDEV (sp)	4	11,1046	14,6913	12,8284	1,4975
	BETA (bp)	4	,9601	1,2814	1,1113	,1354
	Valid N (listwise)	4				
Conventional	Average Return	47	-10,8929	-4,3550	-7,2956	1,3718
	STDEV (sp)	47	8,3443	16,2123	11,9330	1,5401
	BETA (bp)	47	,5363	1,4181	1,0866	,1569
	Valid N (listwise)	47				

Source: IFSA/OJK, IDX, 2014; the data has been processed

been made. Therefore, in this particular section, the author would provide a glance of descriptive statistics with regards to the result of the research. As the research using the timeline corridors, which are 2008 and 2013 crisis period, the data exposure would be divided into two parts, according to those periods of observation. Finally, in the end of the section would be explained about the other beneficial data being used in the research, which are risk-free rate and market return, as benchmarks and complementary data being used to formulate the final result.

As shown in the Table 4.1 above, during the 2008 crisis period, the average return of both

types of mutual funds was showing a negative point. But in contrast, the conventional mutual funds had a slightly higher average return (-7.3%) compared to the sharia mutual funds (-8.56%). Moreover, in terms of standard deviation, sharia mutual funds booked a higher result on the average standard deviation, which is 12.83% compared to 11.93% of conventional mutual funds. For the average beta, there is no significant difference between those two types of mutual funds; 1.1 of sharia mutual funds compared to 1.08 of conventional funds.

Table 4.2 further explained a quick look about the condition of 2013 crisis period. Like the crisis period which explained before, seems that

Table 4.2 2013's Equity Mutual Funds Descriptive Statistics

Type	N	Minimum	Maximum	Mean	Std. Deviation
Sharia					
Average Return	12	-6,0852	-2,3493	-4,1691	1,0625
STDEV (sp)	12	3,8958	7,5921	5,7039	1,2361
BETA (bp)	12	,3611	3,1224	1,9811	,6806
Valid N (listwise)	12				
Conventional					
Average Return	98	-7,1525	-1,5103	-4,8226	1,1682
STDEV (sp)	98	2,0072	11,4691	5,9352	1,9107
BETA (bp)	98	-1,5358	2,5806	1,3473	,5252
Valid N (listwise)	98				

Source: IFSA/OJK,IDX, 2014; the data has been processed

Table 4.3 Risk-Free Rate and Market Return Descriptive Statistics

Year	N	Minimum	Maximum	Mean	Std. Deviation
2008					
JII	10	-32,37%	6,70%	-8,2420%	11,27002%
JCI	10	-31,42%	6,07%	-6,9213%	10,55055%
SBIS	10	,66%	,89%	,7269%	,07564%
SBI	10	,66%	,89%	,7269%	,07564%
Valid N (listwise)	10				
2013					
JII	4	-5,52%	-,89%	-3,4818%	2,20083%
JCI	4	-9,01%	,69%	-4,3938%	3,97436%
SBIS	4	,42%	,49%	,4516%	,02966%
SBI	4	,42%	,49%	,4516%	,02966%
Valid N (listwise)	4				

Source: Indonesian Stock Exchange, 2014; the data has been processed

both types of mutual funds still cannot well-handled the crisis, as shown by the negative mean result, sharia mutual funds booked -4,17% and conventional mutual funds booked -4,82%. Nonetheless, considering the average result only seems that the 2013 crisis period was not as severe as the 2008 crisis period. Moreover, in terms standard deviation, there is no significant difference between both of type of mutual funds; sharia mutual funds booked 5.7% average standard deviation against 5.93% conventional mutual funds average standard deviation. In terms of beta, sharia mutual funds booked 1.98 in average beta and conventional mutual funds handled about 1,35. But then, there was a unique thing happened, which one of the conventional funds, Danareksa Mawar Komoditas 10 managed to score -1,535 in beta average, which means on average the performance of this particular fund may against the market pattern.

After discussing about the main data being occupied in this research, the author also used other data. Not only, the monthly average return from Jakarta Islamic Index (JII) and Jakarta Composite Index (JCI) which may represent market return, but also monthly *Suku Bunga Sertifikat Bank Indonesia (SBI)* and *Suku Bunga Sertifikat Bank Indonesia Syariah (SBIS)* as risk-free rate data. As shown in Table 4-3, seems that 2008 crisis hit created a worse impact compare to 2013 crisis period, which consistently showed by the JCI and JII monthly average result. In 2008, the crisis slammed the market as low as -8.24% in JII and -6.92% in JCI. On the other side, 2013 crisis resulted -3.48% in JII and -4,39% in JCI market return. Nevertheless, one thing that should be considered about the average market return result is that the 2013 crisis

period took place about 4 months period of time, which only less than a-half of the 2008 crisis period, which took place for about 10 months. Moreover, the SBI and SBIS rate in the 2008 period, which is 0.73% seemed to be higher than the rate implemented in 2013, which is 0,45%.

7.2. Analysis of Performance

• The 2008 Crisis Period

It seems that the 2008 crisis was such a big disaster for the Indonesian economy. Not only the entire market, which represented by the JCI that declined more than 50%, but also the majority of individual share price simultaneously following to turning down. As a result, the mutual funds market, as a derivative product from shares, following to sink.

Using all three assessments tools (Sharpe, Treynor, and Jensen) simultaneously, the result showed a consistent result in Top-5 equity mutual funds performance, which can be ranked as: (1) Panin Dana Maksima (Sharpe: -0,423; Treynor: -0,048; Jensen: 0,03); (2) Nikko Saham Nusantara (S: -0,448; T: -0,053; J: 0,027); (3) Syailendra Equity Opportunity Fund (S: -0,548; T: -0,0583; J: 0,022); (4) Panin Dana Prima (S: -0,549; T: -0,0593; J: 0,019); and (5) NISP Indeks Saham Progresif (S: -0,580; T: -0,0617; J: 0,0152). All of the Top-5 performers are conventional equity mutual funds.

In comparison to the sharia mutual funds performance, seems that the sharia mutual funds cannot really show a strong defense to face the market crisis. Among 4 sharia

mutual funds, the majority (3 out of 4), which are CIMB-Principal Islamic Equity Growth Syariah, Si Dana Saham Syariah, and TRIM Syariah Saham, were consistently ranked on the Below-10 ranks. There was only PNM Ekuitas Syariah, which able to give performance above the median level, even in Sharpe (RVAR), this particular fund can reach the 9th rank.

To wrap up, from the explanation above, the majority of the sample cannot really withstand from the crisis that hit the market in 2008. Moreover, in comparison, generally the conventional equity mutual funds managed to give a better performance than the sharia equity mutual funds as already analyzed using three methods.

- **The 2013 Crisis Period**

Technically, the 2013 crisis took place for about 4 months length of time. It took place between May up to August 2013. The market declined for about 20% which derived from its major trend during the crisis.

Analyzing the data using all those three methods, based on Sharpe measure, the entire sample booked a negative score. Moreover, using Treynor measure, the majority of the samples booked a negative score as well, there was only one mutual fund which able to book positive score, which is Danareksa Mawar Komoditas 10. Another measure, which is Jensen alpha, provided more various outputs. There are 78 out of 110 samples, successfully booked a positive score.

Using Sharpe measure, the Top-3 performers are Danareksa Mawar Komoditas 10 (-0.3065), Millenium Equity (-0,390),

Millenium Equity Growth Fund (-0,407). Meanwhile, SAM Sharia Equity Fund managed to be ranked on 9th position by -0,532 in score.

On the other hand, Treynor measure provided a slightly different result. The Top-3 performers measured by this method are Danareksa Mawar Komoditas 10 (-0,040), SAM Sharia Equity Fund (-0,014), and First State Indoequity Peka Fund (-0,018). There are 4 sharia equity mutual funds that managed to reach Top-10 performers, which are SAM Sharia Equity Fund (2nd), BNP Paribas Pesona Syariah (5th), Panin Dana Syariah Saham (6th), and MNC Dana Syariah Ekuitas (8th).

Last measurement tool, which is Jensen alpha, showed that among Top-3 performers, there are 2 sharia equity mutual funds. The Top-3 performers are SAM Sharia Equity Fund (0,066), Archipelago Equity Growth (0,0664), and Panin Dana Syariah Saham (0,059). In addition to SAM Sharia Equity Fund and Panin Dana Syariah Saham, BNP Paribas Pesona Syariah managed to reach 9th rank. Therefore, there are 3 Sharia equity mutual funds in the Top-10.

To conclude, from the explanation above, the result of performance analysis using three different methods (Sharpe, Treynor, Jensen) in the 2013 crisis period showed a more diverse result. Moreover, in comparison, generally the sharia equity mutual funds managed to boost its performance within crisis period compare to previous crisis period.

7.3. Hypothesis Testing

As the sample being used in this research

can be classified as two independent samples, Mann-Whitney U test is being used to test the hypothesis, in order to find out the performance differences of sharia and conventional mutual funds.

1. Hypothesis 1

In the hypothesis 1 would be tested whether there is any performance difference between sharia and conventional equity mutual funds during the 2008 crisis period (January-October 2008). There are 4 sharia equity mutual funds, and 47 conventional equity mutual funds, which in total there are 51 samples. Two-independent Mann-Whitney U test result shows the result as depicted in Table 4-4 below.

From Table 4.4, RVAR measurement probability value scored a bigger value compared to $\alpha = 0.05$, which represented by Asymptote Significance (2 tailed), is 0,183. Moreover, RVOL measurement scored exactly the same score as $\alpha = 0.05$. And lastly, Jensen alpha scored 0.54 asymptote sig. score.

Table 4.4 Mann-Whitney U Test Result for 2008 equity mutual funds

Ranks				
Type	N	Mean Rank	Sum of Ranks	
RVAR(Sharpe)	Sharia	4	16,50	66,00
	Conventional	47	26,81	1260,00
	Total	51		
RVOL(Treynor)	Sharia	4	12,00	48,00
	Conventional	47	27,19	1278,00
	Total	51		
Jensen Alpha	Sharia	4	12,25	49,00
	Conventional	47	27,17	1277,00
	Total	51		

Test Statistics ^b			
	RVAR(Sharpe)	RVOL(Treynor)	Jensen Alpha
Mann-Whitney U	56,000	38,000	39,000
Wilcoxon W	66,000	48,000	49,000
Z	1,331	1,962	1,927
Asymp. Sig. (2-tailed)	,183	,050	,054
Exact Sig. [2*(1-tailed Sig.)]	,197 ^a	,049 ^a	,054 ^a

With these results, even though RVOL scored Asymp. Sig as similar as $\alpha = 0.05$, but there are two other measures that scored higher than $\alpha = 0.05$, which are RVAR and Jensen alpha. Therefore, it can be concluded that H_0 should be accepted, and H_1 should be rejected, which means

that actually during 2008 crisis period, there was no significant performance difference between sharia and conventional equity mutual funds.

2. Hypothesis 2

In the hypothesis 2 would be tested whether there is any performance difference between sharia and conventional equity mutual funds during the 2013 crisis period (May-August 2013). There are 12 sharia equity mutual funds, and 98 conventional equity mutual funds, which in total there are 110 samples of mutual funds.

From Table 4.5, RVAR measurement probability value scored a bigger value compared to $\alpha = 0.05$, which represented by Asymptote Significance (2 tailed), 0,125. But in contrast, the RVOL measurement scored less than $\alpha = 0.05$ in Asymp. Sig (2-tailed), which is 0,00002. Similar thing happen in Jensen alpha, which scored 0,003 in Asymp. Sig.

Table 4.5 Mann-Whitney U Test Result for 2013 equity mutual funds

Ranks				
Type	N	Mean Rank	Sum of Ranks	
RVAR(Sharpe)	Sharia	12	68,83	826,00
	Conventional	98	53,87	5279,00
	Total	110		
RVOL(Treynor)	Sharia	12	90,25	1083,00
	Conventional	98	51,24	5022,00
	Total	110		
Jensen Alpha	Sharia	12	81,08	973,00
	Conventional	98	52,37	5132,00
	Total	110		

Test Statistics ^a			
	RVAR(Sharpe)	RVOL(Treynor)	Jensen Alpha
Mann-Whitney U	428,000	171,000	281,000
Wilcoxon W	5279,000	5022,000	5132,000
Z	-1,534	3,998	2,944
Asymp. Sig. (2-tailed)	,125	,000	,003

With these result, although RVAR scored Asymp. Sig , 0,125 which outweigh the $\alpha = 0.05$, but there are two other measures that scored less than $\alpha = 0.05$, which are RVOL and Jensen alpha. Therefore, it can be concluded that H_0 should be rejected, and H_1 should be accepted, which means that actually during 2013 crisis period, there was a performance difference between sharia and conventional equity mutual funds.

8. Research Findings

From the analyses done above, there are several findings that can be formulated:

During the 2008 crisis period, during January-October 2008, which the crisis had slammed the Indonesian market resulted in a market downturn to almost 60%, there were no significant performance difference between sharia and conventional equity mutual funds. It can be shown from the performance analysis using Sharpe, Treynor and Jensen alpha measures, which resulted the majority of all mutual funds booked negative points. Moreover, the result Top-5-performers of these three assessments relatively shows a consistent result during the observation period. Furthermore, Mann-Whitney U Test approach found out that H_0 should be accepted, which means there is no difference between sharia and conventional mutual funds performance.

Moreover, during May-August 2013, the result of Sharpe, Treynor and Jensen alpha measures relatively a bit different from the previous period of study. It can be shown from the result of the assessment that relatively inconsistent between one method to another method. Furthermore, seemingly in this particular period, sharia equity mutual funds can be considered having a better performance, as there are several funds that managed to rank on the Top-10 performers. Moreover, Mann-Whitney U test approach being used to test the hypothesis 2 had a result that actually there was a difference performance between sharia and conventional mutual funds.

Considering the findings above, the author investigated that there were several causes that stimulated the different impacts between 2008 and 2013 crisis period. Firstly, of course the duration of observation that slightly different between the two observation period may impact the final result of the research. The longer the

period, the more valid the result of the research, but as the author argued that to set the observation period, the author simply derived a bearish major trend line in the market trend. Therefore, the observation period cannot be simply being set into the same length of period.

Secondly, the macro condition, such as the nature of the crisis, the fundamental economy of the country, etc., can also give impacts to the final result. Therefore, in 2008, the majority of the samples booked negative score in the assessments, but then in contrast, in 2013, there were a significant difference in term of readiness to face the crisis, which shown by the result of the three assessments, not all of the result shows a negative score, even for Jensen alpha, most of the mutual funds managed to score positive point.

Thirdly, as argued by Kaminsky, Lyons, & Schmukler, 2004, that investors or managers apply a particular investment strategies, which are momentum trading and contagion trading. Momentum trading is the systematic purchase of stocks that have performed well, and sale of stocks that have performed poorly ('winners' and 'losers'). While, contagion trading is the selling (buying) of assets from one country when asset prices are falling (rising) in another. Therefore, the preference of strategies used by whether the investors or the managers really affect the performance of the mutual funds. As indicated by the facts provided by this research, it can be concluded that the strategies implemented between 2008 and 2013 are not the same, as resulted in different output, which is difference performance between sharia and conventional mutual funds in 2013.

9. Conclusion

According to the analysis and the statistical test toward sharia and conventional equity mutual funds during 2008 and 2013 crisis period, this research resulted in several conclusions.

- a. During the 2008 crisis period (January-October 2008), among 51 samples, which consist of 4 sharia mutual funds and 47 conventional mutual funds, there is no significant performance difference. Moreover, seemingly those conventional mutual funds clearly outweigh the performance of sharia mutual funds, since from the ranking that derived from Sharpe, Treynor and Jensen alpha, most all of the sharia equity mutual fund ranked on under-10.
- b. During the 2013 crisis period (May-August 2013), among 110 samples, which consist of 12 sharia mutual funds and 98 conventional mutual funds, there is a performance difference between those two. Moreover, seemingly those sharia mutual funds managed to show a “good performance” during this particular crisis period. Since from the assessment, several of those sharia mutual funds managed to rank on the Top-10 performers.
- c. Based on the results of hypothesis, it can be implied that investors and the market player should be considered more on to the more comprehensive factors of the crisis. But, should be considered, that actually the detrimental effect of crisis period would definitely impact the entire market, as mostly shown in this research that almost all of the mutual funds booked negative score. Therefore, the author recommends to the investors to be better to pullback from the market, and wait-and-see until the market back to the normal situation.

• Limitation

One of the limitations of this research is the period of study that quite narrow, especially to define the length of crisis period. In addition, the total sample being used in this research also very limited. Future studies are expected to expand the

length of the period also as well as adding the samples of the research, by using other types of mutual funds, such as balanced mutual funds, fixed income mutual funds, and also money market funds.

Last but not least, the assessment methods that being used for this research only limited into three methods, which are Sharpe, Treynor, and Jensen alpha. Hence, hopefully in future research, other assessment methods can be implemented, such as Snail Trail, Modigliani-Modigliani RAP, etc.

10. Recommendation

Recommendation resulted from this research are:

- a. To get the expected return, in considering in which mutual funds to invest, investors better to have a comprehensive research about the targeted mutual funds, not only based on the type of mutual funds, whether it is sharia or conventional mutual funds.
- b. During the period of detrimental crisis, better to pull back a while from the market, and wait-and-see until the market back to normal.
- c. For the next research, it would better to use other measurement in evaluating performance of either funds or investment managers, such as market timing and stock selection.

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