

## Testing for Persistence in Sharia Mutual Fund Performance in Indonesia

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### ABSTRACT

Research on sharia mutual funds generally analyzes the performance of Sharia mutual funds by comparing the performance of Sharia mutual funds with the performance of conventional mutual funds. For investors who choose Sharia mutual funds for reasons of compatibility with Islamic ethics, the comparison of performance of sharia mutual funds with conventional ones is less important. For them, how to choose Sharia/Islamic mutual funds among existing sharia mutual funds is more important but the study or model of investing in Islamic mutual funds is currently not available. Therefore, this study aims to create a model of investing in Islamic mutual funds in Indonesia. As the first step in making sharia mutual fund investment model, this research will test the persistence of Sharia mutual fund performance. The method used to test persistence is by analyzing whether a mutual fund with the best five performance in a given year will remain within the best five as well in subsequent years. Using sharia mutual fund samples in Indonesia from 2010 to 2016, this study found the persistence of sharia mutual fund performance with a high enough level in the early period of the study (2010-2011) but the persistence faded in the period afterwards. Judging from the types of mutual funds, the mixed mutual funds are those with the highest persistence rate, followed by fixed income mutual funds, and the last is stock mutual funds. This study is expected to give contribution to the study of sharia investment, especially the model of investing in Islamic mutual fund products. The existence of investment model in Islamic mutual fund products will greatly assist investors in choosing the right mutual fund.

**Keywords:** Sharia Mutual Funds, Sharia Mutual Fund Performance, Persistence of Sharia Mutual Funds Performance.

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## 1. INTRODUCTION

Mutual funds are professionally managed financial investment products. Mutual fund companies raise funds from the investor community and the funds collected are then invested into financial investment products such as stocks, bonds, and money market products. This product is the right choice for investors who do not have much knowledge about the capital market or investors who do not have time to observe the development of the capital market.

According to Syarief (2008), sharia mutual funds in Indonesia has existed since 1997. This is marked by the launch of *Danareksa Syariah* on July 3, 1997 by PT. Danareksa Investment Management. But at the beginning of the launch, Islamic mutual funds have not been well developed because sharia stock just emerged in the next three

years. Sharia shares started to be issued on July 3, 2000 where the Indonesia Stock Exchange in cooperation with PT. Danareksa Investment Management launched the Jakarta Islamic Index (JII). However, at present, the development of Islamic mutual funds is quite rapid as shown in Table 1 below.

Table 1: Comparison of the Development of Sharia and Conventional Mutual Funds

Year	Number of Mutual Funds				Net Asset Value (NAV)			
	Total	Conventional	Sharia	Percentage	Total	Conventional	Sharia	Percentage
2002	131	131	0	0.00%	46613.83	46613.83	0.00	0.00%
2003	186	182	4	2.15%	69447.00	69380.06	66.94	0.10%
2004	246	235	11	4.47%	104037.00	103444.25	592.75	0.57%
2005	328	311	17	5.18%	29405.73	28846.63	559.10	1.90%
2006	403	380	23	5.71%	51620.08	50896.68	723.40	1.40%
2007	473	447	26	5.50%	92190.63	89987.54	2203.09	2.39%
2008	567	531	36	6.35%	74065.81	72251.01	1814.80	2.45%
2009	610	564	46	7.54%	112983.35	108354.13	4629.22	4.10%
2010	612	564	48	7.84%	149087.37	143861.59	5225.78	3.51%
2011	646	596	50	7.74%	168236.89	162672.1	5564.79	3.31%
2012	754	695	59	7.82%	212592.04	204541.97	8050.07	3.79%
2013	823	758	65	7.90%	192544.52	183112.33	9432.19	4.90%
2014	894	820	74	8.28%	241462.09	230304.09	11158.0	4.62%

From Table 1 above, it appears that the development of Islamic mutual funds in the last twelve years is quite rapid. Even the growth is higher than the conventional mutual fund growth. This can be seen from the percentage of the number of Islamic mutual funds to the total number of mutual funds which is always increasing from year to year. The increase also occurs when it is viewed from the Net Asset Value (NAV) of sharia mutual funds.

Why is sharia mutual fund growing rapidly in Indonesia? The phenomenon of mutual fund development is not only happening in Indonesia. In the United States, the rapid development of mutual funds has long been noted. Gruber (1996) recorded mutual fund growth in the United States averages 20% per year and Zheng (1999) notes that the value of funds managed by mutual funds companies is greater than those deposited in bank savings. The growth of these mutual funds could be because mutual funds can manage substantial funds, so they can diversify their investments well, which is difficult for individual investors with limited funds. Because the funds are large, the mutual funds can do a block sale transaction which triggers relatively low transaction costs.

The development of Islamic mutual funds in Indonesia can also take place because the performance of Islamic mutual funds has been pretty good. If it refers to the percentage of NAV of Islamic mutual funds that have an increasing tendency compared to conventional mutual funds (see Table 1 above), it can be interpreted that Islamic mutual funds generally provide higher returns than conventional mutual funds. However, a number of studies that compare the performance of Islamic mutual funds and conventional funds do not support these arguments. Rahman (2013) found that in the

2008 crisis period, conventional mutual funds performed better than market performance while Islamic mutual funds were lower than market performance. However, in the period after the crisis, both Islamic and conventional mutual funds underperformed market performance. Meanwhile Susanto (2012) found that conventional funds were better than Islamic mutual funds for stocks and mixed mutual funds, while for fixed income mutual funds Sharia mutual fund performance was better. Only Romadon (2012) found that the performance of Islamic mutual funds is better than the performance of conventional mutual funds. But unfortunately, Romadon's research uses limited sample. From a number of studies, it appears that the performance of Islamic mutual funds is not always better than the conventional ones.

Comparison of the performance of Islamic mutual funds and conventional funds in a number of countries also varies. In Saudi Arabia, Dabbeeru (2006) found no difference in performance between sharia and conventional mutual funds. In Malaysia, Mansor and Bhatti (2011) found that Shariah mutual funds performed better than conventional mutual funds in the bearish period. In bullish periods, sometimes sharia mutual funds are better, but sometimes conventional mutual funds are better. Research with the scope of international sharia mutual funds also found mixed results. Elfakhani et al. (2005) and Abderrazak (2008) found no difference between the performance of sharia and conventional mutual funds. While Hayat and Kraeusl (2012) found that the performance of Islamic mutual funds is lower than conventional mutual funds. While Rubio, Hassan, and Merdad (2012) found that shariah mutual funds perform better than their international counterparts.

If the performance of Islamic mutual funds cannot be used as an advantage then another argument needs to be chosen as an investment choice. For Muslim investors, the reason for halalness can be used as a reference. If the reasons for halalness are used then the problem that arises is no longer whether the performance of Islamic mutual funds is better than conventional mutual funds. Even if the performance or return received is lower than the conventional they will still choose the sharia ones. This argument also applies to investors who choose shares of companies that have social concerns. Although the stock return in the socially responsible investment (SRI) index is not superior to the company's stock in general, even according to Jones et al (2008) findings is lower, stocks in the SRI index are still growing. Another reason to choose sharia mutual funds is to diversify because there are findings of sharia mutual funds excel at bearish market conditions, such as Mansor and Bhatti (2011). If the reason for choosing a shariah mutual fund is because to look for halalness and/or to diversify, the problem is how to choose the best from the existing sharia mutual fund.

Gruber (1996) argues that the rapid development of mutual funds in America takes place because of the persistence of mutual funds performance. If the mutual fund performance is persistent then investors will be easier in choosing mutual funds. If the performance persistent, then investors simply choose mutual funds that perform well in the previous period and will get a good return as well. Gruber (1996) found a persistence of mutual fund performance in the period 1985-1994 in the United States. Meanwhile Grinblat and Titman (1992) also found persistence performance in the period of 1974-1984. Mutual fund performance persistence test in Indonesia has been done by a number of researchers. Dwianggoro et al (2012) used data from 2006 to 2011 and found no mutual funds that performed persistently for 5 consecutive years but found persistence in the shorter term when used the Jensen and Sharpe indices but never persistent when using

the Treynor index. Meanwhile, Elviani and Linawati (2013) found a persistence of mutual fund performance for the period of 2008-2012. Thus the presence or absence of persistence of mutual fund performance in Indonesia is not conclusive yet.

Until now, we have not found any research on the persistence of Islamic mutual funds in Indonesia. At the international level, the study of sharia mutual funds is also limited as stated by Khamlichi et al (2014) when reviewing the performance of Islamic mutual funds and their persistence. Using Shariah mutual fund data from the Dow Jones Islamic Index from 1999 to 2011, Khamlichi et al (2014) found no persistence of Sharia mutual fund performance. But their persistence test is relatively limited because it only compares the recession and expansion periods according to the business cycle of the company.

This research will make investment model of sharia mutual fund in Indonesia. The number and growth of Islamic mutual funds justifies the importance of the Islamic mutual fund investment model. Sharia mutual fund investment model will be relatively easy to develop if the performance of Islamic mutual funds in Indonesia is persistent. Therefore, this research begins by testing the persistence of Islamic mutual funds in Indonesia.

## **2. LITERATURE REVIEW**

### *2.1. Sharia Mutual Funds*

An investment company is an intermediary company that raises funds from the investor community and the funds raised will be used to buy securities or other assets. Mutual funds are one form of investment companies that are open type (open-end). Holders of mutual funds can redeem (sell) mutual funds owned to the issuer of mutual fund companies in accordance with Net Asset Value (NAV) on that day. The profit earned is from the difference in price when purchasing with the current selling price.

According to Bodie et al (2009), investment companies, including mutual funds, have four important functions. First, mutual funds will store and administer data. They will publish periodic reports on their performance, capital gains and distributed dividends, investments made, redemption data, and also the possibility of reinvesting their dividends and accrued interest. Second, mutual funds diversify investments. Because mutual funds have a relatively large amount of funds from the fundraising result of investors, mutual funds can diversify their investments into more securities with fractional portions for each of the larger securities. Third, mutual funds are managed by professional managers. Mutual fund companies are managed on a full-time basis by securities analysts and professional portfolio managers who seek superior results for investors. Fourth, transaction costs are low. Because trading by mutual funds is a big trade (block sale) then they can save fees for broker fees and commissions. With these functions, the mutual fund becomes an attractive investment choice, especially for those who are not proficient or do not have time to invest directly into the capital market. This is one possible reason why the mutual fund industry continues to grow, including Islamic mutual funds in Indonesia.

Sharia mutual funds are mutual funds that allocate funds collected to be invested into securities in accordance with Islamic law. The types of Islamic mutual funds offered

are the same as those offered by conventional mutual funds including stock mutual funds, fixed income mutual funds, mixed mutual funds, money market mutual funds, protected funds, and index mutual funds. However, not all securities may be included in the portfolio of Islamic mutual funds. Sharia equity mutual funds will only include Sharia shares listed in the List of Sharia Securities in Indonesia Stock Exchange as an option. Sharia fixed income mutual funds only include *sukuk* or sharia bonds as an option. While money market mutual funds only include sharia money market products and sharia banking.

In addition to the choice of securities, Islamic mutual fund companies also have a sharia supervisory board. To ensure that securities included in the portfolio are in conformity with sharia law, the sharia mutual fund investment option must be screened and approved by the Sharia Supervisory Board. Sharia regulatory decisions and decisions are binding for mutual fund companies, and investment managers will be assessed by the Sharia supervisory board periodically.

According to Norman (2004), the role of the supervisory board of sharia may differ from one mutual fund to another. In addition to the role of endorsement, the sharia supervisory board also has a number of other roles. These roles include: studying prospectus, constitutional documents and each major agreement; advise managers regarding compliance with sharia law; as well as preparing annual sharia audits and issuing reports to investors.

## 2.2. Performance of Sharia Mutual Funds

The performance of mutual funds is generally measured by the development of Net Asset Value (NAV). As with stocks, if you want to compare the performance of mutual funds with each other, it should be stated in the form of returns within a certain period. In measuring investment performance, investors should pay attention not only to returns but also to risks. Measurements that consider returns and risks include Sharpe Measure, Treynor Measure, and Jensen Measure. In addition, Sembiring, Paramita, and Malik, (2016), used ARCH/Garch model to measure Performance of Stock Mutual Funds. Performance appraisals that use a number of risk factors are also important to eliminate the influence of these factors in the performance of mutual funds. Thus, performance change is entirely seen only from the ability of investment managers in managing funds. Khamlichi et al (2014), for example, include four factors: market premium, size factor, value factor, and momentum factor as mutual fund performance controllers.

Research on the performance of Islamic mutual funds generally compare the performance of Islamic mutual funds with a benchmark. The first benchmark to be used as a benchmark is market performance. Market performance refers to Islamic stock indexes such as the Jakarta Islamic Index (JII) and the Dow Jones Islamic Market Index (DJIM). Rahman (2013), for example, compares the performance of Islamic mutual funds with market performance during the financial crisis of 2008 and found that the performance of Islamic mutual funds at that time was lower than the market performance. At a global level, Rubio, Hassan, and Merdad (2012) found that Islamic mutual funds perform better than their international counterparts.

The most commonly used comparator by researchers is the conventional mutual fund. The comparison results are quite diverse. In Indonesia, Rahman (2013) found that conventional mutual funds are better, Susanto (2012) found that conventional funds are better for stock mutual funds and mixed mutual funds but Islamic mutual funds are better for fixed income mutual funds. While Romadon (2012) found Shariah mutual funds performed better. In Saudi Arabia, Dabbeeru (2006) found no difference in performance between sharia and conventional mutual funds. In Malaysia, Mansor and Bhatti (2011) found that Shariah mutual funds perform better than conventional funds in bearish periods, and in bullish periods, sometimes Sharia mutual funds are better, but sometimes conventional funds are better. At the international level, Elfakhani et al. (2005) and Abderrazak (2008) found no difference between the performance of sharia and conventional mutual funds. While Hayat and Kraeussl (2012) found that the performance of Islamic mutual funds is lower than conventional mutual funds.

### *2.3. Model of Investing in Sharia Mutual Funds*

Investors choose to invest in mutual funds because they do not have the ability or do not have enough time to invest directly into securities. Another reason is because mutual funds are managed by investment managers who do have expertise in investing in securities. However, the capabilities of investment managers in each mutual fund company are different, and this will have an impact on the performance of mutual funds. If the performance of each mutual fund is different, what is the strategy for choosing it?

The basic strategy of choosing a mutual fund, as with investments in general, is tailored to the risk profile of the investors. Investors whose risk profiles tend to choose to be safe, then the choice of mutual funds is a fixed income, money market or protected fund. If the risk profile is moderate, they can choose mixed mutual funds or indexes. If the profile tends to like risk, then they can choose the stock mutual fund. This is the strategy of choosing a mutual fund based on the type of mutual fund. After determining the type of mutual funds then the investor must decide which mutual fund products should be selected.

The study related to the strategy of selecting mutual funds that is often done by researchers is the study of mutual fund performance persistence. If the performance of mutual funds is persistent, then the strategy of choosing a mutual fund is based on its performance in previous periods. Mutual funds selected are mutual funds that in previous periods perform best. Gruber (1996) argues that this performance persistence is what causes the rapid growth of mutual funds in America. He did find a persistence of mutual fund performance in the period 1985-1994 in the United States. Meanwhile Grinblat and Titman (1992) also found persistence performance in the period of 1974-1984.

Mutual fund performance persistence test in Indonesia has been done by a number of researchers. Dwianggoro et al (2012) used data from 2006 to 2011 and found no mutual funds that performed persistently for 5 consecutive years but found persistence in the shorter term when using the Jensen and Sharpe indices but never persistent when using the Treynor index. Meanwhile, Elviani and Linawati (2013) found a persistence of mutual fund performance for the period of 2008-2012. Thus the presence or absence of persistence of mutual fund performance in Indonesia is not conclusive yet.

The persistence test of Islamic mutual fund performance as well as the strategy of Sharia mutual fund selection has not been done. The authors found only one mutual fund

study by Khamlichi et al (2014) who used syariah mutual fund data from the Dow Jones Islamic Index from 1999 to 2011. Khamlichi et al (2014) found no persistence in the performance of Islamic mutual funds. But their persistence test is relatively limited because it only compares the recession and expansion periods according to the business cycle of the company.

### 3. RESEARCH METHODS

The population of this research is sharia mutual fund in Indonesia. The sample of this study is all sharia mutual funds offered from 2010 until 2016. Selection of samples began in 2010, to avoid the extreme data of mutual funds performance during the 2008 financial crisis of which impact can still be felt until 2009.

Persistence of the test is carried out with the steps as follows. First, rank the performance of each type of sharia mutual fund each year based on its performance. The types of mutual funds analyzed are stock mutual funds, fixed income mutual funds, and mixed mutual funds. Second, take the top five mutual funds on each type of mutual fund for each year. Third, analyze the persistence by looking at whether the best five-year funds remain one of the best five in the following years.

### 4. RESEARCH FINDING

#### 4.1. Performance of Sharia Mutual Funds in Indonesia

Investors can monitor the progress of funds invested in mutual funds through Net Asset Value (NAV) information announced every day. By comparing NAV when buying with NAV at present, investors can calculate returns from mutual funds. Table 2 below informs the average return of mutual funds in annual and monthly periods during 2010-2016.

Table 2: Average Annual Return and Monthly Return of Mutual Funds 2010-2016

Year	Stock Mutual Funds		Fixed Income Mutual Funds		Mixed Mutual Funds	
	Average Annual Return (%)	Average Monthly Return (%)	Average Annual Return (%)	Average Monthly Return (%)	Average Annual Return (%)	Average Monthly Return (%)
2010	29.61429	2.467857	10.31762	0.859802	21.80262	1.816885
2011	0.65	0.054167	16.09714	1.341429	3.284286	0.27369
2012	8.44125	0.703438	7.818571	0.651548	7.182143	0.598512
2013	3.050323	0.277302	-0.27429	-0.02286	2.934351	0.244529
2014	26.59649	2.216374	7.255714	0.604643	20.32255	1.693546
2015	-15.4167	-1.28472	2.052944	0.171079	-9.23021	-0.76918

2016	23.24353	1.936961	6.528232	0.544019	13.08519	1.090433
Average	10.88274	0.910196	7.113706	0.592809	8.482991	0.706916
Standard Deviation	15.18579	1.263805	4.957256	0.413105	10.08557	0.840464

The table above shows that stock mutual funds have the highest average return, followed by mixed mutual funds, and the lowest is fixed income mutual funds. This result is in accordance with the rule that the higher the risk of an investment the higher the return. Shares are securities with a higher risk than bonds. While mixed mutual funds consist of stocks and bonds so the risks are in the middle. The high risk of stock mutual funds is not only based on the nature of its shares but also supported by empirical facts where the standard deviation of stock funds is also the largest, followed by mixed mutual funds, and the lowest standard deviation is fixed income mutual funds. Although in general, stock mutual funds provide the highest return, but not on every year they happened like that. From the table above, it can be seen that in 2011 and 2015, stock mutual funds earned the lowest returns and fixed income mutual funds earned the highest returns. Findings in 2015 may be explained because in that year the stock market conditions are declining so that both equity and mixed mutual funds returns are negative. But for the findings of 2011, the author does not yet know why the findings appear.

#### 4.2. Performance Persistence of Sharia Mutual Funds

In this study, there are three types of Islamic mutual funds that analyzed the persistence level of performance, namely stock mutual funds, fixed income mutual funds, and mixed mutual funds. The result of persistence analysis of stock mutual fund performance is shown in table 3 below.

Table 3: Performance Persistence of Islamic Stocks Mutual Funds

Based Year	The Level of Persistence (%)						
	2010	2011	2012	2013	2014	2015	2016
2010	100	80	80	40	40	40	40
2011		100	100	60	40	40	40
2012			100	60	40	40	40
2013				100	40	0	20
2014					100	20	20
2015						100	0

From the table above, it can be seen that generally persistence of Islamic equity mutual fund performance is quite high in 2010 and 2011. In 2010, 5 best mutual funds in that year, 80% of which still be the best in 2011 and 2012. In 2011, 5 of the best mutual funds in the year, 100% or all still the best 5 in 2012 and 60% of them are still the best five in 2013. Persistence began to decline in 2012 where in the next year only 60% are still in the top 5, and in the next two years only 40% remain in the top five. Persistence declines again in 2013, 2014 and 2015. In 2013, the persistence rate in the next year is only 40% and persistence is lost (no more entering the top five) in the next two years. In 2014, the persistence rate in the next year is only 20%, and in 2015 there is not even persistence in the next year.



Meanwhile, the persistence analysis of sharia fixed income mutual fund is shown in table 4 below.

Table 4: Performance Persistence of Islamic Fixed Income Mutual Funds

Based Year	The Level of Persistence (%)						
	2010	2011	2012	2013	2014	2015	2016
2010	100	80	80	40	80	80	60
2011		100	100	40	60	60	80
2012			100	40	60	60	80
2013				100	40	40	40
2014					100	40	60
2015						100	40

Persistence of fixed-income mutual funds in sharia is also quite high in 2010 and 2011. In 2010, 80% of the top five revenue generators in 2010 remained in the top five in 2011 and 2012. In 2011, the top five returns in 2010 remained stable into the top five in 2012, though then only 40% in 2013. The persistence drop occurs from 2012. In 2012, only 40% of the top five in 2012 are fixed in the top five by 2013. Nevertheless, persistence increased to 60% in 2014 and 2015, even the persistence increased to 80% in 2016. The phenomenon in 2012 is quite interesting, because there is a U-shaped pattern in the persistence of fixed-income mutual funds performance. In 2013, 2014 and 2015, persistence rates have dropped steadily to 40% since the first year after the base year. From the above findings, we can conclude that the pattern of persistence of fixed income mutual funds is similar to the pattern of persistence of stock funds, which has high persistence in 2010 and 2011, but then declines for subsequent years. Although the pattern is the same, but generally the persistence level of fixed income mutual fund performance is higher than persistence of mutual fund performance.

The last type of mutual fund to be analyzed with the persistence of its performance in this research is mixed mutual fund. The persistence analysis results for the sharia mixed mutual funds are listed in table 5 below.

Table 5: Performance Persistence of Islamic Mixed Mutual Funds

Based Year	The Level of Persistence (%)						
	2010	2011	2012	2013	2014	2015	2016
2010	100	80	80	80	60	40	20
2011		100	100	100	60	20	40
2012			100	100	60	20	40
2013				100	60	20	40
2014					100	20	20
2015						100	20

Similar to the previous two types of mutual funds, mixed mutual funds performance persistence rates in 2010 and 2011 were also high. For 2010, the five-fold persistence rate of 80% lasted for three years. For 2011, the persistence rate is 100% for

the next two years before then down to 60% in the third year. However, unlike the two previous mutual funds, mixed mutual fund persistence rates remain high in 2012. In 2012, the persistence level of mutual funds performance is 100% for 2013 and then declines to 60% in 2014. In 2013, 2014 and 2015, the persistence of mixed mutual funds has drastically decreased. In 2013, persistence fell at a 60% rate in the first year and then dropped to the level of 20% the following year. Even in 2014 and 2015, the persistence rate has fallen to 20% in the first year.

From the above data, we see that there are three groups of periods that have different persistence patterns. In 2010-2011, Islamic mutual funds have a fairly high persistence in sequence, mixed mutual funds have the highest persistence rate, followed by fixed income mutual funds, and the last is stock mutual funds. In 2012, mixed mutual funds still have high persistence, but fixed income mutual funds and equity mutual funds have declined. In 2013-2015, all types of mutual funds have low persistence rates in sequence, mixed mutual funds, fixed income mutual funds, and the lowest persistence is stock mutual funds. Thus it can be concluded that in general, mixed mutual funds have the highest persistence rate, followed by fixed income mutual funds, and the lowest are stock mutual funds.

## 5. CONCLUSION

This study aims to create a model of investing in Islamic mutual funds in Indonesia. As a first step in making sharia mutual fund investment model, this research examines the persistence of sharia mutual fund performance. The method used to test persistence is to analyze whether a mutual fund with the best five performance in a given year, will remain within the best five as well in subsequent years. Using sharia mutual fund samples in Indonesia from 2010 to 2016, this study found the persistence of the performance of Islamic mutual funds with a high enough level in the early period of research (2010-2011) but the persistence faded in the period afterwards. Judging from the types of mutual funds, the mixed mutual funds are those with the highest persistence rate, followed by fixed income mutual funds, and the last is stock mutual funds. This study is expected to contribute to the study of sharia investment, especially the model of investing in Islamic mutual fund products, which is currently still very limited. The existence of investment model in Islamic mutual fund products will greatly assist investors in choosing the right mutual fund.

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