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Analysis of Factors Affecting the Performance of Stock and Bond-Based ETF on The Indonesia Stock Exchange

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A R T I C L E I N F O

A B S T R A C T

This study aims to determine the analysis of factors that influence the performance of stock and bond-based Exchange Traded Funds on the Indonesian stock exchange. Exchange Traded Fund or commonly abbreviated as ETF is a mutual fund product whose participation units can be traded on a stock exchange like a stock. Basically, Exchange Traded Fund is a hybrid instrument, combining the characteristics of an open fund with company stocks in general. This research was conducted on stock and bond-based Exchange Traded Funds listed on the Indonesian stock exchange for the 2019-2021 period. The sampling technique used in this study was purposive sampling. The samples in this study were 13 stock-based Exchange Traded Funds and 1 bond-based ETF sourced from Bloomberg, the Indonesian stock exchange website, Exchanged Traded Fund prospectus and asset management website. The data analysis method used is panel data regression analysis with the EViews program tool. The results of this study indicate that Risk affects the performance of stock and bond-based Exchange Traded Funds, Tracking Error affects the performance of stock and bond-based Exchange Traded Funds, Expense Ratio does not affect the performance of stock and bond-based Exchange Traded Funds.

1. INTRODUCTION

One of the capital market products that experienced an increase in growth at the start of the Covid-19 pandemic recovery period in the early quarter of January 2021 was an ETF, also known as an exchange traded fund. ETFs are mutual funds in the form of collective investment contracts (KIK) whose participation units are traded on the Stock Exchange. Although ETFs are basically mutual funds, they are traded like stocks on a stock exchange. ETF is a combination of mutual fund elements in terms of fund management with a share mechanism in terms of buying and selling transactions. The appeal of ETFs is that they provide access to an entire index, market or portfolio strategy that is predetermined, but much simpler (Hehn, 2005).
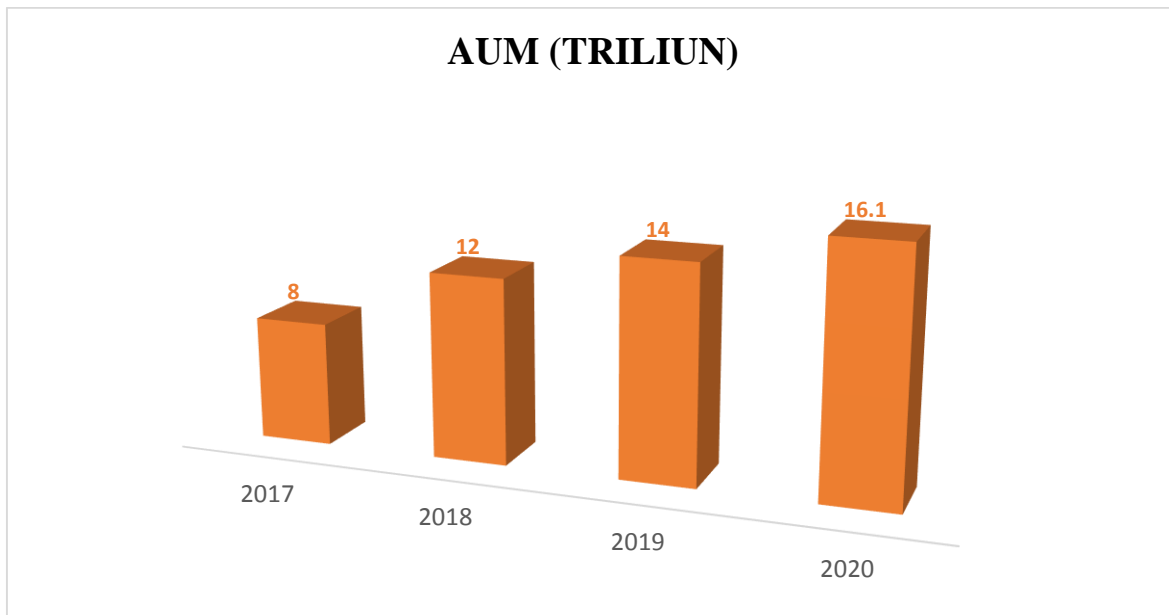

Figure 1: Growth of Asset Under Management ETF Products in Indonesia
Source: Indonesia Stock Exchange, 2021

The Asset Under Management value of ETF products also continues to grow from year to year, starting from 2020 AUM growth has reached a value of 16.1 trillion rupiah. The investment trend in the world in recent years has been towards index-based passive investment which prioritizes aspects of cost and transparency (Indonesia Stock Exchange, 2020). Portfolios that have been diversified by the Investment Manager and also adjusted to indexes with special themes, the risk received by investors will be much smaller and the costs incurred will be smaller when compared to the costs of ordinary equity mutual funds (Elton et al, 2019).
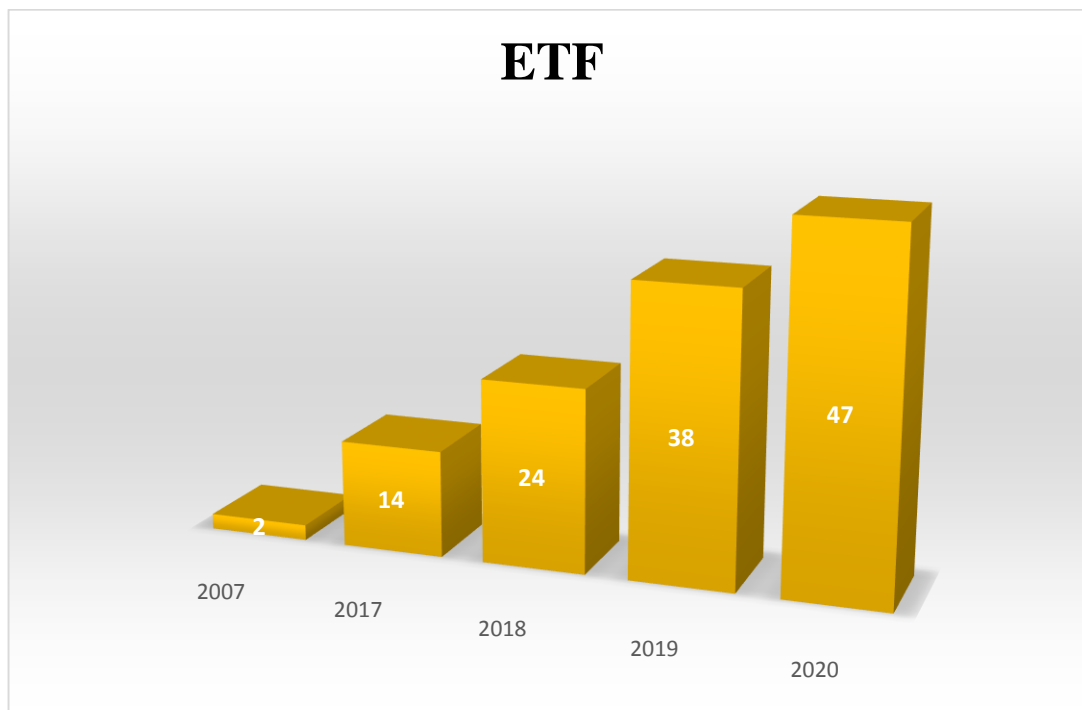
Figure 2: Growth of ETF product in Indonesia

Source: BEI, 2021

Likewise, with the growth of ETF products in Indonesia. Initially, the first stock ETF was launched in 2007, namely Premier ETF LQ45 which was launched by PT Indo Premier Investment Management (IPIM). From 2007 to 2017 the growth of ETFs has grown quite a bit to 14 products until in 2020 it has increased significantly to 47 ETF products in Indonesia. This shows that ETFs are an alternative product in the capital market which has experienced an increase and has received quite a bit of enthusiasm from investors so that the product development is quite significant (IDX, 2020)

In 2021 as of December 15, there were 49 ETFs on the Indonesia Stock Exchange with a composition of 46 ETFs which are stock-based products and 3 of them are bond-based, 2 are passively managed and 1 is actively managed. Until 2021, there are more stock-based ETFs than bond-based ETFs. Therefore, so far, research references have focused more on stock-based ETF products. In just two years, ETF has experienced additional products due to its rapid development in the last few years. The fundamental difference from stock and bond-based ETFs lies in the collection of products that are transacted in these ETFs (IDX, 2020)

In a bond-based ETF, or better known as a Bond ETF, consists of a collection of bonds, in this ETF there are also securities from various parties, namely the government, companies to ordinary mutual funds. Whereas in this share-based ETF consists of a collection of shares that are sold collectively. Usually, a stock ETF has shares from companies with different business fields but are still in the same industry. Basically, ETFs are expected to be able to match the

performance of their replica indices, so that the superior performance of these products is in line with investor expectations, but it is not uncommon for these ETFs to fail. Unlike stock mutual funds, ETFs generally do not aim to exceed the performance of their benchmark index, but rather to replicate it. This strategy is known as passive management (Adiputra, 2019).

In Indonesia, the development of ETFs is still relatively new, for bond-based ETFs there is still not much to offer, this is why research for Bond ETFs is still rare. Several years earlier, the growth of ETFs in Indonesia was quite hampered. This is because the majority of investment managers are of the view that ETF transactions are more complex when compared to conventional mutual funds, but the management fee is only one-third of the conventional mutual fund management fee. Then, the majority of exchange members are only willing to become intermediaries for ETF traders and do not want to become dealers for ETF participants, because they think that the liquidity risk they face is too big. Furthermore, institutional parties such as insurance or pension funds and other companies and even retail are somewhat less interested in investing in ETFs because only a few understand the basic concept of this product. Besides that, institutional investors are also worried that they will be considered as violating investment regulations in their respective industries if they invest using ETFs (Rita, 2008).

Currently, positive developments lead to ETF growth, especially in the last few years during the Covid-19 pandemic. The increase in ETF transactions actually experienced a significant increase when the pandemic hit. This seems to be due to increased public awareness when facing a pandemic. In the midst of unstable conditions, the capital market offers a variety of superior products that are able to adapt to secure asset management, one of which is ETFs. Through this one capital market product, investments can be diversified in one place like mutual funds but the return performance replicates the ability of stocks. Even though the literacy of the Indonesian people is still not qualified with this one product, by observing its potential, it is possible that in the future ETF will become one of the most popular products on the Indonesia Stock Exchange. By analyzing the performance of ETFs based on stocks and bonds on the IDX, it is hoped that they will be able to properly manage the performance capabilities of this one product so that it can be optimally achieved and that in the future it will become a potential alternative investment for investors' interest.

Based on the description above and various previous studies and the potential for growth and development of ETFs in Indonesia the authors are interested in conducting further research with the title **" Analysis of Factors Affecting the Performance of Stock and Bond-Based ETF On the Indonesia Stock Exchange"**

2. RESEARCH METHODS

This research was conducted to analyze what factors influence the performance of stock and bond-based ETFs on the Indonesia Stock Exchange. Rompotis (2012) states that ETF returns are influenced by risk, tracking error, expense ratio, and Net Asset Value. According to Sugiyono (2018) states that "Research design must be specific, clear and detailed, determined steadily from the start, to be a guide step by step". The type of research used in this research is

using a quantitative approach. Quantitative data will produce the results of analysis of the relationship and causal or causal influence between the independent/free variable (X) and the dependent/dependent variable (Y). In this study, only two types of variables were used, namely the dependent variable or dependent variable and the independent variable(s) or independent variable. With the dependent variable (Y), namely ETF performance which is represented by the average ETF return per month (Mean Return Monthly). The process of measuring the mean monthly return of an ETF begins by processing the ETF's net asset value data obtained from the Bloomberg portal, then calculating it using a formula. Net asset value or commonly abbreviated as NAV is the intrinsic value of a portfolio or the value of the underlying asset of the ETF.

Meanwhile, the independent variable (X) consists of risk using the standard deviation of the ETF's monthly returns over a certain period, tracking error which is the difference between ETF returns and reference index returns. This difference is the standard error of the regression between ETF returns and returns on the reference index and expense ratio which explain the proportion of operating costs to the total assets under management of the ETF. In this study the operational definitions of variables are as follows:

1. Return of ETF/reference index is the monthly return of ETF/reference index as measured by percentage (%)
2. Risk is a deviation or fluctuation from ETF returns as measured by a percentage (%)
   In this study, from various sampling methods it was determined that the sample used was purposive sampling.

The approach with the purposive sampling method is suitable because the selection of this research data sample is based on certain criteria that must be met so that it is in accordance with the researchers' objectives. Then the sample used must be able to represent the population and in accordance with the objectives and problems in the study. This study links theory with empirical evidence and uses a sample of passively managed stock and bond-based ETFs, namely ETFs that aim to replicate returns from their reference index.

Model Design, Data Processing, Variable Definitions

In this study, the model used by Rompotis (2012) was used. The specification of the model along with the variable hypothesis can be explained as follows:

Table 1. Definition and Variable Operation

No	Variable	Definition	Formula	Measurement Scale
1	RetETF	The average monthly return of the associated ETF	$RNAB_t = \dfrac{NAB_t - NAB_{t-1}}{NAB_{t-1}}$	Ratio
2	*Risk*	It is an independent variable that describes the risk of the ETF which is the standard deviation of the ETF's monthly returns. The greater the risk that is owned by a fund, the greater the potential return.	$\sigma^2 = \dfrac{\sum_{t=1}^{n}(R_i - \bar{R})^2}{n-1}$ $\sigma_R = \sqrt{\sigma_R{}^2}$	Ratio
3	*ER*	It is an independent variable that explains the proportion of operational costs to total assets under management ETF. The greater the expense ratio, the smaller the return generated by the ETF because the high operating costs have a direct impact on the potential return of an ETF.	Total Investment Operating Expenses/ average NAV	Ratio
4	*TE*	It is an independent variable that explains the tracking error value which is the difference between the ETF return and the reference index return. This difference is the standard error of The regression between ETF returns and reference index returns. The greater the tracking error, the smaller the ETF's return because the magnitude of the tracking error is the ETF's inability to match the performance of its reference index.	$TE_{1,p} = \dfrac{\sum_{t=1}^{n}|e_p|}{n}$ $TE_{2,p} = \sqrt{\dfrac{1}{n-1}\sum_{t=1}^{n}(e_{pt} - \bar{e}_p)^2}$ $R_{pt} = \alpha_i + \beta_i R_{bt} + \varepsilon_{pt}$	Ratio

Source: Rompotis (2021)

The research population on the performance of ETFs in Indonesia is all ETFs that are traded on the stock exchange and have been listed in the Stock Exchange since the first exchange-traded ETF was launched in Indonesia, namely from 2007 to 2021 with a total of 49 ETF product and with 14 ETF products as research samples, 13 stock-based and 1 bond-based. The approach with the purposive sampling method is suitable because the selection of the research data sample is based on certain criteria that must be met so that it is in accordance with the researchers' objectives. Then the sample used must be able to represent the population and in accordance with the objectives and problems in the study. This study links theory with empirical evidence and uses a sample of passively managed stock and bond-based ETFs, namely ETFs

that aim to replicate returns from their reference index.

In this study, the type of data used is quantitative data, and the source of the data obtained is by using secondary data. Most of the data was obtained through the Bloomberg portal from the Bloomberg Laboratory, related ETF prospectuses, the official website of the Indonesia Stock Exchange (http://www.idx.co.id) or from the investment manager's website. The theories used were obtained from related text books, individual and institutional journal publications, newspaper and magazine articles, lecture materials and others. Meanwhile, relevant Indonesian capital market indicator data will be used for empirical research. The data is obtained from the Bloomberg terminal which consists of:

Table 2 Data Source

No	Description	Source
1	Exchange Traded Funds	Blomberg
2	Risk	Blomberg
3	Expense Ratio	Blomberg
4	Tracking Error	Blomberg

Source: Data processed by the author (2021)

Then some of the following processed data:

1. The closing price of the NAV per unit of the ETF
2. Expense ratio ETFs
3. The closing price of the benchmark index
4. ETF Net Asset Value

All data except the expense ratio is monthly data from January 2019 to January 2021, then this monthly data will be taken on a monthly average to be processed as ETF cross section data, together with expense ratio data and   tracking error which are unit data. The closing price of the ETF is needed to determine the ETF's monthly return and ETF's risk, which is the standard deviation of the monthly return. Meanwhile, the closing price of the reference index is needed to determine the index return that will be used to find the tracking error.

Table 3. Research Sample

NO	ETF CODE	INDEX BENCHMARK	ASSET MANAGEMENT	BASED
1	XAQA	LQ45	PT Ashmore Asset Management Indonesia	Stock
2	XCLQ	LQ45	PT Ciptadana Asset Management	Stock
3	XPCR	LQ45	PT PNM Investment Management	Stock
4	RLQ45	LQ45	PT Indo Premier Investment Management	Stock
5	XBID	IDX30	PT Batavia Prosperindo Asset Management	Stock
6	XPTD	IDX30	PT Panin Asset Management	Stock
7	XPID	IDX30	PT Pinnacle Persada Investama	Stock
8	XIIT	IDX30	PT Indo Premier Investment Management	Stock
9	XIID	IDX30	PT Indo Premier Investment Management	Stock
10	XSBC	IDX30	PT Sinarmas Asset Management	Stock
11	XIHD	High Div20	PT Indo Premier Investment Management	Stock
12	XIJI	JII	PT Indo Premier Investment Management	Stock
13	XSJI	JII	PT Sinarmas Asset Management	Stock
14	XAFA	Indonesia Composite Bond Index	PT Avrist Asset Management	Bond

Source: Bloomberg (2021)

The analytical method used in this study is regression on panel data. According to Gujarati (2004) panel data is a combination of two types of data, namely, time series data and cross-sectional data with the same or balanced number of data units. A panel data regression is different from the usual cross-section and time series, in panel data each data has two dimensions. Panel data has three ways of doing regression, the three models are the common effect model, the random effect model, and the fixed effect model.

Various data processed in this study were collected from publications and references from various sources, including the following:

1. ETF Net Asset Value (NAV) data is monthly data for the 2019-2021 period obtained from Bloomberg;
2. Data on closing prices and NAV per ETF unit are monthly data for the 2019-2021 period obtained from Bloomberg;

3. ETF expense ratio data is obtained from calculating the total investment expense in each prospectus of each ETF divided by the average NAV;
4. The closing price data for the reference index is monthly data for the 2019-2021 period obtained from Bloomberg;

3. RESULTS & DISCUSSION

Result of Panel Data Regression Model

To determine which one of the 3 (three) types of panel data models is the most appropriate, a test is performed on each model.

Chow-Test

The Chow test is used to find out which panel data regression model should be used, whether it is the common effect or the fixed effect model. This test was carried out using Eviews 10. The hypotheses made are as follows:

H_o: Common Effect Model

H_1: Fixed Effect Models

Table 4. Chow-Test

Effects Test	Statistic	d.f.	Prob.
Cross-section F	2.009067	(11,414)	0.0263
Cross-section Chi-square	22.310139	11	0.0221

Source: Data processed (2021)

Based on the results of the Chow test, it can be seen that the probability value is 0.0263, which means the probability value is more than 5%, namely 0.0263 <0.005 so that H1 is accepted, meaning that the fixed effect model is the right model to use compared to the common effect model.

Hausman-Test

The Hausman test is used to find out which panel data regression model should be used, whether it is the common effect model or the fixed effect model. This test was carried out using Eviews 10. The hypotheses made are as follows:

H_o: Random Effects Model

H_1: Fixed Effect Models

Table 5. Hausman-Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	9.956584	3	0.0189

Source: Data processed (2021)

Based on the results of the Hausman test in the table, it can be seen that the probability value is 0.0189, which means the probability value is more than 5%, namely 0.0189 <0.05 so that H0 is rejected and H1 is accepted, meaning that the fixed effect model is the right model to use compared to the random effect model.

From the results of testing the panel data regression model, it can be concluded that the recommended results are the use of the Fixed Effect Model which will be analyzed further in this study.

Table 6. Fixed Effect Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Risk	0,19807	0,004733	41,85022	0,0000
Tracking Error	-4,755306	3,211006	-1,477405	0,1403
Expense Ratio	-0,000132	0,000230	-0,573535	0,5666

Source: Data processed (2021)

Portfolio selection addresses the problem of how to allocate investment in order to bring the most profit with a certain risk (Markowitz, 1952). But in reality, almost all forms of investment or business contain risks, especially those that are long-term in nature. If an investor wants a large profit, then the risk that will be faced and accepted is also relatively large, and vice versa. The problem is how to carry out a business or investment activity so that the risk received is as small as possible. That is why it is necessary to diversify investment in the form of a portfolio (Weston, 1994). Exchange-traded fund or commonly abbreviated as ETF is a mutual fund product whose participation units can be traded on a stock exchange like a stock.

Basically, ETF is a hybrid instrument, combining the characteristics of open-ended funds with company shares in general (Rompotis, 2006). ETFs are a basket of securities whose goal is to replicate not only performance but also the risk level of a particular index that is used as a reference. Rompotis (2012) states that ETF returns are influenced by risk, tracking error, expense ratio, and Net Asset Value.

ETF is one of the products in the capital market that is quite popular in the global market. In several developed countries, this product is one of the superior ones. In Indonesia, the growth rate of ETFs is still not as high as stocks or bonds because investors' interest in the capabilities of these products is not as superior as other equity product variants such as stocks. Several previous studies have discussed the performance of ETFs and the various factors that influence

their performance. Even though it is currently not featured in the Indonesian capital market, its development has great potential. Many studies have been done before with a variety of different methods and show a variety of varying results. Basically, ETFs are expected to be able to match the performance of their replica indices, so that the superior performance of these products is in line with investor expectations, but it is not uncommon for these ETFs to fail. Unlike stock mutual funds, ETFs generally do not aim to exceed the performance of their benchmark index, but rather to replicate it. This strategy is known as passive management (Adiputra, 2019).
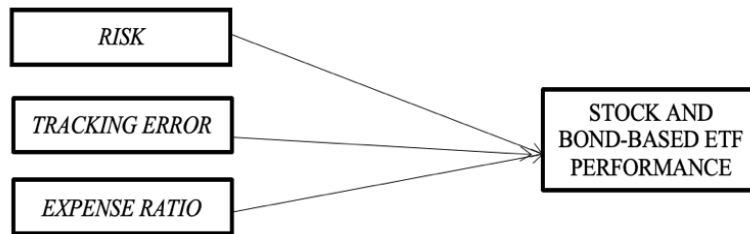
Analytical framework

Figure 3: Research Framework
Source: Resecher, 2021

The hypotheses built in this study include:

H1: Risk has a significantly positive impact on ETF

performance on a stock and bond basis

H2: Tracking errors have a significant negative impact on ETF

performance on a stock and bond basis

H3: Expense Ratio has a significant negative impact on ETF

performance on a stock and bond basis

Table 7. Statistical Results

	Return ETF	*Risk*	*Tracking Error*	*Expense Ratio*
Mean	0,001087	0,019827	0,006615	0,06820
Median	0,000000	0,010566	0,003844	0,01395
Maximum	0,199623	0,038941	0,017454	0,065511
Minimum	-0,040861	0,000000	0,001561	0,000600
Std. Dev.	0,016133	0,073041	1,235100	1,541063
Probability	0,000000	0,000000	0,000000	0,000000
Observations	504	504	504	504

Source: Data processed (2021)

Based on the table it is known that the observation data is 504 data. In the Expense Ratio variable. It is known that the resulting average value is 6.82%. With the lowest value of 0.06% owned by XIID and the largest at 6.55% owned by XPCR. Both are share-based ETFs, the greater the expense ratio, the less managed funds that can be turned over to stocks. When there are fewer managed funds that can be turned over to stocks, it will be more difficult for investment managers to be able to compete to beat the benchmark or reference index.

In the tracking error variable, it is known that the resulting average value is 0.38%. The lowest value is 0.156% in RL-Q45 and the largest is 1.74% owned by XPCR. Both are stock-based ETFs, keeping tracking error as low as possible is important because tracking error is considered an indicator of portfolio performance and the ability of investment managers to copy the index correctly (Dorocáková, 2017). The higher the tracking error, the more likely it is to outperform or underperform the reference index in one period (Johnson et al., 2013). Thus, RL-Q45 is the ETF with the best replication capabilities compared to other ETFs with the lowest tracking error rate.

Then, it is known that the risk variable produces an average value of 1.98%. With the lowest value of 0.00 owned by XAFA which is a bond-based ETF and the largest is 3.89% owned by XIIT which is a stock-based ETF. The relationship between risk and expected return also works proportionally in order to get a high return or refund, the risk to be taken will also of course be higher. Thus, XIIT is the recommended ETF as a product that is expected to provide high returns with the highest level of risk compared to other stock-based ETF products. Meanwhile, XAFA is classified as low risk because it is bond-based as the underlying asset.

Table 8. Summary of Model Estimation Results

Independent Variable	Coeficient	Std. Error	Prob. Stat Statistic	Significance
Risk	0.198846	0,004775	0.0000	Significant
Tracking Error	-2,299805	6.655406	0.0006	Significant
Expense Ratio	-0,000161	0.000246	0.5122	Not Significant

Source: Data processed (2021)

Based on the results of the summary estimation model, each ETF gets the result that risk has a significant effect on 9 stock-based ETFs and 1 bond-based ETF, namely XPCR, XCLQ, XIIT, XPID, XSBC, XBID, XIJI, XSSI, XIHD and the bond-based one is XAFA. Meanwhile, the tracking error has a significant effect on 6 stock-based ETFs, namely XAQA, XIIT, XPID, XSBC, XPTD, XIJI, XSSI. And, expense ratio only affects 2 stock-based ETFs, namely XAQA and XPCR.

Simultaneous Significance Test (F)

Table 9. Result of Test (F)

F-statistic.	127.5044
Prob (F- statistic).	0.000000

Source: Data processed (2021)

Based on the results in the table, it can be seen that the fixed effect model has a Prob value (F-statistic) of 0.00 <0.05, which means that the independent variables have a significant influence on the dependent variable.

Hypothesis Test (t)

Table 10. Result of Test (t)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Risk	0,198846	0,004775	41,63916	0,0000
Tracking Error	-2,299055	6,655506	-3,443098	0,0006
Expense Ratio	-0,000161	0,000246	-0,655911	0,5122

Source: Data processed (2021)

The t statistical test is a test used to prove whether the independent variable is significant to the dependent variable individually. The hypothesis is made as follows:

H0: The independent variable has no effect if the probability value is > 0.5

H1: The independent variable has an effect if the probability value < 0.5

Hypothesis result is:

H1: Risk has a significantly positive impact on ETF performance on a stock and bond basis

The results of the panel regression data in table show that the variable namely risk, has a coefficient of 41.63 with a significance value of 0.000 <0.05 meaning that H_o is rejected and H_1 is accepted. So, it can mean that risk has a positive effect on the performance of stock and bond-based ETFs.

H2: Tracking errors have a significant negative impact on ETF performance on a stock and bond basis

The results of the panel data regression in table show that the variable namely the tracking

error, has a coefficient of -3.44 with a significance value of 0.0006 <0.05, so H_o is rejected and H_2 is accepted. So, it can be concluded that tracking error has a negative effect on the performance of stock and bond-based ETFs.

H3: Expense Ratio has no effect on the performance of stock-based ETFs and bonds

The results of the panel data regression in the table show that the variable Expense Ratio has a coefficient of -0.655 with a significance value of 0.5122 > 0.05, so H0 is accepted and H3 is rejected. So, it can be concluded that the Expense Ratio has no effect on the performance of stock and bond-based ETFs.

Discussion

Based on the results of the study, the risk variable is a significant variable because it is directly correlated with the ETF reference index. The test results conclude that risk has a positive effect on the performance of registered ETFs from the 2019 – 2021 period on the basis of stocks and bonds in passive management. The risk in this study is the deviation or standard deviation of ETF returns (Adiputra, 2014). In this study, the risk variable has a positive relationship. These results are also supported by Miftahusni and Muharam's research (2021) that risk has a significant effect on ETF performance. Under normal market conditions, the greater the risk of an ETF, the higher the rate of return for an ETF. This is in accordance with the specifications of the model and the basic theory of finance which states that the higher the risk of a fund, the higher the potential return. In research on the performance of an ETF, this results in the same research as Romptis (2012) which states that the risk represented by the standard deviation is expected to provide a higher potential return so that in the end the realized return will also be high.

Based on the research results, apart from risk, the tracking error variable is also a variable that significantly affects ETF performance. The test results conclude that Tracking errors have a significant negative impact on ETF performance of registered ETFs from the 2019 – 2021 period on the basis of stocks and bonds in passive management. The greater the tracking error of an ETF, the smaller the potential return that will be generated. The magnitude of the tracking error can be caused by several things, such as portfolio management errors, where the investment manager misplaces the underlying stocks of the ETF, Adiputra (2014). So that the return generated in the end cannot replicate the return of the reference index perfectly, both outperform and underperform.

Based on the research results, apart from the risk variable, the expense ratio is also a variable that should significantly affect the performance of ETFs. But the results of hypothesis testing conclude that Expense Ratio has no significant impact on the performance of stock and bond-based ETFs listed from the 2019 – 2021 period on a stock and bond basis in passive management. Expense ratio is the annual fee charged for funds, including ETFs, to shareholders. This ratio reflects the percentage of assets used for operating expenses each year. To calculate the expense ratio, the assets used are the average annual NAV, while the expenses used are the operational expenses in managing the ETF. The expense ratio is a popular indicator

to use when comparing the performance of one fund or ETF with another. The greater the expense ratio of an ETF, the smaller the return that can be generated by the ETF, because a large expense ratio indicates that the ETF has large operating expenses or relatively small total assets, both of which will be reflected in changes in the NAV per unit of the ETF.

However, in the 2019-2021 research year, the performance of stock and bond-based ETFs with passive management in the Indonesia Stock Exchange showed that the expense Ratio had no effect. These results are supported by research conducted by Tommy Herwan "Analysis of the factors influencing the performance of equity funds in Indonesia for the 2013-2015 period". Because the higher the total cost of the mutual fund portfolio, the lower the return on investment, the expense ratio has no effect on the performance of mutual funds because the expense ratio is not a benchmark to see the performance of mutual funds. Pangestu (2018) Likewise with the performance of ETFs which also adopt a mutual fund management mechanism with liquidity performance such as stocks in their investment value. ETF performance is not affected by the amount of money spent, but by the strategy used. Fund management strategies can be supported such as asset allocation policies and the ability to choose stocks and products in them. This research is in line with research conducted by Lidyah 2017), Nugraha (2016), and Bitomo and Muharam (2016) which state that the expense ratio does not have a significant effect on the performance of equity funds.

In addition, in the results of research on the performance of the Indonesian Stock Exchange ETFs during the early 2019 pandemic, it was found that several prospectuses did not experience information updates so that the calculation of expenses on net asset values also experienced renewal problems and could not describe the overall condition of the expense ratio of each ETF product.

4. CONCLUSION & SUGGESTION

Conclusion

Based on the results of this study which have been described in the previous chapter, it can be concluded as follows:

1. The results of the study show that the hypothesis risk variable is accepted. The results of this research show that risk has a positive effect on the performance of ETFs on the Indonesia Stock Exchange in 2019–2021 based on stocks and bonds with passive management. There are 9 stock-based ETFs that are affected by risk, namely XPCR, XCLQ, XPID, XSBC, XBID, XIIT, XIJI, XSSI, XIHD and 1 bond-based ETF, namely XAFA.

2. The research results show that the hypothesis tracking error variable is accepted. The results of the study show that tracking errors have a significant negative impact on ETF performance of ETFs on the Indonesia Stock Exchange for 2019–2021 based on stocks

and bonds with passive management. There are 6 stock-based ETFs that are affected by the tracking error, namely, XIIT, XPID, XSBC, XPTD, XIJI, XSSI.

3. The results showed that the hypothesis variable expense ratio was rejected. The research results show that the Expense Ratio has no significant impact on the performance of ETFs in the Indonesia Stock Exchange in 2019–2021 which are based on stocks and bonds with passive management simultaneously. This is because only two out of 14 stock-based ETFs are risk-influenced, namely XAQA and XPCR.

4. The results of research on the development of ETF performance in 2019 show that the pandemic conditions have significantly affected ETF performance. In 2020 to 2021 the market will slowly experience stability in line with the pandemic response which is quite improved, especially in terms of the vaccination process evenly distributed in various corners of Indonesia and the frequency of lock downs in several areas which are reduced gradually so that people's interest in the market increases and is better compared to when the pandemic crisis occurred.

Suggestion

This study concludes that ETF performance is significantly influenced by the performance of its reference index which is reflected indirectly from risk and directly through tracking errors. However, in this study, ETF performance was not affected by the expense ratio.Some suggestions from this research are as follows:

1. Fund managers can try to maximize product performance with passive management like ETFs. Besides being low in fees, it can beat a performance of stock mutual funds. Investment managers also still need to use the right underlying stocks and reference indexes that are suitable for their purposes so that the performance of their ETF can replicate the performance of the reference index.

2. Investors can use ETFs as an investment alternative if they want to get higher flexibility compared to conventional mutual funds because the transaction system goes through the exchange system such as stock transactions so that their performance is able to replicate the performance of a reference index with similar fees as stock transactions because the transaction process occurs directly between the investor and investment manager. ETFs are also relatively liquid because their liquidation is determined by the liquidity of the shares included in the ETF product. ETF liquidity is not related to daily ETF trading volume, but is more affected by the liquidity of the shares included in the ETF product. Based on the performance of ETF returns from 2019 – 2021, performance has also increased.

3. Further research can be carried out by analyzing the size of the ETF (NAV), the influence of macroeconomic factors and ETFs with active management. Given the limitations of this research, the scope of research can be needed for the development of science.

REFERENCES

[1].   Adiputra, M. B. (2014). The Analysis on the Determinants of Passively Managed Equity Based ETF Performance. *Tesis Program Magister Management*. Jakarta, DKI Jakarta , Indonesia : Universitas Indonesia .

[2].   Elton, E. G. (2002). Spiders: Where are the bugs? *Journal of Business Vol.75 No.3*, 453-72.

[3].   Elton, E. G. (2004). Are investors rational? Choices Among Index Funds . *The Journal of Finance, Vol.59. No.1*, 261-288.

[4].   Elton, E. J. (1996). The Persistence of Risk - Adjusted Mutual Fund Performance. *The Journal of Business Vol.69 No.2* , 133-157.

[5].   Frino. A & Gallagher, D. (2001). Tracking S&P 500 Index Funds. *Journal of Portofolio Management Vol.28, No.1*, 44-55.

[6].   Anshori, M. &. (2021). Pengembangan Exchange Traded Fund Syariah Indonesia: Peluang dan Tantangan. *Jurnal Ilmiah Ekonomi Islam, 7 (01)*, 55-66.

[7].   Gardner, R. &. (2005). Increasing after-tac return with exchange-traded funds. *Journal of Financial Planning Vol.18* , 30.

[8].   Gallagher, D. &. (2005). *The Performance and Trading Characteristics of Exchange-Traded Funds.* Working Paper.

[9].   Gayatri., &. W. (2021). Kinerja Investasi Exchange Traded Funds di Indonesia. *E-Jurnal Akuntansi 31 (7)*, 1632-1643.

[10].   Arisena, G. M. (n.d.). Buku Ajar Pengantar Statistika. Bali : Prodi Agribisnis Fakultas Pertanian Universitas Udayana.

[11].   Papadopoulos, G. T. (2019). ETFs - Performance, Tracking Error and Their Determinants in Europe and The USA. *International Journal* .

[12].   Haryanto, A. (2018). Evaluasi Kinerja Exchange Traded Funds (ETF) IDX30 berdasarkan Indeks IDX30 dan IHSG.

[13].   Hadi, N. (2015). Pasar Modal. Yogyakarta : Graha Ilmu. IDX (2020). Kajian Materi Edukasi ETF [Recorded by P. IDX]. Jakarta , DKI Jakarta , Indonesia .

[14].   IDX (2020). Informasi Data ETF di Indonesia [Recorded by P. IDX]. Jakarta , DKI Jakarta, Indonesia .

[15].   IDX. (2021, Agustus). Indonesia's Economic and Capital Market Development .

[16].   IDX (2020). Kajian Materi Mengenai Exchange Traded Funds [Recorded by P. IDX]. Jakarta, DKI Jakarta , Indonesia .

[17].   Rita, M. R. (2008). Exchange Traded Fund (ETF): Inovasi Dalam Dunia Industri. *Jurnal Ekonomi dan Bisnis* .

[18]. Markowits, H. (2010). Portofolio Theory: As I Still See It. . *Annual Review of Financial Economics 2*, 1-23.

[19]. Maulidya Annuru, d. (2020). Pengaruh Expense Ratio, Portofolio Turnover dan Fund Flow Terhadap Kinerja Reksa Dana Saham di Indonesia Tahun 2015-2017. *Jurnal Akuntansi, Perpajakan dan Auditing Vol.1 No.2*, 234-248.

[20]. Miftahusni, N. (2020). Analisa Faktor Yang Mempengaruhi Kinerja ETF Berbasis Saham. Semarang: Fakultas Ekonomi dan Bisnis Universitas Diponegoro .

[21]. Nundy Miftahusni, H. M. (2021). Kinerja Exchange – Traded Fund (ETF) yang Dikelola Secara Pasif dan Faktor yang mempengaruhinya. *Journal of Management Vol.10* , 1-8.

[22]. Petajisto, A. (2011). Inefficiencies in the pricing of exchange traded funds. . Working Paper.

[23]. Pope, P. F. (1994). Discovering errors in tracking error. *The Journal of Portfolio Management Vol.20* , 27.

[24]. Rompotis, G. G. (2006). The Performance of Swiss Exchange Traded Funds .

[25]. Rompotis, G. G. (2012). The German Exchange Traded Funds the IUP. *Journal of Applied Finance. Vol.18*, 4.

[26]. Rompotis, G. G. (2013). Actively vs Passively Managed Exchange Traded Funds . *The IEB International Journal of Finance* , 116-135.

[27]. Sihombing, P. (2018). Corporate Financial Management . Bogor: IPB Press.

[28]. Tandelin, E. (2017). Pasar Modal: Manajemen Portofolio .

[29]. Welch, S. (2017). On Performance & Tracking Error in Exchange Traded Funds and Index Mutual Funds. *Accounting and Finance Faculty Publication* .

[30]. Wilman San Marino, A. S. (2021). Pengaruh Covid-19 Terhadap Pasar Modal di Indonesia. *Jurnal Perbankan dan Keuangan* .

[31]. Weston J. Fred, E. B. (1994). Dasar-dasar Manajemen Keuangan . Bandung: Erlangga.