

Comparison Analysis of “Safe Investment” (Gold, Mutual Funds, and Bonds)

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Received Date : 02.09.2022

Revised Date : 16.09.2022

Accepted Date : 18.11.2022

ABSTRACT

This study aims to compare the return; risk; and coefficient of variation in gold; money market mutual funds; and government bonds in 2016-2021, as well as to determine the best investment instruments for investors. The data of this study are the historical monthly closing price of ANTAM's gold, NAV per unit of Manulife Indonesia Money Market Fund, and yield government bond series FR0056. The analytical method used in this study is a comparative method consisting of the Kruskal-Wallis test and further tests with Mann Whitney. The results indicate significant differences between returns on gold and government bonds, returns on money market mutual funds and government bonds, and no significant difference between returns on gold and money market mutual funds. In terms of risk, it is known that each investment instrument has different risks, so choosing one investment instrument will provide a smaller risk.

Keywords : **Return; Risk; Coefficient of Variation; Gold; Mutual Funds; Bonds**

ABSTRAK

Penelitian ini bertujuan untuk mengetahui perbandingan imbal hasil; risiko; dan koefisien variasi pada emas; reksa dana pasar uang; dan obligasi pemerintah tahun 2016-2021, serta untuk menentukan instrumen investasi terbaik bagi investor. Data pada penelitian ini adalah data bulanan harga penutupan emas ANTAM, NAB per unit Reksa Dana Pasar Uang Manulife Indonesia, dan imbal hasil obligasi pemerintah seri FR0056. Metode analisis yang digunakan adalah komparatif yang terdiri dari uji Kruskal-Wallis dan uji lanjut Mann Whitney. Hasil penelitian menunjukkan terdapat perbedaan yang signifikan antara imbal hasil emas dan obligasi pemerintah, imbal hasil reksa dana pasar uang dan obligasi pemerintah, serta tidak terdapat perbedaan yang signifikan antara imbal hasil emas dan reksa dana pasar uang. Dilihat dari segi risiko diketahui bahwa setiap instrument investasi memiliki risiko yang berbeda, sehingga memilih salah satu instrument investasi akan memberikan risiko yang lebih kecil.

Kata Kunci : **Imbal hasil; Risiko; Koefisien Variasi; Emas; Reksadana; Obligasi**

INTRODUCTION

Investment is one of the activities in that people can allocate their funds. Investment is an effort to get a return in the future (Hartono, 2015; Tandelilin, 2010). In investing, two factors are most taken into account, namely the rate of return (return) and investment risk (risk) (Markowitz, 1952). These two factors are opposite in the sense that investors like high returns but most investors do not like high risks. Return is the profit obtained from an investment. Meanwhile, the risk is a measure of the gap between the expected rate of return and the actual rate of return, the greater the deviation, the higher the level of risk. To obtain an accurate analysis, investors also need to pay attention to the coefficient of variation of each investment product. If the return and risk of the investment instrument are at different levels, then the calculation that needs to be done is to compare the coefficient of variation (Panwar, Jha, & Srivastava, 2018; Sorros, 2003; Brigham & Houston, 2010, Fahmi, 2015).

In Pandemic Covid-19, many investors had to reallocate their funds (Bossman *et.al*, 2022). Amid economic uncertainty due to the Covid-19 pandemic, people should be more careful in allocating their funds. Many of them have to choose the safest instrument to avoid the uncertainty of risk and if it possible still give a better return in the future. Since its existence in December 2019, the Covid-19 outbreak has had a serious effect on almost every aspect of human life. The impact of the Covid-19 outbreak is not only harmful to health but also has an impact on the economies of countries around the world, including Indonesia. One of the real impacts of the COVID-19 pandemic is that Indonesia's economic growth has decreased in a negative direction. In the second quarter of 2020, Indonesia's economic growth was -5.32%. Then in the third quarter of 2020, economic growth began to improve at -3.49% (Minister of Finance, 2020).

Gold is one of the precious metals that has great value as an investment instrument in real assets. When people are worried about the state of the economy, they will choose to buy gold to protect the value of their wealth. Gold has been tested as a means of storing wealth against inflation. Gold has a high intrinsic value without being contrived, so gold is very suitable to be used as a means of storing wealth. Gold has no risk like other commodities because gold returns are not oriented towards future earnings (Evamelia & Panjaitan, 2019). This makes gold have the potential as a safe haven because it has the opposite relationship with economic conditions.

Based on a survey by the Danareksa (Danareksa Research institute - PT Danareksa (persero), 2020), gold was the most sought-after investment during the pandemic, which was 31.91%. This number has increased compared to the period before the pandemic, which was 27.23% of people who invested in gold. Gold prices have tended to rise over the past few years. The unfavorable global situation due to the Covid-19 pandemic caused ANTAM's gold price to set a record for all time in August 2020 for IDR 1,065,000 per gram.

According to data from the Indonesian Central Securities Depository (Kustodian Sentral Efek Indonesia, 2021), the number of investors in mutual funds and government bonds is increasing every year. The investor in mutual funds as of May 2021 was 4,695,428 investors. This number is greater than before the pandemic, which was 1,774,493 investors in 2019. The increase in the number of mutual fund investors before and during the pandemic reached 164.6%. Meanwhile, government bonds (the other perceived as a safe investment) have a total of 528,423 investors as of May 2021. This number increased compared to before the pandemic, which was 316,263 investors. The increase in the number of investors in government bonds reached 67%. This shows that gold, mutual funds, and bonds are still in great demand by investors during the COVID-19 pandemic and

economic uncertainty. In another word, gold, money market mutual funds, and state bonds are perceived by the investor to be safe investments in uncertain conditions.

Based on the results of previous studies regarding the comparison of return, risk, and coefficient of variation on gold investment instruments with other investments, there are differences in results from previous researchers. According to Radianto & Ayuningtyas (2010) and Hartono (2018), there are differences in returns between gold, stocks, and mutual funds. Meanwhile, according to Feriyani (2013), there is no difference in expected return between the dinar and Islamic money market mutual funds. Furthermore, Radianto & Ayuningtyas (2010) said that gold returns are higher than stock mutual funds and the LQ45 index. Meanwhile, the results of Feriyani (2013) said that the return on Islamic money market mutual funds is higher than the dinar.

Given risk factors, there are also differences in results between previous researchers. According to Driptyanto & Wahyuati (2017), there are differences in risk between bonds, foreign exchange, and gold. Meanwhile, the results of research conducted by Feriyani (2013) showed that the risk of Islamic money market mutual funds is higher than the dinar. Furthermore, Driptyanto & Wahyuati (2017) said that the risk of gold is higher than bonds.

Furthermore, the coefficient of variation in Fitri & Septiarini (2018), showed there are differences in the coefficient of variation in Islamic stocks, Islamic mutual funds, and gold. Furthermore, Fitri & Septiarini (2018) said that Islamic stocks are the best investment instruments compared to gold and Islamic mutual funds. However, the results of research conducted by Radianto & Ayuningtyas (2010) said that gold is the most profitable instrument compared to stock mutual funds and the LQ45 index by calculating the coefficient of variation.

Based on the description above, the existence of the gold phenomenon and other safe investments, and also supported by differences in research results (research gap), the authors are interested in analyzing the return, risk, and coefficient of variation of gold with other safe instruments, namely money market mutual funds and government bonds. The authors extend the scope of the study by combining return, risk, and coefficient of variation in the analysis safe investments in uncertain condition. The authors also add the context of the pandemic period to adjust the uncertainty of economic conditions that absolutely affect the investment choice by the investor. The other extent of this paper is, the authors also try to answer the other question related to practical in real life investment. That question is which is the best investment instrument between gold, money market mutual funds, and government bonds?

RESEARCH METHOD

In this study, the authors used descriptive statistical analysis followed by comparative statistical test. The descriptive statistic is used to provide an overview of the characteristics of the variables used in the study. The sequences of comparative statistical test are classical assumption test, One Way ANOVA test (parametric) or Kruskal-Wallis test (non-parametric), and post hoc test. Those sequences are used to robust the statistical result. The classical assumption test consists of normality test and homogeneity test. If the data normally distributed and homogeneous, we continue with ANOVA test, and if is not, we continue with Kruskal-Wallis. After ANOVA or Kruskal-Wallis test, the other test is post hoc test to compare every single pair of gold, money market mutual funds, and government bond. The last test related to coefficient of variation is used to answer which is the best investment instrument among gold, money market mutual funds, and government bonds.

The authors used actual return to calculate return (Hartono, 2015; Hartono, 2018). Actual Return is a return that has occurred. Actual Return is calculated based on historical data. The actual return can be measured using the following equation:

$$R_{i,t} = \frac{P_{i,t} - P_{i,t-1}}{P_{i,t-1}} \quad (1)$$

Where: $[R_{i,t}]$ = Actual return period t ; $[P_{i,t}]$ = Price i in period t ; $[P_{i,t-1}]$ = Price i in period $t-1$

According to Jones (2016), risk is the difference between the actual return and the expected return. Every investment decision is associated with risk because the set of investment decisions is not always complete and can be considered perfect. However, in this decision, various weaknesses are not analyzed properly. This weakness occurs because past data is used to predict conditions that will occur in the future, while future conditions and situations are not known with certainty so the risk is always used as the main barometer for analyzing investment decisions made.

The risk measurement model that is often used in investment is the standard deviation. The higher the standard deviation value, the higher the risk experienced and vice versa. According to Hartono (2018), risk can be measured using the following formula:

$$\sigma = \sqrt{\frac{\sum_{i=1}^n (x_i - \bar{x})^2}{n-1}} \quad (2)$$

Where: $[\sigma]$ = Standard deviation; $[x_i]$ = Return in month i ; $[\bar{x}]$ = Average monthly return; $[n]$ = the numbers of data.

According to (Panwar, Jha, & Srivastava, 2018; Sorros, 2003; Brigham & Houston, 2010), if we have to choose between two investments that have the same returns, but with different standard deviations, most people will choose investments with lower standard deviations and therefore less risk. Likewise, if faced with a choice between two investments with the same risk, but with different, investors will generally choose the investment with the higher return. However, if the return and risk of the investment have different levels, the calculation needed to compare or consider the two is the coefficient of variation. The formula for the coefficient of variation is as follows (Brigham & Houston, 2010; Hartono, 2018):

$$CV_i = \frac{\text{Risk}}{\text{Return}} \quad (3)$$

Where: CV_i = coefficient of variation

In this study, the data used is the monthly closing price of each investment instrument. The samples in this study are ANTAM's gold, Manulife Indonesia money market mutual funds, and state bonds series FR0056. ANTAM's gold price is used because ANTAM is the largest gold producing company in Indonesia (Kementerian Energi dan Sumber Daya Mineral, 2020). Data of gold used ANTAM's gold price that was taken from the official website www.logammulia.com. The historical price of mutual fund could be taken from NAV/UP. Manulife Indonesia money market mutual fund is used as a sample of money market mutual fund because it has the largest average fund under management over the last 5.5 years (Kustodian Sentral Efek Indonesia, 2021). Data for money market mutual funds were taken from the official website www.ojk.go.id. For government bonds, the authors used FR0056 due to the largest amount of outstanding value throughout the

observation period (Kustodian Sentral Efek Indonesia, 2021). Government bond yields were taken from the official website www.djppr.kemenkeu.go.id and www.bca.co.id. The observation period is 2016-2021 to capture the effect of uncertain investment conditions due to the pandemic Covid-19.

RESULTS AND DISCUSSION

The descriptive statistics of each variable are showed on table 1. Based on table 1, the highest average return is found in government bonds of 0.0709, and the highest average risk and coefficient of variation are found in gold with values of 0.0236 and 4.2634, respectively. The smallest minimum return value is found in gold at -0.0642. The smallest minimum risk value is found in money market mutual funds of 0.0001. The minimum value of the smallest coefficient of variation is found in gold at -3.1492. The maximum value of return, risk, and the highest coefficient of variation is found in gold with each value of 0.2101, 0.0685, and 31.9061.

Table 1. Descriptive Statistical Results of Return, Risk, and Coefficient of Variation

		Mean	Min	Max	St. Dev	N
Gold	Return	0.0245	-0.0642	0.2101	0.0572	22
	Risk	0.0236	0.0016	0.0016	0.0179	22
	CV	4.2634	-3.1492	-3.1492	8.2675	22
Mutual Funds	Return	0.0144	0.0086	0.0194	0.0027	22
	Risk	0.0004	0.0001	0.0010	0.0003	22
	CV	0.0819	0.0175	0.2550	0.0618	22
Government Bond	Return	0.0709	0.0544	0.0830	0.0082	22
	Risk	0.0031	0.0012	0.0092	0.0019	22
	CV	0.0430	0.0173	0.1331	0.0258	22

Source: Data processed by researchers, 2021

The Classical Assumption Test

Normality Test. The normality test in this study used the Kolmogorov-Smirnov test as displayed in table 2.

Table 2. Normality Test Results of Return, Risk, and Coefficient of Variation

		<i>p value</i>
Return	Gold	0.010
	Mutual Funds	0.200
	Government Bond	0.200
Risk	Gold	0.001
	Mutual Funds	0.200
	Government Bond	0.129
CV	Gold	0.000
	Mutual Funds	0.038
	Government Bond	0.006

Source: Data processed by researchers, 2021

Based on table 2, the results of the One-Sample KS test between returns on gold, money market mutual funds, and government bond, it states that the data are not normally distributed because one of the data, namely gold, has a *p value* < 0.05. Furthermore, the results of the normality test between risk on gold, money market mutual funds, and state bonds stated that the data were not normally distributed because one of the data, namely gold, has a *p value* < 0.05. Then, the results of the normality test between the coefficients

of variation in gold, money market mutual funds, and state bonds stated that the data were not normally distributed because all data has $p\text{ value} < 0.05$.

Homogeneity Test. The homogeneity test in this study used Levene's test for equality of variances.

Table 3. Homogeneity Test Results of Return, Risk, and Coefficient of Variation

	<i>p value</i>
Return	0.000
Risk	0.000
CV	0.000

Source: Data processed by researchers, 2021

Based on table 3, the results of the homogeneity test between return, risk, and coefficient of variation in gold, money market mutual funds, and government bonds, is stated that the data is not homogeneous because of the $p\text{ value} < 0.05$.

The Hypotheses Testing

Kruskal-Wallis Test. Based on the classic assumption test, the data of return, risk, and coefficient of variation in gold, money market mutual funds, and government are not normally distributed and are not homogeneous. Hence, we continue the hypothesis testing using a non-parametric statistical test, called the Kruskal-Wallis test.

Table 4. Kruskal-Wallis test

	Chi Square	<i>p value</i>
Return	32.096	0.000
Risk	55.832	0.000
CV	11.886	0.003

Source: Data processed by researchers, 2021

Based on table 4, it can be seen that the return, risk, and coefficient of variation have $p\text{ value} < 0.05$. We can conclude that at least there is one difference in the returns, risk, and coefficient of variation between gold, money market mutual funds, and government bonds. *Advanced Mann Whitney Test as Post Hoc Test.* This further test is carried out to find out which data groups had differences. The further test used is the Mann-Whitney Test.

Based on table 5, the return between gold and money market mutual funds is not significantly different because of the $p\text{ value} > 0.05$. Meanwhile, the return between gold and state bonds, between money market mutual funds and state bonds, are different significantly because of the $p\text{ value} < 0.05$.

Table 5. Mann Whitney Test Results between Return of Gold, Money Market Mutual Funds, and Government Bonds

		<i>p value</i>
Return	Gold	0.925
	Mutual Funds	
	Government Bond	
	Gold	0.000
	Mutual Funds	
	Government Bond	

Source: Data processed by researchers, 2021

There is no difference between gold returns and money market mutual funds because the returns obtained have the same concept, if the gold price increases, investors will get a benefit. This is the same as money market mutual funds, if the NAV per unit increases, investors will get a benefit. So, the return obtained on gold and money market mutual funds are only from price movements and NAV per unit of these investment instruments. This is different from government Bonds, the benefits are obtained not only from price movements but also from periodic interest coupons set by the government.

The results of this study are in line with the research by Radianto & Ayuningtyas (2010) and Driptyanto & Wahyuati, (2017). However, the results of this study are not in line with the research by Feriyani (2013), Fitri & Septiarini (2018), and Astuti & Fani (2020).

Table 6. Mann Whitney Test Results between Risk of Gold, Money Market Mutual Funds, and Government Bonds

		<i>p value</i>
Risk	Gold	0.000
	Mutual Funds	
	Government Bond	
	Gold	0.000
	Mutual Funds	
	Government Bond	

Source: Data processed by researchers, 2021

Based on table 6, the risk between gold and money market mutual funds, between gold and state bonds, and between money market mutual funds and government bonds, are significant difference because of the $p\ value < 0.05$.

The results of this study are in line with the research by Radianto & Ayuningtyas (2010) and Fitri & Septiarini (2018) which state that there is a difference in risk between gold and mutual funds, and Driptyanto & Wahyuati (2017) where there is a difference in risk between gold and bonds. The difference in risk from each of these safe investment instruments is due to the different risks faced by each of these instruments.

Losing is one of the biggest risks in investing in gold, especially in the form of bars and jewelry because it will cause considerable losses. Counterfeit gold is one of the risks of gold because basically most people do not understand and know the gold content well. Another risk can be seen from the gold price soaring high when the economy is unstable and prices slowing down when the economy is stable. This phenomenon happened during the observation period in 2020 when the COVID-19 pandemic occurred; gold prices soared throughout history to touch the Rp. 1 million, and then started decreasing due to news of vaccination.

The risk that occurs in money market mutual funds is the decline in the value of NAV due to the decline in the price of portfolio securities and changes in the benchmark interest rate. There is a risk of default from the debt issuer. Another risk is when the investment manager cannot provide the investment funds if there is a large withdrawal. Meanwhile, government bonds have a low risk of default, but government bonds still have inflation risk where at maturity the bonds are paid off, the value obtained by investors will suffer. The weakening of purchasing power due to inflation is greater than the yield obtained. Another risk of government bonds is when the country that issued the bonds has a less stable financial condition.

Although it supports several studies, the results of this study are not in line with Feriyani (2013). This difference can be caused by a different observation period in which Feriyani (2013) compares the risk between the dinar and mutual funds during the 2008 global financial crisis. This period is a period where every investment instrument is exposed to the same global financial crisis risk.

Table 7. Mann Whitney Test Results between Coefficient of Variation (CV) of Gold, Money Market Mutual Funds, and Government Bonds

	<i>p value</i>
Coefficient of Variation (CV)	
Gold	0.010
Mutual Funds	
Government Bond	0.010
Gold	
Mutual Funds	0.011
Government Bond	

Source: Data processed by researchers (2021)

Table 7 showed a significant difference from CV between gold and money market mutual funds, between gold and government bonds, and between money market mutual funds and government bonds, because of the $p\ value < 0.05$.

There is a significant difference because the results of the hypothesis test of return and risk also show a significant difference that affects the coefficient of variation of the three investment instruments. The results of this study are in line with the research conducted by Fitri & Septiarini, (2018) which states that there are significant differences between the coefficients of variation on several investment instruments.

Investment Decision

If viewed from the average return, then government bonds are the right instrument because they have the largest return. From a risk perspective, money market mutual funds are the right investment instruments because they have a low level of risk. The calculation of the coefficient of variation can compare return and risk so that it can determine the best investment instrument (Panwar, Jha, & Srivastava, 2018; Sorros, 2003; Brigham & Houston, 2010). Based on the calculation of the coefficient of variation, government bond is the best and most profitable investment instruments compared to money market mutual funds and gold. The smaller the value of the coefficient of variation indicates the smaller the risk and the greater the return on the investment instrument.

Several analyses to strengthen the results of the calculation of the coefficient of variation in choosing government bonds as the best investment instrument includes: Inflation. The average inflation for 5.5 years is 2.03%. If we compare it with the coupon rate for government bonds series FR0056 which is 8.375%, it can be concluded that government bonds can protect investment value from inflation because the bond coupon rate is higher than the inflation rate.

BI 7-Day Reverse Repo Rate. The coupon rate for government bonds series FR0056 is 8.375% higher than the benchmark interest rate of 3.5%, so investing in government bonds is more profitable. The low benchmark interest rate has a major impact on banks. Time deposits that have characteristics that are almost similar to bonds are affected by the low benchmark interest rate, namely lower deposit rates. This is advantageous for the bond market, particularly the sovereign bond market as investors with a conservative risk profile will switch to more profitable instruments with almost no risk.

CONCLUSIONS

Based on the research conducted, several conclusions can be found. The first one is there is no significant differences in return between gold and money market mutual funds, and there is a significant difference between return on gold and government bonds, and return on money market mutual funds and government bonds. The second one is there are a significant risk differences between gold, money market mutual funds, and government bonds. The last conclusion is there are a significant difference in the coefficient of variation between gold, money market mutual funds, and government bonds, and between money market mutual funds and government bonds. The smallest coefficient of variation is found in government bonds, the second smallest variation was money market mutual funds, and the highest coefficient value was a gold investment. Based on the analysis of the coefficient of variation, the best and most profitable investment instrument is government bonds compared to money market mutual funds and gold.

RECOMMENDATION

For further research, it is recommended to use daily data to capture the dynamic condition of the market. This study uses a simple calculation of return and risk, we suggest using another formula that more represent the real return and risk in later research.

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