Fair Value : Jurnal Ilmiah Akuntansi dan Keuangan
Volume 6, Number 3, 2024
P-ISSN: 2622-2191 E-ISSN : 2622-2205
Open Access: https://journal.ikopin.ac.id/index.php/fairvalue

Moderation of inflation on the macroeconomic effect on gold futures prices

Mochammad Rizaldy Insan Baihaqqy[1], Nani Emawati[2], Laely Purnamasari[3]
[1,2] Uninus
[3]Unlip PGRI Sukabumi
Baihaqqyriza@gmail.com, laelyjuli74@gmail.com

Article Info

Article history:
Received July, 4th 2023
Revised April, 8th 2024
Accepted April, 25th 2024

Keyword:
Inflation; Interest rate; Exchange rate; Gold Futures.

ABSTRACT

Investment is a way to be able to live more safely in the future. There are investment instruments, but historically, gold is an investment instrument that is still in demand by investors even though many new investment instruments have emerged, such as crypto. This is because gold is considered a safe investment when the world economy is in a crisis. This study uses a quantitative approach that uses macroeconomic and gold futures monthly data for 2016-2020. Based on the results of the study, it shows that interest rates have a negative influence on gold futures prices, meaning that the lower the interest rate, the higher the gold futures price. Exchange rates show no effect on gold futures prices. Inflation has a negative effect on gold futures prices, meaning that the smaller the inflation, the higher the gold futures prices. Inflation as a moderating variable shows the ability to change and strengthen the effect of interest rates and inflation on gold futures prices. The results of this study indicate the importance of portfolio diversification, because gold futures prices have different characteristics from stock prices.

INTRODUCTION

One of the commodities utilized across the world as a medium of trade or a form of payment is gold. Gold is regarded as one of the most beneficial commodities to invest in since, in addition to its tendency for price increases (Singer, 2012), gold is also a very liquid form of investment because it is recognized in every area and nation. Investors will move their money into real assets like precious metals or properties that are seen to be more practicable and secure when the prospective return on investing in stocks or bonds is no longer appealing and is thought to be inadequate to compensate for the current hazards (Siegel, 2021). The valuable metal known as gold is much sought after. The value of gold in Indonesia does not change all that much if its price drops since it tends to increase when measured in terms of the dollar relative to the rupiah.

Macroeconomics has an impact on gold prices, according to several research (Liya, et.al, 2021; Bin Sukri & Mohd Zain, 2015). The exchange rate is a measure of macroeconomics that has an effect on people's daily life (Egbunike & Okerekeoti, 2018). It indicates how much local money must be exchanged for one unit of foreign currency. The value at which two distinct currencies are traded against one another is referred to as the exchange rate. The rupiah exchange rate is the number of rupiah required to purchase one US dollar.

Different national currencies are used in international trade. The price of one country's currency relative to another country's currency is known as the foreign exchange rate. The foreign exchange market, or FX market, where various currencies are traded, is where exchange rates are decided. The current exchange rate will be used if you want to convert one national currency into another.

Macroeconomics is closely tied to the factors that investors take into account when making investments, particularly interest rates, which are crucial for a bank when taking money out of savings and granting credit. Banks may incur costs (cost of funds) by paying interest to depositors. However, due to the credit that debtors extend, interest can also be a source of income for banks. A monetary strategy chosen by the government to promote banking economic growth is interest rate policy. Bank Indonesia Certificate Interest Rates (SBI) provide information on monetary policy in Indonesia. This is so that Bank Indonesia may exert direct control over the SBI interest rate.

According to several earlier studies, inflation—a process of continually raising the cost of goods—is another significant part of macroeconomics that has an influence on the economy (Ball, 20170. The unfavorable economic circumstances in a nation frequently have an impact on the high rate of inflation. The incidence of inflation has a number of implications on economic activity, including effects on production, efficiency, and income.

As a result, there is an understanding of the significance of separating investment instruments. Portfolio theory teaches the idea of portfolio diversification, which is a notion that advocates not investing all funds in one type of investment. It is improbable that all of your money will be returned if you invest it all in one type of investment and it loses money. In order to lower portfolio risk, investments in the form of assets, assets, or securities are combined or added. The JCI will decrease when the stock market is unsteady. It follows that investors should direct their cash to alternative forms of investment, such as gold investment, since investing in the stock market is not a smart idea.

RESEARCH METHODS

This study's main goal is to investigate how macroeconomic factors such as inflation are influenced by gold futures prices. The descriptive and causal approaches were utilized by the researchers in line with the goals of the study. In an effort to provide an impartial and truthful description of the subject of research, the methodology utilized focuses on gathering scientific data. The goal of the research technique known as causality analysis is to demonstrate the causal connection between the variables under investigation. This analysis compares how macroeconomic factors may impact gold futures prices from 2016 through 2022.

The population for the analysis was based on macroeconomic statistics and gold futures prices for the years 2016 through 2022. In this study, the population as a whole—also referred to as a saturated sample—is employed as the research sample, assuming that it possesses complete financial data. The two primary data sources used in this study are IDX and the Central Bureau of Statistics. Additionally, particular data from every article was chosen in accordance with the needs of the study and then given as raw data in tables. Data analysis is done using the e-views9 tool, which runs several tests for linear regression.

RESULTS AND DISCUSSION

This study shows interesting results based on research data input, namely inflation is able to moderate the macroeconomic effect on stock returns, even inflation is able to change the effect of the exchange rate which before getting inflation moderation shows no effect on gold futures prices. This indicates that inflation is an important aspect for investors to sell or buy gold, so that changes in inflation can have an impact on investors' profits. This research model has an effect of 73% on changes in gold futures prices.

Table 1. Moderation Hypothesis Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.487165	1.462638	3.067858	0.0030
interest_rate	-0.326924	0.059009	-5.540289	0.0000
exchange_rate	-0.090470	0.100320	-0.901817	0.3699
inflation	-1.306577	0.382733	-3.413810	0.0010
interest_rate*inflation	0.062932	0.017201	3.658556	0.0005
exchange_rate*inflation	0.067333	0.025850	2.604709	0.0110

R-squared	0.747050	Mean dependent var	1.516119
Adjusted R-squared	0.730835	S.D. dependent var	0.262830
S.E. of regression	0.136359	Akaike info criterion	-1.078298
Sum squared resid	1.450320	Schwarz criterion	-0.904669
Log likelihood	51.28853	Hannan-Quinn criter.	-1.008501
F-statistic	46.07215	Durbin-Watson stat	0.448491
Prob(F-statistic)	0.000000		

Based on the results of the study, it shows that interest rates have a negative influence on gold futures prices, meaning that the lower the interest rate, the higher the gold futures price. Exchange rates show no effect on gold futures prices. Inflation has a negative effect on gold futures prices, meaning that the smaller the inflation, the higher the gold futures prices. Inflation as a moderating variable shows the ability to change and strengthen the effect of interest rates and inflation on gold futures prices.

According to the classical economic theory, precious metals are safe havens, which implies that investing in them has a minimal risk of loss and is thought to not lose purchasing value as a result of inflation or exchange rate changes (Bouoiyour, Selmi, & Wohar, 2019). According to the global history of central banks, keeping gold on hand (a gold reserve) is done so that debts can be paid, printed money can be guaranteed, and currency exchange rates can be kept stable (Ammous, 2018).

The movement of the national economy may be impacted by gold, according to theory. This is based on the idea that gold is a safe and risk-free alternative investment. The relationship between gold's price and stock market stock prices is often in the opposite direction (He, O'Connor, & Thijssen, 2018; Emmrich & McGroarty, 2013). The price of gold actually declines if the state of the capital market continues to improve. The price of gold will rise if the status of the capital market continues to deteriorate or is unstable. The rationale is that stocks are an investment form that is highly alluring, straightforward, and very simple to liquidate. Many individuals wish to purchase shares of the company if the stock price rises. The stock price will increase as a result. Many people rushed to sell their gold to buy shares after realizing the situation. As a result, the price of gold will be lowered.

Historically, the majority of the world's main economies ran on a gold standard in the late 19th and early 20th centuries (Bordo & Schwartz, 2009). Each nation keeps gold reserves and consents to trade 1 unit of its money for a specific quantity of gold. The global economy maintained a system of fixed exchange rates thanks to the gold standard. The worldwide transportation of gold by brokers during the time of the gold standard served as an automated mechanism for adjusting the money supply and stabilizing exchange rates. Due to the cost of shipping gold over the Atlantic Ocean, this mechanism does not entirely set exchange rates. But the global gold standard keeps exchange rates within a band that accounts for transportation expenses. This stops the exchange rate from fluctuating significantly and for a long time.

Moore (1990) looked at whether inflation and other market conditions had an impact on the price of gold. testing the association between leading signals and the New York gold market price since 1970 using inflation leading signals. According to empirical findings, from 1970 to 1988, there was a negative association between gold prices and stock/bond prices, meaning that when gold prices rise, the stock/bond market is in fall. However, research on gold prices, exchange rates, and premium gold by Twite (2002) revealed different findings. The findings demonstrated that the Australian capital market benefits from the price of gold.

In this study, the regulated exchange rate by inflation exhibits a favorable impact; theoretically, the currency exchange rate is the local exchange rate versus foreign currencies. The supply and demand of foreign currency in the foreign exchange market dictate these transactions. The exchange rate is the cost associated with exchanging two distinct currencies; this cost comparison between the two currencies is what is referred to as the exchange rate.

The price of a currency when converted into another is displayed via currency rates. Like with goods, supply and demand for the currency in question determine how much one country's currency is worth in relation to another country's currency. This law also holds true for the value of the rupiah exchange rate; if demand exceeds supply, the rupiah exchange rate will rise, and vice versa. If the nation follows a free floating exchange rate policy, where the exchange rate is decided by market forces, appreciation or depreciation will take place.

The movement of stock prices and capital market investment can both be impacted by changes in exchange rates. The loss of the rupiah's value versus the dollar raised the cost of imported products. This will raise the company's manufacturing expenses, which will result in lower profitability for businesses that employ imported raw materials in their manufacturing processes.

Rising and falling exchange rates, also known as foreign exchange rates, can happen in a number of ways, including on an official level set by the government of a nation that uses a managed floating exchange rate system or as a result of the market's attraction to supply and demand forces. Typically, changes in exchange rates happen for four reasons (Williamson, 2000), namely:

1) Depreciation, or the drop in the value of the local currency relative to a variety of other foreign currencies, happens as a result of the market's attraction to supply and demand pressures.
2) The price of a national currency rising versus a variety of other foreign currencies is known as appreciation. This happens as a result of the market's attraction to the forces of supply and demand.
3) Devaluation, which is a decline in the value of the national currency relative to several other foreign currencies, is a formal action taken by a nation's government.
4) Revaluation, which is carried out formally by a nation's government, is a rise in the value of the local currency relative to several other foreign currencies.

Bank Indonesia (BI) is required to preserve the rupiah's stability because it is the monetary authority. Increased base money (currency and demand deposits) will make the rupiah less stable. In order to minimize the extra base money, BI issues and sells SBI. The sale of SBI is prioritized to banking institutions and is issued as one of the mechanisms of open market operation. Nevertheless, SBI is accessible to the general public, including both private citizens and businesses. Public SBI purchases must be done through specified commercial banks, money market, and capital market brokers rather than directly through BI.

The dollar exchange rate is yet another element that affects the price of gold (O'Connor & Lucey, 2012). The value of the dollar has an inverse connection with the cost of gold. Bhunia & Pakira (2014) contend that if the value of the dollar falls, we should sell our dollars and acquire gold. due to the inverse connection between the two. This is because buying gold costs more money when the value of the dollar drops, which causes gold's price to increase.

In contrast, as the value of the dollar increases, fewer dollars are required to purchase gold, which causes its price to decrease. The claim that a decline in the value of the dollar decreases the price of gold is not always accurate. Investors will be more interested in gold investments as a result of the declining value of the dollar. The rupiah exchange rate "should" increase against the US dollar as the price of gold increases. On the other hand, when the price of gold declines relative to the dollar, the rupiah exchange rate "must" decline as well. The findings of study by Marzo & Zagaglia (2010), who discovered a positive correlation between the exchange rate and the price of gold, lend credence to this claim.

Macroeconomics, in the form of interest rates, represents the amount of loan or other investment payback that is over the repayment arrangement in a percentage that is decided by Bank Indonesia by issuing Bank Indonesia Certificates. Mentioning "one" interest rate when there are, of course, many different interest rate levels is one of the simplifications employed while studying macroeconomics. The period of the loan, the borrower's creditworthiness, and several other elements of the agreement between the borrower and the lender all affect this interest rate. Bank Indonesia establishes the interest rate policy in Indonesia through the BI rate. The monetary policy stance chosen by Bank Indonesia and subsequently communicated to the public is described by the BI Rate, which is a policy interest rate. The Indonesia Stock Exchange may shift in response to changes in interest rates.

Interest rates are another element that influences the price of gold. According to Apriyanti (2012), investors choose deposits over gold, which pays no interest, when interest rates rise. The price of gold will decline as a result. On the other hand, gold prices often rise when interest rates decline. This suggests that the impact of interest rates on gold prices is negative. A key element that might impact the price of gold is moderate inflation. A sustained rise in price over time is referred to as inflation. A single item's price increase cannot be said to constitute inflation unless it also affects the prices of other commodities. The general increase in product prices is known as inflation.

A broad and ongoing increase in the cost of commodities is referred to as inflation. The propensity for prices to consistently and generally go up is known as inflation. The process of steadily raising the cost of basic items is known as inflation. The Consumer Price Index (CPI), according to Bank Indonesia, is the statistic that is frequently used to calculate the inflation rate. The CPI fluctuates from time to time, reflecting changes in the cost of the public's packaged products and services. Because actual income levels also diminish as a result of inflation, people's buying power generally declines. People's purchasing power decreased as a result of the rise in market prices not being supported by an increase in income, and they favored saving their money in banking instruments over investing in equities. This is what contributes to the decline in the net asset value of equity funds.

The price of gold, a precious metal that is trusted and can hold its value and be used in transactions, has been impacted by changes in macroeconomic conditions. The state of the global economy affects the price of gold. But when it comes to capital fixing and long-term savings, gold is the most reliable and liquid asset. One of the best and most reliable principle savings (investment) products is gold. In addition, gold is frequently cited as the oldest and most reliable indicator of wealth and capital dimensions.

Inflation is one of the elements that influences the price of gold. The cost of gold and inflation are related. The possible impact of gold prices on inflation has garnered attention. The price of gold can act as a leading signal of inflation, much as other assets that have been discovered to anticipate inflationary behavior because their benefits inculcate inflation expectations. According to Hashim et al. (2017), there is a correlation between inflation and the price of gold. This implies that the price of gold will increase along with the pace of inflation. In contrast, the cost of gold will rise if the rate of inflation rises. The findings of Toraman, Basarir, and Bayramoglu (2011)'s study, which found a correlation between the US gold price and inflation, were also confirmed by that study's findings. However, according to study done in Malaysia by Siti Nurulhuda Ibrahim, Nurul Izzat Kamaruddin, and Rahayu Hasan and cited by Wicaksono, M. Y. (2016), there is a bad correlation between the rate of inflation and the cost of gold. This implies that the price of gold will decline as the rate of inflation rises. These findings are corroborated by study by Blose (2010), which found that changes in the rate of inflation would immediately affect the price of gold.

CONCLUSION

Gold is an investment instrument that is still in demand by investors even though many new investment instruments have emerged, such as crypto. This is because gold is considered a safe investment when the world economy is in a state of crisis. Based on the results of the study, it shows that interest rates have a negative influence on gold futures prices, meaning that the lower the interest rate, the higher the gold futures price. Exchange rates show no effect on gold futures prices. Inflation has a negative effect on gold futures prices, meaning that the smaller the inflation, the higher the gold futures prices. Inflation as a moderating variable shows the ability to change and strengthen the effect of interest rates and inflation on gold futures prices. The results of this study indicate the importance of portfolio diversification, because gold futures prices have different characteristics from stock prices.

REFERENCES

Ammous, S. (2018). The bitcoin standard: the decentralized alternative to central banking. John Wiley & Sons.

Apriyanti M. 2012. Anti Rugi dengan Berinvestasi Emas. Jakarta (ID): Pustaka Baru Press.

Ball, R. J. (2017). Inflation and the Theory of Money. Routledge.

Bhunia, A., & Pakira, S. (2014). Investigating the impact of gold price and exchange rates on sensex: an evidence of India. European journal of accounting, finance and business, 2(1), 1-11.

Bin Sukri, M. K. A., & Mohd Zain, N. H. (2015). The relationship between selected macroeconomic factors and gold price in malaysia. International Journal of Business, Economics & Law, 8(1).

Blose, L. E. (2010). Gold prices, cost of carry, and expected inflation. Journal of Economics and Business, 62(1), 35-47.

Bordo, M. D., & Schwartz, A. J. (Eds.). (2009). A retrospective on the classical Gold Standard, 1821-1931. University of Chicago Press.

Bouoiyour, J., Selmi, R., & Wohar, M. E. (2019). Safe havens in the face of Presidential election uncertainty: A comparison between Bitcoin, oil and precious metals. Applied Economics, 51(57), 6076-6088.

Egbunike, C. F., & Okerekeoti, C. U. (2018). Macroeconomic factors, firm characteristics and financial performance: A study of selected quoted manufacturing firms in Nigeria. Asian Journal of Accounting Research.

Emmrich, O., & McGroarty, F. J. (2013). Should gold be included in institutional investment portfolios?. Applied Financial Economics, 23(19), 1553-1565.

Hashim, S. L., Ramlan, H., Razali, N. H., & Nordin, N. Z. (2017). Macroeconomic variables affecting the volatility of gold price. Journal of Global Business and Social Entrepreneurship (GBSE), 3(5), 97-106.

He, Z., O'Connor, F., & Thijssen, J. (2018). Is gold a Sometime Safe Haven or an Always Hedge for equity investors? A Markov-Switching CAPM approach for US and UK stock indices. International Review of Financial Analysis, 60, 30-37.

Liya, A., Qin, Q., Kamran, H. W., Sawangchai, A., Wisetsri, W., & Raza, M. (2021). How macroeconomic indicators influence gold price management. Business Process Management Journal, 27(7), 2075-2087.

Marzo, M., & Zagaglia, P. (2010). Gold and the US Dollar: Tales from the turmoil. Available at SSRN 1598745.

Moore, Geoffrey H, 1990, "Gold Prices and a Leading Index of Inflation", Challenge, 33(4), pp. 52-56.

O'Connor, F. A., & Lucey, B. M. (2012). Gold's currency characteristics and its negative relationship with the US Dollar.

Siegel, J. J. (2021). Stocks for the long run: The definitive guide to financial market returns & long-term investment strategies. McGraw-Hill Education.

Singer, H. W. (2012). The distribution of gains between investing and borrowing countries (pp. 265-277). Palgrave Macmillan UK.

Toraman, C., Basarir, C., & Bayramoglu, M. F. (2011). Determination of factors affecting the price of gold: A study of MGARCH model. Business and economics research journal, 2(4), 37-50.

Twite, Garry, 2002, "Gold Prices, Exchange Rates, Gold Stocks and the Gold Premium", Australian Journal of Management, Vol. 27, No. 2 pp. 123-140.

Wicaksono, M. Y. (2016). Pengaruh Inflasi, Kurs Dollar dan Suku Bunga Terhadap Harga Emas di Indonesia. Jurnal Pendidikan dan Ekonomi, 5(2), 143-149.

Williamson, J. (2000). Exchange rate regimes for emerging markets: reviving the intermediate option (Vol. 60). Peterson Institute.