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ANALYSIS ON FACTORS INFLUENCE THE PRICE OF GOLD IN MALAYSIA

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Abstract:

Gold, a valuable and precious metal has been served as property and financial assets despite their uprising in prices. The price of gold keeps increasing in the long-run, however quite fluctuate and volatile in short-run. This paper inspired to identify the factors which influences the gold price in Malaysia with selected macroeconomics determinants such as inflation rate, interest rate and exchange rate in yearly period from 1980 until 2020. In achieving the objectives of this study, some diagnostic tests along with regression analysis were run and data analysed using STATA software. The findings reveal that inflation and exchange rate were significantly influenced the price of gold, while interest rate is statistically insignificant.

Keywords:

Gold Price, Inflation Rate, Interest Rate, Exchange Rate

Introduction

Gold is a valuable metal which is used both as a financial asset and property even in the past or present. In the past, gold was a basis system of money and later turned to be a reserve function pegged to Dollar following the Bretton Woods. Gold is known as a yellow, delicate, erosion safe component, the most flexible and mouldable metal. In recent years, the demand of gold has enlarged and widen with the extended use of gold both in the jewellery sector and in the industrial goods. Nevertheless, the alternative financial instruments and the developments in the financial sector have depletion the importance of gold as a store of value. Subsequently,

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the gold demand is likely to rise in the recent years, soon after the economic crises and people opt for more secure and safe investment tools. Therefore, the gold price rises once again under this condition.

In China, the interest for gold has quickly expanded when gold bars have been used as a customary manifestation of sparing. Generally, gold had a negative connection or correlation to stocks and other monetary tools. Throughout this line, gold is the perfect diversifier for a stock portfolio, where investors can diversify their investment by including gold in the portfolio. Despite the fact that the price of gold can be unpredictable in the short-term, gold has kept up its esteem over the long haul and serving as a support against the disintegration of the obtaining influence of paper cash. Gold is a critical piece of a differentiated speculation portfolio on the grounds that its cost increments when the estimations of venture like stocks and bonds decreasing.

As in Malaysia, according to an article written by Aziz (2021), gold prices are under pressure, where analyst predicts the future price of gold will fall below RM6,576 for 12 ounces or troy ounce. The gold market has sharply decreased, yet still volatile until now. He believes that Malaysian investors should have some gold in their portfolio to hedge against this slowdown global economic. Hence, researcher is inspired to examine the impact of the rate of inflation, rate of interest and rate of currency exchange with the prices of gold, and find out the most powerful determinant which influence the gold price in Malaysia. It is important for the investors to know the impact of selected macroeconomic factors on Malaysia's gold price. This study is significant to government where this will provide further information and knowledge to implement a good policy besides Bank Negara Malaysia can monitor or determine the appropriate level of interest rate and its impact on the country's gold reserve. Apart from that, it supplies vital information to hold a better decision framework when handling with gold market for the investor, fund manager, analyst and stockbroker and provide universal knowledge for future researcher on the factors that affecting the gold price.

Literature Review

Gold has high economic value and being a precious asset to the keeper. The gold price is influence by its supply and interest. The increase and decrease of gold price could be the preference and inconvenience for specific owners who particularly expects to make benefit from the change of the gold prices. Gold is a good hedging tool for inflation as the price of gold will rise up in response to an increment of inflation (Zakaria et al., 2015). This study found that the independent variables of interest rate, inflation rate and exchange rate are statistically significant in determining the price of gold in Malaysia. They employed Pooled Ordinary Least Square (POLS) method and used monthly data between the year 2000 to 2013. They said that continuous rising in inflation rate will boost the price of gold in future and 97% of the variation in gold prices were explained by these three independent variables.

A study done by Toraman et al. (2011) in USA, oil prices and exchange rate are the only significant factors which affect the gold price positive and negative respectively. Gold price and USA exchange rate had the highest correlation. Interest rate found to have no significant influence on the prices of gold between June 1992 and March 2010. They used MGARCH model estimated by CCC model to determine the impact of independent variables on the gold price. Authors claimed that the return of gold shown a non-linear change, where the relationship are non-linear when there is inefficient market. Dubey & Hardia (2014) revealed a linear correlation between inflation rate and gold price in India. They interested to investigate

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the determinants of gold price since it shown a steep rise, then the price increased almost thousand times January 2004 and December 2013.

A contrary result found by Sukri et al. (2015), there were a negative relationship between inflation rate and Gross Domestic Products (GDP) with gold price. In addition, the price of crude oil and exchange rate are negatively correlated with gold price in Malaysia from the year 2005 to 2014. This paper concerned on the relationship between macroeconomics factors and gold price (Kijang Emas) and used multiple regression analysis. Baur & Tran (2014) analysed 40 annual data from the year 1970 to 2011, aims the long run relationship of gold and silver prices. Based on the result, there is a prove that the gold prices and silver separated of decoupled on 1990s. A stable forecast relationship between gold and silver prices been predicted by former analyst and traders.

Białkowski et al. (2015) using regression method to observe an asset bubble exists in the gold market. Based on the regression on gold returns, they calculate fundamental value of gold and set it in relation to the actual price of gold. The results revealed that the gold return is negatively influenced by the changes in US exchange rate. Meanwhile, US inflation rate found to has positive relationship with the return of gold. Tully & Lucey (2005) study the dynamic relationship between the gold and silver. All statistics that shown as ratio to the critical values of 15.19 (95%) and 13.31 (90%) which signify a stable and strong relationship between gold and silver in both future markets and cash. As a conclusion for this finding, a stable relationship between gold and silver has been obtained in the long run. In the short run, unstable relationship existed in mostly one-year samples. Furthermore, Smales & Yang (2015) investigated the actions of the macroeconomic factors and futures of gold. A linear impact been found between unemployment and volume and volatility of gold price. As unemployment rate increase, the volume and volatility also will be increased. Other macroeconomic news released serve to increase volume and volatility but it has no significant relationship.

Jones & Sackley (2014) test the ability of gold as hedging tool against rate of inflation both the long-run and short-run determinants of the price of gold. The result shown gold can be considered as a safe-haven during financial crises and also proved as long-term and effective hedging tool. Multi linear regression model have been used by Ibrahim et al. (2014) to find the determinants that influencing the prices of gold in Malaysia. This study indicated a negative significant impact between inflation rate and exchange rates on gold prices. Mukherjee et al. (2017) using linear regression method in their research which is to estimating import of demand elasticity for gold in India. They derived the price and income elasticities of physical import demand for gold. The empirical result show that the import demand in India have positive effect on total gold demand and jewellery demand purchased by Indians.

A specific research paper by Beckmann et al. (2015) only focused on the relationship and patterns between gold price and exchange rate which denominated in five different currencies. Researchers provided a basis for gold being strong hedge tool in their model. They revealed that increase in currency of their sample countries will give a negative impact on the gold price after one day, however it turns to be in positive way after two days. US denominated gold prices predicted to increase soon after dollar depreciated. In addition, a fluctuation in dollar exchange rate resulted in strong hedging tool of gold price. Md Hashim et al. (2017) found that the price of crude oil has a positive relationship with the gold price, while other variables of inflation rate, interest rate, gross domestic product, and exchange rate indicated a linear relationship. They studied the factors affecting gold price of four gold largest consumer, they

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are Saudi Arabia, Turkey, United State, India and China and 20 years data were taken from the year 1996 to 2015.

Gaspareniene et al. (2018) aimed to determine whether ARIMA model is suitable for estimating the short-term volatility of gold prices. The study found that the price of gold is affected by the volatility in the price of silver, the price of platinum and inflation rate. The empirical analysis shown ARIMA model can be used as suitable method for forecasting the gold price future trend. Another forecasting model been developed by Abdullah & Abu Bakar (2015) in between gold price and interest rate. The model will be an advantage for managers to have forward price in capital market.

Methodology

This research intends to look for some empirical evidence on the macroeconomic factors which can explain the gold price. The data collected from various secondary sources such as websites, reports and online database, which covered from the year 1980 until 2020. Researcher transformed all the data into log form in order to meet normality assumption and a way to normalize the data. Correlation coefficient and Pooled Ordinary Least Square (POLS) regression analysis are used to satisfy the said research objectives.

Findings

Descriptive Statistic

Table 1 shows the descriptive statistics for normality, multicollinearity and heteroscedasticity test of the variables concern in this study. The mean and medium value of each of the variables need to be nearly with each other in order to consider it as a normal data. The mean value of gold can be seen is close with its value of median, then gold is a normal data based on rule of thumb. Similar to other variables of inflation rate, interest rate and exchange rate, where their data are normal distributed. The residuals of this model are also normal as referred to the probability value measured by Skewness and Kurtosis test, where it shows insignificant value, which means the residuals is normally distributed. The distribution of residuals is skewed to the right at very low peak and this model is fit, stable and reliable. For another diagnostics test, Variance Inflation Factor (VIF) test is used to detect the multicollinearity problem in the model. Table shows 3.36 for mean VIF, which indicates no multicollinearity problem exist as the value is below 10 as per rule of thumb. Other than that, the set of data having the same pattern or homogeneity since Cook-Weisberg test shows insignificant value of probability.

Table 1: Descriptive Statistics and Diagnostic Test

	Mean	Median	Skewness	Kurtosis	Probability
Gold	6.3371	6.0355			
Inflation Rate	4.3403	4.3885			
Interest Rate	1.4300	1.5640			
Exchange Rate	1.1337	1.1521			
Residuals			0.998	0.801	0.9686
Mean VIF					3.36
Cook-Weisberg					0.5876

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Stationary Test

Augmented Dicker Fuller (ADF) test is employed to test the stationarity of the data. Based on Table 2, all data are in stationary form at first difference level as referring to the value of first difference, which are significant, hence researcher rejects null hypothesis.

Table 2: Augmented Dicker Fuller Test

Variables	At level	First Difference
Gold	0.9869	0.0030
Inflation Rate	0.0323	0.0001
Interest Rate	0.5156	0.0001
Exchange Rate	0.5095	0.0001

Multiple Linear Regression

The value of R-squared in the table below shows 62.40% of the variation of inflation rate, interest rate and exchange rate are able to explain the gold price in Malaysia. The remaining of 37.6% of the price of gold is explained by other determinants which are not tested in this study. The F statistic value is 20.36, which more than 3 as per rule of thumb, interprets the model is support the relationship result and this model is fit and strong based on significant value of probability F statistic.

Inflation and exchange rate found to have significant impact on the gold price, shown by the significance value, while interest rate is statistically not significant in explaining the gold price. As any 1 unit increase in inflation rate will increase the price of gold by 2.5 unit. This positive direction implicit that gold is a good hedging tool for inflation as any increment in inflation will spike the price of gold. Besides that, exchange rate shows any 1 unit increase in currency exchange rate will reduce the gold price. When the currency depreciated in Ringgit against USD, it will reduce the gold price. Depreciation in currency means reducing in consumers' purchasing power however will protects the purchasing power of the gold holders. Both results are in line with Zakaria et al. (2015). As for interest rate, any 1 unit increase in interest rate will not give any impact on the gold price (Toraman, 2011). From this POLS result, inflation rate found to be the most impactful determinants in influencing the prices of gold.

Table 3: POLS Test

Variables	Gold		
	Coefficient	Standard Error	P value
Constant	-2.1286	1.1700	0.078
Inflation Rate	2.5000	0.3921	0.000
Interest Rate	-0.0191	0.0648	0.770
Exchange Rate	-2.0766	0.6132	0.002
R-squared		0.6562	
Adjusted R-squared		0.6240	
Prob > F		0.000	
F statistic		20.36	

Conclusion and Recommendation

This study shed the impact of selected macroeconomics factors on the prices of gold in Malaysia. Based on the result, inflation and exchange rate are the factors which give impact on the gold price, where they can be the significant determinants to predict future price of gold. Inflation rate is the most significant factor which give powerful impact on the gold prices.

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Researcher achieves all the research objectives by employed Pooled Ordinary Least Square (POLS) regression analysis. Future researchers are suggested to include more regressor of other factors such as crude oil price, gross domestic product, import and export of goods and services, or any other macroeconomics variables in order to generate other potential findings. In addition, expanding the sample of study also recommended. Instead of focused gold prices in Malaysia, it would be great if researcher can study in other countries as well, for example the main producers of gold (South Africa, United States, Canada, Australia and China. Then, a panel data approach can be employed for this study instead of time series.

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