

# **An Analysis of the Relationship between Gold Price and US Dollar Exchange Rate in Myanmar**

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## **Abstract**

The aim of this research was to study the relationship between foreign exchange rate and gold price of Myanmar. Accordingly, this study examines the trends of gold price and US dollar from April 2014 to March 2018 in Myanmar. Only secondary data were used in the study and there comprise of daily closing gold price and US dollar exchange rate. Descriptive statistics and correlation coefficient was used to analyze the relationship between gold price and US dollar exchange rate for study period. Granger causality model was used to explore whether gold price and US dollar exchange rate cause with each other. Negative relationship was found between gold price and US dollar exchange rate. It also was found that causality have between gold price and US dollar exchange rate mutually. It is found that US dollar is gradually appreciate during the study period. Appreciation of US dollar may be able to provided export-led-growth policy for development in Myanmar. Central Bank should always monitor not only situation of foreign exchange market but also authorized dealers in the market. Financial planners should always monitor economic and political situation which can affect on US dollar in Myanmar to assess investment opportunities.

**Key words: Gold price, US dollar exchange rate, Negative relationship**

## **I. Introduction**

In worldwide countries, gold price is dollar-denominated; therefore, the fluctuations of dollar rate have a great impact on gold price. Generally, the dollar fell, gold price rose; the dollar rose, gold price fell. The main reasons are as below:

First, the dollar's ups and downs represent the market confidence in dollar assets. The dollar rose, the investors buy dollar-denominated assets to get profit; while the U.S. dollar fell, part of the funds lose confidence in dollar assets in favor of buying gold in order to preserve and increase the profit.

Second, the falling dollar, the exchange rate of euro, yen and other currencies rose, so that the gold price denominated in other currencies is relatively cheap in the domestic gold market, which attracts investors and customer to buy. There capital inflows naturally promote the rise of gold price.

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As in other Asian countries, gold is a very popular investment and store of value for local entrepreneurs and regular people alike. In a country with an antiquated banking system, many people see gold as a very safe investment. Myanmar has had an independent gold market for many decades which means that the gold price in Myanmar is not necessarily determined by international gold prices, and there can often be differences between prices in London and Yangon. Those looking to take advantage of these price differences will need to understand a few things about the Myanmar gold market.

The first is that it is very difficult to determine the purity of Myanmar gold. Strict standardization has never been implemented in Myanmar, meaning that purities can vary widely depending on the source. The second is that it is illegal to export Myanmar gold, which means buying cheap gold in Myanmar and then exporting it to other countries is not an option for honest businesses. Gold in Myanmar is sold by the Kyat Thar, which can either be bought in nuggets or in jewelry form. An advantage of the gold market in Myanmar is that it is very liquid. (Myanmar's economy and investment)

## **II. Research Objectives**

The main objective of the study is to investigate the relationship between gold price and US dollar exchange in Myanmar. Accordingly, the following subsidiary objectives of the research are as follow;

1. To analyze the trend of gold prices and US dollar exchange rates
2. To analyze the relationship between gold prices and US dollar exchange rates.

## **III. Research Methodology**

The secondary source of data was used for data collection. Data of gold price per ounce (1 tical is 0.578 ounce) in Myanmar and U.S dollar in Myanmar for 6 years had been collected through various websites. Particularly, it was collected from Central Bank of Myanmar; References exchange rate history, [www.goldbroker.com](http://www.goldbroker.com), [www.tradingeconomics.com](http://www.tradingeconomics.com). To identify relationship between gold price and U.S dollar, descriptive statistics, correlation coefficient is utilized. Granger Causality test was used to examine whether gold price cause US dollar or US dollar cause gold price.

#### **IV. Literature Review of Gold Price and Exchange Rate Relationship**

A lot of existing recent literature is available about the relationship between exchange rate of US dollar with respect to the various currencies and gold prices in those nations.

Tully & Lucey, (2007) investigated the relationship between gold prices and exchange rate of US Dollar. They used six different models of GARCH family in their study. Their analysis concludes that an APGARCH model is best fit model for the datasets used in the analysis which included data for various economic variables over the 1983–2003 period and both spot and average futures prices of gold. The study provided reference to the equity market crash of 1987 and 2001. The study confirms that the though few macroeconomic variables have a statistically significant impact on gold prices, the exchange rate of domestic currency to US dollar is the main and important factor which has a strong impact on gold prices.

(Capie, Mills, & Wood, 2005) in their study on Gold as a Hedge against the US Dollar did a detailed analysis about if gold is a perfect hedge against US dollar. They collected abundant data for spot prices of gold and the exchange values of currencies from the London markets. They ensured that exchange rate and gold price data were of same day. They checked the relationship of gold with various currencies not only for the entire period but also for various sub periods. The study concluded that gold is a good hedge against adverse exchange value of US Dollar to home currency. The study provided for various statistical evidences for their claims.

In another study, (Capie, Mills, & Wood, 2004) used weekly data for last thirty years for spot prices of gold, exchange rate of Great Britain Pound and Japanese Yen to US Dollar to understand up to what extent gold has acted as a hedge against exchange rate adversities. The study used GARCH model for the analysis. They concluded relationship between gold and exchange rates of the currencies to USD is inelastic and negative. But the nature and the strength of this relationship has shifted over time. The hedging property of yellow metal is highly dependent on political events and political uncertainty.

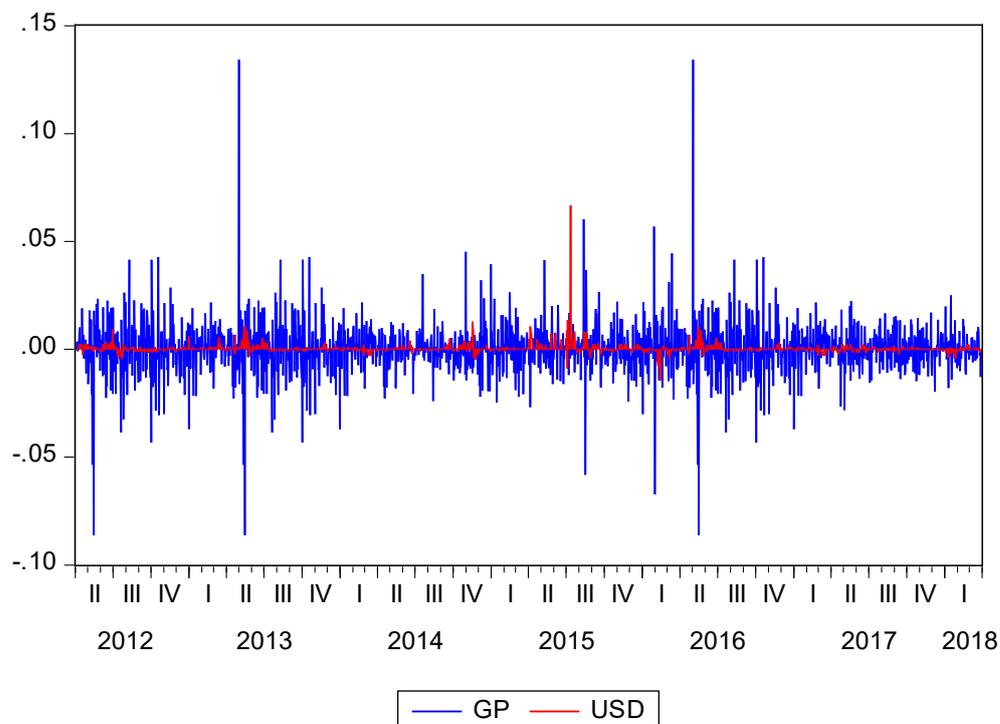
#### **V. Data Analysis**

In this research, secondary data were used. Time series data of daily gold price and daily US dollar exchange rate were employed. Gold price is dependent variable and US dollar exchange rate is independent variable. Closing prices of two variables on the last trading time of that day are used. Daily gold price per ounce (1 tical is 0.578 per ounce) and US dollar exchange rate in Myanmar were obtained from gold spot price in Myanmar:goldbroker.com

website and Reference Exchange history: Central Bank of Myanmar. Myanmar official exchange rate started April 2012 authorized by Central Bank of Myanmar. Therefore, gold price and US dollar exchange rate was collected 1 April 2012 to 31 March 2018 for 6 years. All data analyzed here are daily observations covering the period from 2012-04~2018-03 and total in 2187 data points available.

### A. Descriptive Statistics

**Figure 1. Gold Price and US Dollar Exchange Rate**



Source: Secondary Data

**Table 1. Basic Descriptive Statistics**

	Period	GP	USD
<b>Mean</b>	2012-04~2018-03	0.000145	0.000208
<b>Std. Dev.</b>	2012-04~2018-03	0.011317	0.002030
<b>Max.</b>	2012-04~2018-03	0.134156	0.066667
<b>Min</b>	2012-04~2018-03	-0.086138	-0.014423

Source: Secondary Data

Figure (1) shows gold price and US dollar exchange rate from 2012-04~2018-03 and Table (1) shows the basic descriptive statistics of gold price and US dollar exchange rate.

Some interesting facts are revealed in Figure (1) and Table (1). First, US dollar exchange rate has fluctuated within 800 Kyat between April 2012 to May 2013. And then, US dollar exchange rate increase above over 900 Kyat from 2013. It is sharply rise to 1028 Kyat in November 2014. From November to the end of March 2015 is closed at 1027 Kyat. From 2016, US dollar exchange rate does not below 1000 Kyat. Then US dollar exchange rates steadily increase following months over 1200 Kyat. The highest exchange rate and lowest exchange rate are 1375 Kyat on December 2016 and 830 Kyat on April 2012. On the other hand, gold price is around about 1000000 Kyat at the earliest year of study. Gold price is sharply increased April 2012 to 1380000 Kyat. It rises steadily from April 2012 to 1480000 Kyat in the start of February 2013. However, gold price decreased about 1190000 Kyat in end of 2013. From 2013, gold price does not decrease below 12000000 Kyat per ounce. Highest gold price is 1800000 Kyat in March 2018 and lowest gold price is 1100000 Kyat in June 2014. Second, gold price is much more volatile than US dollar exchange rate as price fluctuation. Third, the average price of gold from 2012-04~2018-03 is 0.000145 and average US dollar exchange rate is 0.000208. Fourth, the price of gold and US dollar exchange rate reached a high of 0.134156 and 0.066667.

## B. Correlation Analysis

**Table (2) Correlation between Gold Price and US Dollar Exchange Rate**

	2012-04~2018-03	
	Gold Price	US Dollar
Gold Price	1.000000	-0.048270
US Dollar	-0.048270	1.000000

**Source: Secondary Data**

Table (2) presents the correlation matrix of gold price and US dollar exchange rate. It's clearly observed that gold price has negative correlation with US dollar exchange rate. This result indicated that when US dollar depreciates against other major eventually it rises gold demand, led to increase gold price, vice-versa. The negative coefficient of 0.048270 implied when US dollar one unit increases, gold price would decrease by Kyat 4.82 per ounce.

### C. Granger Casuality Test

The Granger Causality is used to examine whether gold price cause US dollar exchange rate change or US dollar cause gold price change.

**Table (3) The Result of Pairwise Granger Causality Test between Gold Price and USD Exchange Rate**

	<b>F-Statistics</b>	<b>Prob.</b>	<b>Decision</b>
Null Hypothesis			
USD does not Granger Causality Cause GP	0.57518	0.7504	Accepted
GP does not Granger Causality Cause USD	0.78198	0.5840	Accepted

Source: Secondary Data

The results and decision of Granger Causality Test are given in table. The null hypothesis is rejected when the P-value is less than 5%. On the other hand, in case the P-value is more than 5%, the null hypothesis is accepted. As a result, the test indicates there are not exists bidirectional causality between gold price and US dollar exchange rate for Six years (2012-04~2018-03).

### VI. Finding and Discussion

This study firstly analyzes the trend of gold price and US dollar exchange rate in Myanmar. US dollar exchange rate has fluctuated within 800 Kyat between April 2012 to May 2013. Exchange rate sharply rises to 1300 kyat in 2015. Dollar price goes down below 1000 kyat in October 2014 and it continually rising above 1000 kyat. Highest exchange rate was found in December 2016 to 1375 kyat.

At the earliest year of study period gold price is round about 1000000 kyat per ounce (1 tical is 0.578 per ounce) Gold price is sharply increase April 2012 to 1380000 kyat. It rises steadily from April 2012 to 1480000 kyat in the start of February 2013. However, gold price decreased about 1100000 kyat in June 2014. Highest gold price is 1700000 kyat in March 2017. Myanmar gold price is slightly stable. It was found increasing and decreasing price frequently. Myanmar gold price is closely linked to the world price of gold.

In the analysis of relationship between gold price and US dollar in Myanmar, gold price is considered dependent variable and US dollar is independent variable. Negative

relationship was found relationship between gold price and US Dollar exchange rate in the study period of 2012-04~2018-03.

From the estimation output from correlation model, gold price and US dollar had showed significant. The negative relationship indicated when US dollar depreciated against other currencies, gold price was moving higher price and vice versa. This relationship proved that gold played in vital role in hedged against US dollar exchange rate.

As the result of Granger Causality Test, the test indicated that the hypothesis of US dollar exchange rate does not granger causality cause gold price is accepted. Therefore, the change of US dollar exchange rate does not cause gold price movement. And, the hypothesis of gold price does not granger causality cause US dollar exchange rate is accepted. Therefore, the movement of gold price does not impact on US dollar changing.

## **VII. Suggestions and Recommendations**

The study concluded that the relationship between gold prices and US exchange rate in Myanmar. The trend of gold had been introduced in many literatures as the hedge against economic uncertainty. This study could provide financial planners some hints of monitoring gold price movement and US dollar exchange rate. In many research, negative relationship between gold price and US dollar exchange rate in other country was found. The properties of safe asset and hedging capabilities suggested that the dollar price of gold should increase when exchange rate of dollar against other currencies depreciates.

In this study, it was found negative relationship by analyzing with correlation coefficient. It is assumed that investors are used to buy and hold gold when US dollar depreciates against other major currencies. They also invest gold if they have surplus money in sound economic situation. Gold demand also depends on economic situation of the country. However, it not only be for gold demand. It closely related to economic situation, political situation, climate and gold demand and so on. Similarly, US dollar movement depends on other situation of certain country.

On the other hand, Myanmar gold price is closely linked with world gold price. Therefore, Myanmar gold price can change as world gold price movement. World gold price should always be monitored to access investment opportunities. Due to Myanmar gold price is closely related to world gold price, it can establish gold stock as the country. To be strong gold stock market, as the country have to adopt strong rules and regulation, foreign investment policy. Myanmar gold exchange was established on 5 January 2016. It makes country develop in foreign exchange market. Therefore, investor can trade both currency and

gold by online in foreign exchange market. Continuously, it also closely related to gold price and exchange rate, it should monitor both gold exchange market and foreign currency exchange market.

Myanmar has long been experiencing military regime since 1988. Since then, Myanmar did not experience remarkable economic growth due to international and external factors. For example, the on-going reforms, inflations, multiple exchange rate system, black market activities and foreign sanctions. These factors have contributed to the stagnation and even declination of Myanmar's economy. In Myanmar, currency exchange rate has become one of the main factors that hampers the development efforts. Stable foreign exchange rate is essential for several reasons. Foreign exchange rate is closely influence on the international trade leads to more demand on kyat than US dollar in terms local currency become strong. In the other hand, deficit in international trade leads to more demand on US dollar and foreign exchange rate increases.

US dollar market of the United State which is a largest economic country of the world economy can effect on the global economy. There may be positive impact on one country but also negative impact on another country due to US dollar market. Generally, if the economies of a country become growth, the currency value of that countries is also used to improve. Consequently, the development of state owned enterprises and foreign companies lead to improving the production and service, reducing unemployment, controlling the inflation rate, increasing the stock price. Similarly, the movement of US dollar has impact on Myanmar which is a become globalization country. Reason for appreciation of US dollar in Myanmar accordance with global economies. In the facts of the provided the appreciation of dollar in Myanmar or dollar demand and supply in Myanmar, dollar demand is more than supply. When the review of demand site according to export-import measurement, import is larger than export. Alternatively, the supply site is reviewed that it encompasses not only product export but also foreign earing service exports such as hotel and transportation, foreign investment companies and non-government organization and remittances of migrated labors in foreign country.

Due to appreciation of dollar, there may be both positive impact and negative impact on Myanmar economy. Appreciation of dollar might increase the price of imported goods. It leads to higher inflation and impact on reducing public's purchasing power. However, practically, the effects are directly related to categories of imported good. Currently, the categories of imported goods are investment goods, inter-industrial use and consumer goods. The most of the imported goods are the investment goods. Hence, appreciation of dollar does

not impact on current commodity price and encourage for long-term development without afraid for deficit of payment of trade as import more than export. Therefore, appreciation of dollar is a huge affords to be more develop in the export aspect. Appreciation of dollar or depreciation of kyat might persuade to buy Myanmar products for cheaper. Particularly, stabilization needs to maintain for making more trade.

### **VIII. Scope and Limitations of the study**

Daily price of gold and U.S dollar in Myanmar was collected for 6 years, starting from 2012-04 to 2018-03. The price of gold and exchange rate are the market price authorized by CBM and thus it does not consider other region's price of gold shop, money changer and so on. The study was analyzed only relationship between gold price and exchange rate.

### **IX. Conclusion**

This study examined the relationship between gold price and US dollar exchange rate in Myanmar. Findings indicate that there is a negative relationship by analyzing with correlation coefficient. The trend of gold price and US dollar exchange rate is gradually appreciated during the study period. And the result of Granger Causality reveals that there is no causal relationship exist between the gold price and US dollar exchange rate. This study could provide financial planners some hints of monitoring gold price movement and US dollar exchange rate.

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