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Forecasting Gold Price: An Application of Auto Regressive Integrated Moving Average Model

M. O. Faruk[1] and **M. M. Hossain**[1,*]

[1]Department of Statistics, Jahangirnagar University,
Savar, Dhaka, Bangladesh;
Email : omorfarukju8@gmail.com

[*]Corresponding Author;
Email : mmhmm.justat@gmail.com

ABSTRACT

In recent years, the trend of the global gold price has attracted a lot of attention and the price of gold has terrifying spike compared to historical trend. In this paper, an attempt has been made to develop a model for forecasting the gold price. The sample data of gold price (in USD per ounce) were taken from January, 1950 to January, 2018. This paper uses the Box-Jenkin's Auto Regressive Integrated Moving Average (ARIMA) methodology for building the forecasting model. Results advocate that ARIMA(1,1,2)(1,1,2)12 is the most suitable model to be used for predicting the gold price.

Keywords: Gold Price, Model Selection, Forecasting, ARIMA Model.
Mathematics Subject Classification: 62-07, 62M10, 91B84
Journal of Economic Literature (JEL) Classification : C22, D53

1. INTRODUCTION

Gold is a very demandable metal all over the world. This yellow metal has taken a lot of attention to every class of people in our society. People investing in gold have mostly two main objectives, one being it is a hedge against inflation as, over a period of time, the return on gold investment is under control with the inflation rate, and hereafter diversify the risk and will help you reduce the overall volatility of your portfolio. Investing in gold have progressed over a period of time for traditional ways by purchasing the jewelry or by the modern way as buying the gold coins and bars or by investing in Gold Exchange traded fund (Gold ETF). Gold ETF is in the financial instrument of mutual fund in nature which in turn invests in gold and these are listed in a stock index (Guha and Bandyopadhyay, 2016).

Ismail, et al., (2009) developed a forecasting model for predicting gold price using Multiple Linear Regression (MLR). Shahriar and Erkan (2010) carried out a study on the global gold market and gold price forecasting. Abdullah (2012) addressed the forecasting of gold bullion coin prices through the ARIMA model and observed an upward trend in the selling prices of gold bullion coin and might be a

The results of this paper are mainly essential for policymakers as well as gold exporters. This is also useful for investment decision making of investors as well. However, the future research work can be explored by using an alternative approach such as ANN, SVM and wavelet analysis for improving the predicting power of gold price.

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