

MODELLING VOLATILITY OF THE GOLD PRICES BY USING GENERALIZED AUTOREGRESSIVE CONDITIONAL HETEROSCEDASTICITY METHOD: THE CASE OF TURKEY*

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Abstract

When the world economies are taken into consideration, gold market maintains its function as a traditional investment place. The volatility in the gold prices can be seen as an indicator of non-stability for the market as a whole. Under such circumstances, the investors rearrange their savings proportion. This situation affects the economy on a great scale, resulting the employment of alternative investment instruments depending on the supply demand equilibrium. In this study, the volatility of gold prices is empirically investigated. Initially the natural logarithm of the gold market index has been taken in hand to be adjusted, in order to avoid from instabilities due to potential fluctuations. Following this, as monthly data has been employed, seasonal effects need to be inspected searching to find out whether unit root exists. After verifying the hypothesis of stationary, modeling has been taken place using the best ARIMA method by the help of some diagnostical tests. Following this, volatility is being tested by ARCH LM test. After choosing the most proper model of volatility, with the help of ARCH-M method, whether the volatility is being included in the model forecasted, has been examined. According to the results of the study, the series of gold prices was volatile and the volatility was eliminated, modeling it GARCH (2,1) model. Thus, a state enabling to measure the risk more seriously is provided.

Keywords: Modelling, Volatility, Gold Price, ARIMA, ARCH LM, Turkey

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