

# Developing A Gold Price Predictive Analysis Using Grey Wolf Optimizer

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**Abstract** - As the value of gold cannot be blindly rejected, forecasting the future prices of gold has long been an intriguing topic and is extensively studied by researchers from different fields including economics, statistics, and computer science. The motivation for these studies is naturally to predict the future prices so that gold can be bought and sold at profitable positions and reduce the risk of investment. However, there are still a lot of untackled questions and room for improvements in these forecasting techniques. This is because there are no optimal models for all forecasting problems. Different question needs a different answer; therefore, more experiments and modeling need to be done in order for researcher to enhance their findings. The target of this paper is to present a gold forecasting techniques using one of the optimization algorithm called Grey Wolf Optimizer (GWO).

**Keywords**—*Gold Price Forecasting; Swarm Intelligence; Grey Wolf Optimizer*

## I. INTRODUCTION

Historically, gold is the oldest precious metal known to man and for thousands of years it has been valued as a global currency, a commodity, an investment or simply as an object of beauty. The World Gold Council estimates that all the gold ever mined amounts to 174,100 metric tons in 2009[1]. If this supply were divided equally among the world's population, it would work out to less than one ounce a person, that's how scarce the gold is.

large business groups including Daewoo, Samsung and Hyundai involved ordinary Korean citizens donating their personal gold treasures which have been melted down into ingots ready for sale on the international markets. Hence, it is proven that a small proportion of a portfolio in gold could be invaluable in moments when cash is essential. Its importance lies in reflecting the expectations of the investors, marking the trends and expectations of growth and decline of the world economies.

This paper will give a review on methods that had been developed and tested by researches in order to tackle the influences and predicts the price of gold and proposed the use of GWO with feature selection as a method to forecast the gold price.

Rest of the paper is organized as follow; Section II covers the background of the work related to this field. Methodology and data processing is covered in Section III. Experimental study and the analysis of the results are covered in Section VI, followed by the concluding remarks.