Forecasting and Volatility Modelling of Euro/USD Purrency Pair during the Pandemic and Pre-pandemic Period

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Abstract: Euro/USD is the world's most liquid currency pair. US$ is the world most dominant currency as being present on one side of the trades almost 88% of time while Euro occupied the second spot. Daily closing price of Euro/USD was obtained for one year during the pre-pandemic period and the most recent closing prices during the pandemic period. During the pre-pandemic time it was found thatMSARIMA-GARCH (2,1) provided the best out of sample forecast but none of the econometric time series model could beat the Random Walk model. Present day volatility in the same period was explained by volatility of the previous day but not by news/shocks emerging from USA or European Union of the previous day. In the pandemic period volatility in the Euro/USD was time invariant, hence a safe-haven for the investors to safe guard themselves from the losses due to chaos in the financial markets. Importantly MSARIMA model could outperform the Random Walk model for the 3 day time horizon.

Keywords: MSARIMA, GARCH, E-GARCH, Volatility, Forecasting

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