Perbandingan metode GARCH BEKK dan matriks varian-kovarian untuk penaksiran votalitas mata uang VaR

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Abstrak

Value-at-Risk (VaR) is the most popular tool for risk measurement in banking and finance industry today. The study estimates the volatility for market risk measurement to calculate diversified VaR. Using Multivariate GARCH BEKK proposed by Engle and Kroner (1993) and variance-covariance matrix methods, this paper compares both methods in generating volatility forecast to estimate diversified VaR particularly for market risk. The paper examines three exchange rates: GBP/USD, USD/JPY, and USD/SGD, from the period of 2000 to 2005. The empirical result shows that GARCH BEKK model performs better, though has more sophisticated specification, than variance-covariance matrix method in estimating the volatility. The estimation results are as follows: VaR estimation generated by GARCH BEKK is 0.1388% which leads to capital charge of 5.2063%; while estimation generated by variance-covariance matrix is 0.1982% which leads to capital charge of 7.433%. The results also show that the volatility changes significantly every 125 observations or at least once in three months. This concludes that volatility forecast should be evaluated at least every three months.