Assessing the accuracy of risk models in the Malaysian market

Abstract

This paper presents Value-at-Risk (VaR) models that are integrated with several volatility representations to estimate the market risk for the Malaysian non-financial sectors data. The models are used to obtain daily volatility forecasts and these volatilities are used to estimate the Value-at-Risk (VaR) for each sector based on the Monte Carlo Simulation (MCS) approach. In a sample over the years from 1993 until 2010 for three non-financial sectors sample namely Industrial Product (INP), Property (PRP) and Trade and Services (TAS) sectors, the expected maximum losses were quantified at 95% confidence level. Several accuracy tests namely the Kupiec, Christoffersen and Lopez tests are conducted to complement the estimates. The final results provide evidence that consideration of fat-tails and asymmetries are crucial issues when deciding to estimate VaR in managing financial risk.