

Volatility Switching between Two Regimes

Authors : Josip Visković, Josip Arnerić, Ante Rozga

Abstract : Based on the fact that volatility is time varying in high frequency data and that periods of high volatility tend to cluster, the most successful and popular models in modelling time varying volatility are GARCH type models. When financial returns exhibit sudden jumps that are due to structural breaks, standard GARCH models show high volatility persistence, i.e. integrated behaviour of the conditional variance. In such situations models in which the parameters are allowed to change over time are more appropriate. This paper compares different GARCH models in terms of their ability to describe structural changes in returns caused by financial crisis at stock markets of six selected central and east European countries. The empirical analysis demonstrates that Markov regime switching GARCH model resolves the problem of excessive persistence and outperforms uni-regime GARCH models in forecasting volatility when sudden switching occurs in response to financial crisis.

Keywords : central and east European countries, financial crisis, Markov switching GARCH model, transition probabilities

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