

Volatility and Stylized Facts

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Abstract : Measuring and controlling risk is one of the most attractive issues in finance. With the persistence of uncontrolled and erratic stocks movements, volatility is perceived as a barometer of daily fluctuations. An objective measure of this variable seems then needed to control risks and cover those that are considered the most important. Non-linear autoregressive modeling is our first evaluation approach. In particular, we test the presence of “persistence” of conditional variance and the presence of a degree of a leverage effect. In order to resolve for the problem of “asymmetry” in volatility, the retained specifications point to the importance of stocks reactions in response to news. Effects of shocks on volatility highlight also the need to study the “long term” behaviour of conditional variance of stocks returns and articulate the presence of long memory and dependence of time series in the long run. We note that the integrated fractional autoregressive model allows for representing time series that show long-term conditional variance thanks to fractional integration parameters. In order to stop at the dynamics that manage time series, a comparative study of the results of the different models will allow for better understanding volatility structure over the Tunisia stock market, with the aim of accurately predicting fluctuation risks.

Keywords : asymmetry volatility, clustering, stylized facts, leverage effect

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