

In the thesis we deal with modelling volatility conditional on past shocks. Traditional ARCH and GARCH models proposed by Engle(1982) and Bollerslev(1986) are investigated as well as several generalizations of GARCH model that capture asymmetric reaction on positive and negative excess returns, namely GJR-GARCH, TGARCH and EGARCH. Selected models are then applied to four commodities traded on Chicago Mercantile Exchange that represent various sectors of commodity market. Our first key finding is that in short horizon all considered models have similar performance, while in longer horizon, EGARCH and TGARCH give more precise results. The second is that, measured by an average percentage error, there is no significant difference in quality of predictions among selected assets across commodity sectors.