



Quasi-likelihood estimation of GARCH models with missing values

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This work presents a new method to deal with missing values in financial time series. Previous works are generally based in state space models and Kalman filter and few consider ARCH family models. The traditional approach is to bound the data together and perform the estimation without considering the presence of missing values. The existing methods generally consider missing values in the returns. The proposed method considers the presence of missing values in the price of the assets instead of in the returns. The performance of the method in estimating the parameters and the volatilities is evaluated through a Monte Carlo simulation. Value at risk is also considered in the simulation. An empirical application to NASDAQ 100 Index series is presented.

Keywords: Financial time series; incomplete time series; conditional expectation and variance; volatility of aggregated returns.