



A Functional Version of the ARCH Model

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Improvements in data acquisition and processing techniques have lead to an almost continuous flow of information for financial data. High resolution tick data are available and can be quite conveniently described by a continuous time process. It is therefore natural to ask for possible extensions of financial time series models to a functional setup. In this paper we propose a functional version of the popular ARCH model. We will establish conditions for the existence of a strictly stationary solution, derive weak dependence and moment conditions, show consistency of the estimators and perform a small empirical study demonstrating how our model matches with real data.

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