

## Problem Set 5

Due on April 6

1. What is an ARCH model?
2. What is a GARCH model?
3. What are typical innovations used in an ARCH or GARCH model?
4. Why is a GARCH model a popular model for financial log-returns?
5. If  $(X_t)_{t \in \mathbb{Z}}$  is a GARCH( $p, q$ )-process, is the kurtosis of  $X_t$  smaller, equal or larger than 3?
6. Do there exist generalizations of GARCH models?