Asymptotic expansion for the asymptotically conditionally normal law

Nakahiro Yoshida, University of Tokyo and Japan Science and Technology Agency

Abstract

The quasi-likelihood estimator of the volatility parameter is in general asymptotically mixed normal. In case the limit is normal, the asymptotic expansion was derived in Yoshida (PTRF 1997) as an application of the martingale expansion. The expansion for the asymptotically mixed normal distribution is then interesting to develop the higher-order inference for the volatility. We discuss asymptotic expansion of a martingale with asymptotically mixed normal distribution.