



# Parametric inference and forecasting in continuously invertible volatility models

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We introduce the notion of continuously invertible volatility models that relies on some Lyapunov condition and some regularity condition. We show that it is almost equivalent to the ability of the volatilities forecasting using the parametric inference approach based on the SRE given in [16]. Under very weak assumptions, we prove the strong consistency and the asymptotic normality of the parametric inference. Based on this parametric estimation, a natural strongly consistent forecast of the volatility is given. We apply successfully this approach to recover known results on univariate and multivariate GARCH type models and to the EGARCH(1,1) model. We prove the strong consistency of the forecasting as soon as the model is invertible and the asymptotic normality of the parametric inference as soon as the limiting variance exists. Finally, we give some encouraging empirical results of our approach on simulations and real data.

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