



Time Series Analysis

Outlook

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Not Covered

Not covered

- Spectral time series models and frequency domain.
- State space models and Kalman filter.
- More details on filtering and smoothing.
- Dynamic regression models, e.g., distributed lag and autoregressive distributed lag.
- Nonlinear models, e.g., threshold autoregression, smooth transition autoregression, etc.
- Long memory and fractional integration.

Outlook

Further R Packages

Further R packages

- *dlm*: Maximum likelihood, Kalman filtering/smoothing, Bayesian analysis of normal linear state space models.
- *dse*: Multivariate time series modeling with state-space and vector ARMA (VARMA) models.
- *FinTS*: R companion to Tsay (2005).
- *forecast*: Univariate time series forecasting, including exponential smoothing, state space, and ARIMA models.
- *fracdiff*: ML estimation of ARFIMA models and semiparametric estimation of the fractional differencing.
- *longmemo*: Functions for long-memory models.
- *mFilter*: Time series filters, including Baxter-King, Butterworth, and Hodrick-Prescott.
- *Rmetrics*: Some 20 packages for financial engineering and computational finance, including *fGarch*.
- *tsDyn*: Nonlinear models STAR, ESTAR, LSTAR.

Further R packages

For more details and links see CRAN task views:

<https://CRAN.R-project.org/view=TimeSeries>

<https://CRAN.R-project.org/view=Econometrics>

<https://CRAN.R-project.org/view=Finance>