

JDemetra+ v3.x R ecosystem

Overview

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JDemetra+ algorithms in R (1/2)

By domain of use:

- Seasonal adjustment of low frequency data
 - rjd3x13 (Reg-Arima + x11 based decomposition)
 - rjd3tramoseats (Tramo+ AMB decomposition)
 - rjd3sts (Basic structural models)
 - rjd3stl (Local regression)
- Seasonal adjustment of high frequency data
 - rjd3highfreq (extended airline model + extended AMB decomposition)
 - rjd3x11plus (extended X11)
 - rjd3sts (basic structural models)
 - rjd3stl (local regression)

JDemetra+ algorithms in R (2/2)

By domain of use:

- **Filtering and trend estimation**
 - rjd3filters
 - rjd3x11plus (local polynomials)
- **General purpose tools**
 - rjd3toolkit (specifications, tests, regressors)
 - rjd3sts (state space framework)
 - rjd3filters (generating moving averages)

JDemetra+ algorithms in R (3/3)

By domain of use:

- Tools related to GUI (workspaces)
 - rjd3providers (input data)
 - rjdemetra3 (workspace wrangling)
- Non Seasonal Adjustment related tools
 - rjd3bench (benchmarking and temporal disaggregation)
 - rjd3revisions (revision analysis)
 - rjd3nowcasting(nowcasting)

General Features

- modular organisation: independent specific functions
- “stand alone” tools (not only retrieving results from SA processing) such as
 - Tests (seasonality, auto-correlation, normality, randomness...)
 - (Fast) Arima Modelling and UC decomposition
 - Flexible Calendar (and other) regressors generation
 - State space frame work as a toolbox (rjd3sts)

Extensions to SA of high frequency data

Acceptable data frequencies

- Low frequency data: p in 2, 3, 4, 6, 12 is admissible in all algorithms
- In packages for HF data
 - no constraint on data input as no TS structure (numeric vector)
 - any seasonal patters, positive numbers

Package structure

- **rjd3highfreq** contains pre-processing (Reg-Arima modelling) and AMB decomposition
- **rjd3x11plus** contains all the extended X11 functions for any (high) frequency data, and new trend estimation filters (weighted polynomials)
- **rjd3stl** (Loess based) and **rjd3sts** (ssf based) are the two other ways to decompose high (any)- periodicity data.