

ROME, October 14, 2024

INFORMAL MEETING #1

Seasonal adjustment processes in statistical production

ALESSANDRO PIOVANI | alessandro.piovani@istat.it

Istat | Directorate For Methodology and Statistical Process Design

Seasonal Adjustment process

- Seasonal adjustment process requires:
 - storage of data: raw and seasonally adjusted (SA), external regressors
 - storage of specifications
 - updating of the data
 - binding data and specifications
 - processing

Storage

○ Workspace (WS):

- data and specifications together
- in general one workspace per domain (many time series data and spec. together)
- WSS created with
 - GUI: link to external sources (e.g. files, db)
 - RJDemetra/rjd3: data embedded in workspaces (😊)









○ Production Data Bases

- records = single time series (not domains)
- model specifications history: revision checks

DB models for statistical production: concurrent revision

– SETTING 1: Domain workspaces

Time series name	Metadata	Values	Domain
FATEXP_I0	...	<10, 9.4, 8.9,...>	FAT
C_DEFL	...	<1.2, 3, 2.6,...>	FAT
VATPIA	...	<3.1, 3, 2.8,...>	TUR
VATAIA	...	<1.6, 2.2, 2.7,...>	TUR
...

Domain	T	Workspace (data+spec)
FAT	1	
FAT	2	
FAT	...	
FAT	N	
TUR	1	
TUR	2	
TUR	...	
TUR	N	

1) download data and ws, `update_data()`, decide specs (with GUI), `compare_sa_ts(*, **)` to contain revisions



2) upload

3a) `check_data()`









3b) `check_external_regressors()`

4) Processing (RJDemetra/rjd3/cruncher)

DB models for statistical production: concurrent revision

– SETTING 2: Single series workspaces

Time series name	Metadata	Values	Domain
FATEXP_10	...	<10, 9.4, 8.9,...>	FAT
C_DEFL	...	<1.2, 3, 2.6,...>	FAT
VATPIA	...	<3.1, 3, 2.8,...>	TUR

Time series name	T	Workspace (data+spec)
FATEXP_10	1	
FATEXP_10	2	
FATEXP_10	...	
FATEXP_10	N	
C_DEFL	1	
C_DEFL	2	
C_DEFL	...	
C_DEFL	N	
...

1) `merge_workspaces()` and download (or viceversa)

2) `update_data()`

3) `check_data()` and `check_external_regressors()`

4) Decide new specifications (with GUI)

5) `compare_sa_ts(*, **)`

6) `split_workspace()` and upload

6) Processing
(RJDemetra/rjd3
/cruncher)

DB models for statistical production: concurrent revision

– SETTING 3: Separate specs and data (single series)

Time series name	Metadata	Values	Domain
FATEXP_I0	...	<10, 9.4, 8.9,...>	FAT
C_DEFL	...	<1.2, 3, 2.6,...>	FAT
VATPIA	...	<3.1, 3, 2.8,...>	TUR

Time series name	T	Workspace (data+spec)
FATEXP_I0	1	{...}
FATEXP_I0	2	{...}
FATEXP_I0	...	{...}
FATEXP_I0	N	{...}
C_DEFL	1	{...}
C_DEFL	2	{...}
C_DEFL	...	{...}
C_DEFL	N	{...}
...	...	{...}

6) Processing
(RJDemetra/rjd3/cruncher)



1) Download **data** and **specifications**

2) `ws_new = JD_JSON_to_workspace(data_t, specifications_t)`

`ws_old = JD_JSON_to_workspace(data_t-1, specifications_t-1)`

3) Decide new specifications (with GUI having `ws_new` as input), being helped by `compare_sa_ts(ws_new, ws_old)`

4) `JD_JSON_from_workspace(data_t, specifications_t)`

5) Upload new JSON specifications

`{...}, {...}, {...}, {...}`

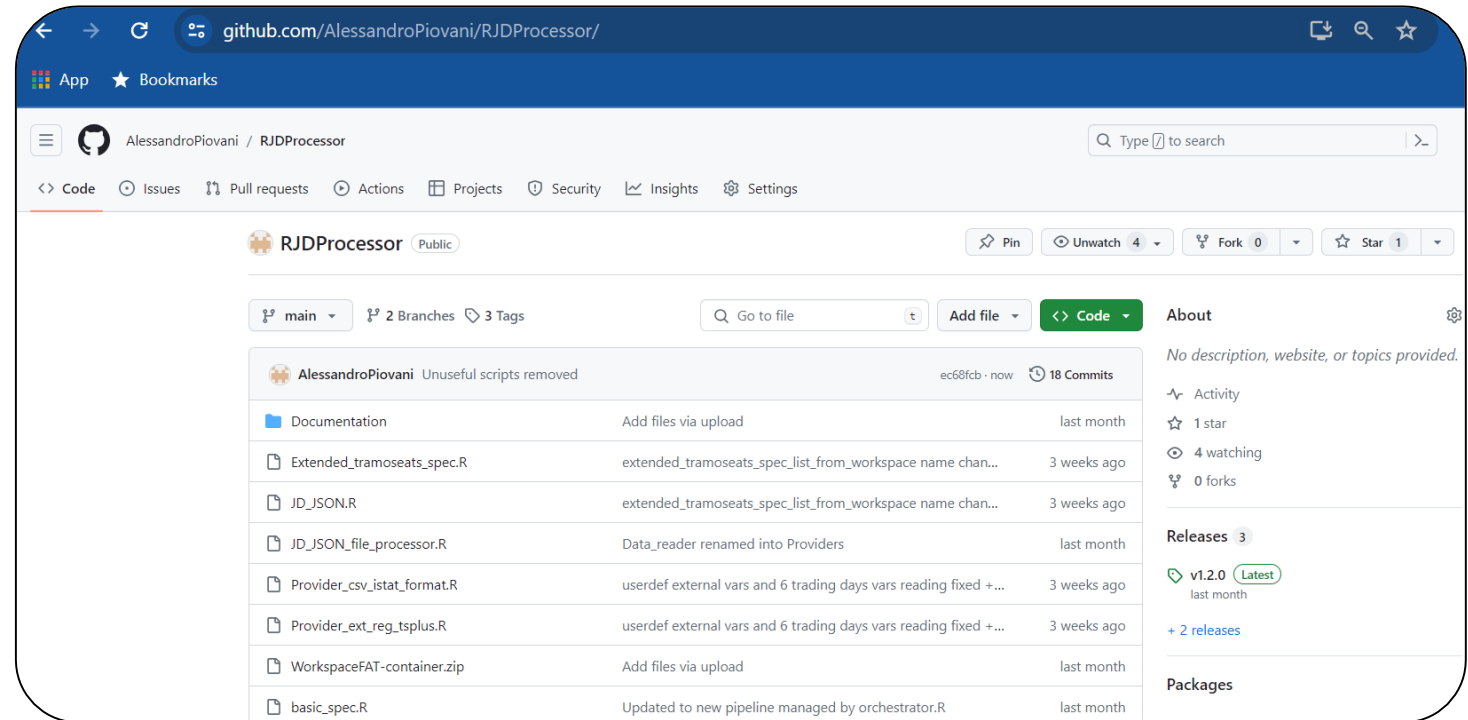
Source code

Source code is available on GitHub:

<https://github.com/AlessandroPiovani/RJDProcessor>

For information contact me at:

- alessandro.piovani@istat.it
- alessandro.piovani13@gmail.com



Thanks for your attention!

ALESSANDRO PIOVANI

alessandro.piovani@istat.it