Triple Filter: measuring trajectory with INFLATION

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Abstract

The R package **INFLATION** provides functions to estimate the core inflation. Apart from the established exclusion (`core.ex`), trimming (`core.ma`) and double weighting (`core.dp`) core inflation filters the package brings a new way to estimate core inflation. In countries with higher inflation rates than traditional OECD countries, as is the case of Brazil, the existent filters do not seem to deliver much information about prices' level. To address this issue, we implement the Triple-Filter core inflation. This method consists of trimming the mean with smoothed items, perform a seasonal adjustment and finally applying moving average. This paper constitutes a companion paper to the package, introducing the core functions parameters, detailing all the core estimation techniques and providing implementation details. It also presents examples where the Triple Filter outperforms the more orthodox alternatives.

Keywords: inflation, core, filter, R.

1. Introduction

This template demonstrates some of the basic latex you'll need to know to create a JSS article. (Quah and Vahey 1995)

2. Exclusion Core Inflation

The exclusion core inflation is easy to understand and doesn't demand much computational power which makes it a big asset. With this method we perform an exclusion of some of the prices' index items.

2.1. Compute time series' standard deviation

$$\sigma_i = \sqrt{\frac{\sum_{t=1}^{T} (\pi_{i,t} - \bar{\pi}_i)^2}{T-1}} \tag{1}$$

Where:

- σ_i is item's i standard deviation
- $\pi_{i,t}$ is the item's i variation in time t ;
- $\bar{\pi}_i = \frac{\sum_{t=1}^{T} \pi_{i,t}}{T}$

Don't use markdown, instead use the more precise latex commands:

- Java
- **plyr**
- print("abc")

3. R code

Can be inserted in regular R markdown blocks.

```
R> x <- 1:10
R> x
```

```
 [1]  1  2  3  4  5  6  7  8  9 10
```

References

Quah D, Vahey SP (1995). "Measuring core inflation." *The Economic Journal*, pp. 1130–1144.

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