

Breaks and the Statistical Process of Inflation: The Case of Estimating the ‘Modern’ Long-Run Phillips Curve

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Expanded Table 4 from the Paper

A referee drew our attention to Fryzlewicz (2014), Frick *et al.* (2014), James and Matteson (2015) from the statistical estimation of break point literature that are readily available as an R package. These three break point estimation techniques were run using our inflation data and the results are reported in Table 4b below (which mirrors Table 4 in the paper). It is interesting that the break dates are similar to the common breaks identified and referred to in the paper.

References:

Frick, K., Munk, A., and Sieling, H. (2014). Multiscale change point inference, *Journal of the Royal Statistical Society: Series B (Statistical Methodology)*, vol. 76, pp. 495-580.

Fryzlewicz, P. (2014). Wild Binary Segmentation for multiple change-point detection, *The Annals of Statistics*, vol. 42, pp. 2243-2281.

James, N. A. and Matteson, D. S. (2015), ecp: An R Package for Nonparametric Multiple Change Point Analysis of Multivariate Data, *Journal of Statistical Software*, vol. 62, pp. 1-25.

Table 4b: Some Further Estimates of Breaks in Mean Inflation

<i>Model</i>	<i>Number</i>	<i>Break Dates</i>
Frick, K., Munk, A., and Sieling, H. (2014). Multiscale change point inference, <i>Journal of the Royal Statistical Society: Series B (Statistical Methodology)</i> , vol. 76, pp. 495-580.		
1. SMUCE*	2	1972Q1 1982Q2
2. FDRseg**	3	1965Q3 1973Q1 1981Q4
Fryzlewicz, P. (2014). Wild Binary Segmentation for multiple change-point detection, <i>The Annals of Statistics</i> , vol. 42, pp. 2243-2281.		
3. Wild Binary Segmentation	3	1966Q4,1972Q1 ,1981Q4,
4. Binary Segmentation	2	1972Q1, 1982Q2
James, N. A. and Matteson, D. S. (2015), ecp: An R Package for Nonparametric Multiple Change Point Analysis of Multivariate Data, <i>Journal of Statistical Software</i> , vol. 62, pp. 1-25.		
5. Probabilistic Pruning.	3	1973Q1 1982Q2 1996Q4
6. Divisive Hierarchical Estimation	3	1968Q1, 1982Q2, 1995Q1.
7. Kolgomorov Smirnov Fit	2	1968Q1, 1982Q2.

Notes: The packages to estimate the above techniques can be downloaded and run from R Studio at www.rstudio.com. *SMUCE refers to the simultaneous change-point inference. **FDRSeg refers to the False Discovery Rate Segmentation. The estimated breaks dates reported here are conducted on the default setting of each estimation procedure using a probability of break rejection of 5 per cent.