

Computational Resources for

Kim J. H. Choi, I, 2017, Unit Roots in Economic and Financial Time Series: a Re-Evaluation at the Decision-based Significance Levels. Econometrics, Special Issue "Celebrated Econometricians: Peter Phillips"

- The program is written in R, a free open-source programming language for statistical computing.
- Install R from <https://cran.r-project.org/>
- The program returns the decision-based significance levels based on the calibration rules.
- The file "KimChoi2017.zip" should be placed in your working directory (below called "tem").
- Unzip and run the program as a source as below
- You will be prompted to enter the values of c, p, k and X0.
- The decision-based levels are shown for the model with c (constant only) and ct (constant and trend) for the following tests:

ADF: Augmented-Dickey Fuller test

PP: Phillips-Perron test

GLS-DF: DF-GLS test of Elliott et al. (1996)

ERS-P: point optimal test of Elliott et al. (1996).

- See Section 3 and Table 2 of the paper for details.

At R console, enter the following commands

```
> setwd("d:/tem")
> unzip("kimchoi2017.zip")
> source("kimchoi2017.R")
Enter the value of c between 0 and 30: 10.3
Enter the value of p between 0 and 1: 0.25
Enter the value of k between 0 and 10: 0.25
Enter the value of x0 between 0 and 6 in absolute value: 3
      c      ct
ADF   0.2508462 0.2982269
PP    0.2433258 0.2900032
GLS-DF 0.1351599 0.2644211
ERS-P  0.1503330 0.2582218
> source("kimchoi2017.R")
Enter the value of c between 0 and 30: 10.3
Enter the value of p between 0 and 1: 0.25
Enter the value of k between 0 and 10: 1
Enter the value of x0 between 0 and 6 in absolute value: 3
      c      ct
ADF   0.4410409 0.6479164
PP    0.4411538 0.6415226
GLS-DF 0.2240330 0.4893710
ERS-P  0.2442859 0.4949115
> |
```

The above results replicate the first two entries of Table 2.