DUAL ADJUSTMENT SOFTWARE

(DAS)

USER GUIDE

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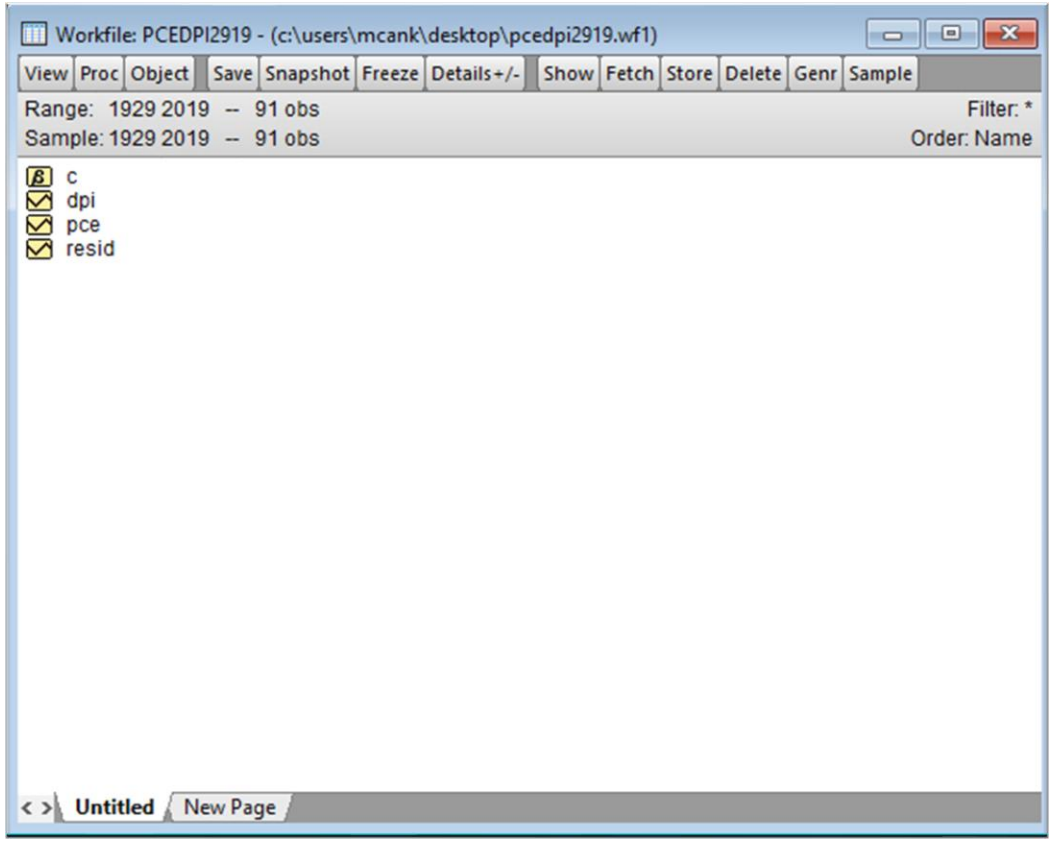
The Aim

- Dual Adjustment Software (DAS) is a program created to analyse the dual movements of time series variables in line with **the dual adjustment approach** [see İsmihan (2019) and İsmihan and Küçüker (2019) for more detail].
- In this guide, we will show how to use DAS program with EViews software to do dual adjustment analysis.

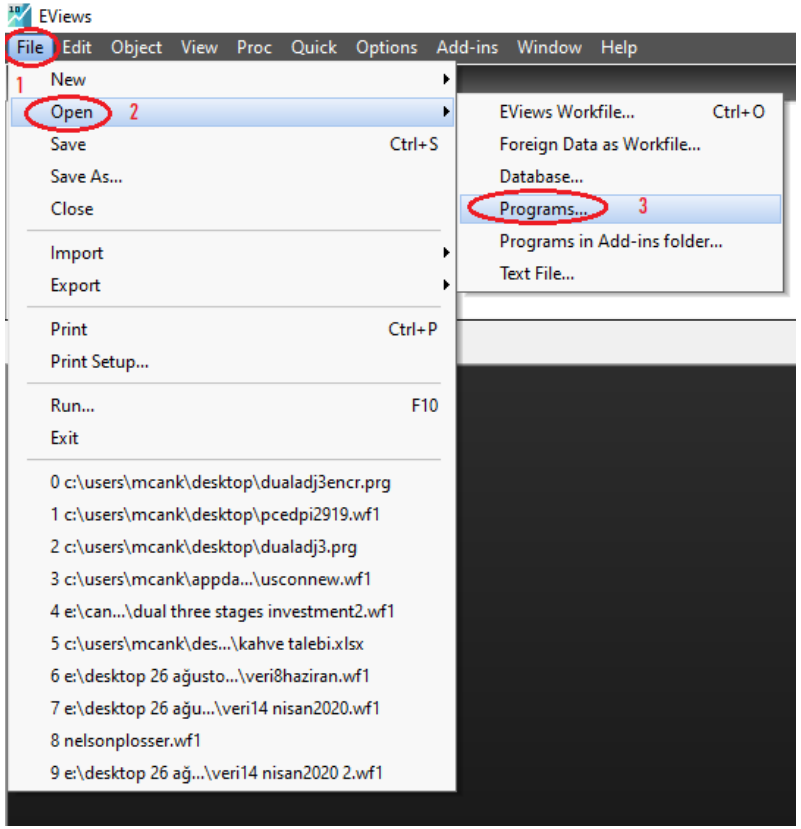
Application: US consumption function

- **Pcedpi2919.wf1** contains annual data from 1929 to 2019.
- The data are from FRED II.
- **pce** - Real Personal Consumption Expenditures (in billions of chained 2012 dollars).
- **dpi** -Real Personal Disposable Income (in billions of chained 2012 dollars).

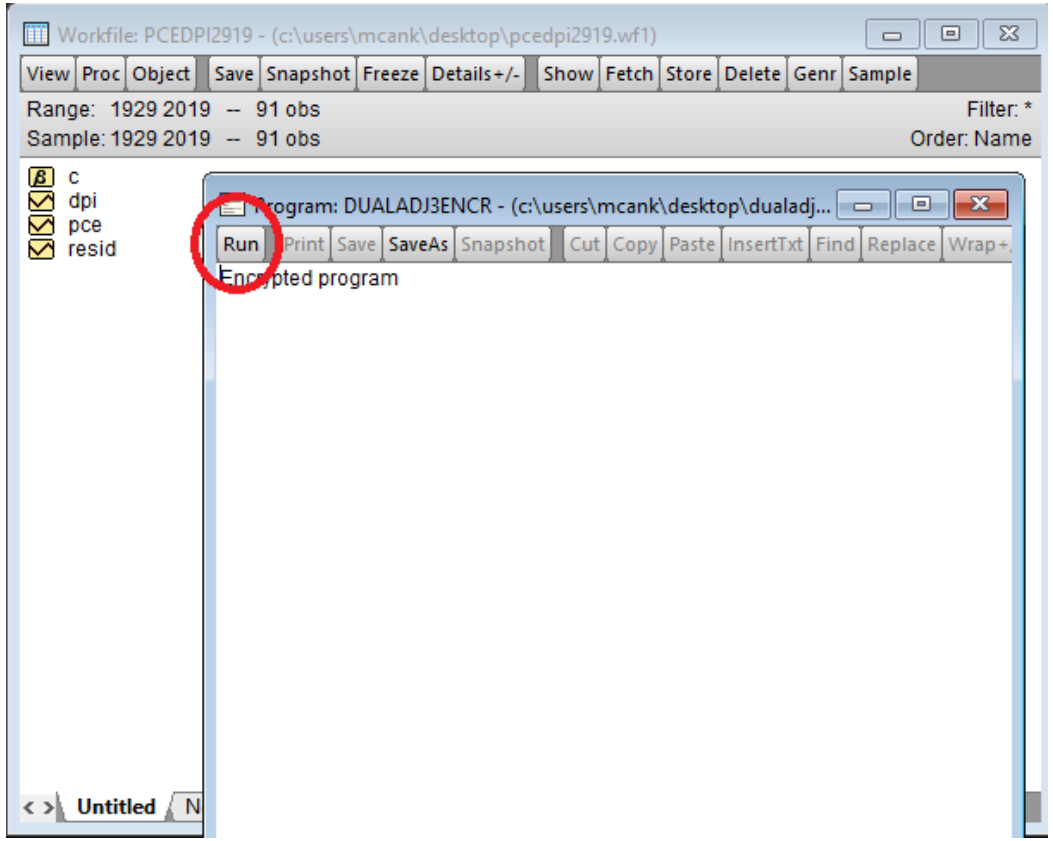


To open DAS in Eviews;

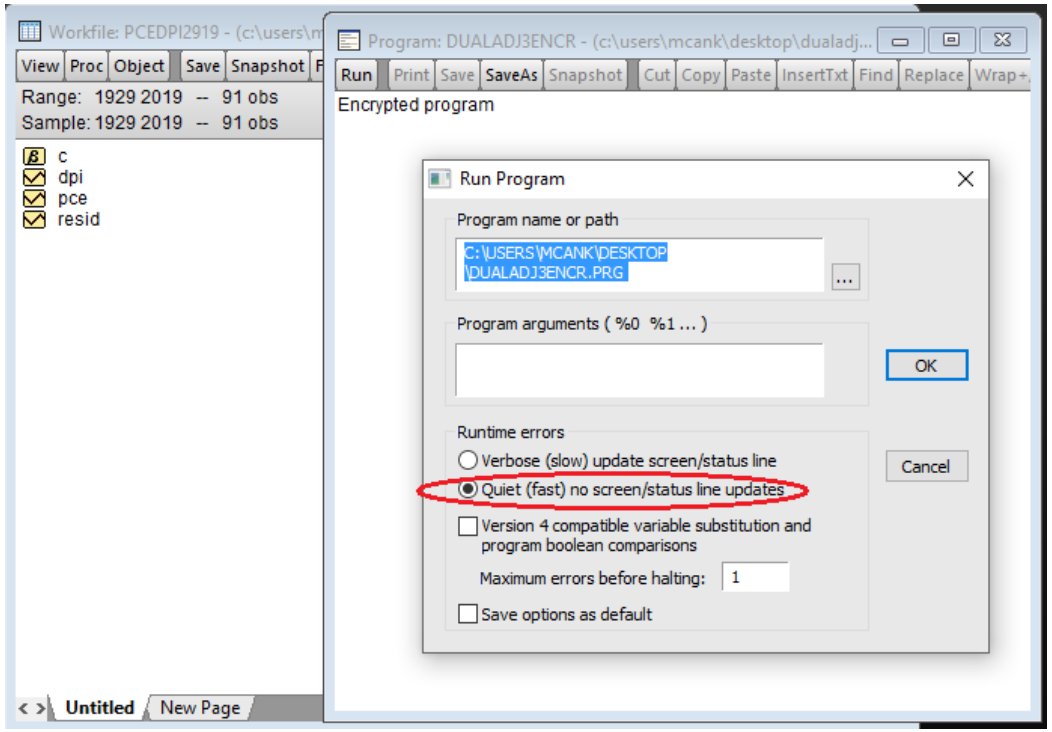
- Click File > Open> Programs…
- When you select the «Programs…» menu, you will see a standard Windows file dialog. Navigate to your download directory and double click on the «dualadj3encr.prg».
- You may also drag the **dualadj3.encr.prg** file onto the Eviews window to open it.
- After this step, the program window will open.



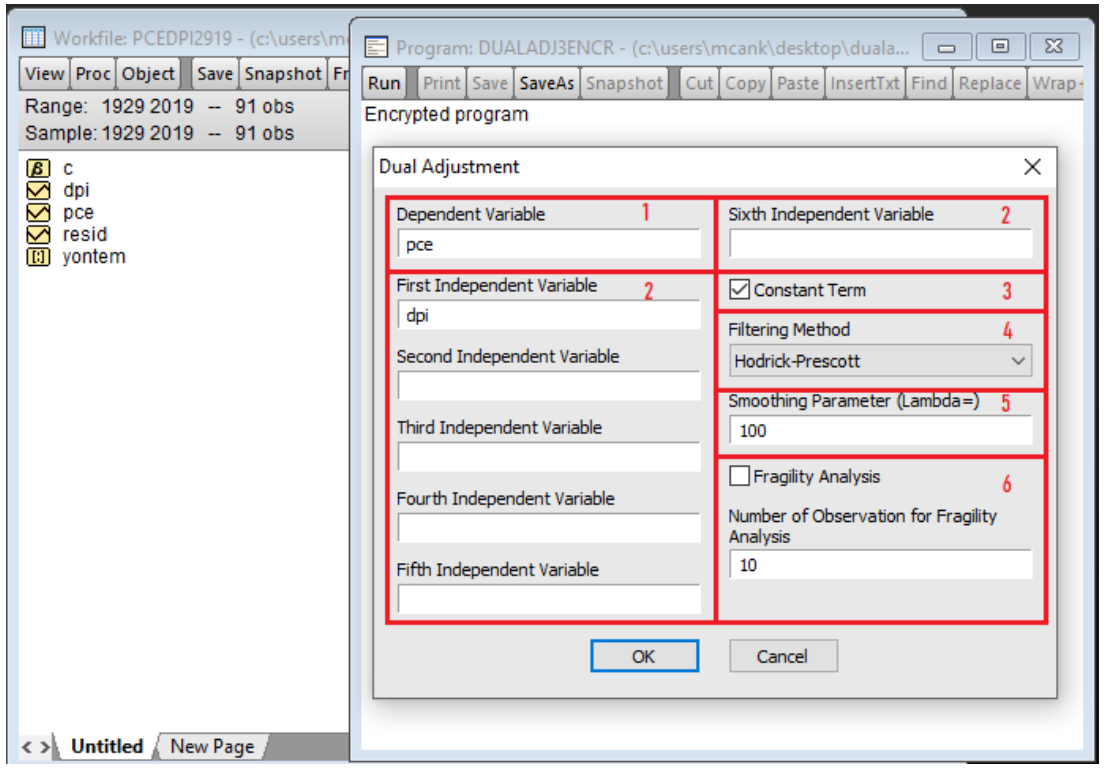
- **To run the DAS**, click the «Run» button on the Program window.
- After this step the run dialog will open.



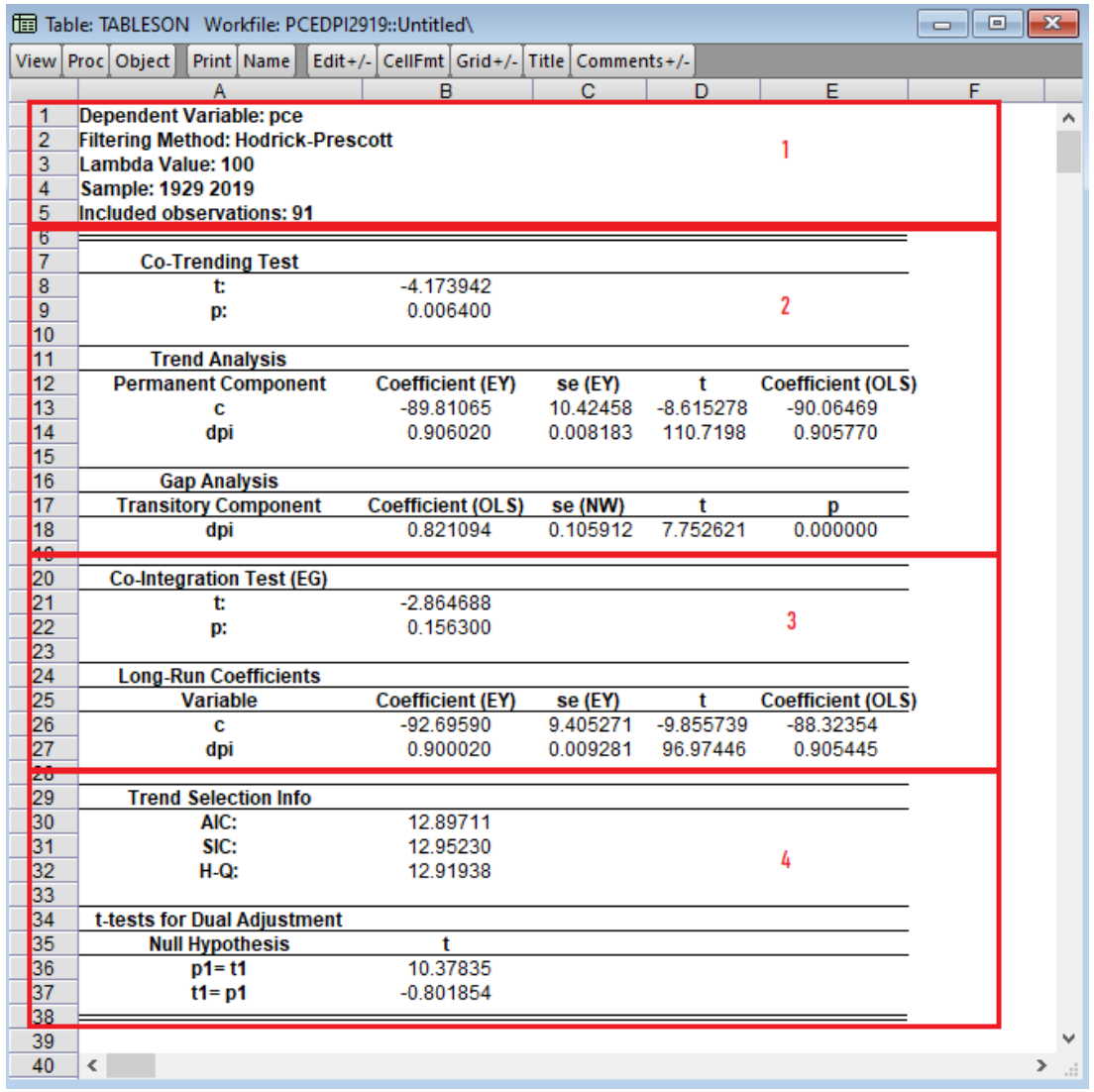
- Run dialog contains some program execution options. You can choose to ignore them or you can select the «Quiet» option for iteration speed.
- Click the «OK» button. After this step the DAS user interface will open.



- **The user interface** has six main parts.
- 1- Dependent Variable Box: Type the dependent variable.
- 2- Regressors Boxes: Type the independent variable/variables.
- 3- Constant Term Check Box: Uncheck the box for models with no constant term.
- 4- Filtering Method List Box: Choose the filtering method (HP, BK or CF).
- 5- Smoothing Parameter Box: Type the smoothing parameter value for Hodrick-Prescott filtering method.
- 6- Fragility Analysis: You can run the fragility analysis on this part of the interface. Check the box and enter the number of observation in the text box.
- Simply click the «OK» button to run the program. The result table will open.



- The **Dual Adjustment Analysis output** (results) are divided into four distinct sections.
- 1- The first portion provides information about the analysis.
- **Dependent Variable:** Denotes the dependent variable (pce in this example)
- **Filtering Method:** Denotes the filtering method (Hodrick-Prescott in this example)
- **Lambda Value:** Denotes the smoothing parameter for H-P (HP) Filter (100 in this example)
- **Sample:** Shows the sample period over which the analysis is carried out (1929-2019 in this example)
- **Included Observations:** Shows the number of observations included in analysis.
- 2- The second portion provides information about dual adjustment (co-trending) **test results** and estimated coefficients.
- According to the co-trending test results , we can reject the null hypothesis of no co-trending at %1 level. The evidence clearly suggest that pce and dpi are co-trended.
- **Trend analysis** part of this section provides information about estimated coefficients of permanent components (Engle-Yoo[EY] and OLS for the sake of comparison) and corresponding standard errors (se). **Gap analysis** part shows the relevant info for transitory (gap)components (Newey-West [NW] standard errors are used)
- 3- The third portion provides information about **traditional (Engle-Granger [EG]) co-integration test** results and estimates coefficients (with EY & OLS). According to test results, pce and dpi are not co-integrated in this example.
- 4- The fourth section provides output on **information criteria** and **t-test** results for dual adjustment. According to first t-test result, coefficients of permanent and transitory components of dpi are not equal. According to the second t-test, which is used as a confirmation of the first t-test, coefficients of the permanent and transitory components of dpi are equal. Therefore, in this example with lambda=100, the evidence on dual adjustment is inconclusive.



You can use this software freely by citing it as follows:

Kucuker, M. C. & İsmihan, M. (2021). Dual Adjustment Software for Eviews: Version 3.01

References

İsmihan, M. (2019) The dual adjustment approach with an application to the consumption function, *Central Bank Review*, 19 (2019), 1-8.

İsmihan, M. ve Küçüker, M. C. (2019). İkili Uyarlanma Yaklaşımı: Türkiye İçin Yatırım Fonksiyonu Uygulaması. I. Ş. Selçuk (Ed.), Belirsizlik Altında Ekonomik Kararlar ve Politikalar (s. 37-71) içinde. Ankara: Türkiye Ekonomi Kurumu

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