

# Supporting Files Guide – Supplementary Analysis of Output Index Weights

31 October 2025

The zip file *Output Weights Supplementary Analysis Supporting Files-31Oct2025.zip* contains all files used in the analysis for the Memo: *Nonreliability Output Index Weights ABR25 – Supplementary Analysis*. This Guide describes the folders and files in the zip file.

Sections 1 to 3 below describe the three folders in the zip file:

1. Stata Files
2. Residuals Analysis
3. Spreadsheets.

## 1 Stata Files

This folder contains the Stata files used to estimate the output weights with different starting values and data samples.

### 1.1 Input

- *DNSP consolidated benchmarking data (2024).xlsx* – spreadsheets from ABR25 used as the input dataset to calculate the output weights;
- *DNSPei-InitialValues.xlsx* – contains the standard (0.001) starting values; used in the following Stata programs:
  - *anLeonCost-DNSP25ei-18.xlsx*;                      *anLeonCost-DNSP25ei-19.xlsx*;  
          *anLeonCost-DNSP25ei-20.xlsx*;                      *anLeonCost-DNSP25ei-21.xlsx*;  
          *anLeonCost-DNSP25ei-22.xlsx*;                      *anLeonCost-DNSP25ei-23.xlsx*;  
          *anLeonCost-DNSP25ei-24.xlsx*.
  - *anLeonCost-DNSP25eiaa-18.xlsx*;                      *anLeonCost-DNSP25eiaa-19.xlsx*;  
          *anLeonCost-DNSP25eiaa-20.xlsx*;                      *anLeonCost-DNSP25eiaa-21.xlsx*;  
          *anLeonCost-DNSP25eiaa-22.xlsx*;                      *anLeonCost-DNSP25eiaa-23.xlsx*;  
          *anLeonCost-DNSP25eiaa-24.xlsx*.
- *DNSP19-InitialValues.xlsx* – Contains the parameter estimates from Economic Insights (2020). These parameter estimates serve as the starting values in the Stata program *anLeonCost-DNSP25eiv-18.do*;

- *DNSP-InitialValues19.xlsx*; *DNSP-InitialValues20.xlsx*; *DNSP-InitialValues21.xlsx*; *DNSP-InitialValues22.xlsx*; *DNSP-InitialValues23.xlsx*; *DNSP-InitialValues24.xlsx* - contain the sequential starting values. They are generated by the Stata programs:

- *anLeonCost-DNSP25eiv-18.do*; *anLeonCost-DNSP25eiv-19.do*;  
*anLeonCost-DNSP25eiv-20.do*; *anLeonCost-DNSP25eiv-21.do*;  
*anLeonCost-DNSP25eiv-22.do*; *anLeonCost-DNSP25eiv-23.do*.

And they serve as the starting values in the following Stata programs:

- *anLeonCost-DNSP25eiv-19.do*; *anLeonCost-DNSP25eiv-20.do*;  
*anLeonCost-DNSP25eiv-21.do*; *anLeonCost-DNSP25eiv-22.do*;  
*anLeonCost-DNSP25eiv-23.do*; *anLeonCost-DNSP25eiv-24.do*.

- *DNSP-InitialValuesML23.xlsx*; *DNSP-InitialValuesML24.xlsx* – contain the ML starting values. They are generated by the Stata programs:

- *anLeonCost-DNSP25ml-23.do* and *anLeonCost-DNSP25ml-24.do*.

And they serve as the starting values in the following Stata programs:

- *anLeonCost-DNSP25eivml-23.do* and *anLeonCost-DNSP25eivml-24.do*.

## 1.2 Programs

This folder contains 25 Stata programs used to estimate output weights. The naming conventions are as follows:

- **Method:**
  - *ei* = Economic Insights (EI) method
  - *eiaa* = EI method with arithmetic average aggregation
  - *eiv* = EI method with sequential starting values
  - *ml* = The programs to run the Maximum Likelihood estimations
  - *eivml* = EI routine using ML parameter estimates as starting values.
- **Dataset:**
  - *DNSP25* = ABR25 dataset
- **Sample period suffix:**
  - *-18* = means the sample is restricted to 2006–2018

- -19 = means the sample is restricted to 2006–2019
- -20 = means the sample is restricted to 2006–2020
- -21 = means the sample is restricted to 2006–2021
- -22 = means the sample is restricted to 2006–2022
- -23 = means the sample is restricted to 2006–2023
- -24 = means the sample is restricted to 2006–2024

### 1.3 Output

This subfolder contains two types of files for each Stata program: log files and Excel spreadsheet outputs corresponding to the Stata program's results.

## 2 Residual Analysis

This folder contains all files used for the analysis presented in Section 4 and Appendix A of the Memo. It is organised into three subfolders:

### 2.1 ABR25 - 2006-2023

This subfolder contains the Stata files used for the residual analysis of the output weights derived from the ABR25 dataset restricted to 2006–2023 period. This dataset underpins the calculation of the output weights applied in the ABR25 DNSP Report. Files include:

- **LeonCostResults-DNSP25ei-23.xlsx**: workbook of the estimated output weights, used as input for the Stata program.
- **OutWeights-Outliers.do**: Stata program used to calculate residuals, conduct the outlier tests, and generate charts.
- **OutWeights-Outliers.log**: log file produced by the Stata program.
- **box\_res1\_dnsp.png, box\_res2\_dnsp.png, box\_res3\_dnsp.png, box\_res4\_dnsp.png**: box plots produced by the Stata program, used in Figure 4.1 of the Memo.
- **x1\_dnsp1–x1\_dnsp13; x2\_dnsp1–x2\_dnsp13; x3\_dnsp1–x3\_dnsp13; x4\_dnsp1–x4\_dnsp13**: actual vs predicted values for Opex, OH Lines, UG Cable and Transformers by DNSPs, included in Appendix A.

## **2.2 ABR25 - 2006-2024**

This subfolder contains the Stata files used for the residual analysis of the output weights derived from the ABR25. The box plots are used in Figure 4.2 of the Memo, and the Actual vs Predicted values charts are generated but not included in the memo.

## **2.3 ML Starting Values**

This subfolder contains the Stata files used for the residual analysis of the output weights where estimation was performed using ML as starting values, as proposed by Frontier Economics.

### **2.3.1 2006-2023**

Stata files using ML as starting values with the 2006–2023 dataset. The box plots are used in Figure 4.3 of the Memo, and the Actual vs Predicted values charts are generated but not included in the memo.

### **2.3.2 2006-2024**

Stata files using ML as starting values with the 2006–2024 dataset. Results are generated but not included in the Memo.

## **3 Spreadsheets**

This folder contains the spreadsheet *Tables&Charts-31Oct2025.xlsx*, which generates most of the Tables and Charts used in the memo. The data sources for each Table are documented in this spreadsheet.