Guide to TNSP Economic Benchmarking Files

The Zip file *'Economic Insights AER TNSP BM Files 17Sep2021.zip'* contains the following folders and files:

1. AER TNSP Benchmarking Data Files

Includes the following files:

- *TNSP reliability output metrics (2020 update).xlsx* – forms the reliability output variables

- *TNSP opex price index (2020update).xlsx* – forms the opex input price index

- *TNSP AusNet&AEMO revenues (2020 update).xlsx* – forms comparable series for the Victorian TNSP given differences in the Victorian industry's structure

- *TNSP AUC (2020 update).xlsx* – assembles annual user costs for the three capital inputs

- *TNSP consolidated benchmarking data (2020 update).xlsx* – database file assembles variables used in the MTFP and MPFP analysis at the TNSP level in at the industry level from the AER's Economic Benchmarking Regulatory Information Notice (EBRIN) returns and the intermediate files listed above.

2. Stata Data Management Files

These files are under three sub-directories.

- Stata Input Data File;
- Stata Data Mgt Program;
- Stata Data Mgt Program Output.

Stata Input Data File

- *TNSPbench_v4.xlsx* – Includes benchmarking data extracted from *TNSP consolidated benchmarking data (2020 update).xlsx*.

Stata Data Mgt Program

- *crTNSPbench-firm3.do* – Reads the file *TNSPbench_v4.xlsx,* applies minimum value of ENS and reliability weight cap, and creates data files for use in Shazam (see 3 below) and in Stata (see 4 below).

Stata Data Mgt Output

- *crTNSPbench-firm3.log* – the (text) log file generated by running the foregoing Stata program;

- *ENTdata.csv, PLKdata.csv, ANTdata.csv, TNTdata.csv*, *TRGdata.csv, TINDdata.csv, TNSPdata.csv* – Shazam input data files (used in 3 below);

- *tnspbench-firm3.dta* – the Stata data file (used in 4 below).

3. Shazam Files

These files are under three sub-directories.

- *Shazam Data Input Files*: Data files in CSV format which are read by Shazam programs;

- *Shazam TNSP Programs*: Shazam programs which carry out MTFP calculations and regression-based growth rates. They are included here as text files to aid readability. To run them in Shazam, the file extensions need to be changed to '.sha';

- *Shazam Outputs*: The results from the Shazam program in text files.

Shazam Data Input Files

- *ENTdata.csv* – Data for ElectraNet (ENT)

- *PLKdata.csv* – Data for PowerLink (PLK)

- *ANTdata.csv* – Data for Ausnet Transmission (ANT)

- *TNTdata.csv* – Data for TasNetworks Transmission (TNT)

- *TRGdata.csv* – Data for TransGrid (TRG)

- *TINDdata.csv* – Aggregated data for the industry as a whole

- *TNSPdata.csv* – Pooled data for five TNSPs stacked as panel data.

Shazam Program Files

- *T21mtfpENT21.txt* – Program for ENT

- *T22mtfpPLK21.txt* – Program for PLK

- *T23mtfpANT21.txt* – Program for ANT

- *T24mtfpTNT21.txt* – Program for TNT

- *T25mtfpTRG21.txt* – Program for TRG

- *T26mtfpTIND21.txt* – Program for whole industry

- *T27mtfpTNSPpool21.txt* – Program for comparative MTFP analysis.

Shazam Outputs

- *T21mtfpENT21-out.txt* – Results for ENT

- *T22mtfpPLK21-out.txt* – Results for PLK

- *T23mtfpANT21-out.txt* – Results for ANT

- *T24mtfpTNT21-out.txt* – Results for TNT

- *T25mtfpTRG21-out.txt* – Results for TRG

- *T26mtfpTIND21-out.txt* – Results for whole industry

- *T27mtfpTNSPpool21-out.txt* – Results for comparative MTFP analysis.

4. Stata Index Analysis Files

Contains Stata programs which duplicate results of the Shazam programs for the purpose of cross-checking. One program also calculates output indexes and MTFP when ENS is not included as an output. The files are included in the following two sub-directories:

- Stata programs

- Stata Output Files.

The data input file is included as one of the output files in 2 above.

Stata Index Programs

- *anTNSPindivid3.do* – calculates MTFP results for each individual TNSP and the aggregate results for the industry;

- *anTNSPpooled3.do* – calculates comparative MTFP results for TNSPs from pooled data; and

- *anTNSPindivid3-exens.do* – for a scenario in which there are only 4 outputs (ie, excluding ENS) calculates MTFP results for individual TNSP's and aggregate results for the industry.

Stata Index Outputs

There are three further sub-directories for the outputs of each of the foregoing Stata programs.

- Output-anTNSPindivid3

    o *anTNSPindivid3.log* – log file from running the program *anTNSPindivid3.do*

    o *mtfp_tnsp.xlsx* – spreadsheet with index results for individual TNSPs. These are in separate sheets labelled 21 (ENT) 22 (PLK) 23 (ANT) 24 (TNT) 25 (TRG), and 26 (whole industry). In addition to output, input and TFP indexes, and opex and capital MPFP indexes, results include partial productivities for individual inputs, contributions of individual outputs and inputs to TFP growth, and growth rates of individual outputs and inputs;

- Output-anTNSPpooled3

    o *anTNSPpooled3.log* – log file from running the program *anTNSPpooled3.do*

    o *tnsp_pooleds.xlsx* – spreadsheet with index results for pooled MTFP analysis;

- Output-anTNSPindivid3-exens

    o *anTNSPindivid3-exens.log* – log file of the program *anTNSPindivid3-exens.do*

    o *mtfp_tnsp_exens.xlsx* – spreadsheet with index results for individual TNSPs. Only includes output, input and TFP indexes.

5. TNSP–MTFP Tables-Charts

Excel workbook *TNSP-MTFP Tables-Charts-17Sep2021.xlsx*, into which the results of the foregoing Shazam and Stata programs are input. The workbook produces tables formatted so that they can be copied into the report and charts ready to be copied into the report.

The first sheet of this Excel workbook, 'ReadMe', explains the structure of the workbook and how to use it. The second sheet, 'Labels & Codes', defines each of the codes used in the Shazam and Stata output files which are the input files to this Excel workbook.