2023 Guide to TNSP Economic Benchmarking Files – Scenario Traditional Tornqvist

This document outlines the files utilized for the TSNP benchmarking scenario analysis. In this analysis, we opted for the traditional Törnqvist index over the Multilateral Törnqvist index. The inputs for this scenario were derived from the outcomes of the Data Management Stata programs employed in the analysis that utilized the Törnqvist Multilateral index.

The file *TNSP Index Analysis Files - Traditional TFP -14Aug2023* contains the following folders and files:

### 1. Shazam

These files are under three sub-directories.

* *Input*: Data files in CSV format which are read by Shazam programs; they are results from Stata Management Data Program
* *Programs*: Shazam programs which carry out TFP 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’;
* *Output files*: The results from the Shazam program in text files.

#### 1.1 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

#### 1.2 Programs

* *TFPDIV23-21ENT.txt* – Program for ENT
* *TFPDIV23-22PLK.txt* – Program for PLK
* *TFPDIV23-23ANT.txt* – Program for ANT
* *TFPDIV23-24TNT.txt* – Program for TNT
* *TFPDIV23-25TRG.txt* – Program for TRG
* *TFPDIV23-26TIND.txt* – Program for the whole industry

#### 1.3 Shazam Outputs

* *TFPDIV23-21ENT-output.txt* – Results for ENT
* *TFPDIV23-22PLK-output.txt* – Results for PLK
* *TFPDIV23-23ANT-output.txt* – Results for ANT
* *TFPDIV23-24TNT-output.txt* – Results for TNT
* *TFPDIV23-25TRG-output.txt* – Results for TRG
* *TFPDIV23-26TIND-output.txt* – Results for whole industry

### 2. Stata

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

* Inputs
* Stata Index Programs
* Stata Index Outputs.

The data input files *tnspbench23-firm.dta* and *tnspbench23-ind.dta* are included as one of the output files in section 2.3 above.

#### 2.1 Inputs

The data input files *tnspbench23-firm.dta* and *tnspbench23-ind.dta* are from Stata Data Management Programs.

#### 2.2 Stata Index Programs

* *anTNSP23\_TFP-firm.do –* Calculates MTFP results for each individual TNSP and for the industry;
* *anTNSP23-firm\_TFP -exens.do* – For a scenario in which there are only four outputs (i.e., excluding ENS) calculates MTFP results for individual TNSP’s and aggregate results for the industry.

#### 2.3 Stata Index Outputs

* *anTNSP23\_TFP-firm.log* – Log file from running the program *anTNSP23\_TFP -firm.do;*
* *mtfp\_tnsp\_TFP.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 PFP 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;
* *anTNSP23-firm\_TFP-exens.log* – Log file of the program *anTNSP23-firm\_TFP-exens.do*;
* *mtfp\_tnsp\_TFP-exens.xlsx* – Spreadsheet with index results for individual TNSPs and for the industry. Only includes output, input and TFP indexes.

### 3. TNSP–MTFP Tables-Charts

Excel workbook *TNSP-TFP TablesCharts- Traditional Tornq-24Oct2023.xlsx*, into which the results of the foregoing Shazam and Stata programs are input. The workbook produces tables formatted so 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.

The sheets ‘2. Shazam Pooled’ and ‘5. Stata-Pooled’ have not been updated, as they are calculated through the Multilateral Tornqvist.