2023 Guide to DNSP Economic Benchmarking Files – Option 5

The Zip file *DNSP 2023 benchmarking \_Option 5* contains the following folders and files:

# DNSP benchmarking-TFP-Opt5

* *DNSP codes.txt* – This file contains the DNSP names and their respective codes.

## Database

* *DNSP opt 5 AUC calculation\_11Oct2023.xlsx* – Copy of the worksheet *DNSP AUC calculation (2022).xlsx* provided by AER, however, it now includes the update to calculate the AUC for option 5 in DNSP-specific worksheets (e.g., ‘01ACT BB’) and assemble other data for the ‘Option 5’ Productivity Index Number (PIN) analysis.
  + The sheet ‘Shazam DNSP Data’ contains data from the same-named worksheet in *DNSP consolidated benchmarking data (2022).xlsx* and revises it with opex and AUC data for ‘option 5’.
  + The sheet ‘AUC Opt5’ consolidates the ‘option 5’ AUC values by DNSP, year and asset type, which are read from the calculations in the DNSP-specific worksheets with two adjustments: (i) to the ‘transformer and other’ AUC for all DNSPs to remove first step transformation where there are two steps to reach distribution voltage; and (ii) ‘Underground sub-transmission’ AUC for AND. These consolidated results are then read into the ‘Shazam DNSP Data’ sheet.
  + The sheet ‘Adjustments’ has: (i) data pasted from 'DNSP consolidated benchmarking data (2022).xlsx', sheet 'Benchmarking Data', rows 22 and 24 on AUC for all transformers and AUC for transformers excluding first step of two-step transformation. This data is used in the sheet ‘AUC Opt5’; and (ii) data from 'Master opex series\_8Aug-2006-2022.xlsx', sheet 'Master opex series', row 59 on opex under current CAM including capitalised corporate overheads. This data is read into the ‘Shazam DNSP Data’ sheet.
  + The sheets `01ACT BB’ through to ‘13UED BB’, reproduce the corresponding sheets from ‘DNSP AUC Calculation (2022).xlsx’, with additional rows from 58 to 81, where the revised RAB and AUC are calculated for Option 5.
* *Consolidated Data\_11Oct2023.xlsx* – The sheet ‘Shazam DNSP Data’ is pasted from *DNSP opt 5 AUC calculation\_11Oct2023.xlsx.* This worksheet is used as input to Stata programs.

## Index Analysis folder

These files are under four sub-directories.

* Stata Data Management Files
* Stata Index Analysis Files.
* Shazam Files
* DNSP-MTFP Tables-Charts

### Stata Data Management Files

These files are under three sub-directories.

* Stata Input Data File
* *Consolidated Data\_11Oct2023.xlsx* – Mentioned above and replicated here. Includes benchmarking data.
* Stata Data Mgt Programs
* *crDNSPbench23-firm\_op5.do* – Reads from *Consolidated Data\_11Oct2023.xlsx* and creates data files for use in Shazam and in Stata.
* Stata Data Mgt Outputs[[1]](#footnote-1)
* *crDNSPbench23-firm\_op5.log* – The (text) log file generated by running the Stata program of the same name.
* *dnspbench23-firm\_op5.dta* – Stata panel dataset for 13 DNSPs and 17 years sorted by DNSP and Year; it is the same output file as presented in Subsection 2.1.3 below.
* A pooled data file for all DNSPs (*DNSPdata\_op5.csv*).

### Shazam Files

These files are under three sub-directories.

* Shazam Data Input Files:
  + *DNSPdata\_op5.csv* – Pooled data for 13 DNSPs stacked as panel data
* Shazam DNSP Program Files
  + *D50mtfpDNSPpool23.txt* – Program for comparative MTFP analysis of DNSPs. To run this file in Shazam, the file extension needs to be changed to ‘.sha’.
* Shazam Outputs
  + *D50mtfpDNSPpool23-out.txt* – Results for comparative MTFP analysis of DNSPs

### Stata Index Analysis Files

Contains Stata programs that duplicate results of the Shazam programs for cross-checking. One program also calculates Opex MPFP using a pooled sample for the period 2012 to 2022, which is used only when combining Opex MPFP with econometric results. The files are included in the following two sub-directories:

* Stata Index Inputs
* Stata Index Programs
* Stata Index Outputs.
* Stata Index Inputs

Contains files resulted from the Stata data management programs. The file is:

* *dnspbench23-firm\_op5.dta* – Stata panel dataset for 13 DNSPs and 17 years sorted by DNSP and Year;
* Stata Index Programs
* *anDNSP23-dnsppooled\_op5.do* – Calculates comparative MTFP results for DNSPs from pooled data, 2006 to 2022;
* *anDNSP23-dnsppooled-post2011\_op5.do* – Calculates comparative MTFP results for DNSPs from pooled data using a sample from 2012 to 2022;
* Stata Index Outputs
* *anDNSP23-dnsppooled\_op5.log –* Log file from running the program *anDNSP23-dnsppooled\_op5.do*;
* *anDNSP23-dnsppooled-post2011\_op5.log* – Log file from running the program *anDNSP23-dnsppooled-post2011\_op5.do*;
* *mtfp\_dnsppooled\_op5.xlsx –* Contains worksheets for the whole sample and sample period after 2011. The full sample is in the worksheet ‘fullsample’ with index results for the pooled MTFP analysis of DNSPs (full 17-year sample). 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. The sample period after 2011 is in the worksheet ‘post2011sample’ contains index results for the pooled MTFP analysis of DNSPs for the sample period from 2012 to 2022;
* *weights\_op5.xlsx–* Spreadsheet with Input cost share weights and Output cost share weights.

### DNSP–MTFP Tables-Charts

Contains excel workbook *DNSP23-MTFPtables-charts\_Op5\_12Oct2023.xlsx*, into which the results of the foregoing Shazam and Stata programs are input. The workbook produces tables and charts formatted so they can 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.

# OpexCostFn-Option 5 Folder

These files are under three sub-directories.

* Stata Data Mgt
* Stata Econometric Analysis
* Excel Tables & Charts

## Stata Data Management

Includes the following three sub-directories.

* Input Data Files
* Stata Programs
* Stata Outputs.

### Input Data Files

* *Quantonomics-AER-NZData-05Jul2023.xlsx* – Contains data for New Zealand;
* *Quantonomics-AER-OntarioData-Update-12Jul2023.xlsx* – Contains data for Ontario.
* *DNSP consolidated benchmarking data (2022).xlsx* – Database file assembles variables.
* *Master opex series\_8Aug-2006-2022.xlsx –* Database file, contains the opex including capitalised corporate overheads.

### Stata Programs

* *crDNSPbench23-firm1\_opt5.do* – Reads from the files *Master opex series\_8Aug-2006-2022.xlsx* and *DNSP consolidated benchmarking data (2022).xlsx* (specifically, the worksheet ‘Shazam DNSP Data’). Creates the Stata data file *dnspbench23-firm\_opt5.dta* described in ‘Stata Outputs’ below.
* *m\_DNSPopex23\_op5.do*. – Joins New Zealand, Ontario and Australia data.

### Stata Outputs

* *crDNSPbench23-firm1\_opt5.log* – The (text) log file generated by running the Stata program of the same name.
* *dnspbench23-firm\_op5.dta* – Contains the Australian data for Option 5, in Stata format.
* *m\_DNSPopex23\_op5.log* – The (text) log file generated by running the Stata program of the same name.
* *DNSPopex23\_op5.dta –* Contains the Australian, NZ and Ontario data, in Stata format.
* *OpexFnData\_op5.xlsx –* Excel workbook with three separate worksheets for the 13 Australian DNSPs, 19 New Zealand DNSPs and 37 Ontario DNSPs.

## Stata Econometric Analysis

These files are under two sub-directories:

* Inputs
* Programs
* Outputs-Half Period
* Outputs-Full Period.

### Inputs

* *DNSPopex23\_op5.dta*

### Programs

* *anOpexReg\_op5.do* – Estimates the models shown in Appendix C of the report.

### Outputs-Half Period

* *anOpexReg\_op5-short.log* – The (text) log files generated by running the Stata program of the same name by changing ‘startyr’ to 2012 (at line 25) in the ‘anOpexReg\_op5.do’ file and renaming it with an ending in ‘-short’ for the short period 2012 to 2022.
* *LSECD\_op5.xls, LSETLG\_op5.xls, SFACD\_op5.xls, SFATLG\_op5.xls* – Excel readable files with the results of the regression models of the same name. There are some formatting problems with the models. The purpose of these files is to facilitate copying the results into *DNSP-OpexFn\_Op5-11Oct2023.xlsx,* and hence the document. However, some statistics or parameters need to be input into this Excel workbook by hand.
* *Monotonicity\_op5.xlsx -* Excel readable files with the results of the monotonicity and elasticity for each observation of the half-period models.

### Outputs-Full Period

* *anOpexReg\_op5-full.log –* The (text) log files generated by running the Stata program of the same name by changing ‘startyr’ to 2006 (at line 25) in the ‘anOpexReg\_op5.do’ file and renaming it with an ending in ‘-full’ for the full period 2006 to 2022.
* *LSECD\_op5.xls, LSETLG\_op5.xls, SFACD\_op5.xls, SFATLG\_op5.xls* – Excel readable files with the results of the regression models of the same name. There are some formatting problems with the models. The purpose of these files is to facilitate copying the results into *DNSP-OpexFn\_Op5-11Oct2023.xlsx,* and hence the document. However, some statistics or parameters need to be input into this Excel workbook by hand.
* *Monotonicity\_op5.xlsx -* Excel readable files with the results of the monotonicity and elasticity for each observation of the full period models.

## Excel Tables & Charts

* *DNSP-OpexFn\_Opt5-11Oct2023.xlsx* – Collection of output tables and figures used in the report.
* *Monotonicity and Elasticity Op5 – 14Aug2023.xlsx* – Contains the data from *Monotonicity.xlsx* and correlation analysis and charts for the monotonicity and elasticity results.

1. The program ‘crDNSPbench23-firm\_op5.do’ also produces Shazam data input files for individual DNSPs: *AGDdata\_op5.csv*, *ANDdata\_op5.csv*, *CITdata\_op5.csv*, *ENDdata\_op5.csv*, *ENXdata\_op5.csv*, *ERGdata\_op5.csv*, *ESSdata\_op5.csv*, *EVOdata\_op5.csv*, *JENdata\_op5.csv*, *PCRdata\_op5.csv*, *SAPdata\_op5.csv*, *TNDdata\_op5.csv*, *UEDdata\_op5.csv*. However, these are not used and have been deleted. [↑](#footnote-ref-1)