

User Guide to 'SensitivityAnalysis Table 6 - for publication' file

The Zip file 'SensitivityAnalysis Table 6 - for publication' contains the following folders and files:

- STATA program file on 'vc med BM 20220422.do'
- Source data folder on 'Sourcedata'
- Results folder on 'Dervieddata'.

1. STATA program file

The 'vc med BM 20200422.do' file contains STATA coding to read in and combine the two source datasets contained in the source data folder, run the econometric modelling for alternative time periods (short and full periods respectively) and alternative models (LSE and SFA respectively) and under alternative options considered.

2. Source data folder: Sourcedata

This folder contains the source data to run the sensitivity benchmarking modelling, including the alternative opex series corresponding to the options in the capitalisation draft guidance note, and contains the data and calculations used for calculating opex / capital ratios for the Australian DNSPs. It contains two files:

- AER - Dx - Analysis - Capitalisation ratios - all DNSPs – 2021
- DNSPopex2.dta

AER - Dx - Analysis - Capitalisation ratios - all DNSPs – 2021

This file contains the source data sheets for use in generating Table 6. The key sheets include:

- Data|Benchmarking data: the benchmarking data set used for the 2021 Annual Benchmarking Report
- Calc|Summary: this contains the alternative opex series used in the options in the capitalisation draft guidance note, namely:
 - Row 10 – the frozen 2014-CAM opex series used for Option 1
 - Row 20 – the current CAMs-backcast series used for Option 3
 - Rows 22–25 – the opex series used for Option 4
 - Row 26 – the opex series used for Option 5.
- Output|Ratio comparison: this contains the opex/capital ratio differences from the comparator average that are used in the calculation of the adjusted efficiency scores in the results sheets (ES_results_SP_revised and ES_results_SP_revised) of the Results file (outlined below).

Input sheets:

- Input|Parameters: this allows selection of alternative opex series to generate alternative opex/capital ratios

DNSPopex2.dta

This .data file has saved all the relevant DNSP benchmarking data for Australia, New Zealand and Ontario into a STATA data set form. It is sourced from the DNSP supporting file provided by Economic Insights for the 2021 ABR, and is required to run the econometric modelling.

3. Results folder: Deriveddata

This folder contains the outputs and results from the modelling. It contains the following files:

- Results
- Table_FP
- Table_SP
- TLG_outputelasticities

Results file

This contains the consolidated results of our sensitivity modelling. Table 6 is found in cells AP24-AU38 of the 'ES_results_SP_revised' sheet. The key calculations performed in this sheet are:

- Exclusions from model-average for monotonicity violations in TLG models (columns Q-U and AA-AE)
- Adjusted model-average efficiency scores (columns AM to AQ), for:
 - the capitalisation OEF – relevant to Options 1 and 3
 - averaging of the two variants of Option 4 (based on opex/totex and opex/total cost, respectively)
 - averaging of the two variants of Option 2 (based on opex/totex and opex/total cost, respectively)
- Re-scaling of the resulting efficiency scores so that the scores are relative to a maximum score of 1.0

It also contains in sheet 'Efficiency scores Option 2' a paste of the efficiency scores under the Option 2 modelling that Frontier Economics carried out for Essential Energy.

Further notes on this spreadsheet in the 'Readme' sheet.

Table_FP and Table_SP

Regression results for full period (2006–20) and short period (2012–20) are exported to 'Table_FP.csv' and 'Table_SP.csv'. They are then copied and pasted to the relevant worksheet in the Results spreadsheet.

TLG_outputelasticities

The checking of monotonicity is conducted in STATA, with estimated output elasticities exported to the 'TLG_outputelasticities' spreadsheet. The summary table on monotonicity violation for each of the Australian DNSPs are reported in 'Monotonicity_FP' and 'Monotonicity_SP' worksheets in the Results spreadsheet.