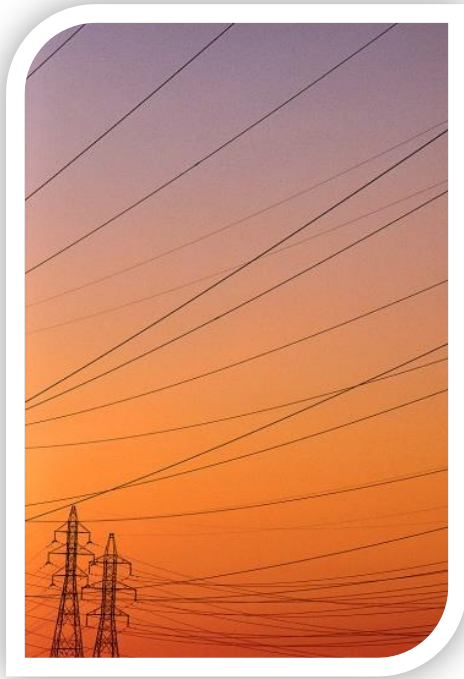


Benchmarking – an introduction



22 March 2018

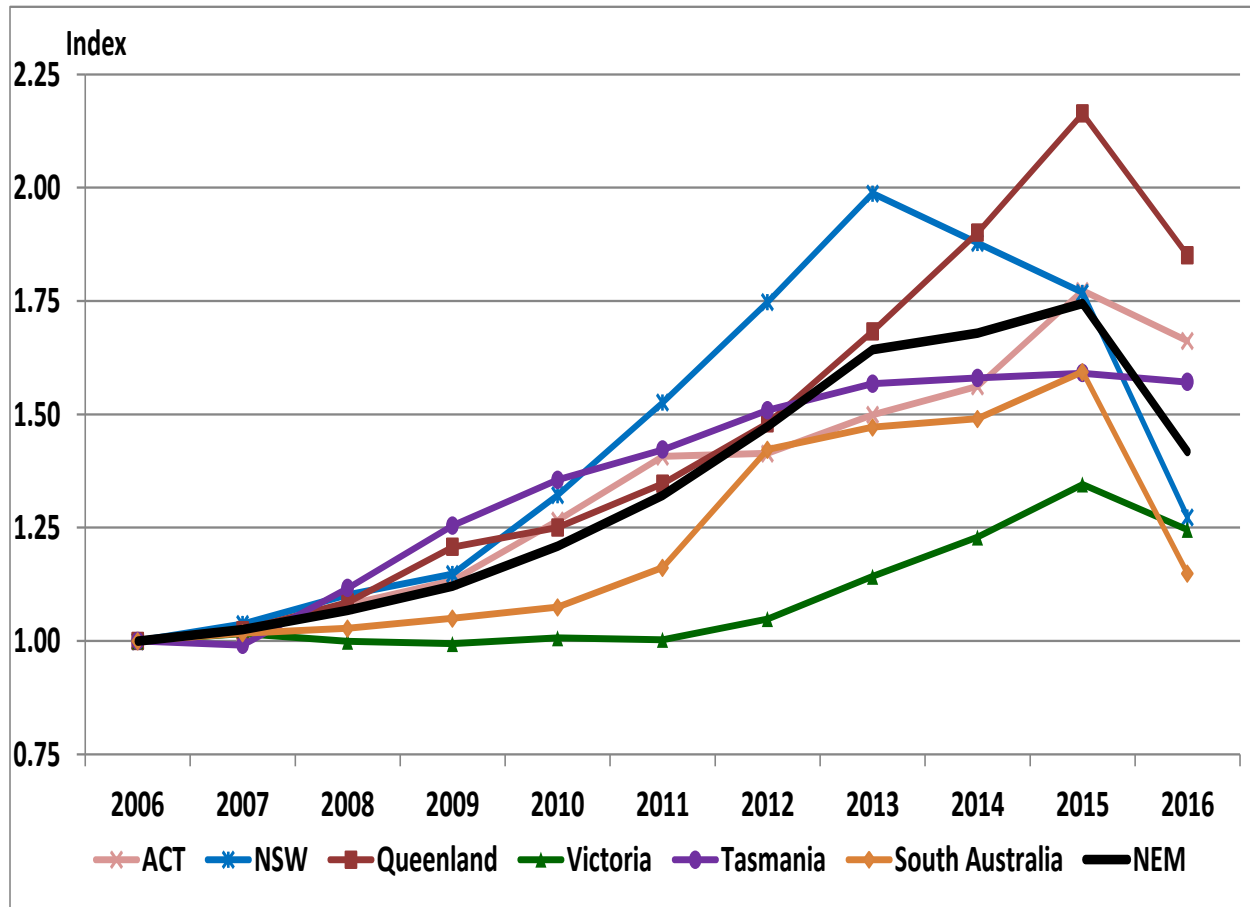
What is benchmarking?

- Economic benchmarking is a tool for measuring the economic efficiency performance of businesses
- Compares current performance of a business to its own past performance and to the performance of other businesses
- Most economic benchmarking techniques compare the quantity of outputs produced to the quantity of inputs used and costs incurred, either over time and/or across businesses

Why use benchmarking?

- The NER requires the AER to have regard to network benchmarking results when assessing and amending network capex and opex expenditures, and to publish the benchmarking results in an annual benchmarking report.
- The AEMC added these requirements to the NER in 2012 as part of a suite of measures to strengthen the AER's power to assess and amend network expenditure proposals
- The stated aims of the amendments were to:
 - reduce inefficient capital and operational network expenditures so that electricity consumers would not pay more than necessary for reliable energy supplies
 - to provide consumers with useful information about the relative performance of their electricity NSP to help them participate in regulatory determinations and other interactions with their NSP

Index of network revenues, 2006 – 2016, by state and territory



Applications

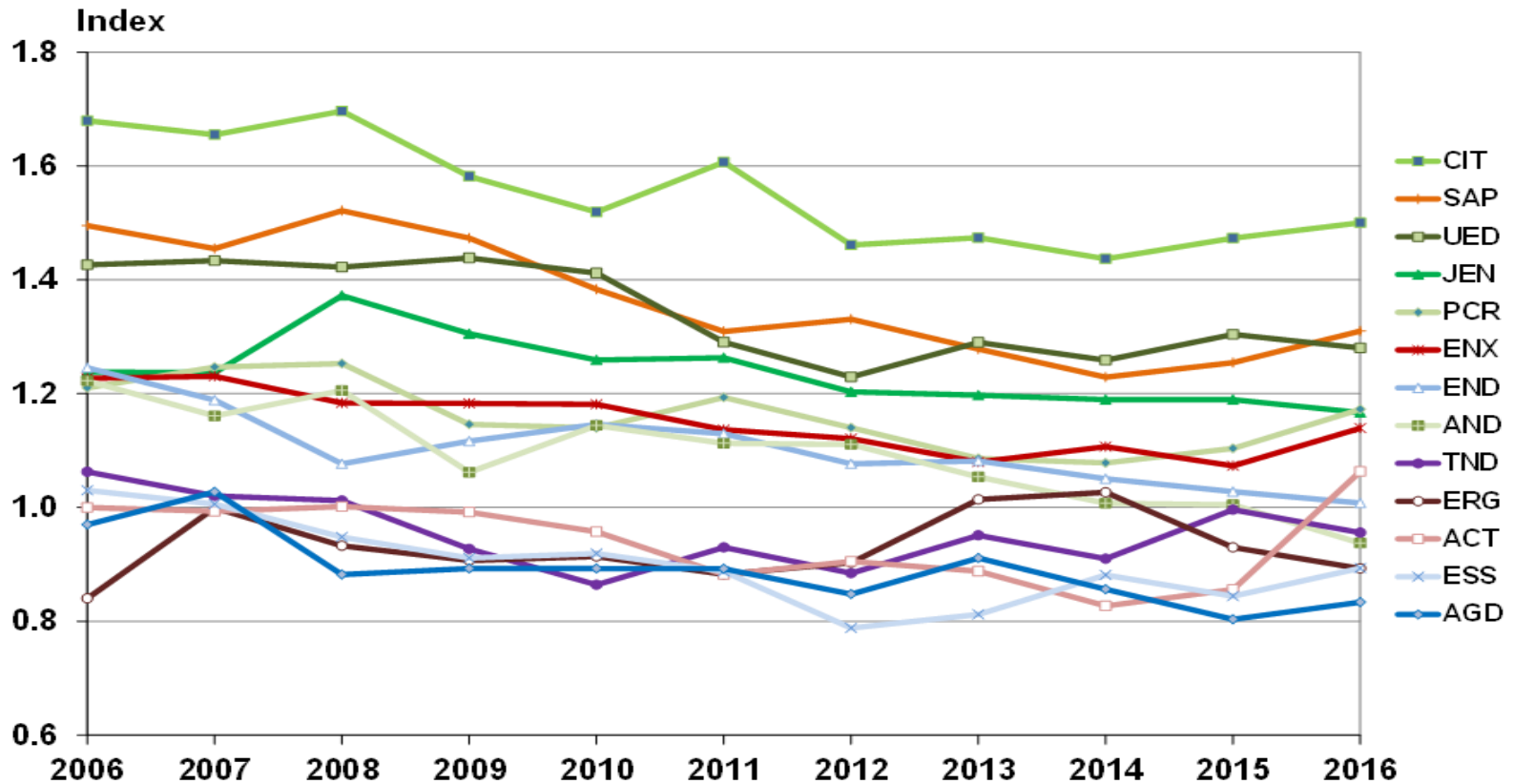
- Inform the AER's assessment of network expenditure proposals
- Network owners, managers and investors can use the benchmarking results to better understand the relative efficiency of a network business
- Benchmarking provides government policy makers (who set regulatory standards and obligations for networks) with information about the impacts of regulation on network costs, productivity and ultimately electricity prices
- Benchmarking provides consumers with accessible information about the relative efficiency of businesses and trends in efficiency performance

Available information

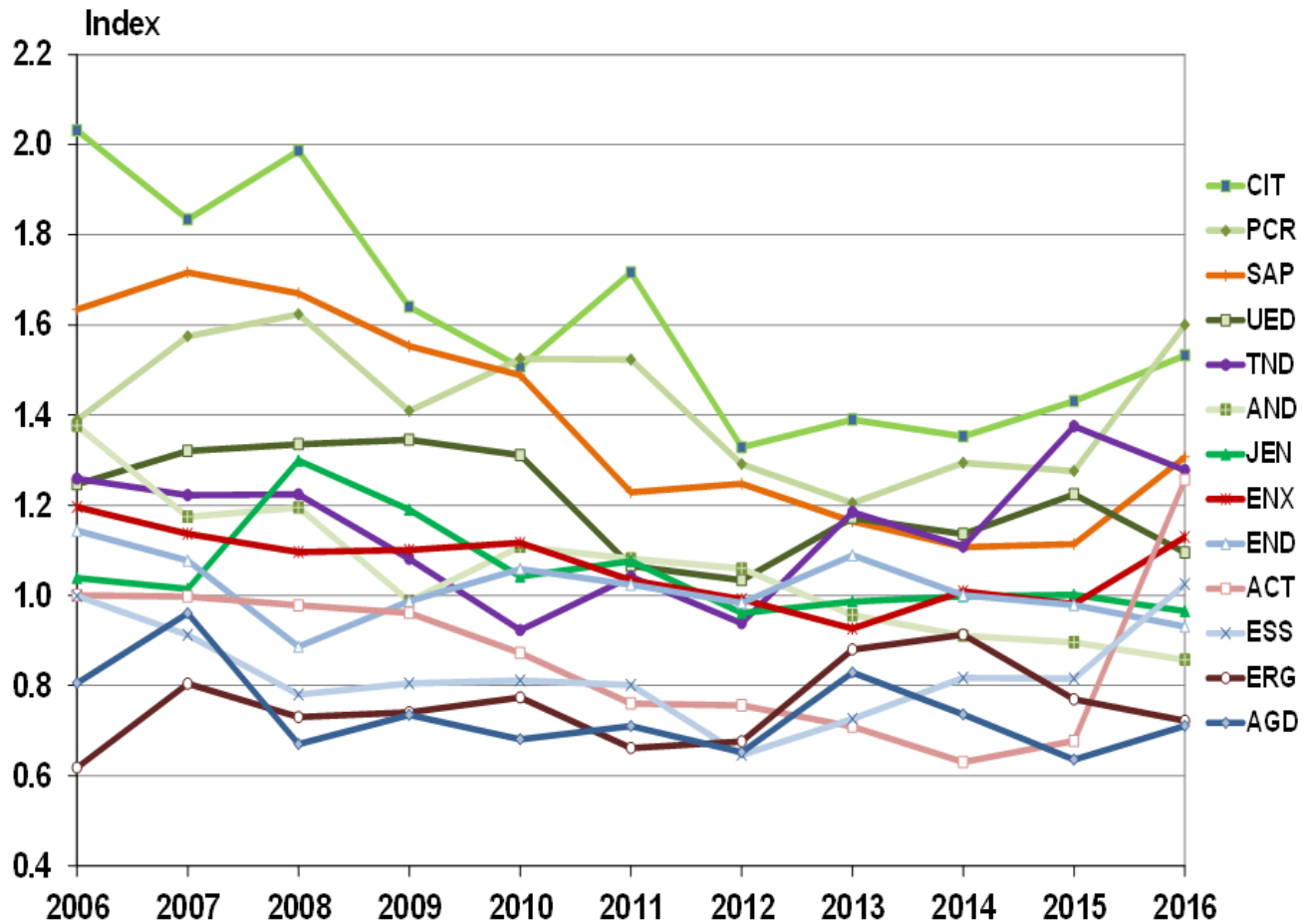
- The AER's benchmarking reports for DNSPs and TNSPs are published annually
- Latest reports are available at: <https://www.aer.gov.au/networks-pipelines/network-performance/annual-benchmarking-report-distribution-and-transmission-2017>
- The DNSP report presents results from three types of 'top-down' benchmarking techniques:
 - Productivity index number models (PIN)
 - Econometric opex cost function models
 - Partial performance indicators (PPIs)

MTFP and MPFP results

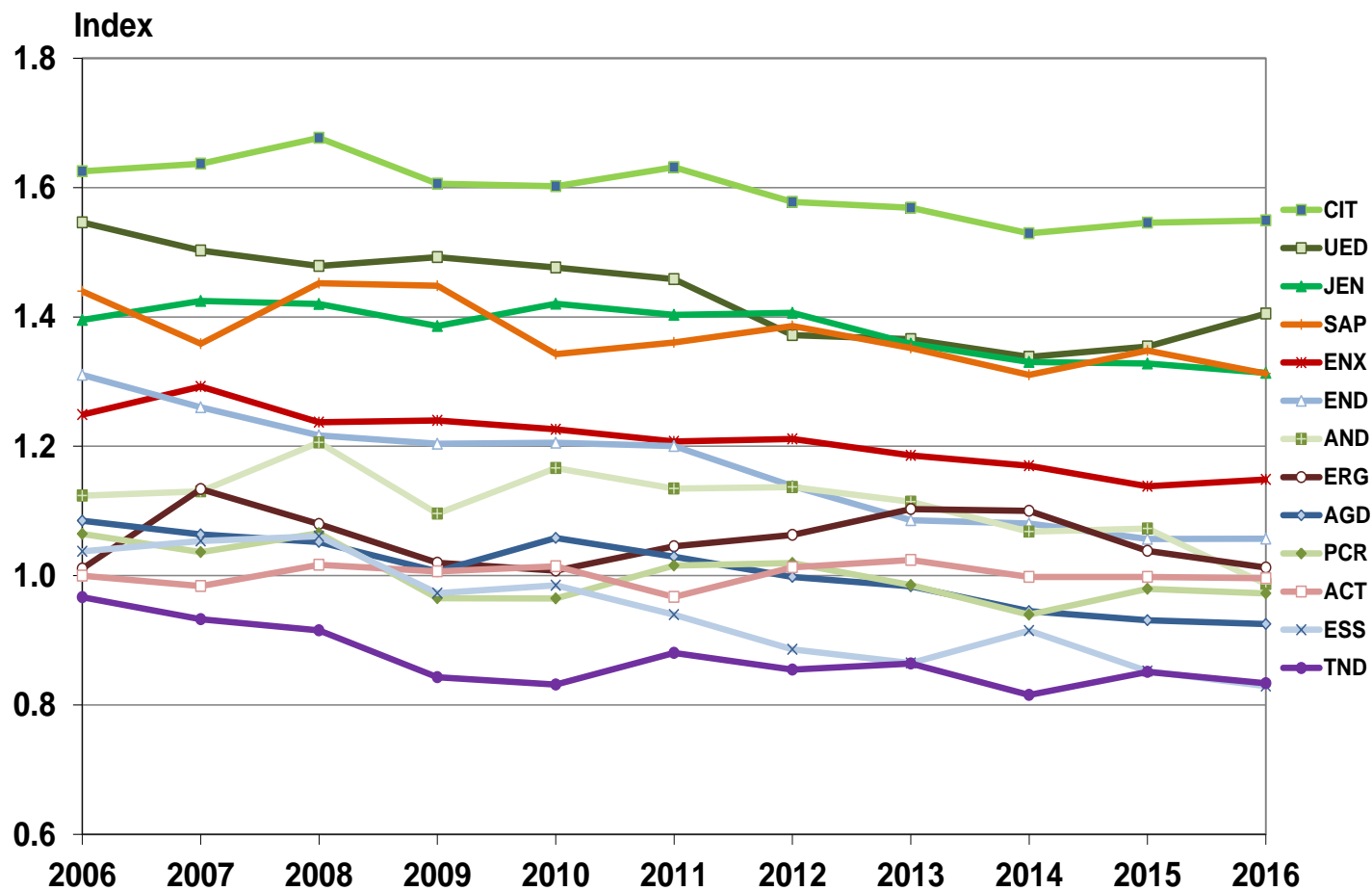
MTFP by individual DNSP, 2006–16



Opex multilateral partial factor productivity (MPFP), 2006–16

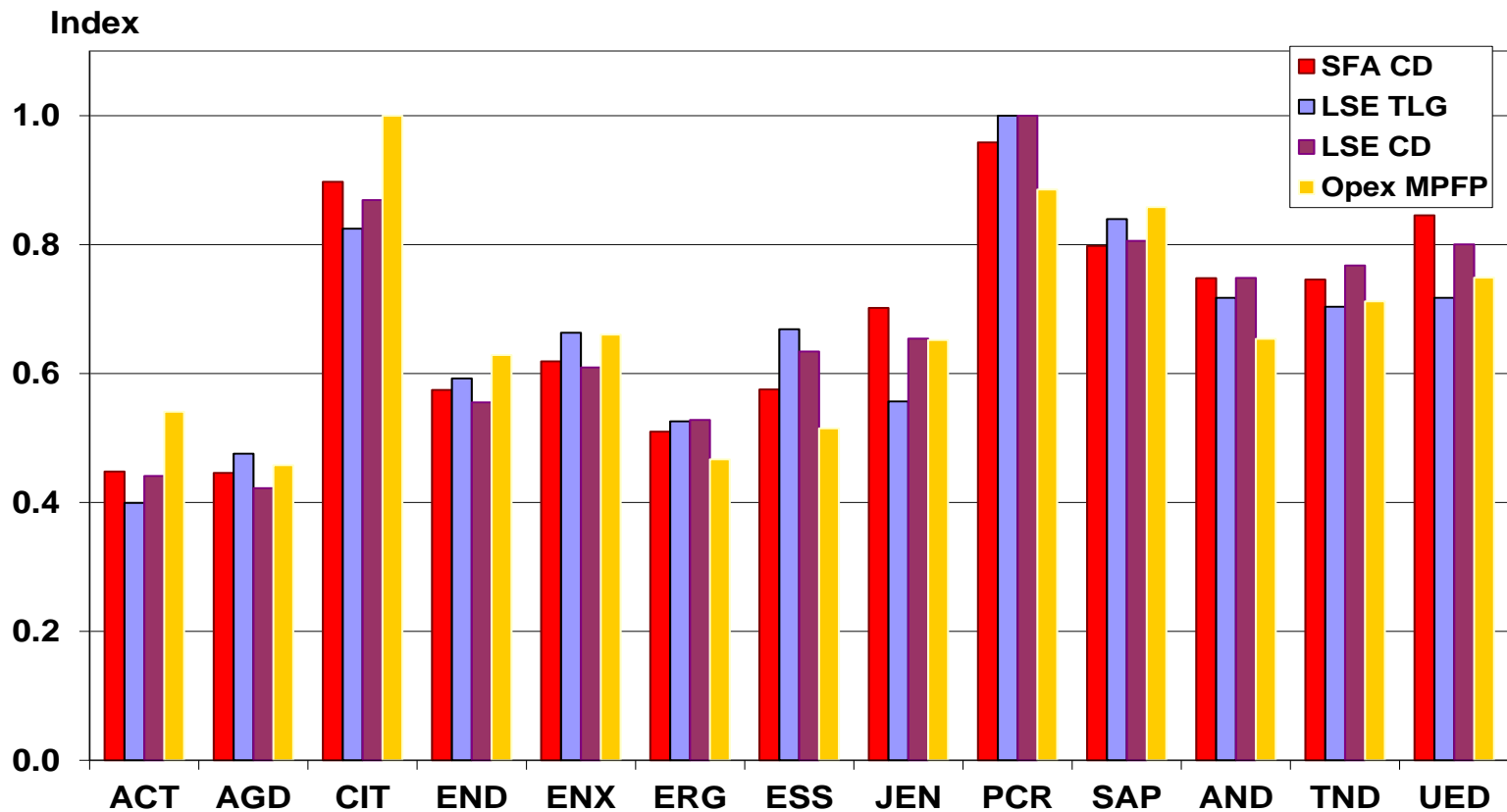


Capital multilateral partial factor productivity (MPFP), 2006–16



Econometric opex cost function model results

DNSP opex cost efficiency scores, (2006–16 average)



Partial performance indicators (PPIs)

- PPIs are partial efficiency measures that relate one input to one output
- PPIs measure the average amount of an input (such as total cost) used to produce one unit of a given output (such as total customer numbers, megawatts of maximum electricity demand or kilometres of circuit line length)
- Examples in the AER's annual benchmarking report include:
 - Total cost per customer
 - Total cost per km of circuit line length
 - Total cost per MW of maximum demand