Forecasting opex productivity growth factors

Presentation to the AER

30 November 2018

Endeavour Energy

ISSUE DEFINITION

TASK FOR THE AER

- To establish a reasonable forecast of the likely opex needs of the business.
- The forecast should not give rise to an assumed EBSS benefit, i.e. the EBSS should be expected to be negative as often (much) as it is positive (our understanding of what has meant by NPV = 0 in this context).

APPROACH

- The base year is assessed using benchmarking (adjusted for OEFs) to establish the efficiency of the base or address issues of catch up.
- Step changes are pre-emptive pass throughs that sit outside the benchmark.
- Growth factors are used to account for expected cost movements in measured outputs (e.g. customer numbers) and inputs (e.g. labour price).

QUID PRO QUO

- In the absence of perfect information and foresight businesses are incentivised to "discover" efficient expenditure levels on an ongoing basis.
- In doing so businesses are expected to manage a range of cost pressures and events within the period without an opportunity for reopening the allowance (this is symmetrical).
- There is a cap however at 1% if the event meets pass through criteria (symmetrical).

REGULATORY FRAMEWORK

- The regulatory framework replicates pressures of competitive market incentivising DNSPs to reveal efficient levels of opex so that customers can benefit from this.
- The framework must also have an eye towards service outcomes.
- Long term results of have been good without productivity adjustments:
  - Victorian DNSPs subject to opex incentive scheme the longest and now considered to be the most efficient.
  - Other DNSPs responding positively with EBSS funding efficiency investments.
- Can a productivity factor be reliably derived?
  - What data sources should be used? (comparator firms only? Other industry?)
  - Does the period captured reasonably reflect opportunities for future improvements?
  - What productivity measures are the most robust?
  - What forms of productivity are being considered, e.g. total cost, total outputs?
  - Will a global productivity factor get us “there” faster (more dynamic efficiency) than current incentive based approaches?
- Beware of the “cost plus” dialogue.

REGULATORY FRAMEWORK (CONT.)

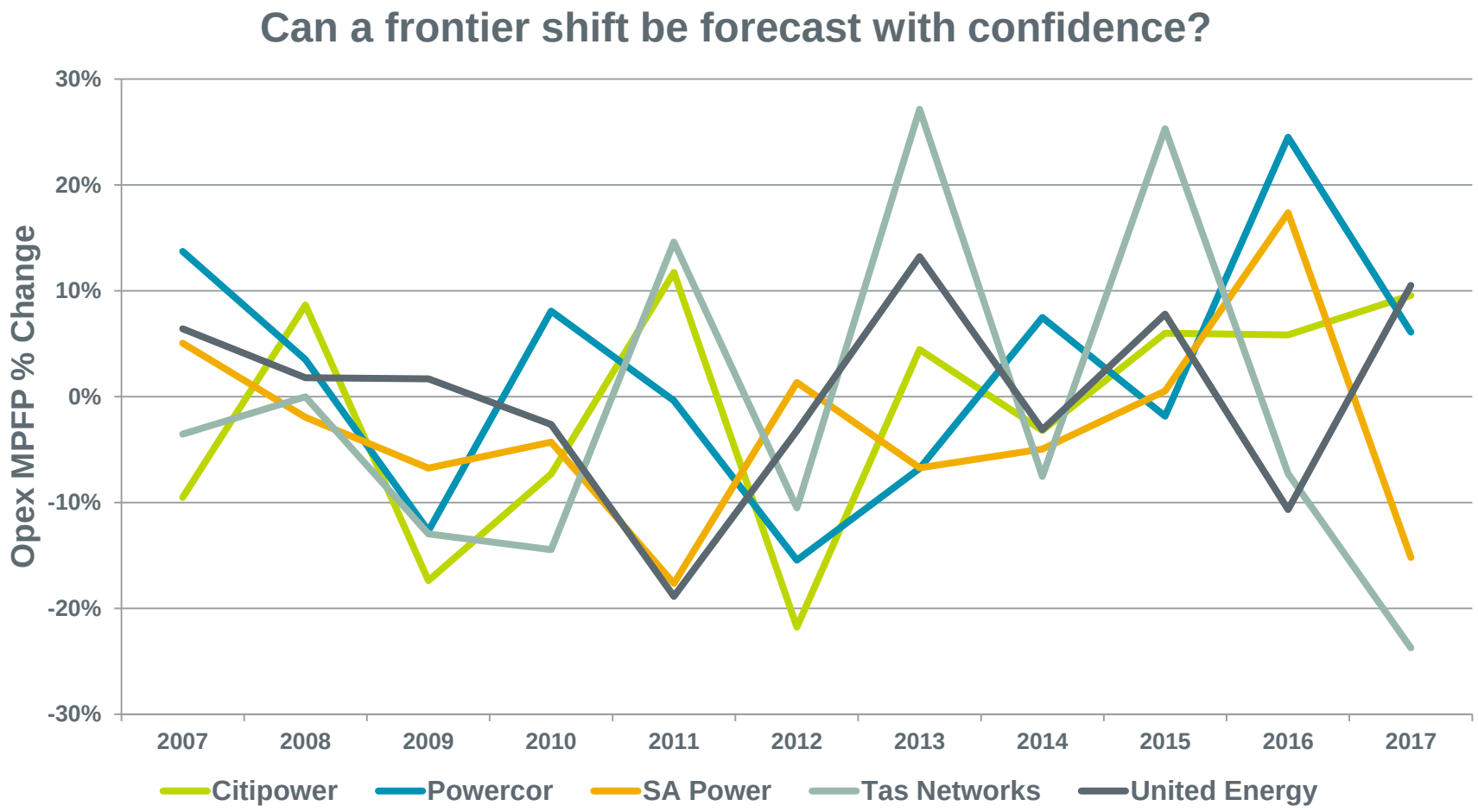
- Would introducing a global productivity factor change the impact other parts of the regulatory framework.
  - If increased emphasis on productivity adjustments up front does it have implications for thresholds for pass throughs?
  - Does the introduction of a global productivity factor increase overall risks and therefore have consequences for the allowed rate of return?
  - Would the introduction of global productivity factors have implications for the EBSS sharing rates and is there an impact on the NPV assessment of possible efficiency initiatives?
  - Should there be a consideration of extending the EBSS period to increase the number of efficiency projects?
- Imperative AER considers possible impacts (altering DNSP behaviour – e.g. re-weighting of costs versus service). Given the uncertainty and risk of a hastily developed approach - adopt a cautious approach.

How should productivity be measured?

CAPTURING FRONTIER SHIFT

- Where is the frontier?
  - Industry average measures include “catch-up” productivity.
  - AER tries to account for the frontier shift by capturing the performance of 9 DNSPs whose base year (as far back at 2012-13) was accepted as efficient in most recent determination.
  - This is inconsistent with the SFA CD top quartile (5) DNSPs use to assess base year opex. The frontier should be consistent in setting both the base and trend.
- It is likely the 2012-16 period includes material “catch-up” productivity improvements and/or non-replicable opex reductions from one-off events for the 9 frontier firms.
  - **Endeavour Energy:** approx. 30% reduction in FTEs.
  - **Ergon Energy:** Cost reductions from IRP reforms – Energy Queensland.
  - **TasNetworks:** Efficiencies from merging with TasNetworks Transmission.
  - **Citipower/Powercor/United/SAPower**: Synergies from shared operations; common ownership.
  - **All DNSPs:** Response to regulatory reforms e.g. Better Regulation, benchmarking, incentive schemes, reversal of jurisdictional licence conditions.
- Can frontier firms replicate improvements achieved again? Can other DNSPs achieve this shift? Need to understand what has driven productivity at the frontier to determine whether it can be repeated.

FRONTIER FIRMS



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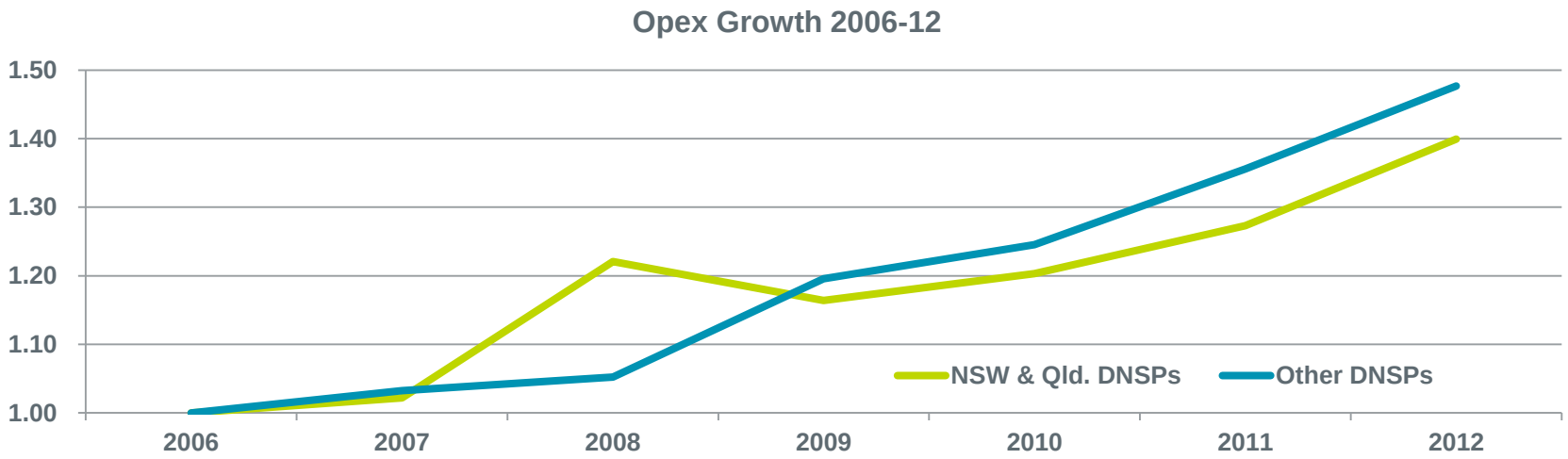
AVERAGING PERIOD

- AER not satisfied declining productivity pre-2012 occurred in BAU conditions. No explanation or analysis provided but we assume it refers to jurisdictional licence conditions and VBRC
- It is not clear how these events impacted opex and whether these impacts were confined to the 2006-12 period given:
  - Schedule 1 of the NSW licence conditions applied until July 2014 and the VBRC findings were finalised in July 2012.
  - 2005 cost pass-through decisions for NSW DNSPs suggest the mandatory licence conditions overwhelmingly impacted capex.
  - 2012 VBRC pass-through decisions revealed up to 89% of costs related to capex.



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AVERAGING PERIOD

- Pre-2012 performance has been discarded, and post 2012 non-replicable events driving improved performance have not been investigated.
- Data selectivity overstates the underlying productivity trend by not accounting for the entire productivity cycle.
  - The start and end points should be comparable (e.g. peak to peak) – conditions in 2012 were vastly different to now.
  - Benefits from unwinding pre-2012 “inefficiencies” have been realised. Opportunities for further unwinding are limited.
- It is asymmetrical to only capture productivity upswings and exclude the downswings that made them possible/necessary. This does not lead to a view of net productivity gains.
- The reduced sample period is not statistically robust - variability in opex MPFP results with changes in averaging period or at DNSP level.

SENSITIVITY OF THE SAMPLE DATA

	Sample Period			
Productivity Frontier	**2011-17**	**2012-17**	**2013-17**	**2006-17**
Efficient BY Opex	0.18%	1.78%	0.71%	-0.81%
Top 5 DNSPs	0.04%	2.22%	1.44%	-1.17%
Top 5 DNSPs (ex. Powercor)	-0.35%	1.47%	-0.28%	-1.97%
Top 5 DNSPs (ex. 2016 data)	-0.79%	1.23%	0.20%	-1.67%

- Long-term average is the best way to deal with non-replicable events.

USE OF GAS SECTOR TRENDS

- The AER do not use the positive electricity industry time trend (i.e. negative productivity growth) as it includes the 2006-12 period.
- As a result productivity estimates from gas sector have been favoured as they produce time coefficients which more closely match recent opex MPFP improvements.
- In our view the AER should have regard to comparable other industry data as a sense check – not substitute for them. In our view the performance of gas networks is less relevant and replicable than the performance of electricity distributors.
- The 2006-16 time trend for electricity distributors should be used.
  - At the very least EI has modelled the period 2012-17 (draft 2018 ABR) which could be used. The 2012-17 period produces similar positive time coefficients as are produced for the period from 2006.

LABOUR PRODUCTIVITY

- AER use quality adjusted labour forecast provided by Deloitte based on EGWWS
- Our concerns –
  - Dataset highly volatile.
  - Deloitte method not clear or transparent, difficult to assess/review.
- Need consideration of a number of issues:
    - If labour productivity changes should it be more directly accounted for in the price growth measure as a net labour growth outcome?
      - Does approaching the question in this manner provide for clearer sense checks of the drivers and outcomes? E.g. in a high inflation period would we expect to see real labour costs be fully offset by real productivity improvements? Is this consistent with the market environment? Would such an outcome allow the industry to retain staff?
    - Is this consistent with using WPI for forecasting labour price growth?
    - Distinguishing between frontier shift vs catch up in dataset
    - Does the productivity measure include cost reduction and output growth

ACCOUNTING FOR UNDERGROUNDING

- The AER consider increasing the proportion of underground network will reduce opex.

- However, this approach does not distinguish between the two ways in which the proportion of undergrounding can increase by:
  - converting OH to UG which we would expect to reduce opex; or
  - installing new UG at a faster rate than OH which we would expect to increase opex at a slower rate than otherwise.

- The AER estimate the impact of UG by applying the UG coefficient to the average increase in the proportion of UG over the 2006-16 period. This approach:
  - Relies on the 2006-12 period which is disregarded elsewhere;
  - Is based on the performance of all firms rather than a frontier group; and
  - Sets a benchmark growth rate in the proportion of undergrounding that is not achievable for many DNSPs.

- In our view – Circuit line length is an output factor already accounted for in AER opex model. If it is over or under compensating DNSPs for network growth the output factor should be adjusted (e.g. split between UG and OH rather than combined).

- If it is a problem; address it at the source.

CONCLUSION

- A clear set of principles and criteria are required to guide in what circumstances a productivity factor is applied and how.
- An inaccurate or unrealistic productivity factor will distort a networks incentives and result in poor long term outcomes.
- For a productivity factor to be accurate it should:
  - Account for non-replicable, one-off events:
    - We suspect basing the measure on a long-term average capturing at least 1 full business cycle is the most practical way to do this rather than trying to isolate, assess and quantify the impact of multiple events
  - Only reflect potential frontier shift and not catch-up performance.
  - Rely on data specific to the regulated firms using broader data as a cross-check.
  - Not account for issues better dealt as part of other mechanisms in the opex forecasting method.
  - Directly address the mix of efficiency gains between opex saving and increased service.