What do we need to measure and analyse better?

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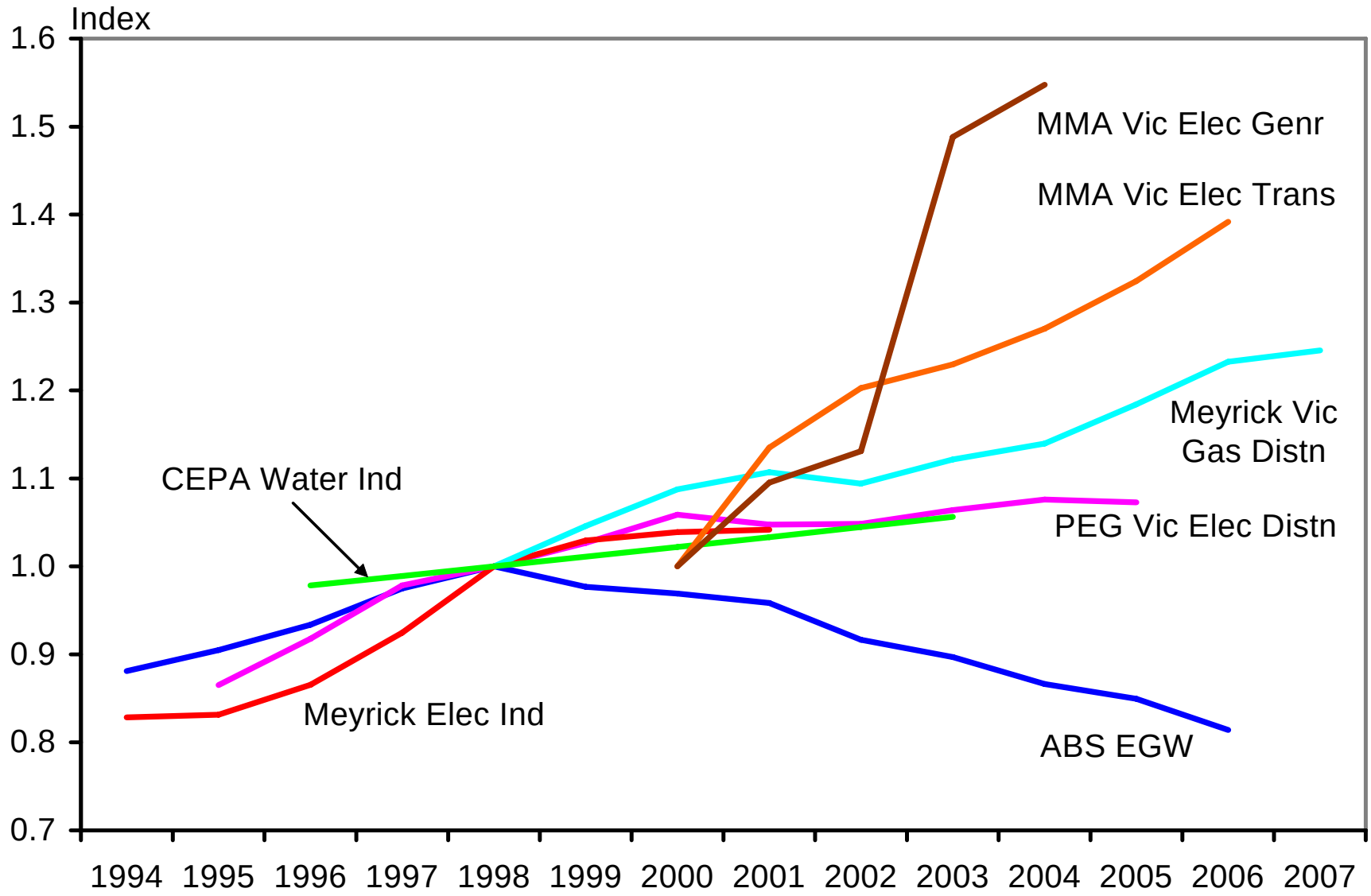
TFP and regulation

- TFP measurement has an important role in utility regulation
- Used in setting network price caps
- Important to have robust measures that accurately reflect network functions
- Ongoing debates regarding specification and data
- 3 priorities:
  - Resolve difference between ABS EGW sectoral MFP series and industry level TFP results
  - Output specification: reliability and redundancy
  - Input specification: capital quantity proxies

Conflicting stories



Reliability and security

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Currently use 3 output components:

- **throughput in GWh**
- **customer numbers**
- **system capacity based on MVA–kms**

Issues/areas for further development

- **How can we include reliability and service quality as output measures?**
  - **Reliability measured by mins off supply and interruptions – a reduction in the measure is an improvement in quality but how can we accommodate this in TFP framework?**
- **How can we include improved system security as an output?**
  - **Strong demand for higher levels of redundancy or 'insurance' such as moving from 'n-1' to 'n-2'**
  - **Is costly to provide but not currently recognised as an output**
  - **Is separate from reliability as thing being insured against may never come to pass**

Capital input quantities

- Many studies measure capital input quantity by proxy of deflated asset values
- But ‘one hoss shay’ physical depreciation likely to be more accurate for most network assets
- Deflated asset value approach is likely to overstate the rate of physical depreciation, underestimate the quantity of capital used and overstate the rate of TFP growth
- Using physical measures as proxy or capital input quantities is one way of overcoming this problem
- How can we move away from similarity of system capacity output and capital input quantities?
- Are replacement cost asset values now sufficiently reliable and consistent over time to use as capital quantity measure instead?
- How do we handle the problem of distribution ‘boundary’ and system structure differences between states?

Gas distribution TFP