Key issues

Review into the use of total factor productivity for the determination of prices and revenues

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OVERVIEW

- Design principles and criteria
- Discussion issues

DESIGN CRITERIA

The design example in the discussion paper and for today's workshop has been formed:

- to be consistent with the economic theory of TFP
- to provide incentives to incur efficient costs and share efficiency gains with users
- to support the efficient investment in assets
- to provide the opportunity to recover efficient costs
- with regard to the possibility of variations in expenditure profiles
- with regard to good regulatory practice
- to minimise the cost and impact of regulation

SESSION ONE

- How should a TFP methodology be applied in the existing regulatory framework? What is the role for the AER?
  (yellow and blue)

- How should the industry group be defined to calculate the TFP index?
  (red and green)

- What methodology should be used to determine the initial price level for a regulatory period?
  (silver and black)

1. HOW TO APPLY A TFP METHODOLOGY

- A high level of prescription in the NER and NGR
- Non-binding guidelines required from the regulator
- Use of TFP is for the service provider to decide
- Current timetables for regulatory decisions to apply
- Principles and method are ‘locked in’ for the duration of the regulatory period

WHY?

The key rights, principles, mechanics and obligations of a TFP methodology would be specified in the NER and NGR

- to provide clarity and certainty in how a TFP methodology would operate
- to reduce the cost of regulation by limiting the elements open to variations and discussion
- Support NER and NGR with guidelines

BUT

- still need provide some flexibility

2. HOW TO DEFINE THE INDUSTRY GROUP

Two options:

1. One single TFP growth rate factor for each sector

   TFP growth rate calculated from all regulated service providers in each sector

2. Divide sectors into sub-groups according to operating conditions

   TFP growth rates calculated for each sub-group from all regulated service providers in each sub-group

   Sub-groups:

   - urban & high density, urban & low density
   - rural & high density, rural & low density

WHY?

- The industry group would be specified in the NER and NGR as setting the industry group has a clear impact on the resulting TFP growth rate
- But what should an industry group be?
  - setting a group as all service providers in a sector would give a comprehensive result
  - setting a group as a subset of service providers could be difficult and may allow one service provider to over-influence the TFP growth rate
- Do operating conditions and current behaviour influence the TFP growth rate or the level of TFP?

3. HOW TO DETERMINE THE INITIAL PRICE

- Partial building block approach used:
  - reasonableness assessment of actual costs for the current period
  - current RAB roll-forward approach
  - current approach to determine the rate of return
  - current approach to estimate tax

- Applied when moving to TFP from a period that used the building block approach or a TFP methodology

WHY?

- TFP growth rates do not inform the initial price or revenue level for a regulatory period
- What is the balance between the goals of TFP and:
  - the periodic re-alignment of prices and costs
  - providing scope for service providers to seek incentives
  - the level and source of information required
  - the degree of assessment of information
  - meeting the revenue and pricing principles

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SESSION TWO

- How should the TFP index be calculated?
  (red and green)
- What terms should be included in the price path?
  (silver and black)
- What additional design terms should be included in the TFP methodology to provide it with some flexibility?
  (yellow and blue)

4. HOW TO CALCULATE THE TFP INDEX

- An index number approach, selected by the regulator, would be used to calculate TFP
- Outputs, inputs and weightings to calculate TFP would be specified in the NER and NGR
- All regulated service providers would be required to provide data to the regulator. Data from other businesses could not be used
- Data would be audited historical data and could be adjusted by the regulator in accordance with the relevant guidelines
- The longest series of data available should be used to determine TFP. This should be a minimum of eight years

WHY?

- Index method is more transparent and reproducible than an econometric method

- Considerations include:
  - outputs – functional outputs or billable outputs?
  - inputs – measure capital in physical or financial terms?
  - weighting – weight outputs by revenue or cost shares?

- Data adjustment would allow for exceptional circumstances but still result in a robust data set

- Data from a longer time period will mitigate the influence of any short term and one-off variations

5. WHAT TERMS IN THE PRICE PATH?

- The price path formula would be specified in the NER and NGR.

- In addition, the NER and NGR would specify:
  - the measure for the industry input price growth
  - that the economy input price growth would be measured by the producer price index
  - business specific adjustments could be made by the regulator to the X factor

WHY?

- Like the definition of the building blocks approach and its terms, the TFP price path formula and its terms would be set out in the NER and NGR
- A more robust formula would not assume that the economy and industry input price growth are the same when evidence suggests that they are not
- Including a business specific adjustment factor would allow for business specific circumstances and the varying productivity potential of service providers
- However, adding more terms adds complexity and subjectivity into the TFP framework

6. WHAT ADDITIONAL DESIGN TERMS?

- A number of elements would be available to service providers:
  - longer regulatory periods
  - cost pass through mechanisms
  - capital module
  - off ramps (which could also be required by the regulator)
- Service providers would be able to select a fixed or rolling X
- An efficiency carryover mechanism would not be available during a period under TFP
- The existing demand management and service incentive schemes would continue

WHY?

- Discretionary elements of a TFP based methodology would allow service providers to form a regulatory package that suits their circumstances
- Different elements can be balanced against eachother
- However, it does result in more complexity and subjectivity

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