IPART

Independent Pricing and Regulatory Tribunal
New South Wales

Economic Regulation Workshop

Role of IPART
Setting prices for water utilities

8 October 2018

This is not an ADB material. The views expressed in this document are the views of the author/s and/or their organizations and do not necessarily reflect the views or policies of the Asian Development Bank, or its Board of Governors, or the governments they represent. ADB does not guarantee the accuracy and/or completeness of the material's contents, and accepts no responsibility for any direct or indirect consequence of their use or reliance, whether wholly or partially. Please feel free to contact the authors directly should you have queries.

Contents

Why does IPART regulate prices?

- Natural monopolies lead to market failure – creates need for regulation
- Economic regulation is designed to mimic pressures of competition
- Aim to set prices which simulate a competitive market to:
  - Reflect efficient costs
  - Reflect customers' preferences and willingness to pay
  - Promote continuous improvement
  - Send price signals to promote efficient investment and consumption

How does IPART regulate prices?

Conducting open and **transparent** reviews

Ensuring decisions are based on the best available information

Price setting approach for water services

Fulfilling our legislative responsibilities

We are required to consider certain matters under the IPART Act

The IPART Act also sets out matters that we must consider when setting prices

a) Cost of service

b) Protection of customers

c) Appropriate rate of return

d) Impact on inflation

e) Improving efficiency

f) Ecological sustainability

g) Capital requirements

h) Existing arrangements

i) Promoting competition

j) Demand management

k) Social impact

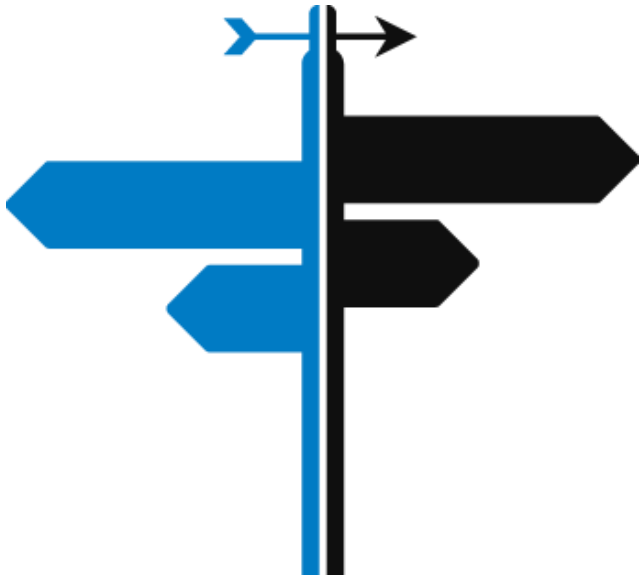
l) Quality, reliability, and safety

Source: Section 15, IPART Act

Contents

Form of regulation

- Price caps
- Pricing flexibility
- Benchmarking



Price Cap Regulation

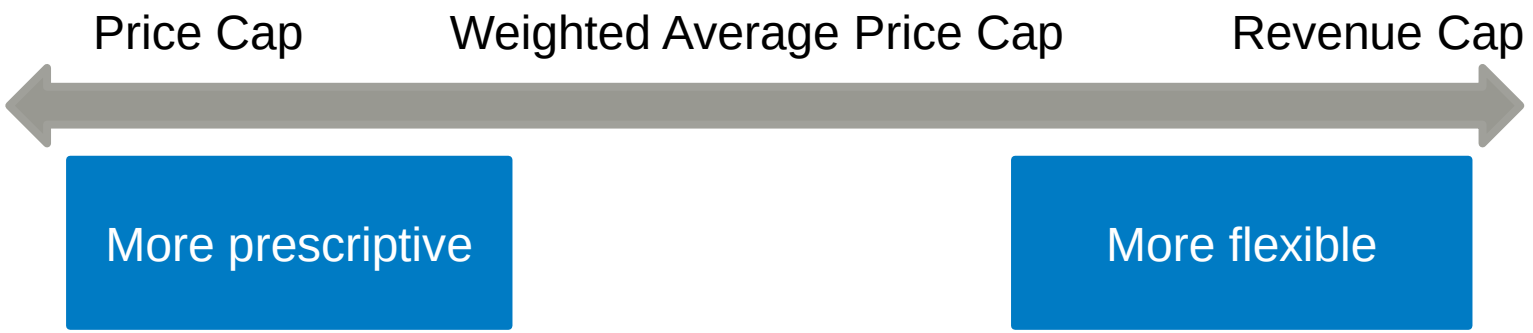
Pros

- Sets “hard” maximum prices
- Sends efficient price signals
- Reflects efficient costs

Cons

- Relies heavily on demand forecast over the period
- Inflexible – changes in customer preferences and changes in industry
- Business bears demand risk

Pricing flexibility



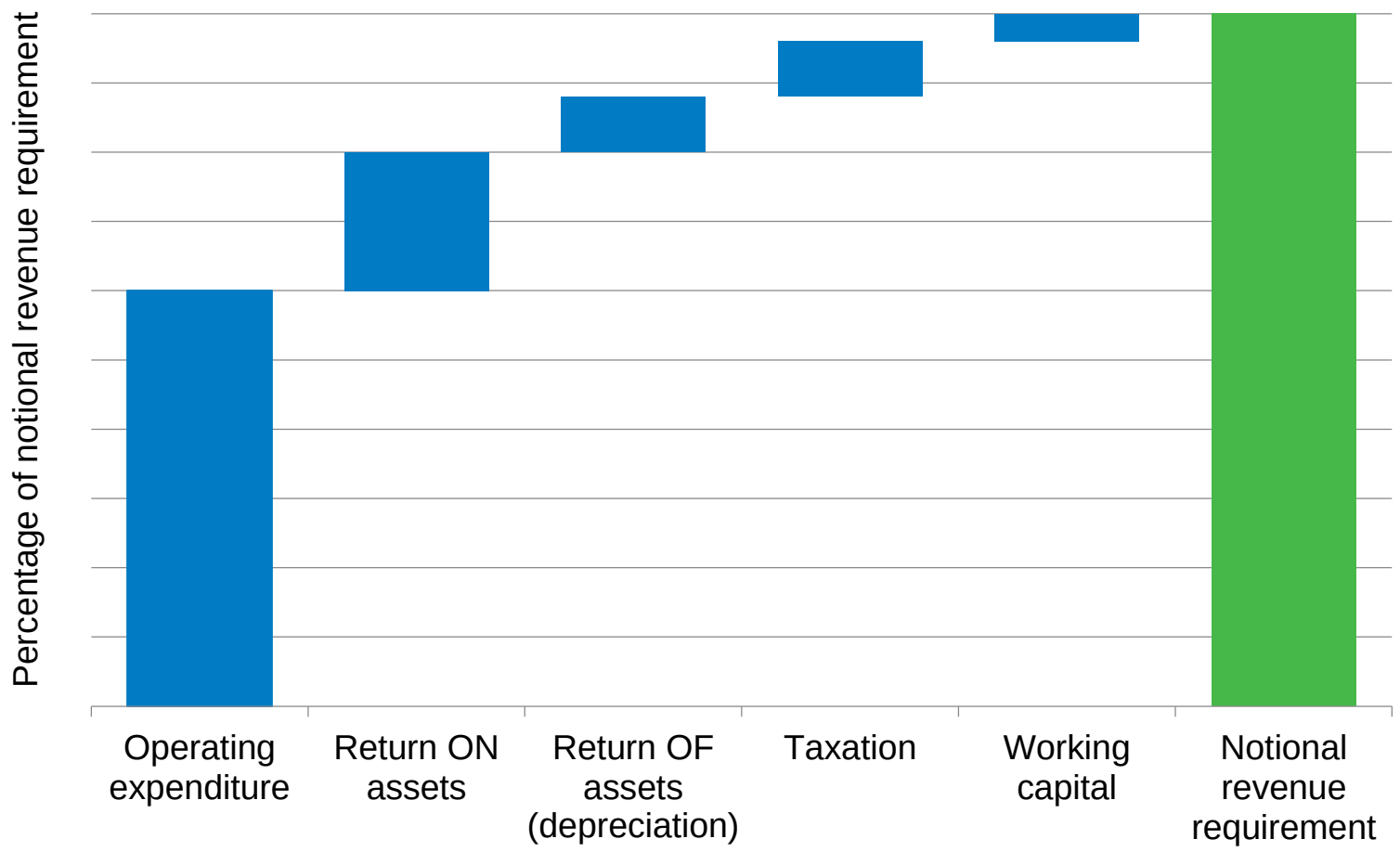
- Pricing flexibility allows the business to respond better to changes in its operating environment
- However, pricing flexibility can result in risks to customers if it is not constrained and if it is misused by the business
- Introduced the ability for Sydney Water and Hunter Water and their respective large non-residential customers to enter unregulated pricing agreements

Benchmarking

- Several approaches available:
  - Top down cross-sectional - eg, econometric
  - Time series - eg, total factor productivity
  - Bottom up - eg, comparing cost drivers and cost centres
- Potential application:
  - Can help inform our expenditure review and pricing decisions
  - Can foster ‘competition through comparison’ where businesses strive to be seen as the most efficient
  - However, needs to be applied with caution

Contents

Building block approach



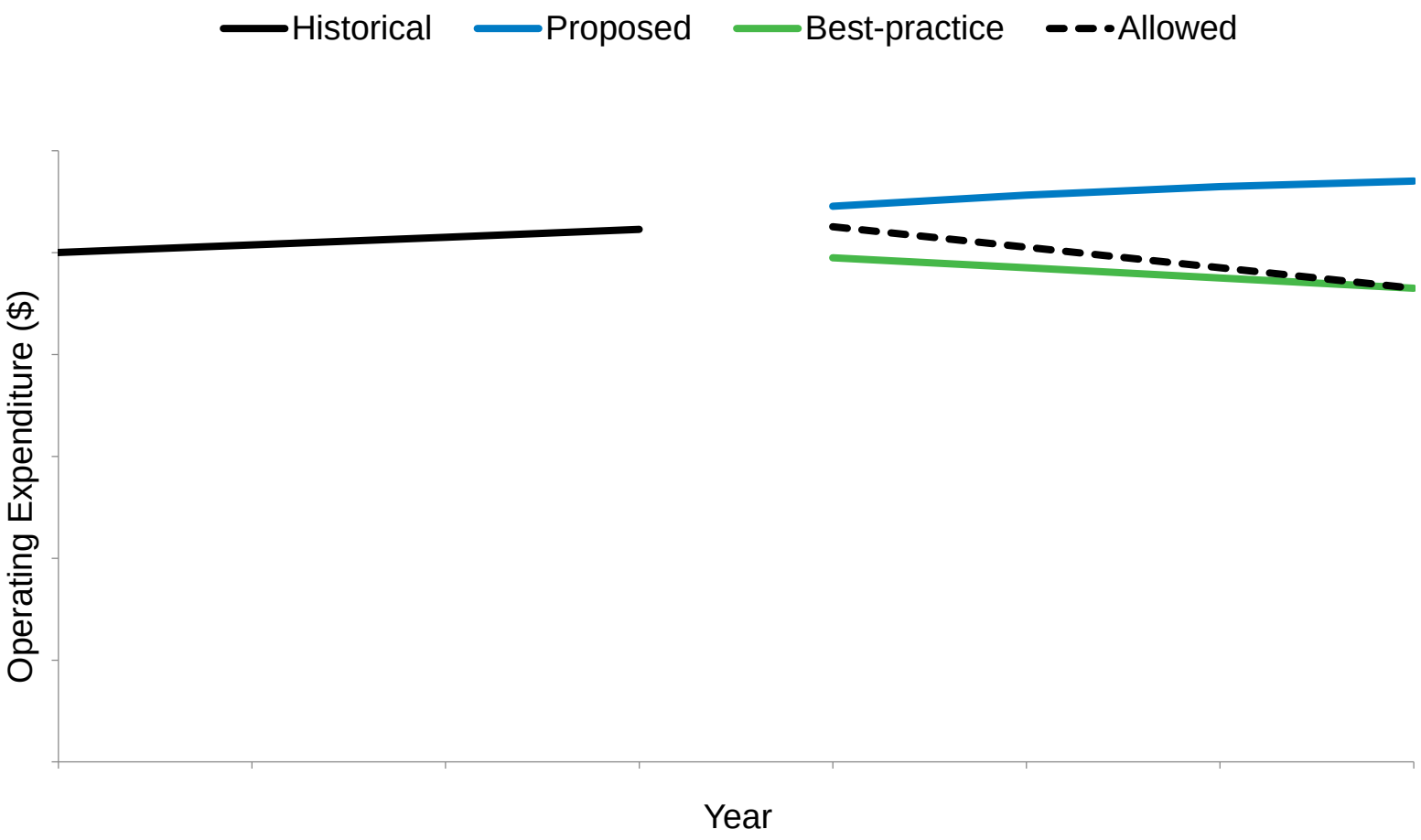
Building Blocks – Operating expenditure

- Usually the largest building block
  - Efficient operating, maintenance and administration costs
  - Direct pass through to customers
- Excludes financial and depreciation costs
- Usually lower than a utility's actual operating costs

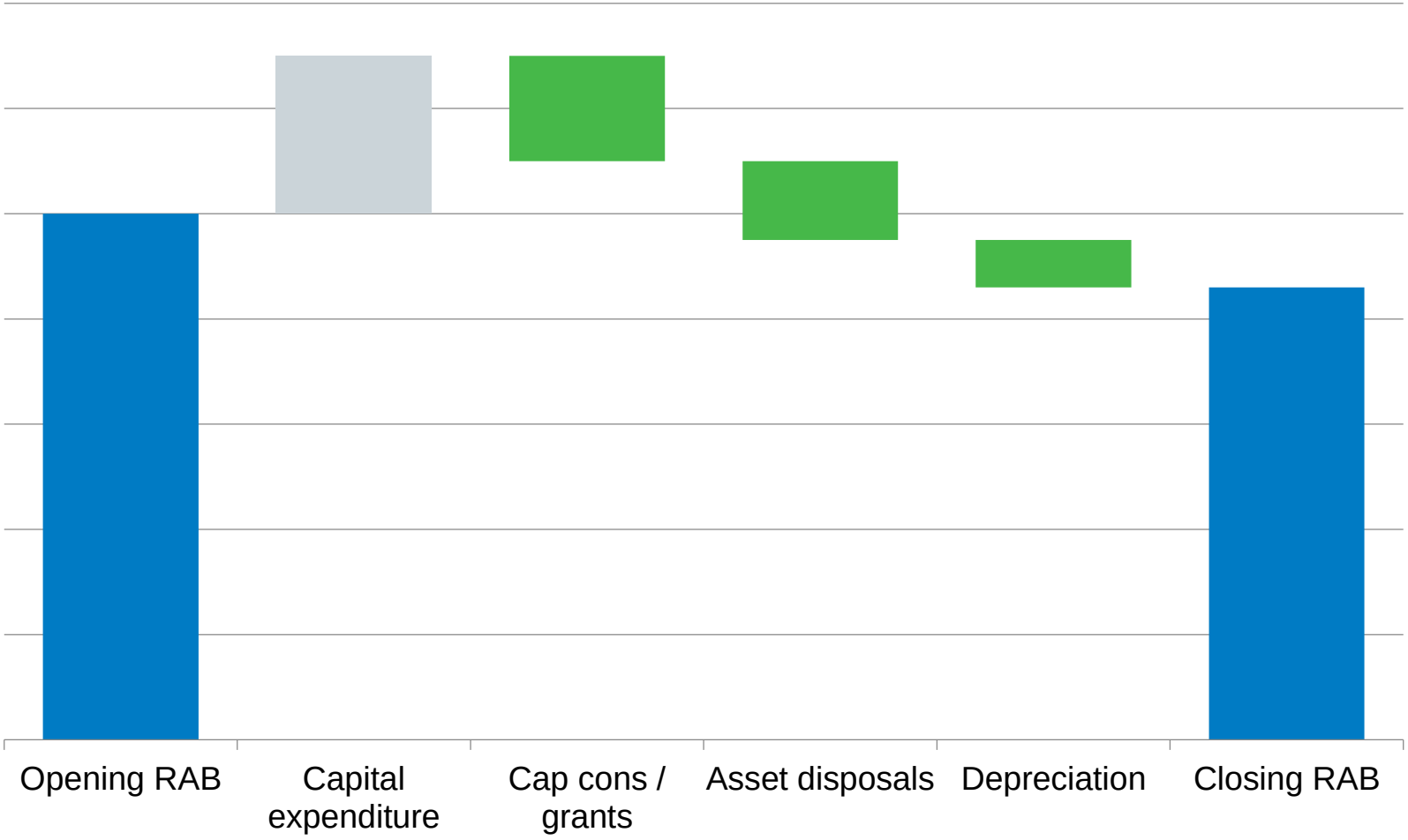
Efficient Operating Expenditure

- Assess what would be the operating costs of efficient company in a competitive market
- Engage expert consultants to review proposals to set operating expenditure allowance. Can include:
  - Ongoing and catch-up efficiency savings
  - Comparison with other utilities can inform our allowances
- Only **forward** looking
  - Though historical operating expenditure informs decision

Building Blocks – Operating expenditure



Calculation of Regulatory Asset Base (RAB)



Building Blocks – Return **on** capital

- Reflects regulatory cost of debt and equity
  - return on assets and depreciation

$$\textbf{Return on Assets} = \textbf{Regulatory Asset Base Value (RAB)} \times \textbf{Rate of Return (WACC\%)}$$

- Efficient **forward** and prudent **backward** CAPEX is included in RAB
  - Backward assessment allows only prudent actual prudent CAPEX to be included in RAB
  - Utilities are not bound by IPART's forward CAPEX decisions as they are estimates of expected efficient capital investment

Return **of** capital – Depreciation

- Regulatory allowance for consumption of capital (return of capital over life of asset)

$$\textbf{Depreciation} = \frac{\textbf{Regulatory Asset Base (RAB)}}{\textbf{remaining life}}$$

- Based on economic life of asset
  - Usually straight line depreciation

Building Blocks – Other

- Regulatory tax allowance
  - Based on benchmark private corporate tax rate
  - Actual tax depreciation forecast by the regulated business
- Return on working capital (small)
  - Holding cost of net current assets

Contents

IPART's Expenditure review process

- Competitive tender for consultants
  - Consultants - engineering, economic background
  - Focus on methodology, experience
  - Detailed scope of works

- Consultants deal with agency directly
  - Detailed review of a sample of projects or certificates
  - Interviews or audits on business cases and costs
  - To date, around 10 weeks in total
  - Utilities have opportunity to comment on draft report

Prudent and efficient expenditure test

Prudent and efficient expenditure added to RAB

Prudence

- Review of historical expenditure
  - The prudence of how investment decisions were **made** and **executed**

Efficiency

- Review of forecast expenditure
  - Is proposed expenditure the best way of meeting customer needs?
  - Subject to regulatory requirements

IPART's Expenditure review process

Consultant recommends:

Efficient forecast operating expenditure	Prudent historical capital expenditure	Efficient forecast capital expenditure

- Costs of an efficient business in a competitive market
- The Tribunal considers the consultant's report in its decisions on expenditure allowances

Contents

WACC Methodology

- WACC (return on investment) is our estimate of the efficient cost of capital for a benchmark firm operating in a competitive market
  - Facing similar risks to the regulated business
- Current benchmarked capital structure for water utilities

- Our assessment of how a similar business would structure its capital

Risk free Rate	Market Risk Premium (MRP)	Debt margin
Equity Beta	Corporate Tax Rate	

WACC Methodology

The WACC range is established by the following process:

1. Estimating a range based on long-term averages

2. Estimating a range based on current market data

3. Using the midpoints of these 2 ranges as the upper and lower bounds of the WACC range

Selecting a WACC point estimate

WACC estimate decision-making process:

1. Construct an uncertainty index using a combination of market data on volatility, debt margins, and the range of analyst predictions for market returns

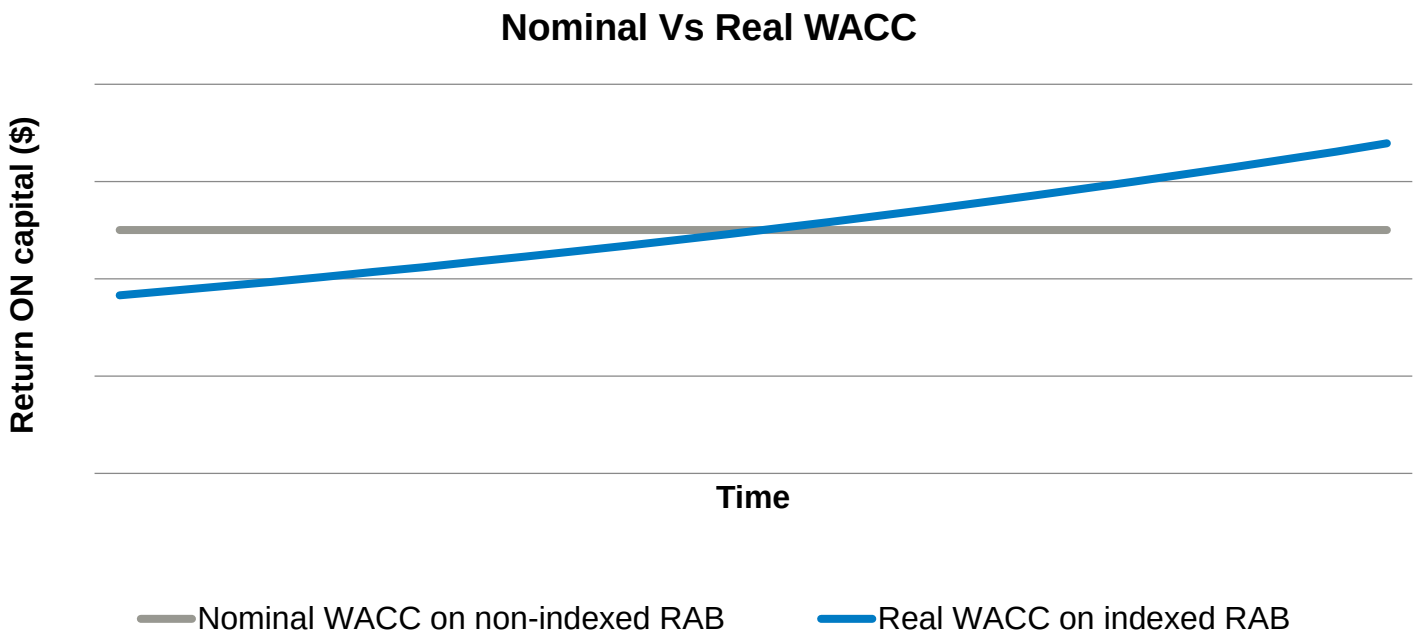
2. Use the index to inform our decision on the WACC point estimate

- If the uncertainty index is within 1 standard deviation of 0, we will use the midpoint of our range
- Otherwise, we will consider moving away from the midpoint

Currently undertaking review of WACC method - to take effect in 1 July 2018

WACC Methodology

Return **on** capital = post-tax real WACC × indexed RAB



- While the pattern of cash flows is different between these approaches, they are equivalent in NPV terms

Contents

Financeability test

- Objective is to assess the short-term financial sustainability of the utility
  - Assess against benchmarked ratios
- Test based on a utility's **actual** gearing and forecast **actual** cost of debt

Analyse 3 key financial ratios:

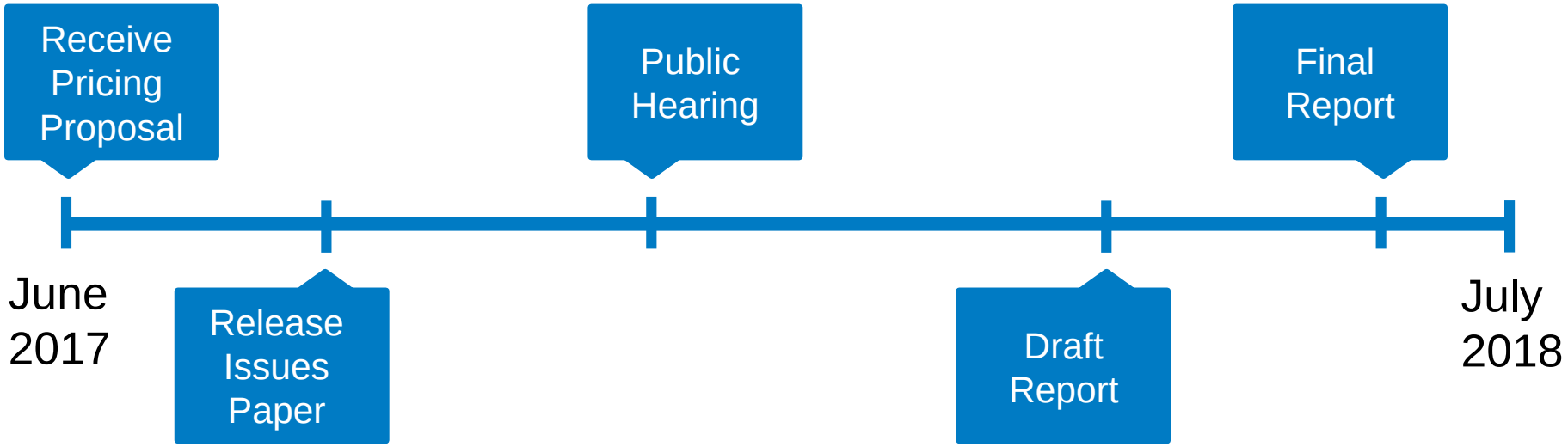
1. Funds from operations interest cover
2. Debt gearing (debt : RAB)
3. Funds from operations over net debt

Financeability issues

- If issue identified, our analysis will be extended to include 2 to 3 years before and after the regulatory period
- Short term concerns will be referred to shareholders or management, in the first instance
- We would only consider making NPV-neutral adjustments if shareholders or management cannot feasibly address the financeability concerns

Contents

Timeline for Price Review



‘Propose-respond’ framework

- Utility proposes prices and their rationale
- IPART reviews and responds

Key steps in a price review

1. Decide the length of the price determination
2. Calculate the notional revenue requirement (NRR)
3. Decide on the form of regulation and other regulatory mechanisms
4. Decide on forecast sales volumes and customer numbers
5. Decide on price structures and levels to generate the NRR
6. Consider the implications of these prices

Key steps in a price review

Price structures

- In determining price structures, we consider:
  - the cost structure of the utility (ie, fixed and variable costs)
  - the distribution of volume risk between the utility and its customers
  - customer preferences
  - the demand/supply balance – particularly if and when future supply augmentation may be required

Eg, for metro water utilities, we have generally set water usage charges with reference to estimates of the Long Run Marginal Cost of supply (LRMC), which:

- reflects the present value of future supply augmentation requirements
- signals to customers the cost of their decision to consume an extra unit of water, and
- therefore encourages efficient water consumption

Consultation in a price review

Issues Paper

- Sets agenda of the review
- Is tailored to utility's pricing proposal
- Provides preliminary responses to business' pricing proposal

Public Hearing

Allows issues to be debated with stakeholders

Draft Report and Draft Determination

Allows stakeholders an opportunity to review and comment on decisions before they are finalised

Final Report and Final Determination

Usually gives the utility several weeks to prepare before new prices come into effect

Stakeholder submissions

‘Liveability’ – an issue emerging in our consultation processes

- **Liveability** issues such as environmental protection are factored into prices by:
  - Parliament passing legislation and government (eg, the Environment Protection Agency) setting policy and regulatory requirements
  - IPART reviewing utilities’ costs to ensure they reflect the prudent and efficient costs of delivering services and meeting regulatory requirements
- Approach reflects that IPART is not responsible for setting these objectives, or determining the best way to meet them
- IPART would consider allowing expenditure to achieve standards higher than those mandated by Parliament and/or government
  - To do this we would need clear evidence that customers are willing to pay to exceed the mandated standards

Continually engage with water utilities

- In between price reviews:
  - Regular meetings
  - During the formal price review, these periodic meetings are suspended
  - Preparatory work and review of some key issues in advance of next price review
- Water utilities provide us with comprehensive operating and financial data
  - Annual information returns (AIR)
    - Allows us to monitor performance at a high level
  - Special information returns (SIR)
    - More detailed OPEX and CAPEX information used to inform our expenditure reviews and set prices

Questions?