COMMERCE COMMISSION NEW ZEALAND
Te Komihana Tauhokohoko

Incentive regulation

IPAG meeting

14 June 2018

Disclaimer:

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Overview

- Introduction to economic regulation of utilities
- Relevant types of incentive regulation
- NZ Commerce Commission application

Please note: This presentation provides a high level overview of the regulatory regime of electricity distribution businesses, but is not a complete description in scope or detail. It focuses on certain aspects of the regime which we think IPAG may find relevant.

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Introduction to economic regulation of utilities

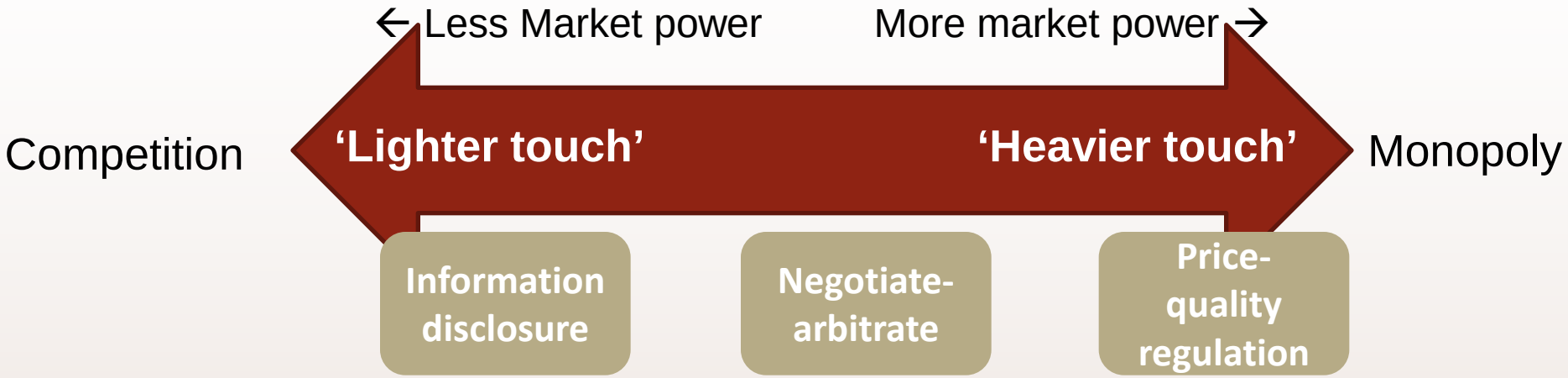
Natural monopolies and regulation

- Network segment of energy utilities tend to be ‘natural monopolies’
- Society benefits where only one natural monopoly supplies the relevant market
- Network segment of energy supply chain often (but not always) split off from other more competitive segments

Unregulated monopoly and consumer harm

- Unregulated natural monopolies cause risk of consumer harm
- Economic regulation's main aim is to mitigate these risks
- First developed in early 1900s in the US
  - This field has developed over more than 100 years
  - It has evolved into different variants, also reflecting different operating environments

Economic regulation - main variants



- Some of the main variants of price regulation can be distinguished by how much they detach prices from underlying costs
  - Cost of service → strong link between prices and costs
  - Pure price cap → weak link between prices and costs
  - Hybrid → price cap reset each regulatory period

} Incentive regulation

Economic regulation causes important risks

- Price regulation aimed at mitigating the problems of monopoly can give rise to important consequential risks
  - Investment hold-up
  - Regulatory gaming caused by information asymmetries
  - Quality degradation

Investment hold-up problem

- Suppliers have to commit to long term irreversible investments
- These are subject to threat a regulator decreases prices after investment is made
- This risk can
  - prevent the investment occurring in the first place
  - Increase the expected returns required to induce investment

Quality degradation

- Price paths are an important way to incentivise efficiencies that are later passed back to consumers
- Since prices are outside suppliers' control, they have an incentive to cut costs to increase profits
- One way to cut costs is to cut quality of service

Information problems

- Asymmetry of information is a key issue facing all economic regulators
- Firms understand their efficient costs better than the regulator
- The two key problems are
  - Hidden information: uncertainties about firms' inherent cost-reduction opportunities
  - Hidden action: uncertainties about managerial effort to reduce costs

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Relevant types of incentive regulation

Cost of service (CoS) regulation

- Developed in in the US in early 1900s. Still used to date
- Price are reset frequently (eg yearly) to allow firm to recover incurred costs (including return on capital)
- Advantages include mitigating
  - monopoly profits problem by equating prices to costs
  - Investment hold-up by guaranteeing cost recovery
  - Gaming of expenditure - outturn expenditure is observed and drives prices
- Disadvantages include
  - No incentive to reduce costs
  - Incentive to overcapitalise

Pure price cap

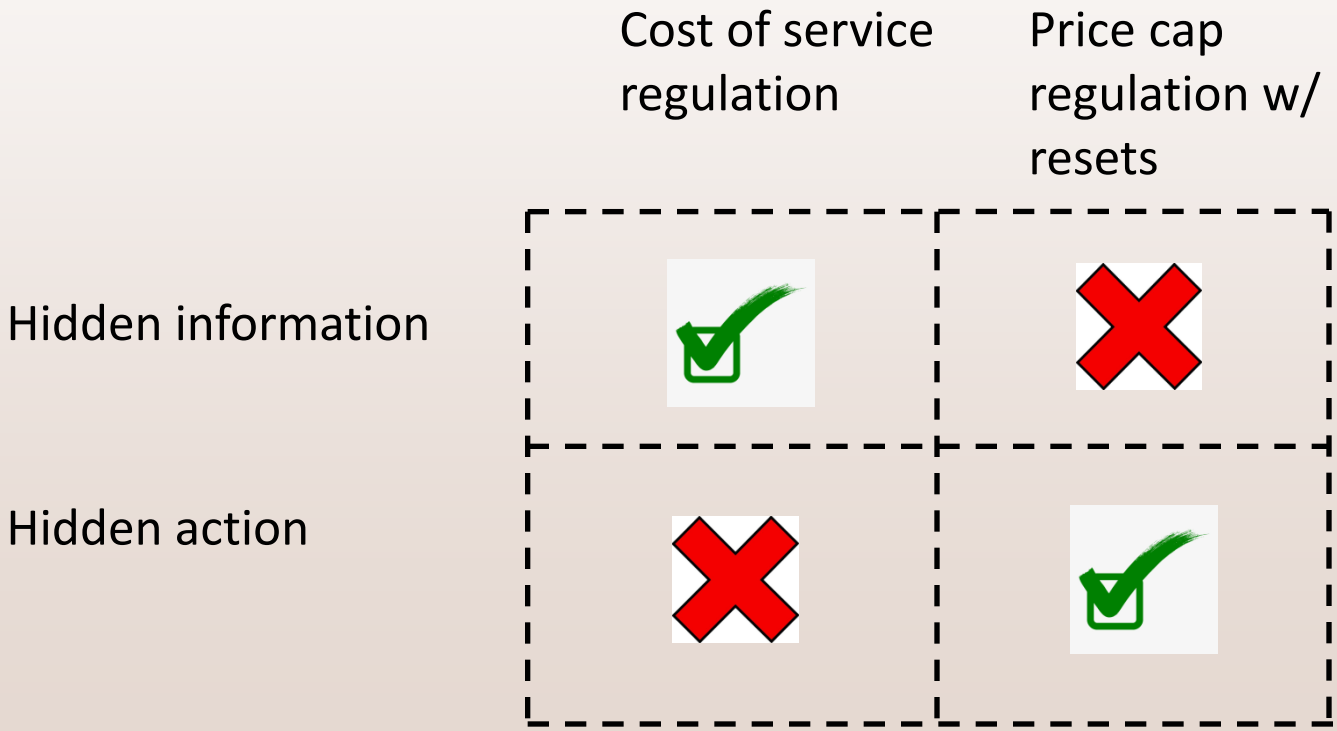
- Developed in the UK at the time of major network infrastructure reforms of the 1980s
  - Attributed to professor Littlechild. Originally conceived as a temporary intervention on a basket of BT's services
- Price path set ex-ante that acts as a ceiling. Path increases with inflation minus an 'x' factor (ie RPI-X)
- Not aware of large-scale introduction in its pure form
- Advantages include
  - mitigates monopoly pricing (and profit, at least initially)
  - provides strong incentive to reduce costs
- Disadvantages include
  - cost and price can get out of sync over time - excessive profits or bankruptcy
  - incentives to invest may be diminished as price unaffected as a result

Hybrid model

- Hybrid between CoS and pure price cap
  - Prices path (ex-ante) reset at regular intervals (eg 5-year periods)
  - Some degree of linking between past costs and prices
- Most widely used model in UK, Australia, NZ and Europe
- Advantages include
  - Mitigates monopoly prices and profits problem
  - It can mitigate the investment hold-up problem depending on implementation details
  - Provides greater incentive to reduce costs than CoS
- Disadvantages include
  - Provides incentives to game expenditure forecasts
  - Less incentive to reduce costs than pure price cap

Overview of key information problems with economic regulation

- Uncertainties about firms' inherent cost-reduction opportunities
- Uncertainties about managerial effort to reduce costs



Information disclosure regulation

"*sunlight is said to be the best of disinfectants*" – Brandeis

- The idea behind information disclosure (ID) regulation is that it influences suppliers' behaviour by making their performance in supplying regulated services transparent
- The purpose of ID regulation is to *"ensure that sufficient information is readily available to interested persons to assess whether the purpose of this Part is being met"* - section 53A
- It complements price-quality regulation and includes financial and non-financial information
- ID is supplemented by summary and analysis of the information
- Scope: all 29 EDBs, Transpower, gas pipeline businesses and Auckland, Wellington and Christchurch airports

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NZ Commerce Commission application

Our regime - a hybrid

- Basic features aim to address monopoly problems while mitigating the consequential risks of regulation
- Stable rule-setting (IMs, RAB, WACC including uplift, reduced risk of stranded assets)
  - Aim to mitigate investment hold-up problem
- Price path reset every 5 years mitigate information problems and
  - Align incentives of suppliers and consumers, incentives to reduce costs
  - Resets share efficiency gains with consumers
  - Lower capex incentive rate reduces incentive to game capex forecasts
- Quality standards and asset reporting requirements
  - Aim to avoid incentive to let quality degrade

Our regime gives effect to Part 4

To promote the long-term benefit of consumers [of electricity lines services] by promoting outcomes that are consistent with outcomes produced in [workably] competitive markets such that suppliers of regulated goods or services:

- have **incentives** to **innovate** and **invest**
- have **incentives** to improve **efficiency** and provide services at a **quality** that reflects consumer demands
- share efficiency gains with consumers, including through **lower prices**
- are limited in their ability to extract **excessive profits**

NZ's small size - implications

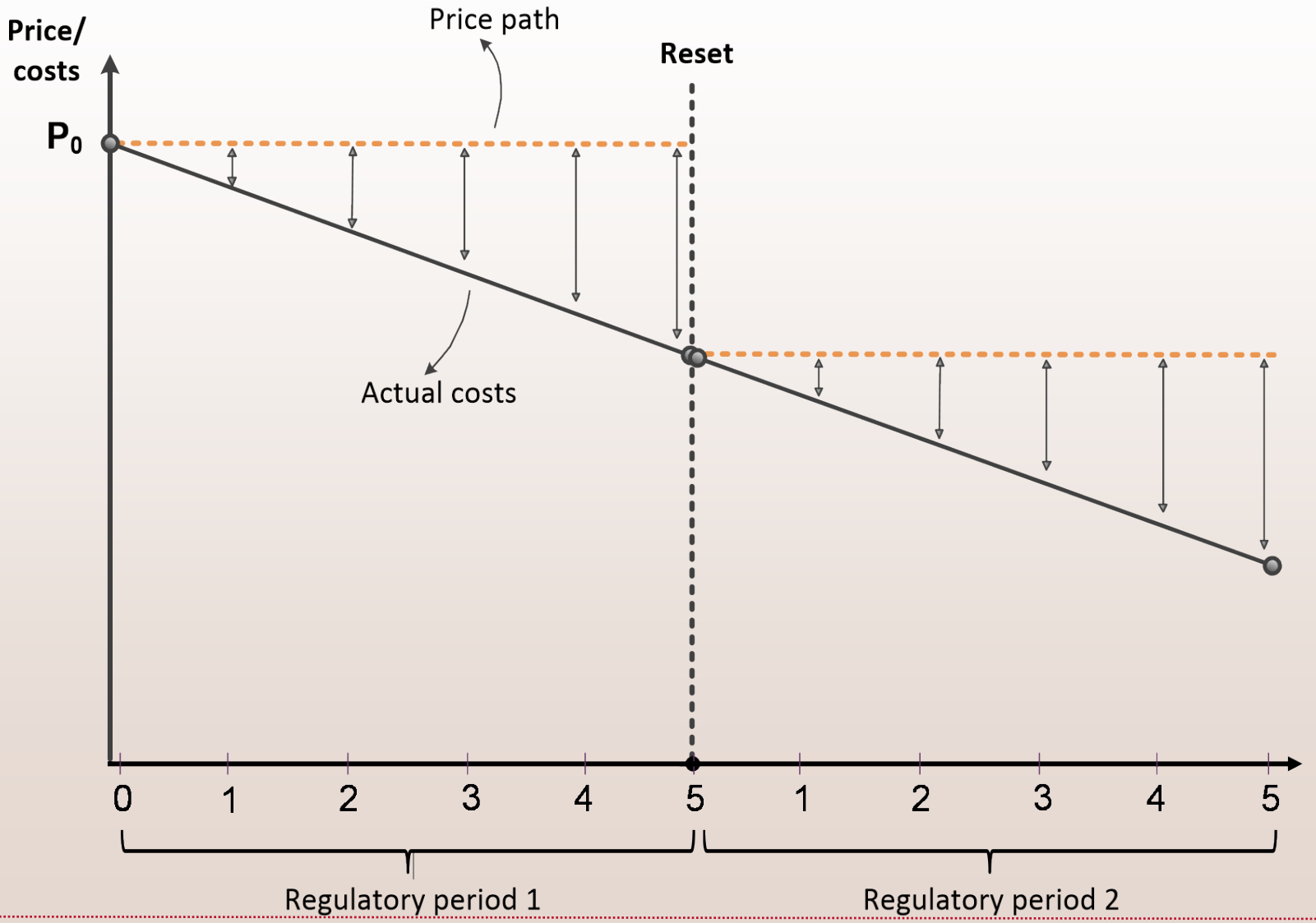
Default/customised price-quality paths

- Purpose is to provide a relatively low-cost way of setting price-quality paths for suppliers of regulated goods or services, while allowing the opportunity for individual regulated suppliers to have alternative price-quality paths that better meet their particular circumstances

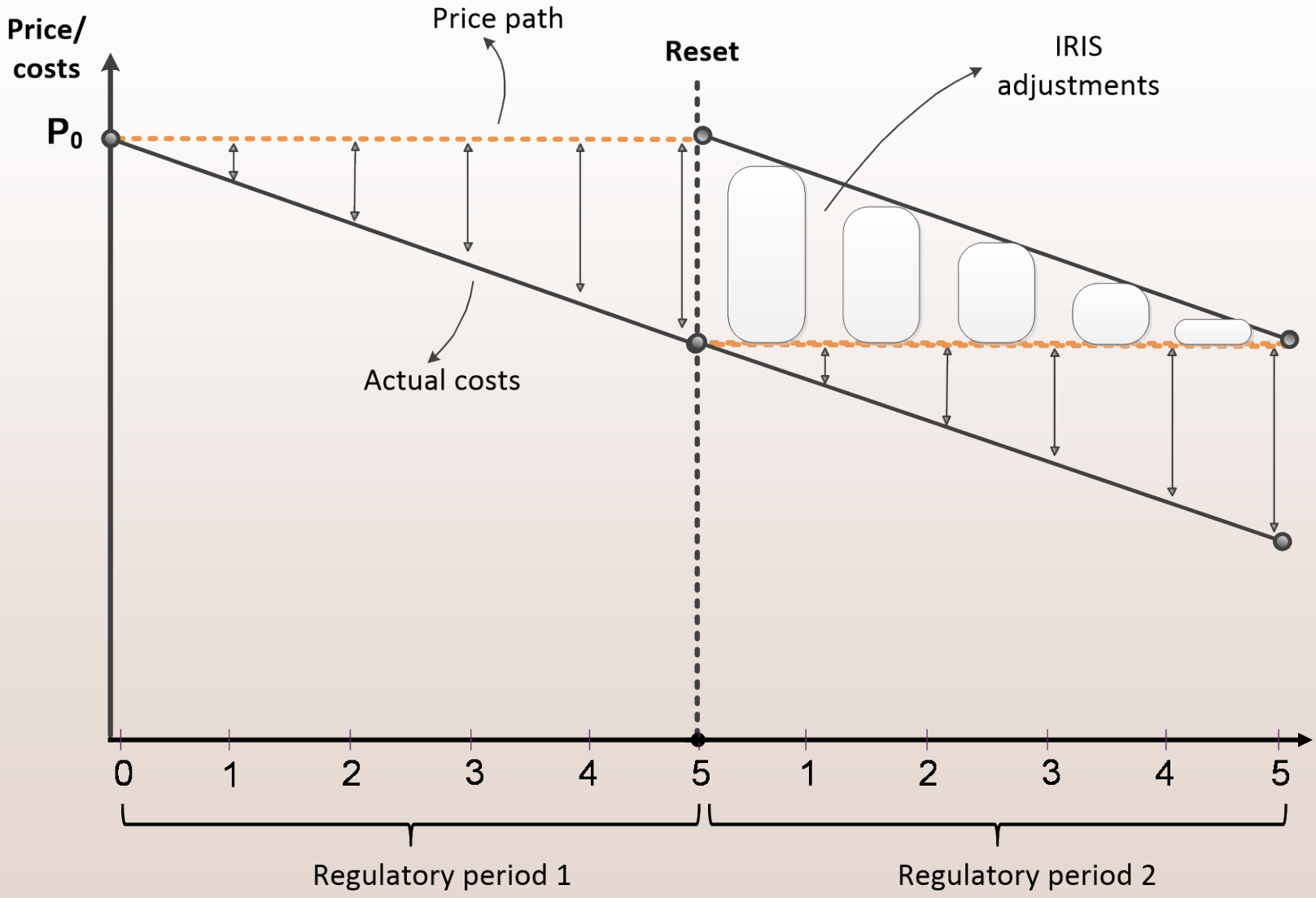
Customised price-quality paths (CPPs)

- Businesses subject to DPP can apply for CPP (in accordance with input methodologies)
  - CPP proposals can be for price, quality or both
  - Information is provided by EDB itself about its forecast capital and operating expenditure, and Commission evaluates those forecasts
- Applied to Orion, Powerco and Wellington Electricity

Price paths reset every 5 years



IRIS maintains incentive over time



Expenditure efficiency

- EDBs generally better placed to make expenditure choices than regulators
- Our regime provides incentives on EDBs to improve efficiency, including on input expenditure choices
  - Related party rules intend to ensure the EDB should be indifferent between independent or related party procurement
- Efficient expenditure ‘looks’ differently depending on context

Capex over opex

- Where capex and opex are substitutes (subset of expenditure), EDBs should ideally be financially indifferent
- EDBs may have incentives (related and independent of our regime) to favour capex.
- Our regime can be tweaked, but there are trade-offs

The long term objective

- Practical impact of regulation can differ from theory. Important to understand the sector and fine-tune regulation over time
- Economic regulation of utilities is a long-term game. It evolves over time
- We use summary and analysis to point the direction of change

Conclusion

- There are many other aspects of our regime we have not covered. We are happy to do so to assist IPAG

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