

Price Regulation

Introduction to Tariff and Rate Issues



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Definition

Price regulation in monopoly industries is an action of the state authority to limit utilities in the use of their strategic parameters - prices, revenues, rate of return, O&M, capital expenditures etc.

Scope

- Generally - where competition does not exist
- Developed markets – only networks
 - Networks exhibit scale and scope economies
 - Competition does not work as on the normal markets
 - Networks are essential facilities and access to the market means access to the networks

Objectives

- Protect consumer interests
- Ensure financial viability of industry
- Ensure equal conditions and non-discrimination for all sector participants
- Encourage competition where possible

What Regulators Inherit?

➤ Price distortions

- Direct subsidies from the state budget
- Cross-subsidies from industrial to household users
- Enforced delaying of investments
- Big losses share in distribution networks because of theft and incorrect measurement
- Low assets value

Consequences

➤ Low prices:

- Send wrong signals to the users
- Place the utilities in difficult financial position
- Lead to de-capitalization of the industry
- Lead to waste of energy
- Lead to investment shift to neighboring countries
- Lead to delay of the market opening
- Prevent successful privatization

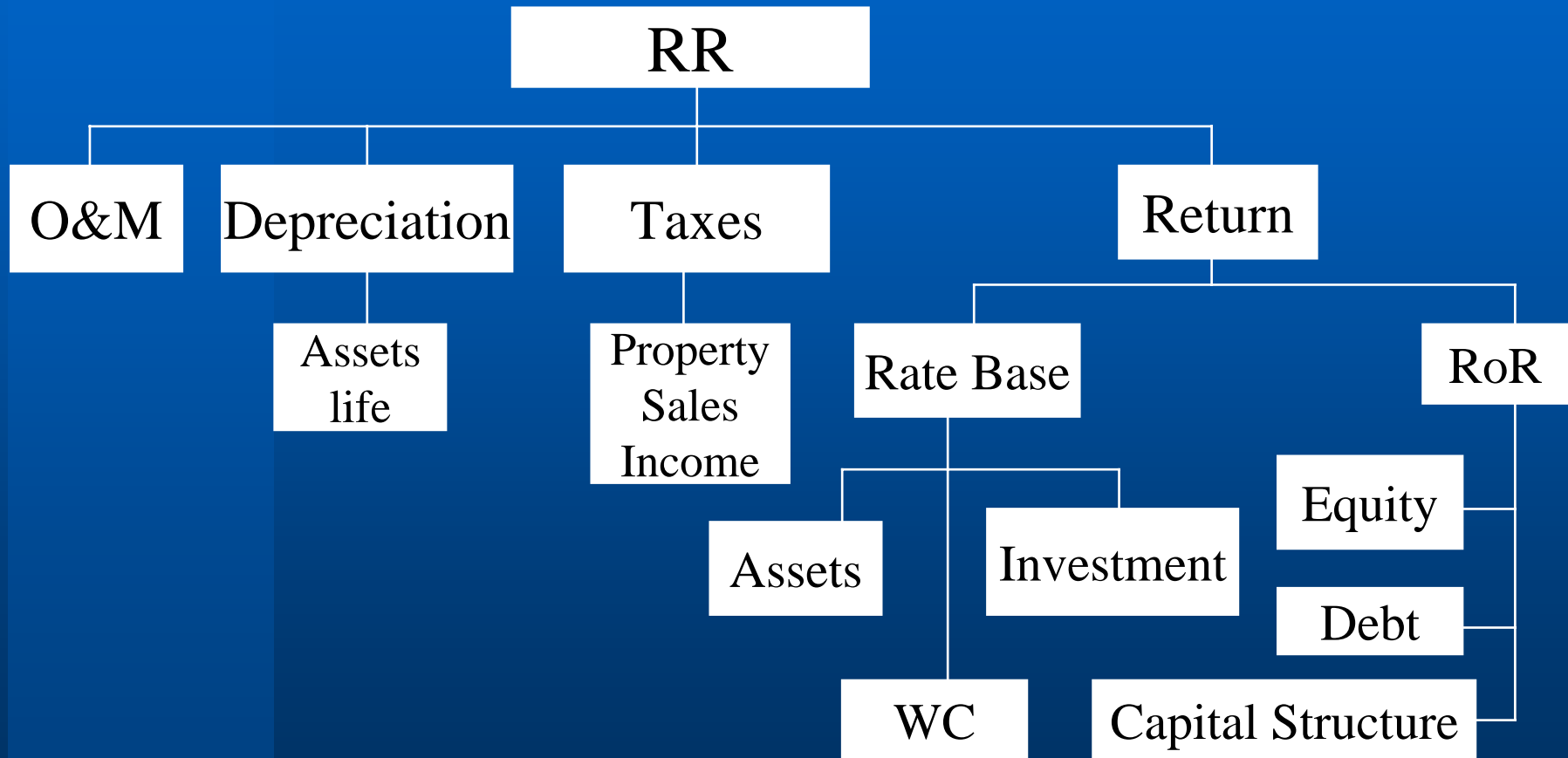
Important Concept

- Costing equation

$$\text{Revenue Requirements} = \text{Operating Costs} + \text{Depreciation} + \text{Taxes} + \text{Return on capital}$$

- Failing to pay for any of these confiscates property
- Recognition of property rights is critical to attract capital

Revenue Requirements



Price and Components

$$\text{Price} = \frac{\text{Revenue Requirements}}{\text{Quantity Demanded}}$$

➤ Components

Energy charge
Capacity charge
Fixed charge

Goals of Rate Design

- Cost-based
 - Stable and predictable
 - Easy to apply
 - Understandable to customers
 - Acceptable to customers

Goals of Rate Design

➤ Cost-Based

- Costs allocation to customer classes (residential, commercial, industrial) based on their usage characteristics:
 - Maximum demand on the system
 - Total consumption
- In order to:
 - Avoid price discrimination among customers
 - Create price signals that encourage efficiency

Goals of Rate Design

➤ Stable and predictable

- Produce stable revenues for the utility
- Provide stable price signals to customers, allowing them to reliably predict their bills
- Changed gradually (i.e., avoid “rate shock”)

Goals of Rate Design

➤ Easy to apply

- Based on usage characteristics readily measurable for most customers
 - Easily measurable: monthly consumption
 - Not as easily measurable: “real-time” pricing

Goals of Rate Design

➤ Understandable to customers

- Readily understandable: rates based on monthly consumption
- More complex: rates based on monthly usage AND maximum daily or hourly demand

Goals of Rate Design

➤ Acceptable to customers

- Generally accepted: rates based on monthly consumption
- Not yet accepted: residential rates based on “real-time” pricing

Price Regulation Models

- Rate or Return Regulation
- Performance Based Regulation
- Yardstick Regulation
- Cap Regulation

*Incentive
regulation*

Rate of Return Regulation

- Based on Costs + Return on assets
- Frequent regulatory reviews
- Cost immunisation, no incentives to increase efficiency
- No incentives for technological innovation
- Overcapitalisation
- High administrative burden

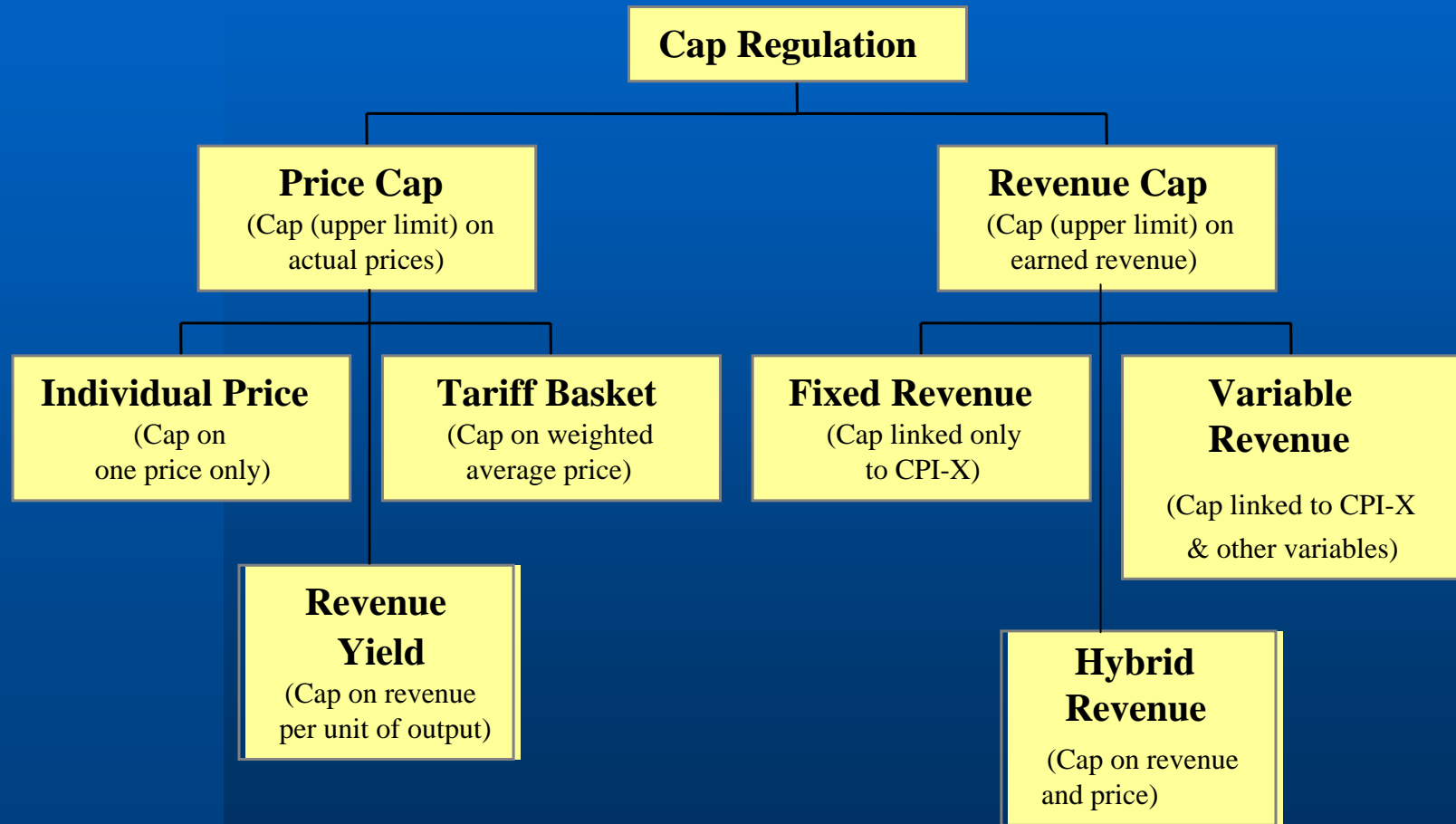
Performance-Based Regulation

- Regime of rewards and penalties for companies who over- or underachieve in terms of pre-set performance indicators
- Performance indicators: non-monetary categories (losses, quality, availability etc.)
- Relatively complex to administer
- Not fully conform to the concept of non-intrusive regulation

Yardstick Regulation

- Prices/revenues indexation to average of industry performance
- Practical implementation problems:
 - Big differences among the companies
 - Companies rarely start from the same efficiency position
 - Collusive behaviour is possible

Cap Regulation



Incentive Regulation

- Encourages efficiency
- Applied in most European countries
- Efficiency assessment (benchmarking) is an important regulatory task
- Quality of supply is an imperative
- Regulators should address the investments in order to avoid quality degradation and ensure financial viability
- Conceptual design and implementation of cap regulation requires 12-18 months

Comparison: RoR / IBR

Rate of Return

- + {
 - Guaranteed returns
 - Predictable
 - Transparent
- {
 - No incentives to cut costs
 - Over investing
 - Intrusive

Incentive Regulation

- + {
 - Incentive to cut costs
 - Greater customer protection
- {
 - Risk of windfall profits
 - Quality of service could be diminished
 - Less transparent

Conclusions

- Perfect method does not exist
- Start with simple methods
- Remember goals
- Set priority

Questions?