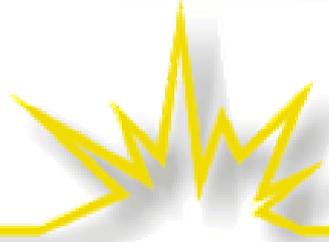


Rate-Setting Methods: ROR and PBR



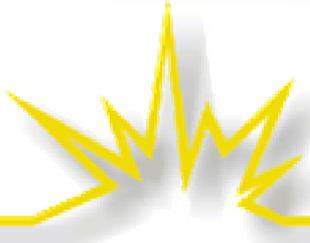
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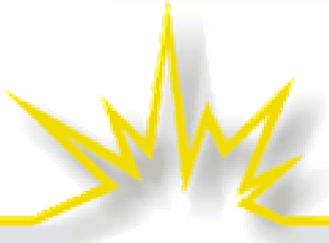
Purposes of Rate-Setting

- To recover, but not over-recover, the revenue requirement
 - ❖ Prudently incurred costs for used-and-useful investments
- To provide a fair return on investment
- To fairly allocate costs among customers and customer classes
- To satisfy other stated policy goals



Rate-of-Return Regulation

- Rate-of-return regulation is also referred to as cost-of-service regulation
- The Rate Case
 - ❖ Revenue Requirement = Cost of Service
 - ❖ Test Year: the period in which expenses are compared with revenues



ROR Formula

➤ $RR = E + d + T + [r * (V - D)]$

❖ E = Total operating expense

❖ d = Annual depreciation expense

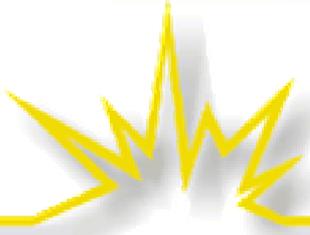
❖ T = Taxes

❖ V = Original book value of plant

❖ D = Accumulated depreciation

❖ (V - D) = Net rate base

❖ r = Weighted average cost of capital (debt and equity)



Collecting the Revenue Requirement: Prices

➤ Simple Formula:

❖ Price = $RR / \text{total kWh sales}$

➤ Issues:

❖ Cost allocation: who pays?

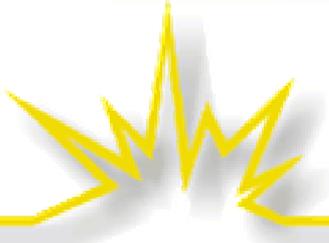
◆ Customer classes?

◆ Low- or high-usage consumers?

❖ Economic efficiency

◆ Production efficiency

◆ End-use efficiency



Performance-Based Regulation

- A different way of setting prices
- Links utility's revenues to changes in a defined cost index, instead of to actual changes in its costs
- Rewards utility for improvements in efficiency
- Better allocation of risk between investors and consumers

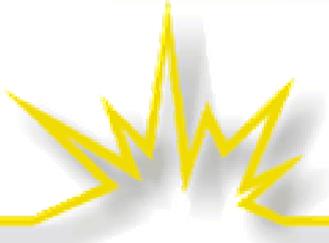


PBR Cap Index

➤ Basic formula for price or revenue cap index:

$$\% \text{ change in Index} = P_t - X_t + Z_t$$

- ❖ P_t = external inflation measure
- ❖ X_t = expected trend in productivity
- ❖ Z_t = exogenous events (plus or minus)

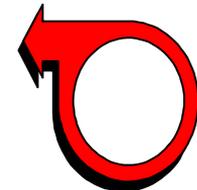


Why PBR?

- Dissatisfaction with traditional regulatory tools
 - ❖ Management audits
 - ❖ Prudence reviews
 - ❖ Used-and-usefulness determinations
- Transition or alternative to competition

Incentive Regulation

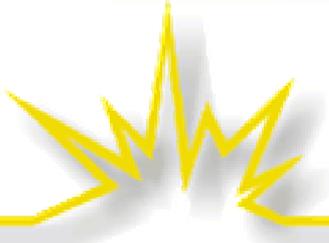
- All regulation is incentive regulation
- Trick is to understand what incentives your chosen form of regulation is providing





ROR vs. PBR

- Whether COS or PBR, the power is in
 - ❖ The method's marginal impact of performance on profits
 - ❖ The time between rate cases, i.e. regulatory lag
- PBR is not necessarily more powerful than PBR/COS
 - ❖ The structure of the PBR matters!



Service Quality

- The incentive to reduce costs may encourage a utility to reduce service quality
- Consider setting specific financial incentive/penalty provisions
 - ❖ Performance standards for:
 - ◆ Outage hours
 - ◆ Customer service, complaints
 - ◆ Safety
 - ❖ Stricter standards over time