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Improving Utility Performance: A Multifaceted Problem

Virginia Department of Energy: Stakeholder Process on Performance-Based Ratemaking

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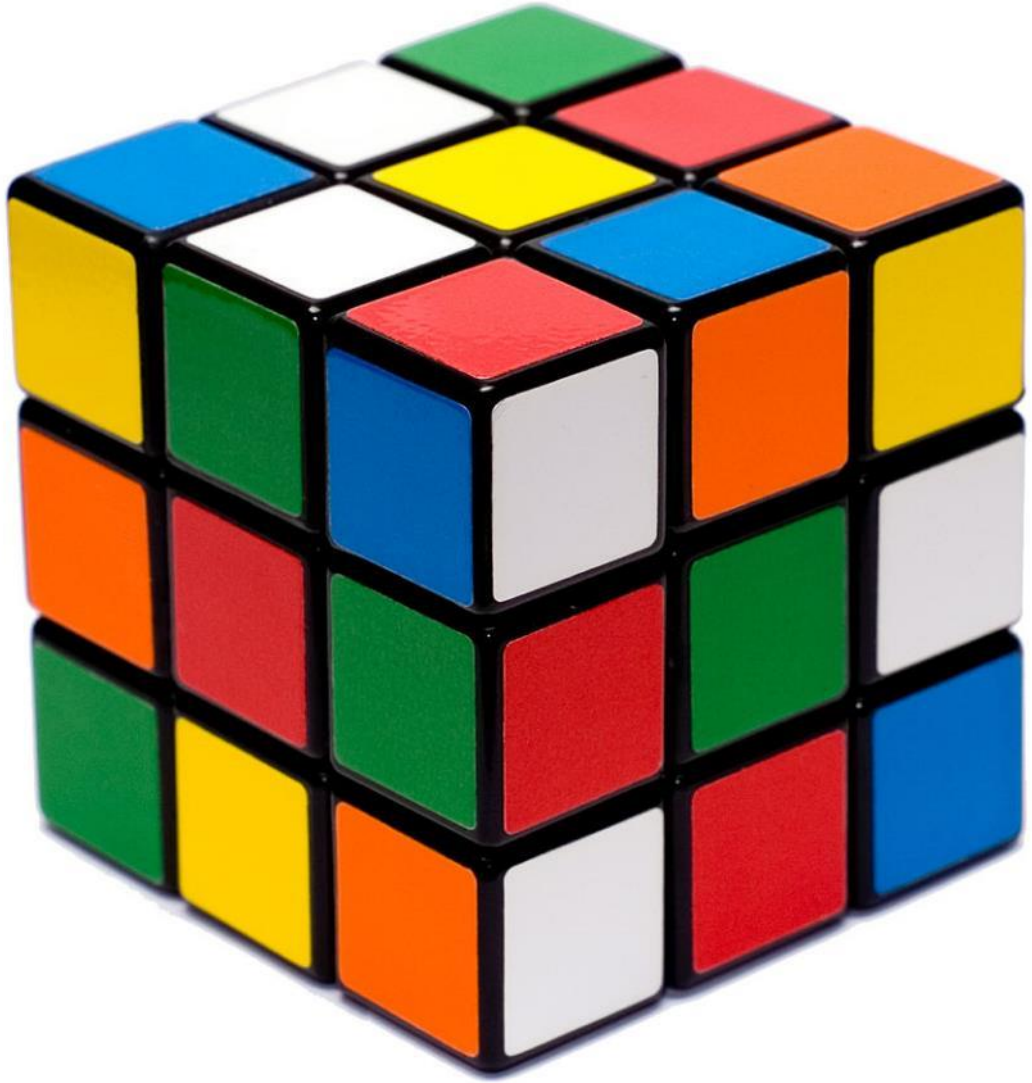
Overview

- The Big Picture
- Key components of PBR
- Deeper dive on performance incentives

The Big Picture

My View

- PBR is a set of tools that state utility regulators can use to incentivize improved utility performance.
  - Not a shortcut.
  - Modern PBR should be considered a formalization of and improvement on less rigorous methods used historically by utility regulators and policymakers.
  - Even comprehensive PBR is a set of small- to medium-sized reforms to traditional cost-of-service ratemaking.
- Depending on your goals, there is a much broader universe of potential policy reforms.
  - PBR is worthy of strong consideration but not a panacea.
- Utility choices are shaped by the full regulatory scheme, not individual elements.



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Why and how do we regulate utilities?

- Public policy goals
  - Efficient competition and control of monopoly pricing
  - Reliable provision of service
  - Societal equity (e.g., universal access and affordability)
  - Economic development
  - Environmental and public health requirements

- Principles for setting utility rates
  - Effective recovery of revenue requirement
  - Customer understanding, acceptance and bill stability
  - Equitable allocation of costs
  - Efficient forward-looking price signals

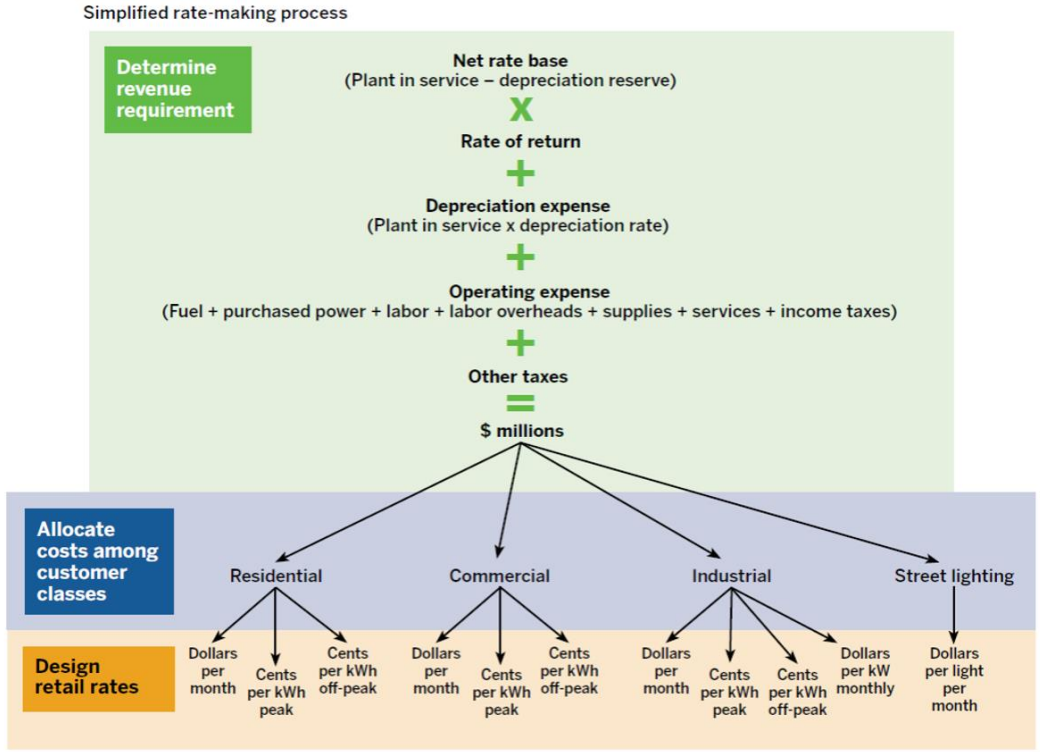
Origin of Cost-of-Service Ratemaking

- *Smyth v. Ames* (1898) requires “fair value” to be basis for ratemaking for investor-owned utilities.
- State regulation of gas and electric utility rates begins in early 20th century and includes state-backed monopoly service territories.
  - Prohibited by federal courts from regulating many interstate wholesale sales – interstate commerce Attleboro gap.
- Federal Power Act (1935)
  - Filling “interstate commerce” gap by regulating interstate sales and transmission of electricity.
- Natural Gas Act (1938)
  - Also filled “interstate commerce” gap by regulating interstate sales and transmission of gas.
- *Federal Power Commission v. Natural Gas Pipeline* (1942) and *Federal Power Commission v. Hope Natural Gas* (1944)
  - U.S. Supreme Court reverses *Smyth v. Ames* and legalizes cost-of-service ratemaking.
  - Underlying issue in *Hope* was FPC order for Standard Oil subsidiary to reduce rates.

https://loc.getarchive.net/media/fdr-franklin-delano-roosevelt-in-car

Traditional Cost-of-Service Ratemaking

- Uniform System of Accounts tracks and sorts costs in standardized and transparent way.
- Established process and substance for rate case
  - Pick a “test year” to establish annual revenue requirement.
  - Annualized expenses are passed through at cost.
  - Utilities make money on capital investments at weighted average rate of return.
  - Key criteria for cost recovery include “prudence” and “used and useful.”
  - Rates are set and not adjusted until next rate case.



Issues with Traditional Cost-of-Service Ratemaking

- Cost-plus revenue structure provides little incentive for cost control.
- Incentive to make capital investments if rate of return higher than cost of capital.
- Throughput incentive means that increased sales typically lead to higher profits.
- Little incentive to coordinate with neighboring utilities and jurisdictions
- Process is slow if costs are changing quickly.

Policy Reactions

- Northeast blackout in 1960s led to formation of power pools.
  - Utility coordination to lower costs and improve resource adequacy.
- Escalating fuel prices in 1970s led to implementation of fuel adjustment clauses.
  - Guaranteed financial solvency of utilities and continuation of service.
- Inaccurate load growth projections in 1980s led to debates over inclusion of capacity investments in rates.
  - Significant disallowances benefited consumers but led to at least one utility bankruptcy.
  - Customer dissatisfaction over costs was one motivation for electric restructuring in the 1990s.

“Of course, all regulation is incentive regulation. In this context, the difference between good regulation and bad is that better regulators try to align the incentives so that the best economic results for the customers also produce the best economic results for the stockholders.”

Peter Bradford, Chairman of New York Department of Public Service

Incentive Regulation from a State Commission Perspective, February 1989

Wide World of Solutions

Ratemaking solutions

- Additional scrutiny of investments and expenses
- Alternative rate base calculations
- ROE reform
- Totex
- Decoupling / revenue regulation
- Multiyear rate plans
- Earnings-sharing mechanisms
- Adjustment clause (tracker) reform

Structural solutions

- Transparency measures
- Integrated planning
- Programs and procurements for non-utility alternatives
- Restructuring and markets
- Franchise competition
- Public power
- Environmental regulations

Key Components of PBR

“Tools the Commission shall consider in its study include reporting metrics, scorecards, performance-incentive mechanisms, the decoupling of electricity sales from utility revenues, multiyear rate plans, fuel cost-sharing mechanisms, best practices for all-source competitive procurement, and strategies to equalize financial incentives to deploy capital expenditures and operating expenses and any other information deemed relevant or helpful by the Commission in its review.”

Virginia House Joint Resolution No. 30

What is PBR?

- Typically included in PBR
  - Multiyear rate plans
  - Decoupling/revenue regulation
  - Metrics and scorecards
  - Performance incentive mechanisms
- Sometimes included in PBR
  - Earnings-sharing mechanisms – *not on the list*
- Not always included in PBR
  - Fuel cost-sharing mechanisms
  - Best practices for all-source competitive procurement
  - Strategies to equalize financial incentives to deploy capital expenditures and operating expenses

Multi-year Rate Plans

- Stay-out periods encourage utility cost reductions.
  - Utility keeps savings, customers don’t see benefit until next rate case.
- Stay-out periods can be softened with trackers and exogenous cost recovery provisions.
- Earnings-sharing mechanisms dilute the cost reduction incentives of multiyear rate plan.
  - Utility earns less from cost cutting.
- All parties benefit from fewer rate cases.

Risks of Multiyear Rate Plans

- Pacific Northwest Bell multiyear rate freeze in 1986
  - No restrictions on cost cutting
  - Customer service cut
  - Charged by the minute for customer service phone access
  - Incentive to keep customers on hold

The Throughput Incentive

- Traditional ratemaking sets *prices*, not *revenues.*
  - Revenue requirement is only an estimate of total cost to provide service; used only as basis for determining rates.
- By themselves, usage-based rates ($/kWh and $/kW) link revenues (and thus net income) to sales.
  - More kilowatt-hours sold = more money the utility makes.
  - In most hours, price of electricity is greater than cost to produce it.
  - Utility makes money even when additional usage is wasteful and loses it even when reduced sales are efficient.
- Incentive to increase sales is *the throughput incentive.*

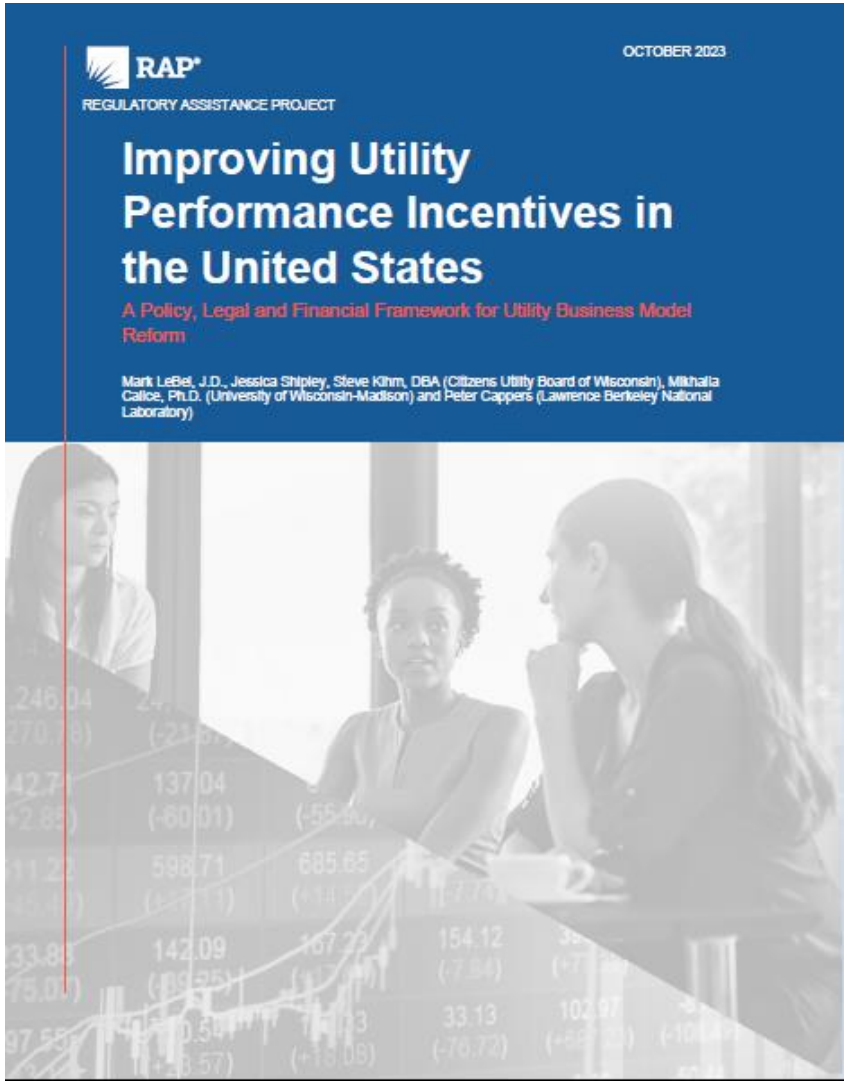
Revenue-Sales Decoupling

- Breaks mathematical link between sales volumes and revenues.
  - Makes revenue levels immune to changes in sales volumes.
  - Enables recovery of utility's costs, including ROI, without creating perverse incentives for unwanted outcomes.
- Objectives
  - To improve economic efficiency
    - Preserves the utility's incentive to improve its operational efficiency.
    - Removes the utility's incentive to increase net income by increasing sales.
  - To reduce risk for both the utility and the customer
    - Reduces impacts (up or down) on revenue from weather, changes in the economy, and other exogenous factors.
    - Likewise, eliminates impacts associated with least-cost actions.

Data Reporting and Performance Incentives

- Informal regulatory monitoring and oversight
- Data reporting requirements – “metrics”
- Rankings and targets
- Performance-based financial rewards and penalties

Deeper Dive on Performance Incentives



https://www.raponline.org/knowledge-center/improving-utility-performance-incentives-in-the-united-states-a-policy-legal-and-financial-framework-for-utility-business-model-reform/

The Opportunity and Challenge of Performance Incentives

- Outcome-based performance incentives, rewards or penalties, encourage utility management to strive for the best possible results without micromanaging the means to get there.
- Performance incentives to date have primarily been small add-ons to existing ratemaking practices, hemmed in by conflicting objectives from significant stakeholders.

History of Performance Incentives

- Started in 1970s and 1980s for generator availability, reliability and customer service.
- Energy efficiency program performance incentives became common in late 2000s.
- Rigorous evaluations of PIMs have been limited.
  - Counterfactuals are difficult.
- New efforts in this area in the past decade – NY, HI, IL, RI and more.
  - Peak demand reductions, GHG reductions, electrification

Framework to Illuminate the Path Forward

- Policy
  - What are the issues with cost-of-service utility ratemaking and how can PIMs help?
- Legal
  - What are the limits and guidelines for utility ratemaking, including financial reward and penalties?
- Finance
  - How are utilities motivated and how can PIMs change that?

Each of these three areas has important linkages to the other two and must be understood as a package to implement policy improvements.

Integrating Performance Incentives into Rates

- How much can incentives change utility behavior?
  - What are the costs and benefits to the utility?
  - Are there underlying “culture” issues?
- Is it possible to find a triple win?
  - Better deal for consumers
  - Improved regulatory and public policy outcomes
  - Net financial benefits for well-run utilities

Takings Clause Takeaways

- The “end result” of the rates set and the “overall impact” on utility investors is what matters and there is substantial flexibility in the methods that can be utilized by utility regulators.
- The standard for “capital attraction” is consistent with the notion that there are a range of permissible returns and that a constitutional minimum might be a return that merely compensates investors for the risks they are taking and nothing more.
- The standard for returns “comparable” to other companies with similar risks is not a requirement to compare with companies of the exact same type but rather a broader comparison across the economy.
- Shareholders do not receive absolute protection from the consequences of poor management or adverse changes in markets.

Key Financial Considerations

- Utility management works for existing shareholders, and maximizing shareholder value is the key criterion.
- Return on equity used in ratemaking and the market cost of equity should be conceptually distinguished.
- The value of performance incentives must be evaluated based on the relevant choices for the utility.
  - E.g., must correctly value capital investments based on the distinction between the market cost of equity and actual returns on equity.

Four-Step Process

- Estimate a reasonable market cost of equity.
- Set base revenue levels for expected utility performance.
  - Base return on equity can be considered a key policy variable
- Identify policy goals, prioritize outcomes and create incentive metrics.
- Set incentive formulas. Key principles:
  - Materiality
  - Benefits commensurate with overall costs
  - Constitutionality
  - Clarity


Opex (including depreciation and taxes)
Rate of return
Potential rewards
Potential penalties
Revenue
Traditional model
Rewards-only
Penalties-only

Key Takeaways on Performance Incentives

- Zooming out to look at performance incentives and ratemaking holistically can broaden the scope of reasonable options.
- Larger performance incentives, either penalties or rewards, should motivate more significant responses from utility management.
- Shareholder value is key criterion for evaluating choices utilities face.
- Legal concerns should be satisfied if utility has reasonable opportunity to earn market cost of equity.

About RAP

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