Mission Statement

The WUTC protects consumers by ensuring that utility and transportation services are fairly priced, available, reliable, and safe.

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Thinking About Utility Tariff Design

WUTC – Kyrgyz Republic Partnership

Nicolas Garcia, Policy Advisor

July, 2006

The Last Stage of Ratemaking: Tariff Design

Important to Utilities:

- determines how a utility recovers its costs
- specifies how utility services are priced
  - for example: constant rates, declining rates, inverted rates, seasonal rates
- financial viability of utilities

The Last Stage of Ratemaking: Tariff Design

Important to Customers:

- allocates cost among different customer classes
- determines the price of different utility services

Why Tariff Design is Important to Regulators

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Affects important regulatory / social objectives

- financial viability of utilities
- efficient use of energy
- maximize consumer access
- *creates incentives: customers respond to price signals*

Consequences of poor Tariff design

- excessive/deficient utility earnings
- “wasteful” consumption
- uneconomic bypass
- inequity and price discrimination

Regulatory Objectives and Tariff Design

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When listing and prioritizing regulatory objectives, it is important to remember that:

- regulatory objectives can and do change
- regulatory objectives are often in conflict
- regulatory objectives vary among stakeholder groups
  - residential customers
  - commercial/Industrial customers
  - public interest groups
  - international entities

Potential Regulatory Objectives for Tariff-Design

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Public acceptability	Minimize administrative costs
Revenue sufficiency	Maximize access: • Low Income • Rural area
Rate stability	Equity: Avoid customer discrimination
Promote Efficient Use of Energy	???

Determine the tariff design that best balances the “family” of regulatory objectives

Other Tariff Design Considerations

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- Volatility of wholesale energy prices
- Fuel-switching
- Elasticity of demand effect
- Low-income tariff structures
- Effects of weather on supply and demand
- Relative proportion of utility fixed and variable costs

Alternative Tariff Designs

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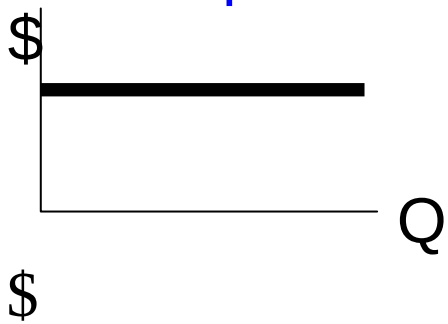
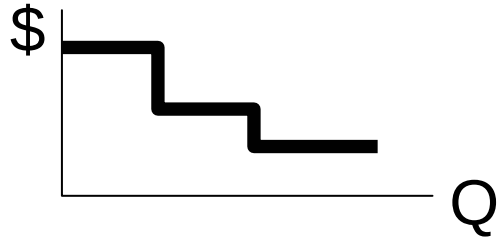
Flat Rate per period, no usage charge

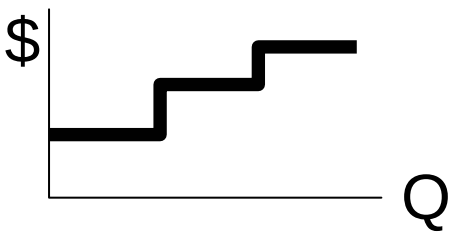
Uniform: Flat Rate per unit



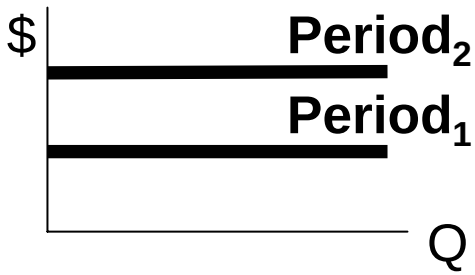
Declining Block



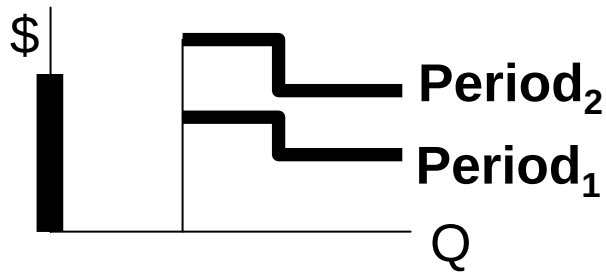
Inverted Block



Seasonal or Time of Use



Combination



Effect of Tariff Designs on Regulatory Objectives

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Flat Rate per period, no usage charge

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Rate stability	Equity: Avoid customer discrimination
Promote Efficient Use of Energy	???

Effect of Tariff Designs on Regulatory Objectives

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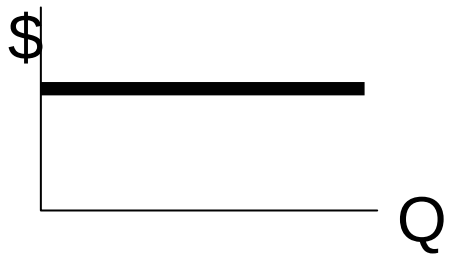
Uniform: Flat Rate



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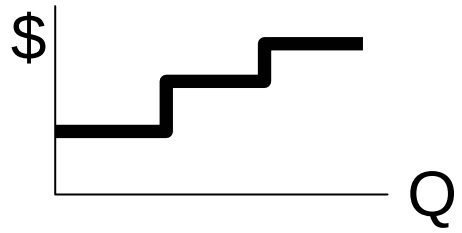
Inverted Block



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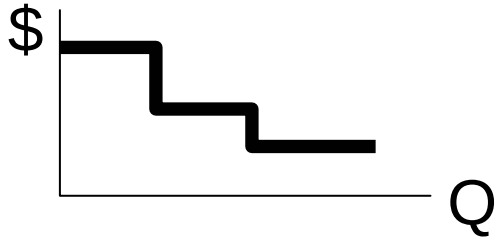

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Effect of Tariff Designs on Regulatory Objectives

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Tariff Design: Typical Tariffs in the US

Basic Structure: $TB = F + pq$,

- Where the total bill for customer (TB) equals the sum of the customer charge (F) and the volumetric charge (p) times the amount of gas customer consumed (q)
- Basic structure for electricity and gas tariffs has not changed for 75+ years
- However, many variations have been made to this tariff design to meet evolving utility and regulatory needs

Things to Keep in Mind

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Good tariff design should accommodate:

- actual conditions of supply and demand
- the technological condition of the utility
- overarching regulatory/governmental objectives

Regulation has many objectives, some in conflict, and priorities (ranking of objectives) change over time

Things to Keep in Mind

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Regulators objectives often differ from utilities' objectives. For example:

- promoting energy efficiency
- allocating risk among consumers and the utility

Good rate design requires a compromise or "balancing act" of objectives (sometimes referred to as "sausage making" in applying basic principles and judgment)

Things to Keep in Mind

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A dialogue on rate design issues among utilities, regulators and other stakeholders (e.g., the press) is useful to build public trust and acceptance changes to utility rates

Stakeholders may desire to retain current tariff design for many reasons:

- inertia – public understanding and acceptance
- uncertainty over the outcome
- disinformation/deficient information

Thank You

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I am available for any questions