

The Power of Incentives

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Overview

- Appraisal of 3rd Generation IRM dimensions - form, term, incentives
- O&M efficiency ranking vs. total cost ranking- some efficient LDCs penalized and incented to migrate to socially inferior performance
- Historical data collection in 1st Generation produced detailed capital data (e.g., stock, additions) for TFP calculation: 1988-1997 and 2001-2010
- Develop single customer guarantees
- Incorporate customer Willingness to Pay (WTP) into O&M and capital planning

3rd Gen IR Form, Term and Incentives

Term: Three-On, One-Off

- Produces delayed, time-shifted, rate increases
 - COS rate increases
 - IR increases
- Weakened productivity gains, lack of permanent improvements
 - TFP about what it was under COS
 - TFP 2006-2010 significantly lower than TFP over 2001-2006

3rd Gen IR Form, Term and Incentives

Partial cost benchmarking inherently biased

- No relationship between IR and total efficiency
- Inequitable reviews and higher induced inefficiency
- Rewards inefficiency for a number of LDCs
- Punishes efficiency for a number of LDCs
- Incentivizes some LDCs to migrate from a socially preferred performance

3rd Gen IR Form, Term and Incentives

Partial cost benchmarking weakens 'total cost' incentive

- Incentivizes accounting response rather than operating/behavioral response
- Money spent on line losses or reliability are negatives in Board's rankings
- Gains from improving reliability or losses not counted in Board's rankings
- LDCs' rational responses biases recorded data

3rd Gen IR Form, Term and Incentives

Partial cost benchmarking w/out service performance standards provides incentive to alter input mix

- Shift from O&M to capital causes higher allocative inefficiency
- Losses ignored – notable wide-spread increase in line losses in 2006-2009 compared to mid 1990's
- In-effective reliability regulation – SAIDI and SAIFI higher than in mid-1990s or early 2000s.

3rd Gen IR Form, Term and Incentives

Partial cost benchmarking incents increased capitalization

- Produces phantom O&M “improvements”
- Worsens allocative inefficiency
- Augmented Capital inflates equity and earnings
- Higher earnings drive higher customer rates
- Contaminates ‘Capital Additions’ data, assessment and response
- Increased capitalization results in higher total cost and future rates in the long run

Historical Capital Data: TFP, DEA, MPI

No capital data issues for TFP, DEA or MPI - 1st Generation collected detailed capital data from early 1970s to 1999. Capital data for 2000 and on filed with OEB.

- Gross stock, accumulated depreciation
- Annual depreciation
- Annual retirements
- Annual additions
- Annual contributions
- Components of additions

Historical Capital Data: TFP, DEA, MPI

1970s – 1990s historical capital data used to estimate TFP for 1st Generation PBR, DEA, and MPI

- OEB: TFP 1988-1997, TFP 1993-1997
- OEB: Cost assessments among utilities
- Cronin: DEA 1988, 1993, 1997
- Cronin: MPI 1988-1997

Historical Capital Data: TFP, DEA, MPI

Updating estimated TFP, DEA using historical and 2000 - 2010 capital data filed with OEB

- TFP 2001 - 2010
- TFP 2001 - 2005
- TFP 2006 – 2010
- DEA 2009

Reliability, WTP, and Guarantees

Willingness to Pay (WTP) and Single Customer Guarantees (SCG)

- Intensive research by regulators on Customer Satisfaction (CS) and WTP
- WTP used by numerous regulators e.g. to set Single Customer Guarantees (SCG)
- Norwegian regulator
 - WTP found to be equal to LDCs' O&M budgets
 - WTP incorporated into O&M and capital planning to move to more socially optimal position

Reliability Performance and Comparisons

- Reliability statistics
 - Increase in SAIDI and SAIFI levels (lower performance) on average since mid-1990s and early 2000s,
- Comparison of current performance with other jurisdictions
 - For a number of Ontario LDCs reliability statistics do not compare favourably with Alberta
 - For urban customers Ontario LDCs compare favourably with a number of US jurisdictions in North East and Mid West

Standards Should be Enforced, Operationalized, and Enhanced

OEB Should:

- Build on its earlier work on WTP
- Incorporate robust customer WTP research findings into O&M and capital planning
- Uphold service reliability minimum standards set out in Electricity Distribution Rate Handbook
- Investigate more robust standards through WTP research and examine the implementation of a socially optimal regulatory framework

Ofgem Approach for OEB RRFE

- Forward test years covering IR term
- Utility's own historical/comparator data for benchmark targets (e.g. capital additions)
- Incentive menus for capital additions to accommodate regulatory information asymmetry
- Menus on key design parameters to incent:
 - Accurate forecasts
 - Efficient operations
 - Reveal potential performance ceilings
- Mid-term IR reviews to assess what has transpired and assist in refinement of subsequent IR terms
- SQR that recognizes single customer guarantees based on WTP
- Yardstick data to reveal best service quality practice
- Ex-post evaluation of plans, actuals, deviation and causes

Conclusion

RRFE should:

- Estimate TFP and efficiency using Ontario LDC capital data
- Use total cost benchmarking, including line losses
- Enforce, operationalize and enhance service reliability standards
- Build on earlier WTP study and incorporate results into O&M and capital planning
- Examine implementation of socially optimal regulatory framework