Utility Ratemaking and Analysis:  
An Advanced Course in Regulation  

July 17-21, 2006  
Sunset Jamaica Grande, Ocho Rios, Jamaica

Co-Sponsored by  
The Organisation of Caribbean Utility Regulators (OOCUR)  
PURC, University of Florida

This course is designed to provide advanced training for regulators and regulatory staff with at least three years experience in utility regulation. The program will examine the application of benchmarking techniques in incentive regulation, including data collection, strengths and limitations of alternative methodologies (data envelopment analysis and stochastic frontier analysis), and designing incentives; analytical techniques used for determining price levels and designing price cap, revenue cap, and hybrid regulatory schemes; how incentive regulation affects the legitimacy and credibility of the regulatory body; and quantitative methods in rate design for energy, telecommunications, and water. Examples will be drawn from recent price review cases. Other topics include the economics of network interconnection, designing prices to address cross-subsidy and affordability issues, and the application of regulatory impact analysis.

The course will be highly interactive between program faculty and program attendees with a mix of presentations, moderated discussions, small group exercises, and case studies. Participants will work on spreadsheet models of the analytical topics covered to obtain a first-hand look at how regulatory policy changes would affect provider finances and consumer prices. Pre-course readings will be assigned and quizzes will be given at the end of each day throughout the course.

Contact Information

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Course Calendar

Monday, July 17, 2006

8:30 – 10:15 a.m.
Session 1: Introduction, Purpose and Objectives of the Course (Sanford Berg, PURC)
  • Each participant identifies one key issue for which they seek answers. Issues are linked to the Course Map

10:15 – 10:30 a.m.
Break

10:30 a.m. – Noon
Session 2: Designing Incentive Regulation Schemes (Mark Jamison, PURC)
  ▪ Economics of information asymmetries and how they affect mechanism design
  ▪ Regulatory methods for addressing information asymmetries
    o Design and properties of price cap regulation, revenue cap regulation, rate of return regulation, benchmarking, and revenue and earnings sharing
    o How to choose and design incentive schemes
  ▪ Designing features of price cap, revenue cap, and hybrid systems of regulation
  ▪ Choosing X factors and approaches to estimating parameters for price cap and revenue cap regulation

Noon – 1:30 p.m.
Lunch

1:30 – 3 p.m.
Session 3: Techniques for Using Benchmarking in Incentive Regulation (Sanford Berg)
  ▪ Methods for estimating benchmarks;
  ▪ Identifying which cost differences can be controlled by operators;
  ▪ Regression analysis, which involves the application of statistical techniques in order to estimate a cost (or production) function that identifies an average level of efficiency.
  ▪ Data Envelopment Analysis (DEA), which involves the application of mathematical programming techniques in order to establish a least cost frontier;

3 – 3:15 p.m.
Break

3:15 – 5 p.m.
Session 4: Further Techniques for Using Benchmarking in Incentive Regulation and Applications in the Caribbean (Carol Balkaran, RIC, with Sanford Berg)
  ▪ Informal methods of benchmarking
  ▪ Presentation on the application of benchmarking in the region, emphasizing
o Practical lessons in applying the analytical techniques
o Overcoming data limitations
o Factors considered in choosing analytical techniques
o Data and analytical issues
o Results of analyses
o Going from analysis to decision making: Factors to consider

Evening Assignment: Spreadsheet analysis of benchmarking case
Tuesday, July 18, 2006

8:30 – 10:15 a.m.
Session 5:  Case Study in Benchmarking Analysis (Sanford Berg) -- Teams analyze data in a benchmarking case study. Points for discussion include:

- Distinguishing between fact and opinion;
- How model specification and assumptions affect analysis;
- How policy priorities affect conclusions;
- Approaches for communicating complex analyses.

10:15 – 10:30 a.m.
Break

10:30 a.m. – Noon
Session 6:  Conclusion of Case Study in Benchmarking Analysis (Sanford Berg) -- Teams discuss data and analytical results from a utility benchmarking analysis. Factors considered include:

- Reasons why costs vary across companies;
- How to interpret results from different analytical techniques;
- Weighing the relative importance of various benchmarking measurements;
- Identifying which costs differences can be controlled by operators;
- Comparison of average cost for groups of companies which share similar operating environments.

Noon – 1:30 p.m.
Lunch

1:30 – 3 p.m.
Session 7:  Applying Benchmarking Results in a Price or Revenue Cap System (Mark Jamison and Sanford Berg)

- Analytics of choosing X-factors, inflation indices, and P0
- Using producer, consumer, or input price indices as the inflation index;
- Total Factor Productivity Analysis;
- Exercise in using benchmarking results in establishing X-factors.

3 – 3:15 p.m.
Break

3:15 – 5 p.m.
Session 8:  Exercise in Designing Mechanisms to Overcome Information Asymmetries (Mark Jamison)

- Calculating financial impacts of revenue and earnings sharing systems
- Choosing mechanisms for providing incentives for operators to reveal the abilities to operate efficiently
- Incorporation of Demand Forecasts into the Framework (price and income elasticities)
Evening Assignment: Read case study on investor reactions to a regulator’s announcement of a price cap decision
Wednesday, July 19, 2006

8:30 – 10:15 a.m.
Session 9: Designing Features in Price and Revenue Cap Regulation (Mark Jamison and Sanford Berg)
- Practices in designing service baskets in telecommunications and customer classes in energy
- X-factors or mechanisms for different services or different parts of the supply chain
- Targeted incentives, such as heat rate, fuel procurement, system dispatch, load factor, and availability and reliability incentives;
- Differentiating between increases in productivity and simple cost cutting.

10:15 – 10:30 a.m.
Break

10:30 a.m. – Noon
Session 10: Establishing the Initial Price Level (Mark Jamison)
- Asset valuation
- Taxes and depreciation
- Adjusting financial statements and operator responses
- Benchmarking the Cost of Capital

Noon – 1:30 p.m.
Lunch

1:30 – 3 p.m.
Session 11: Price Cap Experience in the Caribbean, with emphasis on Telecommunications (Carey Anderson, OUR, Jamaica)
- What was the price review process?
- What were the key issues?
- How were data gathered and analyzed?
- How did the regulator resolve financial, accounting, cost of capital, and incentive issues?
- What determined the initial price level?
- What were the price baskets and how were they chosen?
- How did the regulator decide on issues of rollover of head room?

3 – 3:15 p.m.
Break

3:15 – 5 p.m.
Session 12: Case study on investor reactions to a regulator’s announcement of a price cap decision (Mark Jamison)
- Information revelation
- Public perceptions
- Issues in predictability and legitimacy
- Best Practice in announcing decisions

Adjourn
Thursday, June 20, 2006

Concurrent Sessions
8:30 – 10:15 a.m.
Session 13a: Economics of Rate Design: Energy and Water (Sanford Berg)
- Linear tariffs and averaging;
- Calculating multi-part tariffs;
- Developing a menu of tariff options;
- Pricing by time and/or location;
- Distributed generation tariffs in an island system (also includes DSM deployment).
- Accounting for incentives for efficiency and conservation

8:30 – 10:15 a.m.
Session 13b: Economics of Rate Design: Telecommunications (Franklin Brown, PUC, Bahamas; Nigel Gordon, Cable and Wireless, Jamaica)
- Fully distributed costing vs LRIC
- Activity based costing
- Cost drivers
- Routing factors
- Treatment of DSL
- Mobile termination costing
- Cost model options for the Caribbean
- Caribbean Experience with Price Benchmarking

10:15 – 10:30 a.m.
Break

10:30 a.m. – Noon
Concurrent Sessions
Session 14a Implementing cross-subsidies and avoiding uneconomic bypass (Sanford Berg)
- Analytical techniques for identifying cross-subsidies
- Designing subsidy-fee tariffs from service and customer perspectives
- Tariffs with perfect information and with information asymmetries

10:30 a.m. – Noon
Session 14b Economics of Network Interconnection: Telecommunications (Mark Jamison)
- One-way versus two-way interconnection
- Economics of pricing options and computations
  - Efficient Component Pricing Rule
  - Incremental Cost
  - Generalized Efficient Component Pricing Rule
  - Effects of two-part tariffs
- Cost models and international benchmarking approaches
- Price baskets for interconnection services
Noon – 1:30 p.m.
Lunch

1:30 – 3 p.m.
Session 15: Current Rate Design Issues (Cedric Wilson, OUR, Jamaica) – A Caribbean regulator describes recent issues in rate design in the region. Emphasis is on
- How issues came about
- Options considered by the regulator
- Analytical approaches used to investigate regulatory options
- Studying the impacts of the regulators’ decisions

3 – 3:15 p.m.
Break

3:15 – 5 p.m.
Session 16: Using Regulatory Impact Analysis (Sanford Berg with Caribbean regulators)
- Is the problem correctly defined?
- Is government action justified?
- Is regulation the best form of government action?
- Is there a legal basis for regulation?
- What is the appropriate level (or levels) of government for this action?
- Do the benefits of regulation justify the costs?
- Is the distribution of effects across society transparent?
- Is the regulation clear, consistent, comprehensible and accessible to users?
- Have all interested parties had the opportunity to present their views?
- How will compliance be achieved?

Friday, July 28, 2006

8:30 – 10:15 a.m.
Session 17: Public Consultation in the Caribbean (Kathleen Reviere Smith, PUC, Bahamas; Glenn Khan, RIC, T&T)
- Sequencing the Presentation of Information
- Interactions with Government Ministries
- Dealing with the Press
- Venues for Public Participation
- Roles for NGOs: Transparency and Legitimacy

10:15 – 10:30 a.m.
Break

10:30 a.m. – Noon
Session 18: Closing Remarks and Summary of Lessons (Sanford Berg and Mark Jamison)
- Participants identify key lessons
- Participants develop action plans for applying advanced concepts in regulation