

## Introduction to the Special Issue on Service Quality *Utilities Policy*

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*Utilities Policy* solicited papers for a Special Issue dedicated to the topic of regulating service quality in public utilities. The motivation behind this solicitation was that the issues facing infrastructure industries in both developed and developing countries often revolved around service quality, including network expansion to meet unmet demands. The Public Utility Research Center at the University of Florida coordinated the review of submissions. We received a number of papers—some were too theoretical to be useful for practitioners while others provided good case studies of particular situations, but it was difficult to draw lessons from the studies. Reviewers provided helpful comments; we have tried to select articles that, together, provide a window onto the state of the art in 2004.

Lynne Holt provides an overview of quality regulation, as she presents twelve steps for improving the quality of infrastructure services. The first step requires that objectives be identified and prioritized: a task that those developing and implementing policy sometimes omit, with negative consequences for performance. Of course, when stakeholders become aware of what dimensions of performance are given the greatest weight, such clarity has a downside: groups who have different views can now lobby for change. An example (from Florida—in response to recent hurricanes) would be the under-grounding of distribution and/or transmission lines—where the benefits and costs may accrue to different groups, depending on cost allocations. An advantage of ambiguity (from the standpoint of policymakers) is that a list of general objectives is difficult to challenge. Holt analyzes the processes for selecting and evaluating quality indicators, establishing incentives, and conducting performance reviews within different infrastructure sectors.

Sector-specific articles in this Special Issue examine telecommunications, electricity, railways, and water. Ai and Sappington survey the impact of incentive regulation on retail telecommunications service quality in the U.S. They consider five dimensions of service quality: service installation speed and reliability, customer-reported problems, speed of problem resolution, extent of switch outages, and customer satisfaction. The metrics for a developed country are more readily available and comprehensive than for developing nations. Thus, the authors are able to review data from a number of studies on how different types of incentives (price caps and earnings sharing) affect service quality.

Ajodhi and Hakvoort examine the features of electricity distribution systems that complicate monitoring, evaluating, and rewarding good performance. After briefly reviewing the arguments for regulating quality, the article summarizes international experience in quality regulation for electricity, emphasizing the trade-offs involved in determining optimal outcomes. Regulators are generally in a position to provide incentives that promote incremental improvements in distribution system outcomes, including voltage quality, commercial quality, and network reliability. However, the task is complicated by information limitations, both in terms of what is feasible (technologically) and what is valued by consumers. Establishing incentives for cost-containment and for service quality involves a difficult balancing act for those implementing public policy.

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Gibson's article is a case study of quality incentives established to improve Railtrack's performance in the U.K. Rail infrastructure affects delays and cancellations for firms providing service over the network. Gibson describes key performance dimensions and mechanisms for rewarding good performance. He draws some lessons from the U.K. experiences that have applicability to other sectors. In this case, multiple users (different transport companies) and uses (passenger and freight) may require different types of reliability. However, an accident (affecting public perceptions of safety) can dramatically affect the regulatory climate.

The water sector is represented by an empirical paper by Chen Lin. This study analyses "Service Quality and Prospects for Benchmarking," using panel data from Peru (1996-2001) to illustrate how quality can be incorporated into evaluations of water utility performance. The paper provides a useful survey of water sector studies in the U.K. and in developing countries. Using stochastic frontier analysis, he presents results for two different error specifications: a half-normal model and the exponential model, where both are positive one-sided disturbance terms that capture the effect of inefficiency. He finds that it is necessary to incorporate the quality variables (accounted-for water, coverage, chlorine tests, and service continuity) as additional output variables rather than as environmental variables. Since those implementing regulatory policy must be able to defend decisions regarding rankings of utilities, substantial attention needs to be given to methodological issues associated with model selection (cost vs. production functions), model specification, and the robustness of results.

The five papers take different approaches to examining quality issues. Although we need to be careful when categorizing studies, we have a summary, a survey, scenario tests, a story, and statistical tests. Holt's summary outlines key issues facing decision-makers. Ai and Sappington's survey of the impact of incentive regulation in U.S. telecommunications provides an informal meta-analysis of many studies. Ajodhi and Hakvoort describe electricity distribution scenarios under alternative quality targets, illustrating the difficulty of applying cost-benefit analysis to reliability standards. Gibson's "story" is really a case study, which allows us to focus in on how events and public perceptions have influenced quality monitoring in the U.K. rail sector. Finally, Lin applies statistical methods to water utilities in Peru, demonstrating the importance of including quality in performance rankings.

Thus, the articles in this Special Issue survey and analyze key trends in service quality, consolidating and extending the growing literature of interest to those studying, managing, or regulating the quality of utility services. The target audience includes executives and managers in utility companies worldwide; policymakers and analysts in national and regional governments; infrastructure specialists in international organizations; university researchers; and consultants. The collection underscores the many challenges facing those engaged in translating principles into practice.