

Defining a Resilient Business Model for Water Utilities

Water Research Foundation Project #4366



Abstract The economic recession, reductions in water demand, and weather variability are among the factors characterizing the “new normal” under which water utilities across the continent operate. Taking into context trends in utility revenues and financial health indicators, our team will research emerging and innovative financial practices. This study aims to define new financial approaches and paradigms for water utilities in addressing current and future fiscal challenges. The study will also focus on new methods of identifying and reducing the risks associated with revenue variability. The ultimate goal of the project is to outline more resilient business models for water utilities founded on integrated financial and management practices, systems, and processes adapted for this “new normal.”

Modules of Analysis and Research Questions

Revenue Trends

What exactly is a revenue gap, and how can utilities address one? The project will answer these and other key questions about overall revenue trends for the industry, as well as more specific inquiries about the diversity and stability of revenues. The study will also explore the impact of external factors (i.e. weather, population) and internal factors (i.e. rate structures, services provided, rate adjustments) on revenue trends and challenges.

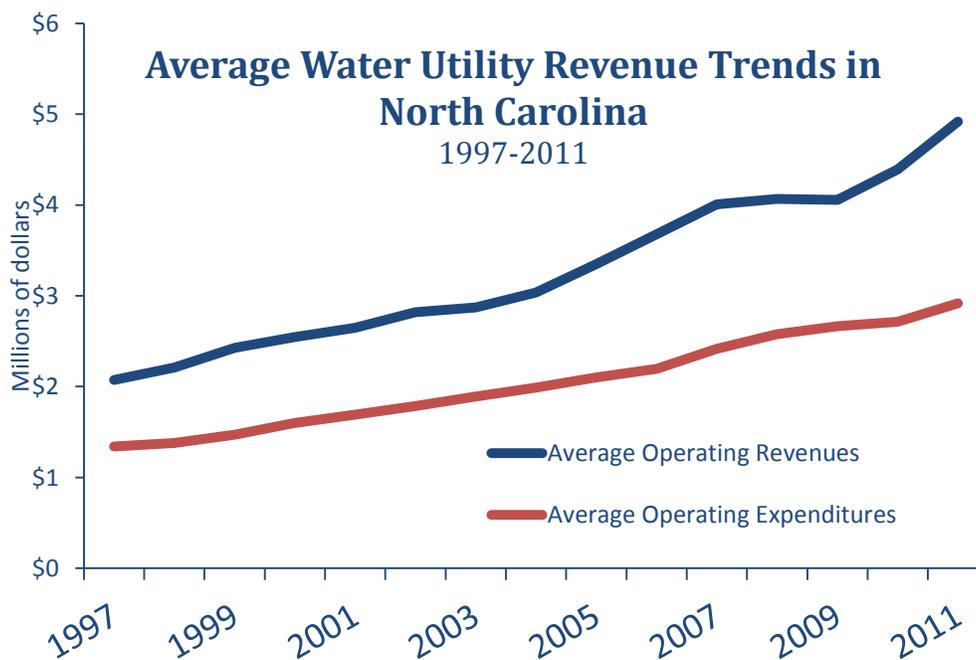


Figure 1: Is there a revenue gap? This project will investigate detailed revenue data to find out. In terms of operating revenue, there may not be a gap. What this graph does *not* show is capital.

Financial Health Metrics

Our research will reveal how benchmarking organizations, guidelines, and systems are influencing the revenue collection and financial operations and policies of utilities across the continent. We will assess existing, common standards and metrics in light of the financial challenges facing utilities and identify the consequences of using certain metrics over others.

Finance Strategies

In addition to studying revenue and financial health trends for the industry, this project will research the use and impact of different strategies in closing the revenue gap and improving financial health. These strategies will be evaluated in light of utility characteristics, such as governance, customer types, utility size, region and demographics. Implementation considerations, such as, customer and board communication, will also be incorporated into the analysis.

Sample Finance Strategies	Utility Characteristics					Implementation Considerations
	Governance Structure	Customer Type	Size	Geographic Region	Demographics	Board & Customer Communication
Finance Policies & Benchmarking	What are the use and impact of these strategies in closing the revenue gap and improving financial health?					
Customer Assistance Programs						
Pricing & Business Models						

Specifically, we will assess the impact of financial practices by asking the following questions:

Financial Policies

- What is a financial policy (i.e. its contents, approval process, and compliance)?
- Do financial policies make a difference in revenues and financial stability?
- What factors influence their effectiveness and feasibility (i.e. outstanding debt, economic condition, governance structure)?

Customer Assistance Programs

- How do you classify a utility's affordability issue?
- What is a customer assistance program? How do various programs impact utility revenues?

Pricing and Business Models

- How is water (and wastewater) priced across the country?
- What are the impacts of different price structures on utility revenues? What pricing structures can improve financial health under different conditions?
- How do utilities price various products and services (sometimes all under one rate structure)? Are there new models that have potential for major impacts?
- Are there better ways to pass on variable costs and earnings to customers than through simple annual rate adjustments?

Changing Composition of Water Bills in the Southeast from 2007-2011

(650 Utilities in NC and GA)

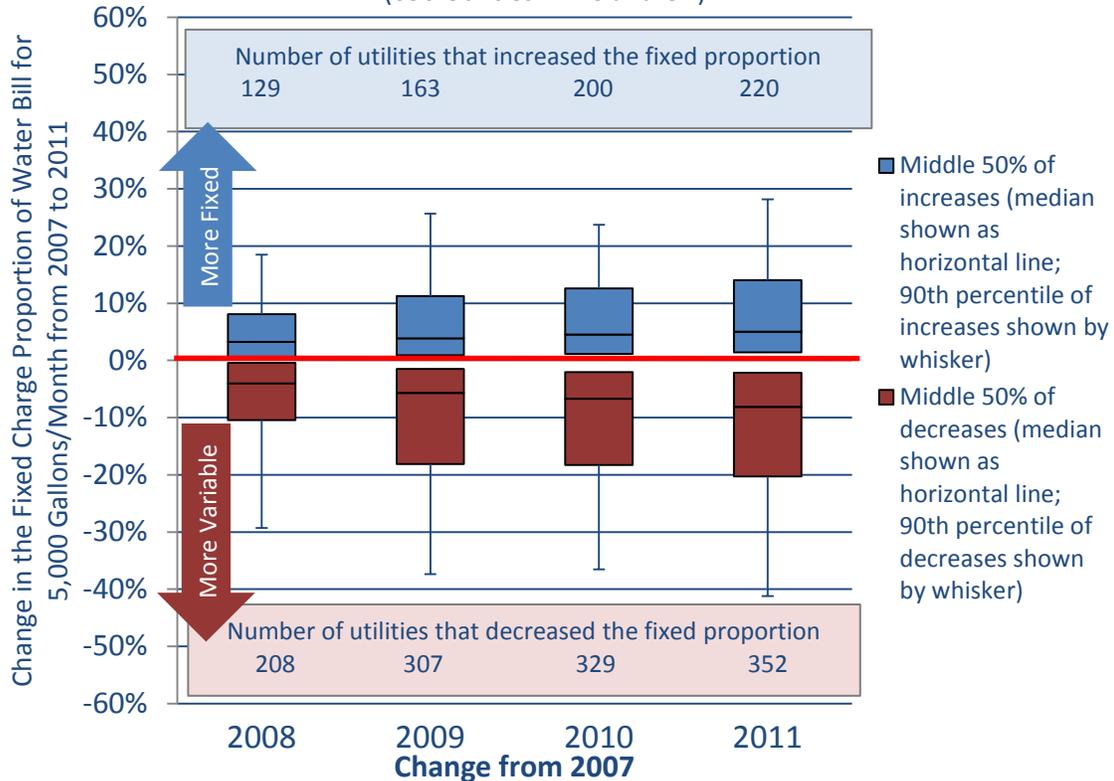
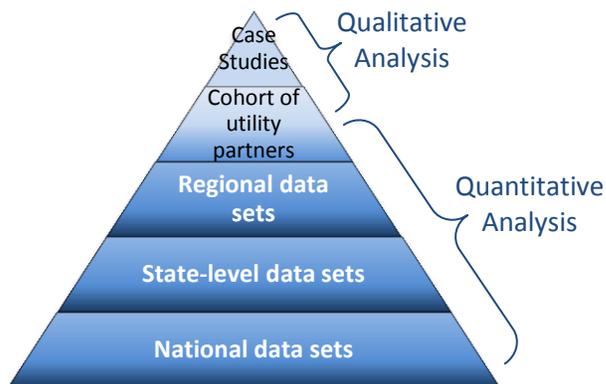


Figure 2: This graph shows the evolution of water rate structures in the southeast towards more dependence on volumetric charges (i.e. increased revenue variability). In 2011, 352 of the utilities decreased the fixed proportion of an average, 5,000 gallons per month bill from 2007. The majority of utilities decreased this proportion by 2-20%. This study will do a lot more cool analysis like this!

Research Approach

Our research will proceed through a combination of quantitative and qualitative analysis, bracketed by the existing literature on utility pricing, revenues, and financial management. We will be working collaboratively with a group of utility partners/volunteers from across the continent representing a wide range of sizes, governance models, pricing strategies, climates, and demographic trends.



Sample data sources

- ◆ National Pricing Data from EFC and RFC and other professional organizations
- ◆ National data on financial health metrics and revenue (rating agencies) for large systems
- ◆ State level data on financial health metrics and revenue for smaller systems (State Agencies)
- ◆ Utility level data from audit reports and billing systems

Project Advisory Committee

- ◆ Nicholas Dugan, *Environmental Engineer*, Environmental Protection Agency
- ◆ Amber Halloran, *Vice President of Finance and Treasurer*, Louisville Water
- ◆ Scott Haskins, *Director of Technology, Quality, & Innovation*, CH2M Hill
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