Factors Influencing Revenue Resiliency

Key Points ⑦

Service Area Size & Diversity Utilities serving a larger customer base tend to have lower rates and stronger financial performance metrics than their smaller counterparts.

Water Use & Weather Water use for many utilities is the defining characteristic in revenue health under current pricing and finance models. National trends indicate that average water use per capita and per account is generally decreasing over time.

Economic Conditions A bad economy, so far, has not resulted in a drastic fall in revenues, but has resulted in much more affordability pressure for many utilities.

Capacity Utilization Utility capacity varies significantly among individual utilities with many utilities using a relatively small fraction of their system's capacity during average periods.

Economic Regulation & Governance The economic regulatory framework guiding a utility can have a major influence on the types of financial practices it can implement, but economic regulation alone does not necessarily guarantee financial strength or resilience.

Financial Management Strategies Water and wastewater utilities use a number of integrated management theories that can be used alone or in concert to further utility financial and management goals.

Credit Rating Agencies Credit rating agencies are both a reflection and driver of utility's financial performance.

Strategies and Practices for Revenue Resiliency

Key Points ⑧

Demand Projections If detailed, integrated, and updated, demand forecasting can help water resource managers and finance officers make plans with more confidence and less financial risk.

Alternative Rate Designs The industry has an opportunity to adopt pricing models that better align cost-of-water to the cost-of-service. The report explores the financial impact of three models.

Rate Stabilization Reserves The types of reserve funds and levels at which utilities keep their reserve funds vary widely, but there are some discernible trends among the project's partner utilities. Utilities with lower reserve levels (relative to operating expenses and debt service) had more volatile rate increases than those with larger reserve fund ratios.

Rethinking Utility Services Many utility managers have begun looking at options beyond selling traditional services to diversify revenues, including the sale of fire protection services.

Financial Performance Targets Financial policies can be used as yardsticks for financial performance; by monitoring financial performance against specified targets, a utility can hold itself accountable for financial stability while maintaining flexibility.

Customer Affordability & Assistance Programs Keeping rates unsustainably low for everyone at the cost of water and wastewater infrastructure investment benefits no one in the long term. Affordability programs provide flexibility to utilities seeking revenue resiliency.

Alternative Rate Adjustment Approaches Alternative processes for raising rates, such as cost-indexed rates, multi-year increases, and pass-through charges, incrementally help quell some of the political and public adversity to rate increases

Tools Included in Report ◊ Financial Policy Strawman ◊ Revenue Risk Assessment: Tool and Methodology ◊ Water Utility Customer Assistance Program Cost Estimate Tool ◊ Catalog of Utility Finance Policies

Report Summary: Defining a Resilient Business Model for Water Utilities

Water Research Foundation Project #4366

Focus

Key Points ①

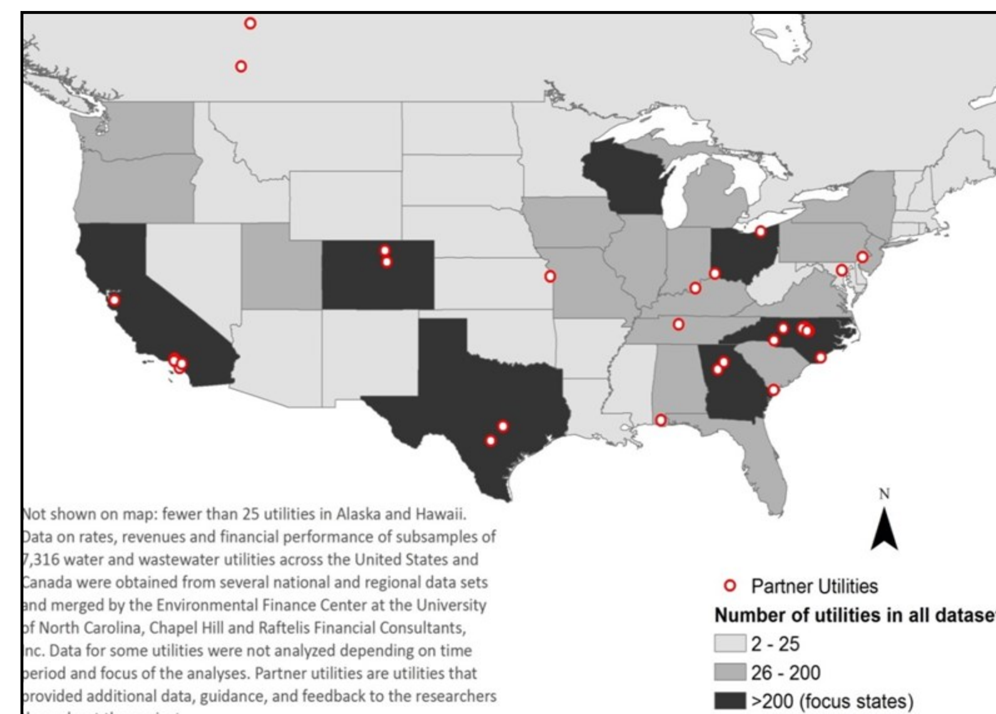
This report provides an assessment of the revenue model and resulting financial condition of water utilities in North America (primarily the United States), considers factors influencing financial performance, and discusses practices that have the potential to create financial resiliency. While most research today focuses on the "cost" side of the financial balance utilities must navigate, this report focuses on the revenue and rates side of the equation. The report first summarizes the financial condition and state of revenues in the water industry, goes on to consider trends in the context of the factors that influence a utility's business model, and presents revenue resiliency strategy, policy, and practice options. Finally, the report provides a methodology and tool for assessing the balance between revenues and the risk of revenue losses.

In summary, this report provides a large-scale, quantitative analysis of the financial reality of water utilities. In its entirety, the report serves as a utility financial review, grounded in practical and applied approaches to securing revenue resiliency. It brings together a myriad of datasets and reports that have not been combined to reflect current trends and practices in revenue resiliency.

Research Approach

Key Points ②

The research uses a combination of quantitative and qualitative analysis, bracketed by the existing literature on utility pricing, revenues, and financial management. We worked collaboratively with a group of utility partners from across the continent representing a wide range of sizes, governance models, pricing strategies, climates, and demographic trends.



Map of utilities included in all utility financial and rates data sets compiled by the researchers

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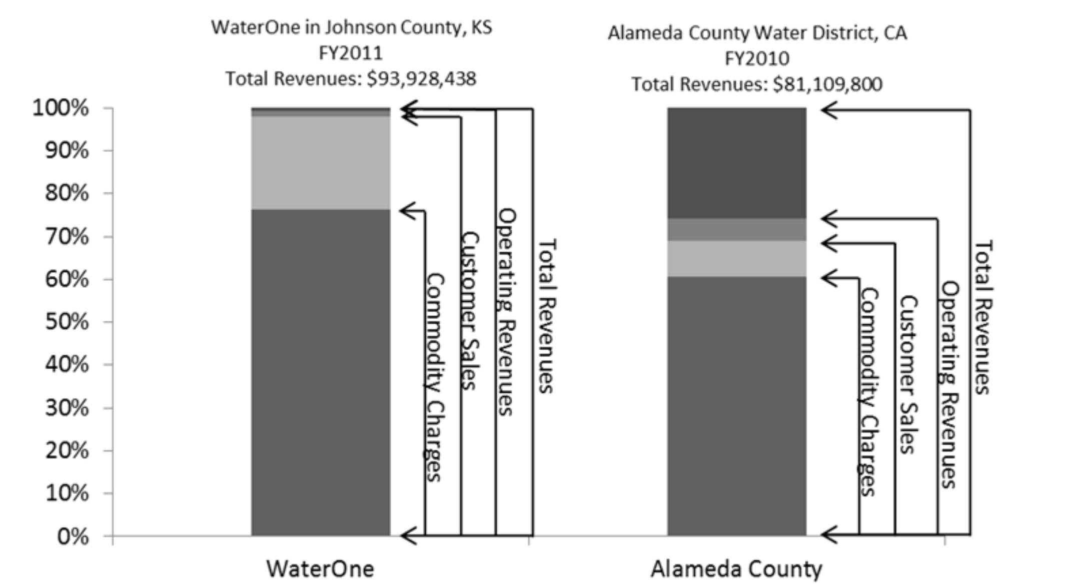
Assessing the Revenue Resilience of the Industry's Business Model

Key Points

③

Trends in Financial Performance The largest component of utility revenues comes from customer sales. Generally, variable revenues from a utility's commodity charges comprise the largest portion of those sales.



Data analyzed by the Environmental Finance Center at the University of North Carolina, Chapel Hill and Raftelis Financial Consultants, Inc. Data Source: Income Statements and Comprehensive Annual Financial Reports, and data provided directly by the utilities.

④

- On a national level and state level, the fastest rise in total operating revenues occurred in the years immediately preceding the 2008 economic downturn. After the economic downturn, revenues continued to rise for the majority of the utilities but at a much slower pace.

Average trends in median increases to operating revenues in cohorts of utilities in six states

Fiscal Year:	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10	'11	'12
California (n=946)		4.5%/year						2.2%/year				
Georgia (n=333)							6.2%	0.1%/year		3.9%/year		
North Carolina (n=306)	3.6%/year				5.7%/year			2.8%/year				
Ohio (n=400)								1.2%/year				
Texas (n=286)							4.7%/year		2.1%/year			
Wisconsin (n=567)			2.1%/year					0.8%/year				

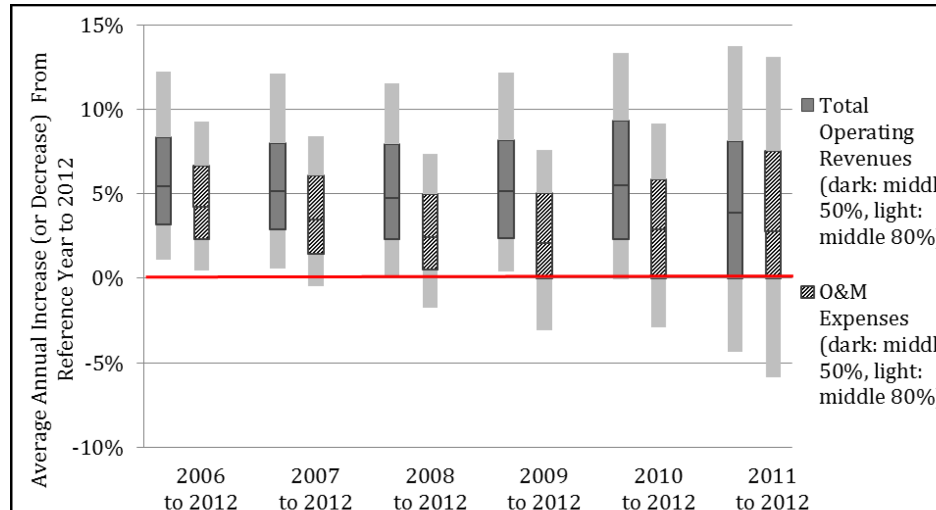
- Many utilities experience significant year-to-year revenue variability. In any given one-year period between FY2001 and FY2012, revenues decreased for 16% to 52% of the utilities with state level data samples.

Assessing the Revenue Resilience of the Industry's Business Model

Key Points

⑤

Trends in Utility Expenses In general, operating expenses constitute the majority of all expenses for utilities, including the somewhat intangible cost of current asset depreciation.



Data analyzed by the Environmental Finance Center at the University of North Carolina, Chapel Hill and Raftelis Financial Consultants, Inc. Data Source: Moody's Water an d Sewer Municipal Financial Ratio Analysis. The cohort of 517 utilities is consistant across all years.

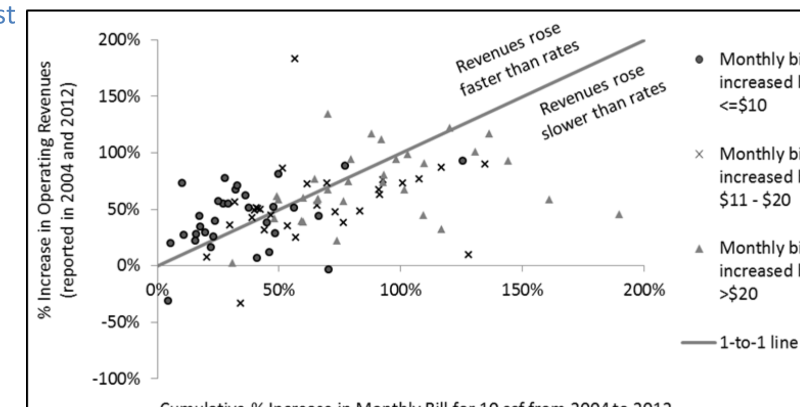
Total operating revenues and operation and maintenance expenses reported in 2012 compared to prior years among 517 utilities nationwide.

- Overall the majority of operating revenues exceeded expenses, indicating that no state in this study experienced a year in which its utilities collectively earned lower operating revenues than costs.

⑥

Pricing Trends and Financial Resilience Larger utilities across the country adjusted water rates fairly frequently over the last ten years at levels that outstripped inflation.

- Smaller and regular rate increases are associated with higher credit ratings.
- Many utilities have seen revenue generation track behind, in some cases significantly, the percentage they have increased their customers' rates.



Data analyzed by the Environmental Finance Center at the University of North Carolina, Chapel Hill and Raftelis Financial Consultants, Inc. Data sources: 2004 and 2012 AWWA-RFC Water & Wastewater Rates Surveys Data reflect either water, wastewater or water & wastewater combined rates and operating revenues. Rate increases are assessed on 10 ccf/month wintertime (low season) residential bills.