Dammed If You Do and Dammed If You Don't: Austin's New Rate Structure and the Inevitability of Higher Water Costs

Jeremy Brown June 27, 2014

This month, the Joint Committee on Austin Water Utility's Financial Plan (Joint Committee) finalized recommendations to the Austin City Council for reforms to the utility's rate structure. The local media have reported the Committee recommendations will ultimately lead to higher rates, to make up for revenue shortfalls that have resulted from improved conservation and drought restrictions.

The council is expected to consider the recommendations this summer and, in some quarters, there is already grumbling that Austin residents are being penalized for doing the right thing by conserving water. This argument has an element of truth, given the causal connection between water usage and system revenues.

But the alternative policy option would have been for Austin to meet an even greater demand by producing additional water supplies, which would have been expensive and required the utility to take on debt that could only be repaid through even higher rates. No matter what the city did, water would have become pricier.

If anything, the Joint Committee's recommendations serve as another reminder of the politically fraught balancing act of designing utility rate structures, particularly in an era of mounting water scarcity.

In fact, Austin is far from alone in having to increase its rates. This month, the engineering firm Black & Veatch found in a national survey of 368 water utilities that 66 percent were struggling to bring in sufficient revenues to cover costs, with drought as primary culprit in several states.

In February, the Texas Tribune reported that the credit agency Fitch had downgraded ratings for certain debt from the City of Fort Worth and Tarrant Regional Water District because of declining revenues. And Wichita Falls – which is currently in the fifth and highest stage of its Drought Contingency Plan, meaning that residents cannot irrigate golf courses with city water, fill pools with potable water or wash cars outside of a commercial carwash facility – had to raise its rates.

Water and Price Signals

Resource economists often say that the most cost-effective way to promote more economically efficient water usage is to end water subsidies. If prices were not distorted, the thinking goes, and in particular if they reflected the scarcity of water (the way that they do for global commodities like copper or natural gas), water would not be overused, as is it currently is, and it would flow toward its highest-value uses.

In the commercial life cycle of a unit of water, there are multiple points at which it is priced and transferred. And in the United States, at each of those points, it is generally underpriced.

I would start at the moment of allocation. With a couple caveats, American law gives states ownership over their water resources. States then determine how to allocate these resources. They do so at both a macro scale, when devising allocation regimes, and at a micro scale, when allocating individual rights. Texas, for instance, decided long ago that it would apply the rule of capture to groundwater. The state could have claimed ownership over the groundwater and auctioned it off the way some countries sell off oil concessions. Instead the state basically gave groundwater resources away for free to property owners.

On the micro scale, the state has followed more or less the same approach, giving away individual surface water rights without attempting to collect any revenues as consideration. That is the financial equivalent of imposing a cap-and-trade regime and handing out permits for free, for permittees to collect all the upside.

After the initial allocation, water could be transferred several times more, either through the lease or sale some portion of a water right or through the sale of utility services. In Central Texas, for instance, a river authority might acquire a water right from the state, then sell a portion of its water to a wholesaler, which would then sell to a retailer, which would in turn sell water services to a utility end customer. As that chain of transactions progresses, the price of water may become increasingly entangled with the price of water-related services, which could include the storing, conveying, and treating of water.

These services, however, may themselves be significantly subsidized, further compounding the underpricing of water. The American landscape is speckled with infrastructure projects that taxpayers – rather than, for instance, ratepayers – paid for.

The new State Water Implementation Fund for Texas (SWIFT) is part of a scheme that is not as lavish as the twentieth century Bureau of Reclamation building boom, but it represents a distinct transfer of wealth from taxpayers to ratepayers. SWIFT was set up to provide state-level financial assistance for water infrastructure projects. It was capitalized with a $2 billion appropriation from the state's Rainy Day Fund, which has been flush because of oil and gas tax revenues. In the end, energy companies will end up subsidizing the cost of building water infrastructure – and, by extension, the costs that utility customers pay for water services.

That the tax law serves to transfer wealth from one stakeholder community to another is not a novel observation. But it does serve to demonstrate the extent to which water – from its moment of allocation, on down to its moment of consumption out of a kitchen faucet – is priced in a way that buries price signals and encourages excessive usage.

Utility Rate Structures

For decades, utilities have recognized that they can manipulate rate structures to deliver price signals that promote desired patterns of service usage. Although water utilities have not experimented with their rates to the degree that energy utilities have, many have moved toward structures that promote conservation.

Naturally, some utilities have adopted more aggressively conservation-oriented structures than others have. Those that have pursued conservation have generally done so because they face resource pressures, system capacity pressures, or political pressures.

Ratemaking is a complicated undertaking even under ordinary circumstances, and conservation goals make it that much more complicated. Utilities have a built-in throughout incentive: because their revenues increase with sales, they fare better financially when they sell more services. But selling more services is the opposite of conservation, which sets up the utility to perform worse unless it finds some way to compensate.

What's more, utilities' costs tend to relatively fixed. Their biggest budget items are tied to infrastructure and basic system operations. But conservation pricing is volumetric; it charges customers according to the amount of services they purchase, causing revenues to swing with changes in customer consumption patterns, even as the utilities' payment obligations hold steady.

This mismatch can create instability, which uncontrollable external conditions may further amplify. In wet periods, for example, utility customers need less water for landscape irrigation, and revenues decrease. In droughts, customers need (or at last purchase) less water because of usage restrictions; afterward, even after both droughts and restrictions have lifted, customers frequently maintain certain water-reducing practices (*i.e.*, they do not rip out their xeriscaping); and in both the short and long run, revenues decrease. Under either scenario, utilities lose.

Austin Water as a Model

In February 2014, the Sierra Club, Lone Star Chapter, and UNC Environmental Finance Center published a guide to rate-setting in Texas, Designing Water Rate Structures for Conservation and Revenue Stability. The report hailed Austin's rate structure and credited the Joint Committee, which was originally brought together in 2012, for the deliberative process it followed and for the policies it recommended.

In its earlier incarnation, the Joint Committee recommended that Austin Water increase the percentage of total revenues it derived from fixed charges, from 11 percent at that time to a goal of 20 percent. The Joint Committee said that the utility could accomplish this by instituting a revenue stability fee and establishing a revenue stability reserve fund.

As a partial metric of the success of the current structure (along with other conservation policies), Austin has reduced the number of gallons it uses per capita per day below 140 – a benchmark that it had originally committed to reaching by 2020.

2014 Joint Committee

In a March 2014 memo to city council, City Manager Marc Ott said that the utility business model is "unsustainable." He explained: "The Utility has many base costs that aren't dramatically impacted by how much water it treats and delivers to customers. However, with the current structure emphasizing volumetric rates, these costs are not being funded adequately. Although decreasing use does lower some of the Utility's costs, the decrease is not equal to the drop in revenue seen via the current rate structure."

Ott went on to say that that "the Utility is promoting long term conservation but with the current rate structure dropping, consumption will not fund base expenses … [E]ven ongoing budget scrubbing won't be enough to right the ship. So it's time to devise a new and enduring business model and rate structure that reflects the permanent advance of conservation while still funding the utility at a level that will keep high quality water services to all our customers."

To that end, Ott reconvened the Joint Committee, which the city council had originally assembled in 2012 and charged with exploring various policies (such as a graduated revenue stability fee, a revenue stability fund, and service extension request reimbursement policies) that could provide greater revenue stability while still promoting conservation goals.

The committee, which draws members from the city's Water and Waste Water Commission, Resource Management Commission, and Impact Fee Advisory Commission, presented the council with a series of recommendations, many of which the council implemented. Still, revenue has remained a challenge.

Joint Committee Recommendations

Ott directed the reassembled committee to deliver its latest round of recommendations in time for the council to consider them during its next budget process. The committee held seven public meetings between March and May, and developed the five recommendations that were finalized this month. (Schedules of the rate structures that the committee has recommended modifying can be found here.)

1. Revenue Projections: When forecasting revenues, Austin Water should assume that Stage 2 water restrictions will continue throughout fiscal year 2015. In addition, the Joint Committee found that Austin Water had underestimated the magnitude of drought-driven customer cutbacks and should follow "a more conservative approach to water revenue projections."
2. 2015 Proposed Rate Design: Austin Water should: (a) maintain the same overall equivalent minimum charges; (b) maintain an approximate $10.50 delta between blocks 1 and 5 of the tiered minimum charges (so that, if rates increase, they will do so in unison); (c) vary the fixed charge for commercial and multifamily customers according to meter size; (d) aim to achieve 20 percent of revenues from fixed charges; (e) maintain the current volumetric break points; and (f) maintain an $11.00 delta between the highest and lowest blocks for volumetric charges.
3. Future Proposed Rate Design (FY 2016 and Beyond): Austin Water should: (a) increase from 20 to 25 percent the portion of revenues earned from fixed charges; (b) increase the delta between the blocks 1 and 5 tiered minimum charges from $10.50 to $22.75; and (c) set the volumetric charges for blocks 2 through 5 at least as high as the average volumetric cost of service rate.
4. Drought Rates: Austin Water should impose a drought rate whenever the city implements Stage 3 or Stage 4 water restrictions. The Joint Committee did not recommend specific amounts for the drought rates.
5. Utility Expenses: Austin Water should reduce its budget and, with the exception of the 8.2 percent it transfers to the General Fund, end its practice of transferring extra revenues to other city funds unrelated to municipal activities. The utility currently or has in the past transferred revenues to the Sustainability Fund, the Economic Development Fund, and the Economic Incentives Reserve Fund, according to the Joint Committee.

It is worth noting that, in 2012, the Joint Committee recommended specific rates. This time around, the committee did not. It put forward specific Austin Water budget reductions but, aside from the proposed deltas between high and low block charges, only general goals for rates.

Unideal Alternatives

Neither the revenue instability that the Joint Committee was summoned to address nor the likelihood of higher customer rates should be taken as evidence against the current rate structure, or against conservation pricing more broadly.

Designing rates is inherently difficult and requires utilities to balance policy concerns that are directly at odds. Conservation, revenue stability, affordability, and economic development all tug rates in different directions. But Austin Water had little choice in increasing its emphasis on conservation.

If Austin had not reduced its water usage, it would have reached the limits of its supply. The drought expedited this process by cutting into available supplies. But even without the drought, population growth and proportionate increases in water demand would have eventually pushed the water system to the brink. Austin Water would have had to respond by developing additional supplies, which could have involved some combination of new water rights and infrastructure projects.

Conservation is widely regarded as the cheapest source of water. On a per-unit basis, new infrastructure would cost more, though the costs could be apportioned differently. For conservation, for instance, mandatory water restrictions act as a kind of cost that may be paid through inconvenience suffered and through effects on property (i.e., a property owner installs thirsty grass that she cannot water sufficiently while abiding by restrictions on landscape irrigation). And for new infrastructure, certain costs may be borne by taxpayers.

Over the last three decades, however, federal subsidies for water infrastructure have steadily decreased. (One data point: this month, President Obama signed the Water Resources Reform and Development Act of 2014, approving $12.3 billion for water infrastructure projects. The last federal water bill was passed in 2007 and was for $23 billion.)

Without subsidies, infrastructure projects become financially riskier propositions. A 2012 report from the nonprofit Ceres found that, to repay infrastructure debt, utilities must generally increase rates, which can depress demand, requiring more rate increases to cover debt costs, which could depress demand further.

While not all infrastructure succumbs to this kind of death spiral, it is a risk, and higher rates come with the territory. Considered in this context, Austin Water's business model may face challenges, and its customers may face higher rates, the utility has acted prudently in designing its rate structure. Whether it pursued conservation or not, higher costs were on the horizon.

Austin utilities water

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