FSC'S LAW & ECONOMICS INSIGHTS

Issue 05-1 Fisher, Sheehan & Colton, Public Finance and General Economics January/February 2005

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Water Affordability Program for Detroit (MI)

NOTE TO READERS

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Water Affordability Program to Address Social and Business Problems of Inability to Pay Water/Sewer Bills

In recent years, the unaffordability of water/sewer bills in the City of Detroit has become a substantial problem. Not only have customers been disconnected, and gone without service, but even households that *pay* their bills incur substantial hardships because of the unaffordability of their bills. To address these issues, in January 2005, FSC presented a proposed water affordability program to the Detroit Water and Sewerage Department (DWSD) on behalf of the Michigan Poverty Law Program/Michigan Legal Services and their clients.

The affordability program presented to DWSD contained two basic components:

- An explicit water/sewer affordability program, consisting of rate affordability, arrearage management, and water conservation; and

- A proposal for basic consumer protections to be afforded low-income customers;

The discussion below examines only the rate affordability program presented to DWSD.

Defining Water Affordability

The affordability of home utility bills, whether they be home energy or water/sewer bills,[1] is generally measured in terms of the "burden" which those bills impose on low-income customers. The "burden" of a water bill is measured in terms of the bill as a percentage of

[1] Water/sewer bills will be collectively referred to as "water" bills. Whenever used, the term "water bill" is intended to refer to combined water/sewer bills.

income. If a household has an income of $5,000, for example, along with a water bill of $500, the household has a water burden of 10% ($500 / $5,000 = 0.10).

The affordability of water bills can be determined based on this information. In implementing the federal Safe Drinking Water Act (SDWA), the Environmental Protection Agency (EPA) is required to evaluate the affordability of water service when it proposes new regulations. EPA bases its affordability determination on its assertion that a household with the median (50^{th} percentile) income should be able to pay 2.5% of its pre-tax income for water.

Others place the affordable water burden at 2% of household income. Indeed, a national assessment of whether water rates were becoming unaffordable found that anywhere from one-in-four to one-in-six water customers were paying more than two percent of their household income for water service.

The Affordability of Detroit Water/Sewer Bills

Given an affordable water burden of 2% of income, a recipient of Supplemental Security Income (SSI) in Detroit would pay $132 toward his or her water bill ($6,624 x 0.02 = $132). A recipient of Temporary Assistance to Needy Families (TANF) in Detroit would pay $110 toward his or her water bill ($5,508 x 0.02 = $110). Compared to these affordable bills, an annual water/sewer bill for a typical household taking metered residential water/sewer service from DWSD reaches $536.

Given an average residential bill of $536 for DWSD customers at current rates, it is possible to calculate a water burden for DWSD low-income customers. A $536 bill would represent a water burden of 8.1% for an SSI household receiving a monthly income of $552 and 9.7% for a three-person TANF household receiving the maximum benefit of $459 per month. As can be seen, these bills thus range from nearly 400% to 500% higher than the affordability threshold.

Essential Components of the Rate Affordability Program

An effective and efficient rate affordability program includes the following three components, FSC told DWSD:

- A rate affordability component;
- An arrearage management component; and
- A water conservation component

The Rate Affordability Component: A rate affordability program is proposed for DWSD. The rate affordability program will be directed toward reducing water/sewer bills to an affordable percentage of income while at the same time generating business benefits for the DWSD. The rate affordability program is designed to reduce water/sewer bills to an affordable burden set at 2% of household income.

The proposed rate affordability program is directed to households with income at or below 175% of the Federal Poverty Level. Extending program eligibility to households with incomes higher than 175% of FPL offers a false sense of program expansion. Few, if any, of these higher income households would benefit from a burden-based rate affordability program.

Rate affordability assistance should be distributed on a percentage of income basis. Using a percentage of income approach to targeting provides an efficient use of scarce rate affordability resources. A percentage of income approach delivers those benefits, but only those benefits, needed to bring low-income bills into an affordable range; an across-the-board discount does not.

The affordable DWSD burden is set on a sliding scale with three thresholds. Customer payments are tied to a percentage of income as follows:

- Below 50% of Poverty: 2%
- 50 – 100% of Poverty: 2.5%

- 100 – 175% of Poverty: 3.0%

Although a variety of percentage-of-income based approaches exists, the delivery of rate affordability assistance should use a fixed credit approach. The fixed credit approach begins as an income-based approach. In order to be eligible for the rate, a household must meet *both* eligibility criteria: (1) that the household income is at or below 175% of the Federal Poverty Level; and (2) that the household water burden[2] exceeds the burden deemed to be affordable.

Providing a fixed credit involves calculating what bill credit would need to be provided to the household in order to reduce the household's bill to the designated percent of income. To calculate the fixed credit involves three steps: (1) calculating a burden-based payment; (2) calculating an annual bill; and (3) calculating the fixed credit necessary to reduce the annual bill to the burden-based payment.

There are substantive advantages to the fixed credit approach. The fixed credit provides a strong conservation incentive to the low-income customer. Under the fixed credit model, DWSD provides a fixed credit to the low-income household irrespective of the household's actual bill. If the household increases its consumption, and thus has a higher bill, the household pays the amount of the increase. If, in contrast, the household conserves water and thus lowers its bill, the household pockets the savings.

In addition, there are administrative advantages to the fixed credit approach. The fixed credit program allows a program to work within a fixed operating budget. Once a low-income customer is enrolled in the rate affordability program, the maximum possible financial exposure for the time of the enrollment is established. At no time, can the maximum financial exposure exceed the budgeted program revenues. Systems can be easily designed to track funds that are obligated and expended to ensure that the budget is not exceeded.

In addition to this budgeting advantage, the fixed credit approach makes the billing less complicated as well. Using the same process which currently exists to establish a levelized budget billing plan, fixed credits can be subtracted from a customer's levelized annual bill. The monthly bill is then rendered based upon this one-time annual adjustment.

<u>The Arrearage Management Component</u>: The arrearage management component to the recommended rate affordability program will reduce pre-program arrears to a manageable level over an extended period of time. An arrearage management program component is necessary to help get low-income customers "even" so they have a chance at future success in making payments. It does not help to have current bills be affordable if the household is subject to service termination for preprogram arrears. In addition, it does not help to have current bills be affordable if the *total* bill is unaffordable due to payment obligations required to retire past arrears.

Through an arrearage management program, a customer earns credits toward his or her preprogram arrears over a period of time, so long as the customer remains on the rate affordability program. By the end of the time period, the household’s preprogram arrears will be reduced to $0. The time period over which to provide credits needs to be selected so as to stay within the reasonable planning horizon of the customer. To suggest, for example, that arrears will be reduced to $0 over a period of four or more years is outside the horizon within which low-income households do their planning.

The DWSD proposal is for an arrearage management period of two years. Arrearage credits are earned on a monthly basis. They can be credited to the account, however, on a quarterly or semi-annual basis.[3]

[2] Remember, again, that the term “water” is a collective reference to water and sewer bills.

[3] The point at which earned preprogram arrears

The Water Conservation Component: DWSD should use water conservation investments as a supplement to its rate affordability discount on low-income water bills. The use of water conservation investments in this manner is a reasonable approach, conditioned on the provision of a sufficient budget to make water conservation measures available to those low-income rate discount participants who would most benefit from the investments.

Even the rate affordability program outlined above will not reduce water bills to affordable levels for *all* low-income customers, FSC explained to DWSD.

Water conservation can be an effective supplement to this type of discount for low-income customers. Water conservation measures are of particular value because, in addition to generating water use reductions (and thus water bill savings), water conservation efforts can generate corresponding bill reductions on low-income customer natural gas and electric bills as well.

Consider the water conservation kits distributed by the Pennsylvania American Water Company (PAWC). These kits, distributed by mail, are used to supplement that company's low-income discount program. The Impact Evaluation for the program reported that if all kit items were installed, a two person household using natural gas water heating would have combined water and gas savings of $116 per year; a three-person household would have combined water and gas savings of $168 per year.

The PAWC Impact Evaluation recommended:

> The Pennsylvania-American Water Company should expand the "H_2O– Help to Others" effort. This service is very effective in reducing customer cost, in particular because it functions on a volumetric basis. Its virtue is that it increases savings as family size increases, so that (usually) for homes in which the need for savings is higher – it produces higher savings. The other special feature of the "H_2O– Help to Others" kit is that the savings it produces are about 70% on electricity, gas and sewer bills (when the sewer bills are volumetric and not flat fees).

The combination of efficiency/conservation investments with the negotiation of deferred payment agreements has been recognized throughout the Pennsylvania utility industry in particular. Consider what the Pennsylvania Public Utility Commission (PUC) said in adopting its Low-Income Usage Reduction Program (LIURP). The PUC stated the purpose of LIURP as follows:

> [LIURP] requires covered utilities to establish fair, effective and efficient energy usage reduction programs for their low-income customers. The programs are intended to assist low-income customers conserve energy and reduce residential energy bills. The reduction in energy bills should decrease the incidence and risk of customer payment delinquencies and the attendant utility costs associated with uncollectible accounts expense, collection costs and arrearage carrying costs.

The Pennsylvania PUC subsequently found that its low-income usage reduction program has had precisely the impacts called for in this statement of purpose.

It is important to direct water conservation efforts to low-income customers in particular. High water consumption in low-income households is often preventable. High consumption is often driven by leaks, particularly in low-income households. According to the American Housing Survey, performed by the Census Bureau and the U.S. Department of

credits are actually credited is often a matter of billing system programming rather than a program policy question.

Housing and Urban Development (HUD), while only 13 percent of all occupied units in the country were occupied by households living below the Poverty Level, nearly 20 percent of all households with leaking pipes were in low-income homes.

In addition, the AHS reports, nearly one-quarter of all leaks that were "unreported" but discovered upon inspection of the housing being surveyed were in homes occupied by households living below the Federal Poverty Level. Overall, nearly one in six low-income households (16%) had water leaks. The AHS reports that 22 percent of the occupied households experiencing "severe" physical problems with their plumbing were low-income households, while in addition, 34 percent of the occupied households experiencing "moderate" physical problems with their plumbing were low-income households.

A low-income conservation program will be an important supplement to the rate affordability program component.

Program Cost Recovery

The costs of the proposed rate affordability program should be collected as an undifferentiated meters charge in base rates. In this fashion, while the meters charge generates a liquidated and earmarked stream of revenue, it will not appear as a separate line item on the customer's bill.

The Level of a Meters Charge: A meters charge cost recovery structure imposes a fixed charge on customers varying by customer class. The fee within any given class, however, does not vary between customers. A residential customer using 1,200 CCF each month pays the same fee that a residential customer using 1,000 CCF pays.

Through a monthly meters charge, each customer is charged a fixed amount of money each month. The DWSD would be funded through the following monthly meters charges for each customer class:

- Residential: $1/month
- Commercial: $20 per month
- Industrial: $275 per month
- Municipal: $80 per month
- School: $80 per month
- Housing: $80 per month

The fixed monthly charge is designed to generate a contribution from each customer class while not having the payment from any particular class member become burdensome.

Rationale for a Meters Charge: The difference between a fixed meters charge and a volumetric cost recovery approach is easy to conceptualize. A volumetric approach imposes a charge that varies for each customer based upon the magnitude of the customer's consumption and bill. There can be variations within this volumetric approach: a per CCF charge and a percent of revenue charge are the two most common.

At their heart, however, these charges are the same. They begin with the amount of funds needed to be collected and allocate that amount amongst customers based upon the amount of commodity consumed. A residential customer using 12,000 CCF a year pays *more* than a residential customer using 7,000 CCF each year.

In contrast to the volumetric approach is a fixed fee structure. This approach imposes a fixed charge on customers varying by customer class. The fee within any given class, however, does not vary between customers. While a commercial customer pays an amount that is different from a residential customer, a residential customer using 12,000 CCF annually pays the same fee that a residential customer using 10,000 CCF annually pays.

A meters charge is structured to obtain a customer class payment from each customer class, while at the same time protecting high use customers within any given class from bearing a disproportionate burden of the program costs. Moreover, by assigning costs on a per-customer basis rather than on a volumetric basis, the bulk of the program costs remains with the residential class.

Availability of Materials

FSC's complete water affordability program presented to the Detroit Water and Sewer Department can be obtained on-line through the FSC Library:

http://www.fsconline.com/lib/lib.htm

This complete report provides information not only on the rate affordability program proposal, but on the consumer protection proposals as well.

Fisher, Sheehan and Colton, Public Finance and General Economics (FSC) is a research and consulting firm with offices in Belmont (MA), Scappoose (OR), and Iowa City (IA).

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