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Natural Gas Rate Discounts: Impacts on Payment Patterns

NOTE TO READERS

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IMPACTS OF MISSOURI GAS ENERGY EXPERIMENTAL LOW-INCOME RATE ASSISTANCE (ELIR) PROGRAM

Missouri Gas Energy (MGE) customers receiving energy assistance benefits through the company's Experimental Low-Income Rate (ELIR) improve their payment patterns relative to low-income customers that do not receive such benefits.

In an impact evaluation of the MGE low-income program, Fisher, Sheehan & Colton, Public Finance and General Economics (FSC) assessed whether the Experimental Low-Income Rate (ELIR) helped low-income customers reduce utility payment troubles and improve payment practices.

In assessing the payment impacts associated with ELIR, comparisons were made between three populations:

- The population of MGE customers receiving ELIR credits (hereafter known as the ELIR population);
- A population of MGE customers that have received fuel assistance (and thus are known to be low-income) but that do not receive ELIR credits (hereafter known as the EA population); and
- A population of customers from the general customer base chosen irrespective of income or receipt of energy assistance (hereafter known as the NOEA population).

Data was obtained on customer bills, customer payments, and customer collection history from December 2001 through August 2003.

The ELIR program provided a fixed credit to each customer representing a discount of roughly 30% of a participant's bill on a monthly basis. Over the course of the 21 months, the program provided a credit of \$212,192 toward a combined customer bill of \$774,072. No arrearage forgiveness was provided as a component of the program. Customers that participated in the program were subject to the same credit and collection procedures that were directed to all other customers, irrespective of income or energy assistance status.

The Impact of Affordability

Reducing bills to an affordable level should have a direct impact on how program impacts should be evaluated. According to FSC, the assumed effect of reducing a home energy bill to an affordable level is to remove income as a determinant of payment practices. If affordability is not a factor, low-income payment practices should reflect the payment practices of the population generally, FSC said.

As with the general population, the payment history will not be perfect. Some customers will forget to pay. Others will have competing debts or financial obligations. Others will simply be deadbeats. Without bill unaffordability as a contributing cause, however, the payment profile of the ELIR population should demonstrate two discernible characteristics:

- The ELIR payment profile should be better than the payment profile of the low-income non-ELIR population (i.e., the EA population for this program); and
- The ELIR payment profile should be comparable to the payment profile of the customer population as a whole (irrespective of household income status).

In sum, the notion of "affordability" provides a litmus test to use in measuring the effectiveness of the ELIR initiative. Having received ELIR fixed credits, do the payment practices of ELIR customers improve so that they reasonably reflect

the payment practices of customers as a whole (irrespective of income)?

The Metrics

The FSC evaluation considered the following payment attributes:

- A measurement of *complete* payment of bills;
- A measurement of *prompt* payment of bills;
- A measurement of *regular* payment of bills; and
- A measurement of "automaticness" of payment of bills.

The indices proposed below recognize that while MGE is most concerned with the completeness of bill payment received (a \$100 payment toward a \$100 bill is better than a \$50 payment toward a \$100 bill), there are other attributes of bill payment, as well, that should be recognized. These include promptness (timely payment is better than late payment), regularity (12 payments of \$100 are better than two payments of \$600), and "automaticness" (a payment received without utility collection effort is better than a payment coming in response to collection activity). All four of these attributes can be measured.

Completeness

The provision of ELIR fixed credits appears to substantively reduce the incidence of arrears in the low-income population. FSC compared the percentage of bills having arrears in any given month.

An average of 27% of the ELIR population carried arrears in any given month, compared to the average of 52% of the EA population. While the ELIR fixed credits have the effect of reducing the incidence of arrears in the low-income population, it failed to accomplish two other objectives. First, the seasonal variability

in low-income arrears remains. Unlike the NOEA population, for whom the incidence of arrears ranges from a maximum of 21.9% of the population to a minimum of 17.1% of the population over the 21 month period, the ELIR population has arrears running from 22.9% to 38.1% of the population.

In addition, the ELIR failed to completely reduce the incidence of arrears amongst fixed credit recipients to the level of arrears in the population as a whole. It appears evident, however, that the ELIR credits *reduce* the incidence of arrears within the low-income population by nearly half.

Level of Arrears

In addition to considering how many accounts are in arrears, it is important to consider the extent to which each account is in arrears as well. The average dollar of arrears is computed based only on those accounts having arrears. No trimming of arrears was performed either. Hence an account with an arrears of \$0.50 was treated the same as an account with an arrears of \$50. In addition to reducing the number of customers with *any* arrears, the ELIR program helped reduce the level of arrears as well. Arrears within the low-income population was reduced from an average of \$173 in the EA population to only \$104 in the ELIR population, a reduction of 40%.

Given affordable bills, FSC had postulated that ELIR participants should exhibit a payment profile equivalent to the population as a whole. FSC presented an index of the ratio of the low-income dollars of arrears (for the ELIR and EA population) to the total population (NOEA) level of arrears. If the ELIR index is 1.0, the level of ELIR arrears (in dollars) is exactly equal to the level of the NOEA level of arrears on a per account basis. If the index is 2.0, the level of ELIR arrears is twice the level of NOEA arrears.

For the last ten months of the program, the ELIR population exhibited an almost identical level of performance to that of the population as a whole (NOEA). In contrast, the EA population carried

arrears between 1.5 and 2.5 times higher than the population as a whole.

Promptness

The promptness of bill payment considers not merely whether a customer pays his or her utility bill in full, but whether the customer pays his or her utility bill on time as well. If a utility renders a bill for \$100, that company wants a customer to pay the bill by the due date as well as paying the bill in full. Bill promptness is measured by the use of a statistic called “bills behind.”

The ELIR and NOEA populations have substantially similar payment patterns over the course of each year. What MGE succeeded in doing for the ELIR population, FSC found, was to take the volatility out of the payment profile of program participants. While the EA population fell multiple bills behind during the summer months (reflecting a continuing high level of arrears through the warm weather months), the ELIR population was more successful in paying down its arrears so that, even during those low bill months, the population in arrears stayed only one or two bills behind at any given time.

FSC again showed the relationship between the two low-income populations and the population as a whole. An ELIR index of 1.0 indicates that the number of “bills behind” for the ELIR population is identical to the number of “bills behind” for the population as a whole. An ELIR index of 1.5 indicates that the number of bills behind for the ELIR population is 1.5 times higher than the number of bills behind for the population as a whole.

FSC found that ELIR succeeded in improving the low-income payment performance so that it reflects the population as a whole (irrespective of income).

Regularity of Payment

An examination of the regularity of bill payment measures a different aspect of a customer's payment profile than does an examination of customer arrears. A customer may maintain a relatively low level of arrears by paying multiple months of bills on an infrequent basis. An examination of January arrears, for example, does not distinguish between the customer that has made his or her last twelve monthly payments on time and in full, the customer that has made \$0 in payments during August through October (perhaps waiting for the annual LIHEAP benefit to pay off those arrears), and the customer who makes three payments over the year of amounts equal to the total annual bill.

The regularity of payments can be measured by indexing the total number of payments to the total number of bills rendered each month. A payment-to-bill ratio of 1.0 means that for every bill that is rendered, exactly one payment has been received. More meaningful is to conclude that for every ten (10) bills rendered, ten (10) payments have been received. A payment-to-bill ratio of 0.8 means that for every ten bills rendered, eight payments have been received.

The payment-to-bill ratio does not consider the size or "completeness" of a payment. Measuring the completeness of payment is accomplished through other aspects of the customer payment profile. The regularity of bill payment is considered important because of the generally accepted proposition that if "some" payment is made on an account in any given month, there is an increased likelihood that the customer will be able to make a future payment sufficient to reduce the account balance to \$0. The April bill is easier to pay in full, in other words, if the customer has made *some* payment toward the March bill, even if that March payment is only a partial payment.

ELIR customers do not have a consistently better payment-to-bill ratio than the EA population. While ELIR customers began with payment-to-bill ratios of close to 0.8, that

"regularity" performance deteriorated through the program period. Why and how ELIR customers can maintain their performance on arrearage indicators while showing deterioration in payment regularity deserves future study.

Given the deterioration in the payment-to-bill ratio of ELIR participants, an inquiry into the extent to which those payments that *are* being made succeed in clearing the customer's account becomes more important. FSC used an index of the number of accounts on which monthly payments were made to the number of accounts on which such payments reduced the account balance to \$0. If the index is 1.0, 100% of the payments reduced the balance to \$0. If the index is 0.5, 50% of the payments reduced the account balance to \$0. Accounts on which no payments were made in a month are not included in this analysis. A \$0 balance includes those accounts having credit balances.

While the payment-to-bill index indicates a deterioration in the regularity of payments by ELIR customers, FSC found that ELIR customers have exhibited a remarkable consistency in using their payments to clear their accounts of arrears. While nearly 80% of all ELIR payments result in a \$0 balance on the account, only 60% of EA payments result in the account being free of arrears.

"Automaticness" of Bill Payment

The final set of metrics involves measuring the extent to which bill payments are made without resort to collection activity on the part of MGE.

Collection activity was measured using two different indices. The first index considered nonpayment shutoffs (NPSOs) per 100 bills rendered each month. A bill is used as the proxy for each separate account. This ratio of NPSOs per 100 bills permits an examination of the relative rate of NPSOs within the three study populations (the ELIR population, the low-income population, and the population as a whole) at any given point in time as well as over and within a period of time.

ELIR reduced the rate of NPSOs within the ELIR population well below that of the low-income population that does not receive ELIR credits. Over the 21-month period, ELIR reduced the overall rate of service terminations for nonpayment by 65%, from 2.8 per 100 accounts to only 1.0 per 100.

The second index considered by FSC involved a “low-level” activity by MGE undertaken to collect past due accounts, as evidenced by the generation of a collection letter. While the expense of each letter is not great, the quantity generated contributes to their overall cost. For example, with an average number of EA accounts of roughly 700, MGE generated more than 3,100 collection letters in a 21-month period. MGE generated 891 collection letters for its ELIR population in the same time period.

FSC found that while the ELIR population experienced 7.1 collection letters per 100 accounts on an average monthly basis, the NOEA (total population irrespective of income) experienced a rate of collection letters of only 6.4 per 100 accounts. These both stand in sharp contrast to the collection rate of 29.0 collection letters per 100 accounts within the low-income, non-ELIR (EA) population. As can be seen, the ELIR program reduced the generation of collection letters by more than 75%.

The final collection activity tracked for purposes of this evaluation involved the incidence of checks that are returned to the company due to the lack of sufficient funds. ELIR succeeded in bringing the rate at which the low-income population issues returned checks down to the level of the overall population. While the general population produced 0.2 returned checks for every 100 payments made to MGE, the ELIR population produced 0.3 returned checks per 100 payments. In contrast, the low-income population not receiving ELIR produced 1.1 returned checks for every 100 payments. ELIR appears to have reduced the incidence of returned checks within the low-income population by more than 70%.

Summary

Based on the above data, the following conclusions were proffered with respect to the payment impacts generated by the Missouri Gas Energy Experimental Low-Income Rate (ELIR):

- ELIR improved the completeness of bill payment, as measured by the incidence and level of arrears.
- ELIR improved the promptness of bill payment, as measured by a “bills behind” statistic.
- While ELIR did not improve the regularity of bill payment as measured by a payments-per-bill statistic, ELIR did improve the extent to which payments made reduced account balances to \$0.
- ELIR improved the “automaticness” of bill payment, as measured by collection activities and returned checks.

FSC’s complete report, *The Impact of Missouri Gas Energy’s Experimental Low-Income Rate (ELIR) On Utility Bill Payments by Low-Income Customers: A Preliminary Assessment*, including all data tables, can be obtained by sending a request to:

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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).

FSC specializes in providing economic, financial and regulatory consulting. The areas in which *FSC* has worked include infrastructure financing, public enterprise planning and development, natural resource economics, community economic development, telecommunications, public sector labor economics, planning and zoning, regulatory economics, energy law and economics, fair housing, and public welfare policy.