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Energy Prices and Rental Affordability

NOTE TO READERS

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Fisher, Sheehan & Colton
Public Finance and General Economics
34 Warwick Road, Belmont, MA 02478
(voice) 617-484-0597 *** (fax) 617-484-0594
(e-mail) roger@fsconline.com

The Relationship between Home Energy and Rental Affordability in Pennsylvania

The role of home utility bills in causing the unaffordability of overall shelter costs to low-income tenants has not frequently been analyzed. A recent review by Fisher, Sheehan and Colton (FSC) of annual Consolidated Plans prepared by Pennsylvania's state and local jurisdictions receiving federal Community Development Block Grant (CDBG) and/or Home Investment Partnership (HOME) funds, for example, found that the size of utility bills was not generally cited as a barrier to housing affordability.

At most, participating jurisdictions noted in their Consolidated Plans how the disconnection of service for nonpayment frequently results in homelessness and how, therefore, crisis grants directed toward paying utility arrears that might lead to disconnections frequently are viewed as a homelessness prevention tactic.

In an analysis prepared for the Pennsylvania Utility Law Project (PULP), FSC considered a broader question. The analysis considered the extent to which, if at all, home utility bills are a factor contributing to low-income households experiencing overall shelter costs beyond those levels generally deemed to be affordable. The analysis below summarizes this FSC examination of rental units in Pennsylvania.

FSC concluded that home utility bills substantially contribute to the unaffordability of low-income rental units. This conclusion flows from the data even before the fly-up in home energy prices subsequent to the year 2004.

THE OVERALL APPROACH TO THE STUDY

To consider the question of whether home utility bills¹ contribute to unaffordable housing burdens, the FSC study examined Pennsylvania Census tract information from the 2000 Decennial Census. Data was obtained for 3,035 Census tracts throughout Pennsylvania.² Those tracts were reviewed to determine which tracts had a concentration of poverty. Tracts were defined to present a concentration of poverty if they met any one of the following three criteria:

- The percentage of the tract's renter population living with income at or below 50% of the Federal Poverty Level ("FPL") was 1.5x the percentage of the renter population living at or below 50% of Poverty Level for the county in which the tract is located; or
- The percentage of the tract's renter population living with income at or below 100% of the Federal Poverty Level ("FPL") was 1.5x the percentage of the renter population living at or below 100% of Poverty Level for the county in which the tract is located; or
- The percentage of the tract's renter population living with income at or below 150% of the Federal Poverty Level ("FPL") was 1.5x the percentage of the renter population living at or below 150% of Poverty Level for the county in which the tract is located.

Thus, for example, if 12% of the renter population in a Census tract lived at or below 50% of the Federal Poverty Level, and 8% of the renter

¹ Throughout this discussion, any reference to "utility bills," unless otherwise specifically noted, or unless the context otherwise clearly indicates to the contrary, is intended to encompass home utility bills (e.g., electricity, piped natural gas), fuel bills (e.g., fuel oil, LPG, wood), and water/sewer bills.

² Census tracts missing data for particular factors studied (e.g., contract rents, gross rents) were excluded from the analysis.

population in the county did so, the Census tract would be considered to have a concentration of poverty. While there is an overlap of Census tracts with a concentration of low-income persons as determined by the three tests identified immediately above, the overlap is by no means complete. Just over one-quarter of the Census tracts had a concentration of Poverty defined in this way.

Each group of Census tracts determined to have a concentration of low-income renters was then separately examined to determine whether they *also* had a concentration of unaffordable housing. Housing unaffordability was tested in the same fashion. A "concentration" of unaffordable housing was defined to include all Census tracts where the percentage of low-income renters with an unaffordable Gross Rent was 1.5x higher than the county average in which the Census tract is located. For example, if the proportion of low-income renters in a county with an unaffordable Gross Rent was 20%, any Census tract in that county with 30% or more of its low-income renters having an unaffordable Gross Rent was defined to present a concentration of housing unaffordability.

The unaffordability of housing was defined in two alternative ways. First, housing unaffordability was triggered when Gross Rent as a percentage of household income exceeded 35% of household income. Second, housing unaffordability was triggered when Gross Rent as a percentage of household income exceeded 50% of household income. These definitions of housing unaffordability are consistent with the policy of the U.S. Department of Housing and Urban Development (HUD) that households are "cost-burdened" when their shelter burdens exceed 35% of income; households are "severely cost burdened" when their shelter burdens exceed 50% of income.

Requiring a multiplier of 1.5x the county average to demonstrate a "concentration" of either poverty level status or housing unaffordability severely limits the number of Census tracts to be considered in this discussion. Had a concentra-

tion of low-income households been set at 1.25x the county average instead, 1,138 Census tracts (rather than 802) would have been identified as “concentrated.” Had the test of concentration been set at 1.10x the county average, 1,427 Census tracts would have been identified rather than 802.

The same is true, of course, for the concentration of housing affordability. Defining Census tracts with a housing unaffordability rate of 1.25x that of the county average would have identified 628 Census tracts as having a concentration of housing unaffordability (rather than 308). Defining a concentration of housing unaffordability as 1.10x the county average would have identified 923 Census tracts as having a concentration of housing unaffordability.

HOUSING UNAFFORDABILITY: THE INTERRELATIONSHIP OF CONTRACT RENTS AND GROSS RENT BURDENS

The unaffordability of housing cannot be attributed exclusively to the level of contract rents relative to income. The FSC analysis disaggregated the concentration of housing unaffordability by the ratio of the median contract rent to the median gross rent in the tract.

- The “contract rent” is defined to be the cash rent paid for the housing.³
- The “gross rent” is the contract rent plus all utility costs (except telephone).⁴

The *difference* between the gross rent and the contract rent, in other words, can be attributed to the sum of the household’s home energy and home water/sewer costs.

The ratio of the contract rent to the gross rent was divided into two categories. On the one

hand, the group of Census tracts in which the median contract rent was equal to or less than 80% of the gross rent was deemed to be the “low contract rent” category. All other Census tracts (i.e., those with contract rents greater than 80% of gross rents) were placed in the residual category.

FSC’s Pennsylvania analysis found that Census tracts with low contract rents can nonetheless have *unaffordable* overall shelter burdens. All Census tracts were disaggregated into those with concentrations of poverty (as described above) by designated levels of Poverty (below 50% Federal Poverty Level, below 100% Federal Poverty Level, below 150% Federal Poverty Level). Within the group of Census tracts determined to have “low contract rents,” of those tracts with a concentration of tenants below 50% of the Federal Poverty Level, 27% also had a concentration of housing unaffordability, compared to 11% for all Census tracts. For Census tracts with a concentration of tenants with income below 100% of Federal Poverty Level (in combination with low contract rents), 24% also had a concentration of housing unaffordability; 29% of tracts with a concentration of tenants with income below 150% of Federal Poverty Level (in combination with low contract rents) did.

Not only do the levels of contract rents not drive whether low-income households have *any* housing unaffordability, they do not drive whether low-income households face severe housing unaffordability (i.e., total shelter burdens exceeding 50% of income). Between 12% (tracts with poverty concentrations at 50% FPL and 100% FPL) and 14% (tracts with poverty concentrations at 150% FPL) (in combination with low contract rents) had concentrations of housing unaffordability at the 50% gross rent burden level.

Remember, an identification of a “concentration” of housing unaffordability does not refer simply to a Census tract that has some households with unaffordable housing. A Census tract with a concentration of housing unaffordability

³ The Census Bureau defines the “contract rent” to include the cash rent paid to a property owner as rent for housing.

⁴ The Census Bureau defines the “gross rent” to include the contract rent plus home utility costs (i.e., piped natural gas and electricity), fuel costs (e.g., fuel oil, LPG, wood), and water/sewer costs.

is a tract where the percentage of households with gross rent burdens exceeding the unaffordable percentage of income (i.e., either 35% or 50% respectively) is at least 1.5x higher than the percentage of households with those burdens in the county in which the tract is located.

Overall, a significant number of low-income households can have unaffordable total shelter burdens even while experiencing low contract rents.

- More than one-in-four tenants (27%) in Census tracts with a concentration of tenants with income below 50% of Poverty;
- Roughly one-in-four tenants (24%) in Census tracts with a concentration of tenants with income below 100% of Poverty;
- Nearly three-in-ten (29%) tenants in Census tracts with a concentration of tenants with income below 150% of Poverty.

In these tracts, given the low contract rents underlying the total shelter costs, the unaffordability of shelter costs can be attributed to the home utility bill, not to the contract rent for housing.

THE RELATIONSHIP OF UTILITY BILLS AND GROSS RENTS

Home utility bills play a substantial role in the unaffordability of housing to low-income households, particularly those households with low contract rents. Census tracts with low median contract rents often have noticeably higher home utility bills. The FSC examination focused on the group of Census tracts with a concentration of poverty at or below 50% of FPL. The observations below nonetheless were found to also hold true for the other two levels of Poverty (i.e., below 100% of FPL; below 150% of FPL) as well.

Even where contract rents are lower, housing is often unaffordable to low-income renters because of the corresponding home utility costs. Because of those utility costs, total gross rents remain high and impose unaffordable shelter burdens on low-income households. Consider, for example, the group of Census tracts with a concentration of both unaffordable (>35%) rent burdens and severely unaffordable (>50%) gross rent burdens. The low-rent Census tracts experiencing these rent burdens experience noticeably higher home utility costs.

While the average contract rent in the tracts with low contract rents but a high concentration of unaffordability is \$356 (compared to \$442 in the remaining tracts), the corresponding home utility cost of \$133 is more than twice as high as the \$61 utility cost in the residual Census tracts. As a result, even though the contract rent is considerably lower (\$356 vs. \$442), the total gross rent is virtually identical (\$490 vs. \$502).

The same holds true for other Census tracts with a concentration of high shelter burdens. In those tracts with a concentration of gross rent burdens above 50% of income, the average median contract rent in the low-rent tracts is \$76 lower than in the residual Census tracts (\$351 vs. \$427). The average monthly utility bill in these low-rent/high shelter burden Census tracts, however, is more than two times that of the lower rent Census tracts (\$124 vs. \$51), yielding a total gross rent that is nearly the same (\$474 vs. \$478).

Similar observations could be made for the Census tracts with a concentration of poverty as measured by other groupings of Poverty Level. Within the Census tracts with a concentration of poverty below 100% of Poverty Level, combined with a concentration of housing unaffordability at both the 50% and 35% gross rent burdens, the difference between the average contract rent in the low-rent Census tracts (\$339) and the average contract rent in the residual tracts (\$427) is offset by a utility cost that is more than double (\$135 in the tracts with concentrated unaffordability and low rents vs. \$63

in the tracts with concentrated unaffordability and non-low rents). As a result, the overall gross rent is virtually the same (\$475 vs. \$490).

OVERLAYING A CONSIDERATION OF CONTRACT RENTS

The above analysis does not support the conclusion that *all* Census tracts with “low-rents” have correspondingly high utility bills that contribute to across-the-board unaffordable gross rent burdens.

To test that proposition, the analysis below disaggregates Pennsylvania’s Census tracts into quartiles based on their median contract rents. The Census tracts in each quartile were then further evaluated for a concentration of poverty-level tenants (at three levels) and for housing affordability (at two different levels). The data for Census tracts (by quartile) having a concentration of poverty level tenants *and* housing unaffordability (in combination) is then examined.

The differences between Census tracts with a concentration of housing unaffordability and those without such a concentration are striking. The base line data is found in the data for all tracts exhibiting a concentration of low-income tenants without regard to the further concentration of housing unaffordability. FSC found that:

- For all Census tracts with a concentration of low-income tenants at or below 50% of Poverty Level, the average utility bill (i.e., gross rent minus the contract rent) is virtually identical for all four quartiles of contract rents. The utility bills ranged from a low of \$73 (1st quartile) to a high of \$88 (2nd quartile), with the other two quartiles at \$76 (3rd quartile) and \$79 (4th quartile) respectively. For the Census tracts with a concentration of low-income tenants below 50% FPL, in other words, no substantial difference in utility bills is evident.
- For all Census tracts with a concentration of low-income tenants at or below

100% of Poverty Level, the distribution of utility bills was even tighter. The lowest utility bill (\$74) was again found in the 1st quartile of contract rents, while the highest was again found in the 2nd quartile (\$82). The other two quartiles had identical utility bills (\$79 per month).

- For all Census tracts with a concentration of low-income tenants at or below 150% of Poverty Level, the utility bills for the 1st, 3rd and 4th quartiles (\$73, \$76 and \$75 respectively) was tight, again with the bill for the 2nd quartile being somewhat higher (\$89).

Once you overlay the further test for housing unaffordability, however, differences appear. The utility bills in Census tracts with a concentration of housing unaffordability and 1st quartile contract rents are noticeably higher than for those tracts with 1st quartile contract rents for tracts tested only for low-income concentrations.

With the 50% FPL concentrations, utility bills in the 1st quartile of rents with unaffordable shelter burdens reached \$99 (burden > 50%) and \$88 (burden > 35%), compared to \$73 on average. For the 100% FPL concentration tracts, utility bills reached \$113 (burden > 50%) and \$96 (burden > 35%), compared to \$74 on average. For the 150% FPL concentration, utility bills reached \$113 (burden > 50%) and \$100 (burden >35%) compared to \$73 on average.

Similar results also appertain to other Census tracts with both a concentration of low-income tenants and a concentration of housing unaffordability. For the 50% FPL concentration, the 2nd quartile utility bills for tracts with concentrated unaffordable housing reached \$108 (burden > 50%) and \$96 (burden > 35%) compared to \$88 for the 2nd quartile contract rents on average. For the tracts with low-income concentrations below 100% FPL, the 2nd quartile utility bills reached \$89 and \$87 in tracts with housing unaffordability (at 50% and 35% shelter cost burdens).

Clearly, low contract rents cannot ipso facto be associated with low overall shelter burdens.

When one looks at the data, a substantial number of Census tracts with a concentration of low-income tenants also have not merely *some* unaffordable housing, but a concentration of unaffordable housing as well. Indeed, more than 20% of the Census tracts with a concentration of the lowest income households (below 50% Federal Poverty Level) and with the lowest quartile of contract rents nonetheless still have not merely *some* unaffordable housing, but a concentration of unaffordable housing at either or both the 35% rent burden or 50% rent burden level.

More than 20% of Census tracts with a concentration of low-income tenants below 100% of the Federal Poverty Level and with the lowest quartile of contract rents nonetheless still have unaffordable housing at either or both the 35% rent burden or 50% rent burden.

ENERGY AND HOUSING POLICY IMPLICATIONS

The empirical discussion above has several layers of policy significance to it. The discussion identifies in a dramatic fashion the connection between affordable energy and affordable housing policy. Substantial effort goes into the provision of affordable rental housing in Pennsylvania (and elsewhere). This effort is particularly needed because low-income households are disproportionately renters.

Addressing only the rent aspect of total shelter costs, however, will ultimately be unsuccessful at delivering affordable housing. In a large minority of cases, even when contract rents are low, high utility costs push total shelter expenses into an unaffordable range.

This recognition carries with it several policy implications:

First, affordable housing planning documents such as Consolidated Plans should

contain a discussion of energy affordability and the factors that influence energy affordability, including energy consumption, in each participating jurisdiction. If old and energy inefficient homes are contributing to high shelter burdens through high energy bills, the presence of such housing units should be identified and addressed for the market barriers to affordable housing that they represent. If, in contrast, unaffordable utility bills can be attributed to prices rather than to usage, the barrier to affordable housing would be different and the remedy would be different as well.

Second, the affordable housing industry should be solicited as active participants in developing and implementing Pennsylvania's Act 129 plans and processes. The affordable housing industry includes those state and local agencies that administer public funds such as the federal Home Investment Partnership Program (HOME), Community Development Block Grant (CDBG), and Low-Income Housing Tax Credit (LIHTC). The Act 129 processes should, however, also include the *developers* building housing using programs such as HOME, CDBG and LIHTC. In addition to involving Community Action Agencies (CAAs) (as the primary delivery vehicle for the U.S. Department of Energy's Weatherization Assistance Program, WAP), the Act 129 plans should involve the state's Community Development Corporations (CDCs) as the primary delivery vehicle for affordable housing production.

Given these policy implications, the discussion above further highlights the need for an independent third party administrator, at least for low-income utility-funded energy efficiency programs. Pennsylvania utilities unquestionably have a long and successful history of delivering services through the Low-Income Usage Reduction Program (LIURP).

What the utilities do *not* do so well, however, is to combine their utility dollars with other public

funds where the utility dollars are only one of many sources of funding (and may not even be the primary source). This need to mix and match funding sources, and to treat utility Act 129 dollars as one of multiple leveraged resources, requires an expertise that extends beyond that reasonably expected from Pennsylvania's utilities.

Finally, this empirical discussion highlights a need for new market research to underlie a utility's low-income usage reduction program. For example, according to HUD's most recent Resident Characteristics Report (RCR) for Pennsylvania, Pennsylvania had 52,989 tenant-based vouchers as of May 31, 2009. Pennsylvania had 84,399 tenants subsidized through the combination of all voucher-based assistance through the federal Section 8 housing program.

While HUD does not report how many Pennsylvania Section 8 tenants have tenant-paid utilities, 84% of all Section 8 tenants nationwide pay their own utilities. Through the introduction of energy efficient utility allowances, and even moderate efficiency incentives, it may be possible to reach not thousands, but tens of thousands of low-income Pennsylvania tenants.

SUMMARY AND CONCLUSIONS

The pursuit of affordable housing has been kept in a silo apart from the pursuit of efficient energy use for too long. Pennsylvania has a unique opportunity, through recent legislation mandating utility investment in usage reduction measures, to extend low-income usage reduction well beyond the existing LIURP initiatives. That opportunity should not be lost.

To maximize these usage reduction opportunities, however, Pennsylvania utilities need to move beyond the delivery of low-income energy usage reduction measures through low-income weatherization. Adopting programs that pursue partnerships with affordable housing developers and Community Development Corporations (CDCs) is advisable.

For a complete copy of the FSC Pennsylvania analysis of energy costs and housing affordability, including all data tables, please write:

roger[at]fsconline.com

Fisher, Sheehan and Colton, Public Finance and General Economics (FSC) provides economic, financial and regulatory consulting. The areas in which *FSC* has worked include energy law and economics, fair housing, affordable housing development, local planning and zoning, energy efficiency planning, community economic development, poverty and telecommunications policy, regulatory economics, and public welfare policy.