Effect of the Supplemental Nutrition Assistance Program on the New York City poverty rate

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The official U.S. poverty measure, which relies solely on pre-tax cash income, provides a limited view of the effects of government policy on the poverty rate. Beginning in 2011, the Census Bureau has sought to address this problem by reporting poverty rates based on a Supplemental Poverty Measure (SPM), in addition to those based on the official methodology. The SPM is modeled on the recommendations of the National Academy of Sciences, and, like the official measure, evaluates poverty through the lens of income adequacy.[1] However, the new measure employs a far more inclusive definition of the resources that are counted as income compared to the official measure. In addition to counting pre-tax cash, the new measure captures the effect of taxation along with the cash value of in-kind housing and nutritional assistance. Under this measure, the value of benefits from the Supplemental Nutrition Assistance Program (SNAP, formerly known as Food Stamps) is an important component of family resources.[2]

The introduction of an alternative poverty measure accounting for SNAP benefits is well-timed; over the course of the recent recession, the program has become an increasingly significant element of the social safety net. This is due in part to SNAP's flexibility and its broad eligibility requirements. Unlike other government assistance programs, the SNAP program is not strictly conditioned on work, and is available for individuals whose income is up to 130 percent of the federal poverty line.[3] This flexibility means that the SNAP program can be much more responsive to the demand for assistance that is associated with recessions. Between 2007 and 2009, SNAP caseloads grew by 45 percent nationwide. In contrast, TANF caseloads grew by only 13 percent.[4] In response to the leap in participation, researchers and policymakers have become acutely interested in understanding the degree to which SNAP has ameliorated the effect of the recent economic downturn on families vulnerable to poverty.

The New York City Center for Economic Opportunity (CEO) has been engaged in developing an alternative poverty measure for New York City, which, like the SPM, is based on the National Academy of Sciences recommendations.[5] The study summarized in this article uses CEO's poverty measure to assess the effects of SNAP on poverty in New York City from 2007 through 2009.[6]

Poverty measurement in the United States

The official measure's poverty threshold was developed in the early 1960s and was based on the cost of the U.S. Department of Agriculture's "Economy Food Plan," a diet designed for "temporary or emergency use when funds are low." Because the survey data available at the time indicated that families typically spent a third of their income on food, the cost of the plan was simply multiplied by three to account for other needs. Since the threshold's 1963 base year, it has been updated annually by the change in the Consumer Price Index.

A half-century later, this poverty line is no longer suited to measure poverty in the United States. The threshold does not represent contemporary spending patterns; food now accounts for less than one-seventh of family expenditures, and housing is the largest item in the typical family's budget. The official threshold also ignores differences in the cost of living across the nation, an issue of obvious importance to measuring poverty in New York City. A final shortcoming of the threshold is that it is frozen in time. Since it only rises with the cost of living, it assumes that a standard of living that defined poverty in the mid-1960s remains appropriate, despite advances in the nation's standard of living since that time.

The official measure's definition of the resources that are compared against the threshold is pre-tax cash. This includes wages, salaries, and earnings from self-employment; income from interest, dividends, and rents; and some of what families receive from public programs, if the assistance takes the form of cash. Thus, payments from Unemployment Insurance, Social Security, Supplemental Security Income, and cash assistance such as Temporary Assistance for Needy Families are included in the official resource measure.

Given the data available and the policies in place at the time that the official measure was developed, this was not an unreasonable definition. But for decades now an increasing share of what government does to support low-income families takes the form of tax credits (such as the Earned Income Tax Credit or EITC) and in-kind benefits (such as SNAP). If policymakers or the public want to know how these programs affect poverty, the official measure cannot provide an answer.

Methods based on the National Academy of Sciences recommendations take a considerably different approach to both the threshold and resource side of the poverty measure. The poverty threshold reflects the need for clothing, shelter, and utilities as well as food. It is established by choosing a point in the distribution of reference families' expenditures for these items, plus a small multiplier to account for miscellaneous expenses such as personal care, household supplies, and non-work-related transportation. The threshold is updated each year by the change in the level of this spending. This connects the threshold to the growth in living standards. In further contrast to the official measure, the National Academy of Sciences-style poverty line is adjusted to reflect differences in housing costs by geography.[7]

The National Academy of Sciences-based income measure is designed to account for the flow of resources that a family can use to meet the needs represented in the threshold. The tax system and the cash-equivalent value of in-kind benefits for food and housing are important additions to family resources. But families also have nondiscretionary spending needs that reduce their disposable income. These include the cost of commuting to work, child care, and medical care that must be paid for out-of-pocket. This spending is accounted for as deductions from income.

Measuring the New York City poverty rate

The National Academy of Sciences panel provided a conceptual framework for developing a poverty measure. While some of its proposals were quite specific, other recommendations went no further than to suggest a direction for future research or calling on others to settle various issues. One important decision the panel felt it should not make was where precisely to draw the poverty line. Instead, it proposed a range (spanning 78 percent to 83 percent of median expenditures) in the belief that, given the inherently political nature of the issue, the exact level should be left up to policymakers.

For the poverty line in this study, we rely on the national thresholds that have been calculated from the Bureau of Labor Statistics' Consumer Expenditure Survey and have been used by the Census Bureau for its own research on National Academy of Sciences-style poverty measures.[8] In 2009, the National Academy of Sciences threshold for a two-adult, two-child family equaled $24,522. We then adjust the threshold to account for the relatively high cost of living in New York City, using the ratio of the New York City to national Fair Market Rent for a two-bedroom apartment. In 2009, our poverty line for this family comes to $29,477; the official threshold for the corresponding two-adult, two-child family in 2009 is $21,756.

The effect of SNAP on the New York City poverty rate

Table 1 reports the poverty rates with and without the value of SNAP benefits from 2007 through 2009 for New York City. Where the difference between the poverty rates with and without SNAP is statistically significant, the former value is printed in bold. In this study, we focus on the city as a whole, as well as two subgroups: two-parent families and single-parent families. These two subgroups provide an interesting contrast. Two-parent families typically have low poverty rates and low participation in the SNAP program, but (as will be shown) they increased their participation over the course of the recent recession. Single-parent families, on the other hand, typically have high poverty and participation rates.

Table 1
New York City Poverty Rate with and without SNAP, 2007–2009

	2007	2008	2009
Citywide			
All Income	20.7%	19.6%	19.9%
Income without SNAP	22.3	21.5	22.1
Effect of SNAP on Poverty Rate	-1.6**	-2.0**	-2.2**

Source: Tabulated from American Community Survey Public Use Micro Sample as augmented by CEO.

Notes: ** indicates that the difference between the poverty rates with and without SNAP is statistically significant at the 10% level. Income is a constructed estimate of family income that takes into account taxation, nutritional and housing assistance, work-related expenses, and medical out-of-pocket expenditures.

The citywide poverty rates reveal some interesting findings. In spite of the fact that the United States entered a recession at the end of 2007, the poverty rate in New York City declined between 2007 and 2008. This occurred because of the difference in timing of the onset of the recession in New York City versus the United States as a whole, and the federal government's response to the national recession. New Yorkers were able to take advantage of tax initiatives such as the 2008 Recovery Rebate, even though the city's economy continued to expand in 2008. Further, in spite of the deep recession in 2009, the rise in the poverty rate between 2008 and 2009 was small and statistically insignificant. This stability in the poverty rate was primarily the result of policy at the federal level, namely the 2009 American Recovery and Reinvestment Act. We estimate that without these policies, the 2009 New York City poverty rate would have been 22.6 percent instead of 19.9 percent.[9] SNAP had a large and statistically significant effect on the citywide poverty rate in all three years, ranging from 1.6 to 2.2 percentage point reductions. The data also suggest an increase in the effect of SNAP on the poverty rate over this period.

Poverty among single- and two-parent families

Though the effect of SNAP on the poverty rate grew for all groups over the 2007 through 2009 period, subgroup analysis reveals considerable variation. For example, SNAP plays a larger role in families with children headed by single parents than in two-parent households.[10] As shown in Table 2, for adults and children living in families with single parents—a target group for antipoverty policies—SNAP yields a statistically significant reduction in the poverty rate in all three years. In contrast, for adults and children living in families with two parents, SNAP only reduced the poverty rate by a statistically significant amount in 2008 and 2009.

Table 2
Effect of SNAP on Poverty Rate among Single- and Two-Parent Families

	2007	2008	2009
Single-Parent Families			
All Income	34.2%	31.4%	34.6%
Income without SNAP	38.0	35.3	38.8
Effect of SNAP on Poverty Rate	-3.8**	-3.9**	-4.2**
Two-Parent Families			
All Income	17.0%	14.6%	14.0%
Income without SNAP	17.9	16.4	16.3
Effect of SNAP on Poverty Rate	-1.0	-1.8**	-2.2**

Source: Tabulated from American Community Survey Public Use Micro Sample as augmented by CEO.

Notes: ** indicates that the difference between the poverty rates with and without SNAP is statistically significant at the 10% level. Income is a constructed estimate of family income taking into account taxation, nutritional and housing assistance, work-related expenses, and medical out-of-pocket expenditures.

It is not surprising that SNAP would play a larger role for single-parent families than two-parent families. Single-parent families are nearly all either single-earner families or have no earned income. Further, eligible single-parent families are much more likely to participate in the SNAP program. What is interesting is that SNAP played a statistically significant role in reducing the poverty rate for persons living in two-parent families in 2008 and 2009, but not in 2007. One possible reason for this difference has to do with participation; we computed SNAP participation rates for two-parent and single-parent families. The participation rate for a given group is simply the number of individuals receiving SNAP divided by the number of eligible individuals. We define "eligible" as either: (1) reporting receipt; or (2) living in a family with an income less than or equal to 150 percent of the income threshold set by the SNAP program.[11]

We estimate that, citywide, the number of families participating in the SNAP program grew by 10.7 percent from 2007 to 2008, and by 13.2 percent from 2008 to 2009. Although there are many more SNAP cases composed of single-parent families than two-parent families, the growth rate in participation was much more rapid for two-parent families than single-parent families. The number of two-parent families participating in the SNAP program grew 19.7 percent from 2007 to 2009. The corresponding figure for single-parent families is 13.1 percent. Increases in median benefit levels are not so dissimilar, but again, the growth rate for two-parent families, 4.4 percent in 2007 to 2008 and 27.6 percent in 2008 to 2009, outpaced that of single-parent families, 2.3 percent and 19.4 percent, respectively. The large increase in the median benefit for both family types reflects not only the federally legislated rise in the maximum benefit, but the increased number of months per year that families were receiving SNAP benefits in 2009 compared to the prior year. This is particularly true for two-parent families.

Table 3
Distribution of Population by Severity of Poverty, 2009

Percent of Threshold	Total Income	Income without SNAP	Percentage Point Difference
< 50%	4.9%	5.9%	1.0**
< 75%	10.3	12.6	2.3**
< 100%	19.9	22.1	2.2**
< 125%	31.2	33.4	2.2**
< 150%	42.1	43.6	1.5**
< 175%	51.2	52.2	1.0**
<200%	59.0	59.5	0.5

Source: Tabulated from American Community Survey Public Use Micro Sample as augmented by CEO.

Notes: ** indicates that the difference between the poverty rates with and without SNAP is statistically significant at the 10% level. Income is a constructed estimate of family income taking into account taxation, nutritional and housing assistance, work-related expenses, and medical out-of-pocket expenditures.

SNAP's effects on severity of poverty

In order to understand the effects of SNAP on individuals above, as well as below, the CEO poverty threshold, we computed the proportion of population lying within cumulative bands of CEO income ranging from less than 50 percent to 200 percent of the CEO poverty threshold. We report these proportions with and without the value of SNAP benefits for 2009.[12] Table 3 shows that SNAP benefits add income to families living well above the poverty threshold. For example, while SNAP benefits reduce the proportion of the population under 50 percent of the threshold by 1.0 percentage points, it reduces the proportion of the population under 125 percent and 150 percent of the threshold by 2.2 and 1.5 percentage points, respectively. The effect of SNAP phases out near 200 percent of the threshold.

Our analyses show that, within the context of CEO's measure, SNAP affects the population that is below 100 percent of the poverty threshold more than those that are "extremely" poor (below 50 percent of the poverty threshold). The rather small effect on extreme poverty runs counter to other empirical work and to the benefit structure of the program. Since SNAP benefits decrease as income increases, they should, all else equal, raise the resources of lower-income individuals more than higher-income individuals. In order to explain this anomalous finding, we computed the participation rate for these income groups for the years 2007 through 2009. We found that the poorest group, those whose income was less than 50 percent of CEO's threshold, had the lowest participation rate in all three years. The differences in participation rates help explain why SNAP reduced the overall poverty rate more than the extreme poverty rate. The progressivity of the SNAP benefit structure is offset by the lack of participation by the lowest income families. This suggests that more should be done to reach out to the very poor and ensure that they receive SNAP benefits.[13]

SNAP policy

As noted above, participation in the SNAP program in New York City increased between 2007 and 2009, which bolstered the effect of the program on the poverty rate. Our estimates indicate that from 2007 to 2008, the SNAP caseload grew by 10.7 percent, and then rose another 13.2 percent from 2008 to 2009. Median benefits per case increased modestly from 2007 to 2008, 3.4 percent, but, reflecting the 13.6 percent benefit increase that became effective in April 2009, jumped up by 10.7 percent from 2008 to 2009. The aggregate value of SNAP benefits paid to city residents rose by 11.2 percent from 2007 to 2008 and leapt by 38.8 percent from 2008 to 2009.

Three factors increased the benefit and enrollment levels of the SNAP program in New York City: (1) an outreach initiative in New York City aimed at increasing participation among eligible households; (2) the 13.6 percent increase in the SNAP benefit amount in the 2009 American Recovery and Reinvestment Act; and (3) an increase in demand for SNAP benefits in response to the recession. The first two of these reflect recent, deliberate, policy decisions. Separating out the effects of these different factors, our analysis suggests that both of the policies did appear to reduce poverty for the city as a whole.

Conclusion

Poverty measures based on the National Academy of Science's recommendations, which take into account taxation and in-kind benefits such as SNAP, are well-suited to capture the effect of a wider range of antipoverty policies. Using such a measure, we conducted an analysis of the effect of SNAP on the poverty rate in New York City. We found that a more inclusive measure of resources allows researchers to understand much more of what public policy does to support a family's capacity to meet its basic needs. Measuring these resources is particularly important in recent years, given the expanded role of antipoverty policy in response to the recession in 2008 and 2009. Second, we have shown that SNAP benefits are an important component of antipoverty policy. SNAP reduced the citywide poverty rate in all years from 2007 through 2009, though the effect on extreme poverty is less pronounced than that on overall poverty. This is an argument for maintaining the program's relative flexibility, bolstering its level of benefits, and continuing work to increase the participation rate among eligible individuals.■

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[1]C. F. Citro and R. T. Michael, eds., *Measuring Poverty: A New Approach* (Washington, DC: National Academy Press, 1995).

[2]The Food Stamp program was renamed as the Supplemental Nutritional Assistance Program (SNAP) in the 2008 Farm Bill. The program is referred to as SNAP in this article, although the time period of interest began prior to the name change.

[3]In some states, unemployed childless adults are limited to three months of SNAP benefits. However, in most states this rule is currently suspended because of the economic downturn. For more information on eligibility requirements, see: http://www.cbpp.org/cms/index.cfm?fa=view&id=2226.

[4]L. Pavetti, D. Trisi, and L. Schott, *TANF Responded Unevenly to Increases in Need During the Downturn*, Center for Budget and Policy Priorities, Washington, DC, 2011, at www.cbpp.org/cms/index.cfm?fa=view&id=3379.

[5]Our fourth and most recent report covers 2005 through 2010. M. Levitan, C. D'Onofrio, J. Krampner, D. Scheer and T. Seidel, *The CEO Poverty Measure, 2005–2010*, New York City Center for Economic Opportunity, April 2012, at www.nyc.gov/html/ceo/downloads/pdf/CEO_Poverty_Measure_April_16.pdf.

[6]This article is a summary of a longer report prepared in November 2011 for the IRP RIDGE Center for National Food and Nutrition Assistance Research, "Estimating the Impact of Food Stamps on the New York City Poverty Rate Using a National Academy of Sciences-Style Poverty Measure," Discussion Paper No. 1398-12, Institute for Research on Poverty: University of Wisconsin–Madison, at: www.irp.wisc.edu/publications/dps/pdfs/dp139812.pdf.

[7]Citro and Michael (eds.), *Measuring Poverty*.

[8]CEO uses the Census Bureau's American Community Survey (ACS) as its main data set because it provides a large annual sample for New York City. While the ACS is a rich data source for measuring pre-tax cash income, its SNAP data is incomplete and suffers from multiple forms of measurement error. In addition, there are challenges posed by the survey's unit of analysis. The longer report describes in detail how we addressed these data issues.

[9]M. Levitan, C. D'Onofrio, J. Krampner, D. Scheer, and T. Seidel, "Policy Affects Poverty: The CEO Poverty Measure, 2005–2009," New York City Center for Economic Opportunity, March 2011.

[10]In contrast to the official poverty measure, we group unmarried partner families in the category of two-parent families.

[11]This definition follows J. Isaacs, J. Y. Marks, T. M. Smeeding, and K. A. Thornton, *Wisconsin Poverty Report: Were Anti-Poverty Policies Effective in 2009?*, Institute for Research on Poverty, University of Wisconsin–Madison, May 2011. We use the 150 percent income eligibility standard to adjust for the fact that some families in the ACS may have been eligible for certain months out of the year, but had a yearly income above the 130 percent threshold set by the SNAP program rules.

[12]The data for 2007 and 2008 are quite similar and there is no meaningful difference in the pattern across the years.

[13]This finding also highlights important differences between the official measure and poverty measures based on the National Academy of Sciences recommendations. Since we count SNAP benefits as income, the causality between participation and income is bidirectional; SNAP is both a cause and effect of income levels.