

The CEO Poverty Measure, 2005 - 2010

**A Working Paper by the
NYC Center for Economic Opportunity**

April 2012



**Center for
Economic Opportunity**

**Michael R. Bloomberg
Mayor**

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PREFACE & ACKNOWLEDGMENTS

In 2006 New York City Mayor Michael R. Bloomberg convened a Commission on Economic Opportunity and directed it to craft innovative approaches to poverty reduction in the City. As the Commission's work proceeded, the conversation broadened. What, they began to ask, are we trying to reduce? How do we know whether things are moving in the right direction? To answer questions like these, policymakers need social indicators that allow them to gauge how public policy affects the problems they seek to address. The Commission members soon learned what social scientists have known for decades; the nation's nearly fifty year old measure of poverty no longer provides this information.

In the 1960s the current poverty measure was a focal point for the public's growing concern about poverty in America. Over the decades, society evolved and policies shifted, but the official poverty measure remained frozen in time. It has steadily lost credibility and usefulness. The Commissioners were unwilling to leave this problem to others. They concluded that, in addition to launching new programs, the City should develop a new measure of poverty. Mayor Bloomberg embraced their recommendation and the development of an alternative measure of poverty became a project of the organization he created to implement the Commission's recommendations, the New York City Center for Economic Opportunity (CEO).

There has been no shortage of proposals for improving the way America counts its poor. The most influential of these was developed, at the request of Congress, by the National Academy of Sciences (NAS). Although the NAS's proposal was issued in 1995, neither the Federal nor any other level of government had adopted this approach until 2008 when CEO issued its first working paper on poverty in New York City. This study – our fourth – continues CEO's effort to apply the NAS methodology to the realities of New York City. It updates last year's working paper (*Policy Affects Poverty: The CEO Poverty Measure, 2005-2009*) with data for 2010 and incorporates further refinements in our methodology.

Over the last five years, CEO has been joined by other state and local poverty measurement initiatives. To date, NAS-style state-level poverty measures have been developed for New York, Connecticut, Georgia, Illinois,

Massachusetts, Minnesota, and Wisconsin along with the City (and metro area) of Philadelphia. All these projects have been enormously helpful to CEO. We now benefit from the wisdom of George Falco and Ji hyun Shin, at the New York State Office of Temporary and Disability Assistance; Mark Stern, of the University of Pennsylvania; Linda Giannarelli, Laura Wheaton, and Sheila Zedlewski at the Urban Institute; and Julia Isaacs and Timothy Smeeding at the University of Wisconsin's Institute for Research on Poverty.

The most significant recent development in the movement toward a more useful poverty measure occurred in November 2011 when the U.S. Bureau of the Census released a report on poverty in the United States based on its new Supplemental Poverty Measure. The new Federal measure is also based on the NAS recommendations. The Bureau's work now gives CEO the opportunity to compare poverty rates in New York City against poverty rates, derived from a similar methodology, for the nation as a whole. To enhance the commensurability of our work with the new measure, CEO revised some elements of our approach. Our colleagues at the Census Bureau, David Johnson, Kathleen Short, and Trudi Renwick as well as Thesia Garner at the Bureau of Labor Statistics – friends of the CEO project since its inception – were particularly helpful in this work.

From the earliest stages of our effort, we have benefited from opportunities to present our work to other scholars and policy practitioners. The Brookings Institution Center on Children and Families has hosted a number of meetings, some at CEO's request, where many of the nation's leading poverty experts not only shared their work, but offered us advice for improving our measure. We need to recognize the generosity of Ron Haskins, the Center's Co-Director as well as the wisdom of those who have attended these events. CEO has also participated in a number of conferences including annual meetings of the Association for Public Policy and Management, the National Association for Welfare Research and Statistics, the American Statistical Association, and the Administration for Children and Families' Welfare Research and Evaluation Conference. Thanks to a grant from the RIDGE Center for National Food and Nutrition Assistance Research at the University of Wisconsin's Institute for Research on Poverty, we were able to present our work on valuing Food Stamp benefits to experts

in this field. In the course of all this we have amassed a considerable debt. In addition to those mentioned above, we wish to acknowledge Jessica Banthin, Richard Bavier, David Betson, Rebecca Blank, Gary Burtless, Constance Citro, Sharon O'Donnell, Irv Garfinkel, Mark Greenberg, Amy O'Hara, Nathan Hutto, John Iceland, Dottie Rosenbaum, Isabelle Sawhill, Karl Scholz, Arloc Sherman, Sharon Stern, Jane Waldfogel, and James Ziliak.

Closer to home, Vicky Virgin, demographic analyst at the Population Division of New York City Department of City Planning, has made important contributions throughout the project. She deserves special thanks, as does Dr. Joseph Salvo, the Population Division's Director. Many other colleagues in City government have shared their expertise about public policy, the City's administration of benefit programs, and agency-level data. This year we particularly benefited from the wisdom of Sondra Sanchez, Director of HEAP and Tracey Thorne, Director of Program and Policy Analysis, Office of Emergency & Intervention Services, at the City's Human Resources Administration, who provided data and insight on the Home Energy Assistance Program; Robert Deschak, at the Department of Education's Office of School Support Services, who shared data on school meals; and Jackson P. Sekhobo, Director, Evaluation & Analysis Unit, Division of Nutrition, New York State Department of Health, who provided data on participation in the WIC program. Thanks are also due to Hildy Dworkin, librarian at the City's Human Resources Administration, for her continuing support.

Staff at other government agencies that also assisted us include: Ramchal Kaveeta, Metropolitan Transit Authority; Todd Goldman, Port Authority of New York and New Jersey; Jessica Semega, Housing and Household Economic Statistics Division, U.S. Bureau of the Census; Mahdi Sundukchi, Demographic Statistical Methods Division, U.S. Bureau of the Census; and Lynda Laughlin, Social, Economic and Housing Statistics Division, U.S. Bureau of the Census.

Over the years we have amassed a considerable debt owed to our CEO colleagues, David Berman, Allegra Blackburn-Dwyer, Ana Cunningham, Jennifer Cunningham-Povolny, Kate Dempsey, Carmen Genoa, Annel Hernandez, Carson Hicks, Susanne James, Sinead Keegan, Moses Magali, Kristin Morse, Dorick Scarpelli, Carl Urness, and Jerome White. Thanks are also due to

Kristin Misner, Chief of Staff to the Deputy Mayor for Health and Human Services.

The report was authored by Christine D'Onofrio, Ph.D., John Krampner, Daniel Scheer, Todd Seidel, along with myself. The five of us would not have been able to do this work without the leadership of Veronica White, CEO's Executive Director and Linda Gibbs, New York City Deputy Mayor for Health and Human Services. Their commitment to this project has been steadfast, enthusiastic, and essential.

Mark Levitan, Ph.D.
Director of Poverty Research
On behalf of the New York City Center for Economic Opportunity

EXECUTIVE SUMMARY

The National Bureau of Economic Research tells us that the Great Recession came to an end in June 2009.¹ The effect of the economic downturn, however, continues. As Mayor Michael R. Bloomberg noted in his 2012 State of the City address, “Since the national recession hit in 2007, the cost of living in New York City – like nearly everywhere else – has gone up. And not just housing, but food, transit, and all the key parts of a family’s budget. But there’s one thing that in all fairness hasn’t gone up: the ability of those at the bottom of the economic ladder to pay for those essential needs.”²

This year’s Center for Economic Opportunity (CEO) report on poverty in New York City is shaped by this reality. We find that since 2008 the CEO poverty rate climbed to 21.0 percent in 2010, the most recent year for which data is available. The increase was driven by a 1.2 percentage point rise in the poverty rate from 2009 to 2010.³ This rise follows a decline in the CEO poverty rate, by 1.5 percentage points, from 2005 (the earliest year for which we have data) to 2008. The fall and subsequent climb in the CEO poverty rate reflects trends in employment and earned income in the City. As Figure One illustrates, it also parallels the pattern of change over time in the official poverty rate.

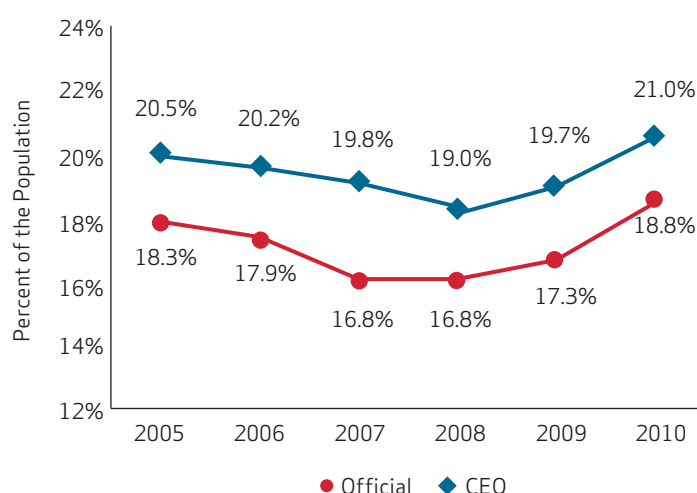
This on-the-surface similarity masks many important differences between the CEO and official poverty measures. The first part of the Executive Summary reviews them. In this context we discuss another important influence on this year’s report, the new Federal Supplemental Poverty Measure (SPM) that was released by the U.S. Bureau of the Census in November 2011.⁴

The SPM and the CEO poverty measure share a common lineage: they are both based on recommendations made, at the request of Congress, by the National Academy of Sciences (NAS).⁵ The Census Bureau’s report gives CEO the opportunity to compare data on poverty in New York City to poverty in the United States using a similar methodology. In order to make our local data as comparable as possible to the national-level data issued by the Census Bureau, CEO has made several revisions in its approach. Consequently the poverty rates in this report differ somewhat from those we issued last year.

The Official Poverty Measure

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

FIGURE ONE
Official and CEO Poverty Rates, 2005 - 2010



Source: American Community Survey Public Use Micro Sample as augmented by CEO.
Note: Official poverty rates are based on the CEO poverty universe and unit of analysis.

1. September 20, 2010 announcement by NBER Business Cycle Dating Committee. Available at: www.nber.org/cycles/sept2010.pdf
2. Mayor Bloomberg Delivers 2012 State of the City Address – NYC: *Capital of Innovation*. January 12, 2012. Available at: www.nyc.gov
3. Differences in poverty rates are taken from unrounded numbers.
4. Short, Kathleen. *The Research Supplemental Poverty Measure: 2010*. U.S. Bureau of the Census. November 2011. Available at: www.census.gov/hhes/povmeas/methodology/supplemental/research/Short_ResearchSPM2010.pdf
5. Citro, Constance F. and Robert T. Michael (eds). *Measuring Poverty: A New Approach*. Washington, DC: National Academy Press. 1995.

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.⁶

Nearly a half century later, this poverty line has little justification. 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 early 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* they take the form of cash. Thus, payments from Unemployment Insurance, Social Security, Supplemental Security Income, and public assistance are included in the official resource measure.

Given the data available and the policies in place at the time, this was not an unreasonable definition. But in recent years 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) and in-kind benefits (such as Food Stamps). If policymakers or the public want to know how these programs affect poverty, the official measure cannot provide an answer.

Measures of Poverty

Official: The current official poverty measure was developed in the early 1960s. It consists of a set of thresholds that were based on the cost of a minimum diet at that time. A family's pre-tax cash income is compared against the threshold to determine whether its members are poor.

NAS: At the request of Congress, the National Academy of Sciences issued a set of recommendations for an improved poverty measure in 1995. Although the proposal did not become the new official poverty measure, staff at the Census Bureau, Bureau of Labor Statistics, and other researchers created a body of research that was based on the NAS proposal.

SPM: In March 2010 the Obama Administration announced that the Census Bureau, in cooperation with the Bureau of Labor Statistics, would create a Supplemental Poverty Measure based on the NAS recommendations, subsequent research, and a set of guidelines proposed by an Interagency Working Group. The first report on poverty using this measure was issued by the Census Bureau in November 2011.

CEO: The Center for Economic Opportunity released its first report on poverty in New York City in August 2008. CEO's poverty measure is based on the NAS recommendations. This year's CEO report incorporates some of the guidelines from the Interagency Working Group.

The National Academy of Sciences' Alternative

NAS-based methods 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 selecting a sub-group of families as reference families,⁷ calculating their spending on these items, and then choosing a point in the resulting expenditure distribution.⁸ A small multiplier is applied 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

6. Fischer, Gordon M. "The Development and History of the Poverty Thresholds." *Social Security Bulletin*, Vol. 55, No. 4. Winter 1992.

7. The NAS reference families are those composed of two adults and two children. The threshold for this family is then scaled for families of different sizes and composition. See Appendix B.

8. The NAS suggested that this point lie between the 30th and 35th percentile. Citro and Michael, p.106.

the threshold to the growth in living standards. In further contrast to the official measure, the NAS-style poverty line is also adjusted to reflect geographic differences in housing costs.

On the resource side, the NAS-based measure is designed to account for the flow of income and in-kind benefits that a family can use to meet the needs represented in the threshold. This creates a much more inclusive measure of income than pre-tax cash. 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 non-discretionary expenses that reduce the income available to meet their other needs. These include the cost of childcare, commuting to work, and medical care that must be paid for out-of-pocket. This spending is accounted for as deductions from income.

CEO's Adoption of the NAS/SPM Method

The Census Bureau's Supplemental Poverty Measure is shaped by the NAS recommendations and a set of guidelines provided by an Interagency Technical Working Group (ITWG) in March 2010.⁹ As we discuss in the report's Introduction and technical appendices, the SPM's revisions to the NAS approach center on the threshold side of the poverty measure. To enhance the comparability of our poverty rates to national-level estimates issued by the Census Bureau, CEO now bases our New York City-specific poverty threshold on the U.S.-wide threshold used in the SPM.

We adjust the national-level threshold to account for the relatively high cost of housing in New York City by applying the ratio of the New York City to U.S.-wide Fair Market Rent for a two-bedroom apartment to the housing portion of the threshold.¹⁰ In 2010, our poverty line for the two-adult, two-child family comes to \$30,055. We refer to this New York City-specific threshold as the CEO poverty threshold. The official poverty line for the equivalent family was \$22,113 in that year.

Poverty Thresholds

Official: The official threshold was developed in the early 1960s and was based on the cost of a minimum diet at that time. It is updated each year by the change in consumer prices. It is uniform across the United States.

CEO: The CEO poverty threshold is a New York City-specific threshold derived from the U.S.-wide threshold developed for the Federal Supplemental Poverty Measure. The threshold is based on what families spend on basic necessities: food, clothing, shelter, and utilities. It is adjusted to reflect the variation in housing costs across the United States.

Measuring Income

Official Income: The official poverty measure's definition of family resources is pre-tax cash. This includes income from all sources such as earnings, interest, and government transfer payments that take the form of cash. Thus, Social Security benefits are included in this measure, but the value of in-kind benefits such as Food Stamps or tax credits such as the Earned Income Tax Credit are not counted.

CEO Income: Based on the NAS recommendations, CEO income includes all the element of pre-tax cash plus the effect of income and payroll taxes, and the value of in-kind nutritional and housing assistance. Non-discretionary spending for commuting to work, childcare, and out-of-pocket medical care are accounted for as deductions from income.

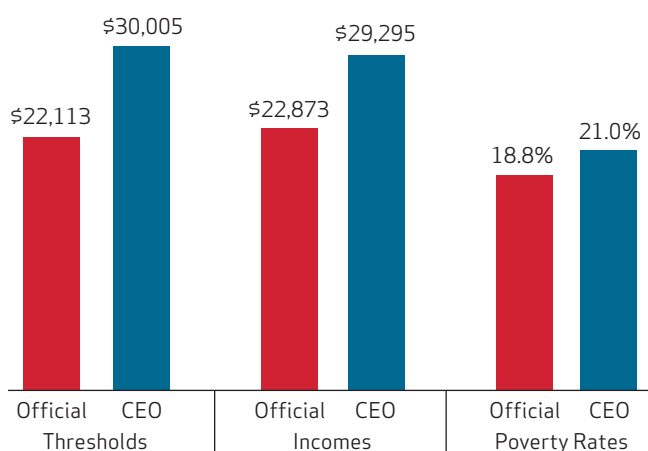
Obviously, if this were the only change CEO had made to the poverty measure, it would lead to a poverty rate above the official measure. But, as described above, CEO also uses a far different measure of income to compare against the poverty threshold. Although our measure includes subtractions as well as additions to resources, CEO income is higher than pre-tax cash income at the lower rungs of the income ladder. At the 20th percentile, for example, CEO income was \$29,295 in 2010. The corresponding figure for pre-tax cash was

9. *Observations from the Interagency Technical Working Group on Developing a Supplemental Poverty Measure*. March 2010. Available at: www.census.gov/hhes/www/poverty/SPM_TWGObservations.pdf

10. Details of the calculation are given in Appendix B.

only \$22,873. Thus, if a more complete account of resources had been the only change we had made to the poverty measure, the CEO poverty rate would fall below the official measure. Figure Two illustrates official and CEO incomes, thresholds, and poverty rates for 2010. The effect of the higher CEO threshold (35.9 percent above the official) outweighs the effect of CEO's more complete definition of resources (which is 28.1 percent higher, at the 20th percentile, than the official resource measure), resulting in a higher poverty rate. In 2010, the CEO poverty rate stood at 21.0 percent, while the official rate was 18.8 percent, a 2.2 percentage point difference.

FIGURE TWO
Official and CEO Thresholds, Incomes, and Poverty Rates, 2010



Source: U.S. Bureau of the Census and American Community Survey Public Use Micro Sample as augmented by CEO.

Notes: Incomes are measured at the 20th percentile and stated in family size and composition-adjusted dollars. Official poverty rates are based on the CEO poverty universe and unit of analysis.

To measure the resources available to a family to meet the needs represented by the threshold, our poverty measure employs the Public Use Micro Sample from the Census Bureau's American Community Survey (ACS) as its principal data set. The advantages of this survey for local poverty measurement are numerous. The ACS is designed to provide measures of socioeconomic conditions on an annual basis in states and larger localities. It offers a robust sample for New York City (roughly 25,000 households) and contains essential information about household composition, family relationships, and cash income from a variety of sources.

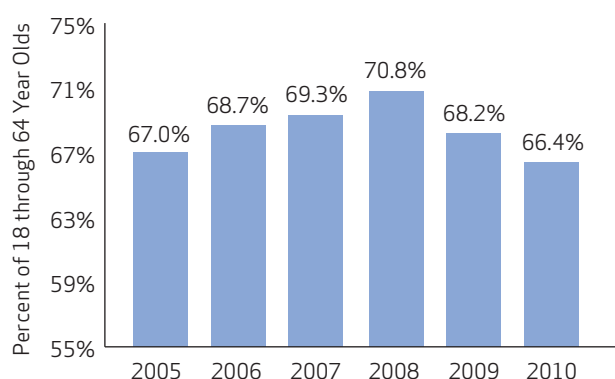
But, as noted earlier, the NAS-recommended poverty measure greatly expands the scope of resources that must be measured in order to determine whether a family is poor. Unfortunately, the ACS provides only some of the information needed to estimate these

additional resources. CEO has developed a variety of models that estimate the effect of taxation, nutritional and housing assistance, work-related expenses, and medical out-of-pocket expenditures on total family resources and poverty status. We reference the resulting data set as the "American Community Survey Public Use Micro Sample as augmented by CEO" and we refer to our estimate of family resources as "CEO income."

This Report

The focus of this year's CEO working paper is on poverty in New York City from 2008 to 2010, a period of lingering weakness in the nation's and the City's economy. From 2008 to 2010, labor market indicators for City residents pointed decidedly south. A smaller proportion of the working age population was holding a job. As Figure Three illustrates, the share of New Yorkers 18 through 64 years of age who were employed at the time they were surveyed peaked in 2008 at 70.8 percent. That proportion declined to 66.4 percent by 2010.

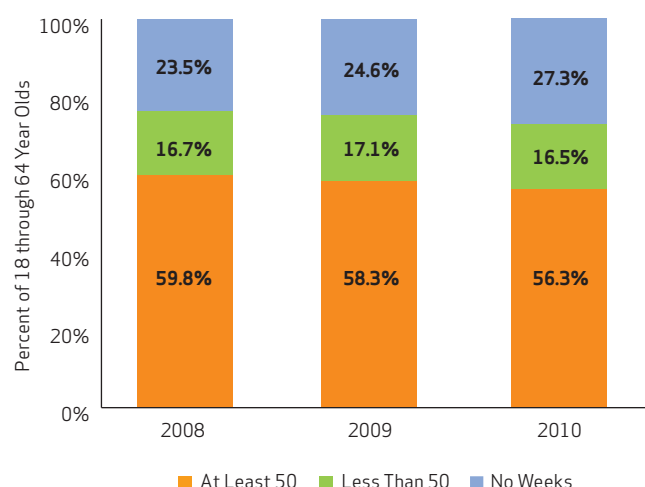
FIGURE THREE
Employment/Population Ratios, 2005 - 2010



Source: American Community Survey Public Use Micro Sample.

Because poverty status is determined by annual income, employment over the course of a year is a particularly salient labor market indicator. Figure Four shows that the share of the working age population with steady work, defined as 50 or more weeks in the prior 12 months, declined from 59.8 percent in 2008 to 56.3 percent in 2010, while the proportion of the population that had no work at all grew from 23.5 percent in 2008 to 27.3 percent 2010.

FIGURE FOUR
Weeks Worked in Prior 12 Months, 2008 - 2010



Source: American Community Survey Public Use Micro Sample.

The decline in weeks worked is reflected in measures of earnings. Table One reports per family earnings for those families whose earnings would put them near the CEO poverty threshold (between the 30th and 40th percentile of the earnings distribution). The declines range from 14.6 percent to 11.2 percent from 2008 to 2010.

TABLE ONE
Annual Family-Level Earned Income, 2008 - 2010

Percentile	2008	2009	2010	Percentage Change 2008-2010
30	\$25,460	\$24,226	\$21,741	-14.6%
35	\$31,815	\$30,506	\$27,818	-12.6%
40	\$38,218	\$36,707	\$33,922	-11.2%

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

Notes: Incomes are stated in family size and composition-adjusted dollars. Persons in families with no earnings are included.

The job market plays an important role in year-to-year changes in the CEO poverty rate. But its effect takes place within the broad scope of our measure of family resources and the context of public policies intended to bolster family incomes. In addition to earnings, low-income families' ability to meet their needs is determined by public benefit programs. Over the last several decades there has been an important shift in the composition of these programs, especially for the non-

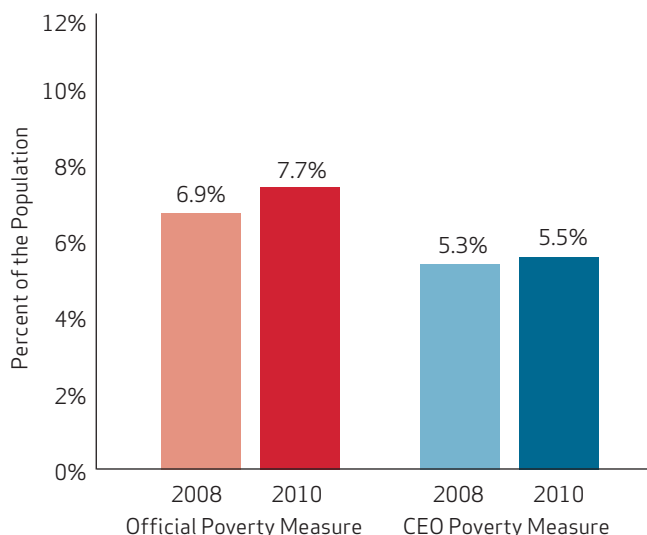
elderly population. As noted above, a smaller proportion of assistance takes the form of cash payments, such as public assistance, while a larger proportion is composed of tax credits and in-kind assistance. The trend has been reinforced by the Bush and Obama Administrations' economic stimulus programs. A tax program, the Economic Recovery Rebate, was a key feature of the Bush Administration's response to the onset of the recession. New and expanded tax credit programs and an increase in Food Stamp benefit levels were important elements in President Obama's American Recovery and Rebuilding Act.

To shed light on changes in the poverty rate, therefore, we compare trends in earnings with trends in official, pre-tax cash income (which includes cash assistance programs), and trends in CEO income (which includes tax and in-kind assistance programs). The expanding role of tax credits and the Food Stamp program are a focus of the analytical sections of this year's report. In order to identify the impact of the recent policy changes, we compare trends in CEO income and poverty rates against hypothetical estimates, what the trends would have been in the absence of the tax and Food Stamp initiatives.

Key Findings

- After falling from 20.5 percent in 2005 to 19.0 percent in 2008, the CEO poverty rate rose to 21.0 percent in 2010. The recent increase was driven by a 1.2 percentage point rise in this poverty rate from 2009 to 2010. The official poverty rate followed a similar path, declining from 18.3 percent in 2005 to 16.8 percent in 2008, and then rising to 18.8 percent in 2010. See Figure One above.
- The CEO poverty rate exceeds the official rate in each year for which we have data. However, the CEO methodology finds that a smaller proportion of the City's population is living in extreme poverty, below 50 percent of the poverty threshold, than does the official method (5.5 percent compared to 7.7 percent in 2010). The CEO measure, moreover, indicates that extreme poverty did not rise significantly from 2008 to 2010. See Figure Five.

FIGURE FIVE
Percent of the Population in Extreme Poverty,
2008 and 2010

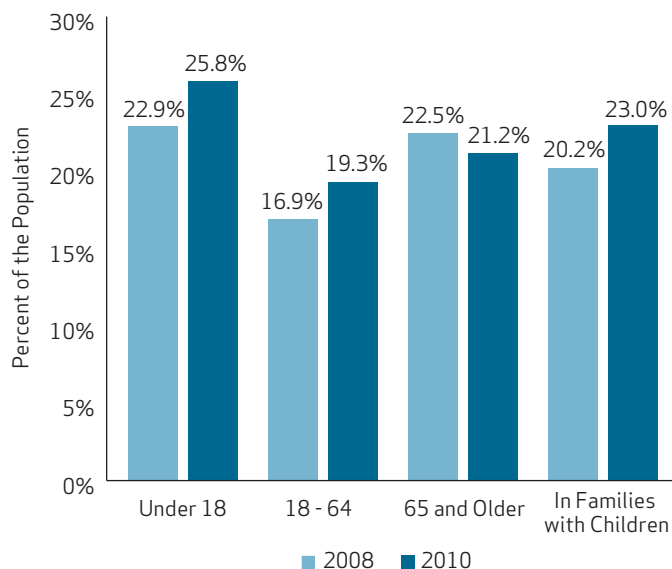


Source: American Community Survey Public Use Micro Sample as augmented by CEO.

Note: Official poverty measure utilizes the CEO poverty universe and unit of analysis.

- The trend in CEO poverty rates by individual characteristics (such as age), family status (such as number of parents in the family unit), and borough generally follow the fall and subsequent rise in the Citywide poverty rate. Given the priority that policymakers have given to child poverty, the rise in the poverty rate for children, from 22.9 percent in 2008 to 25.8 percent in 2010, is particularly notable. We find a similar rise in the poverty rate for all persons (regardless of their age) who are living in families with children, from 20.2 percent in 2008 to 23.0 percent in 2010. This is a group we devote more attention to in Chapter VI. See Figure Six.

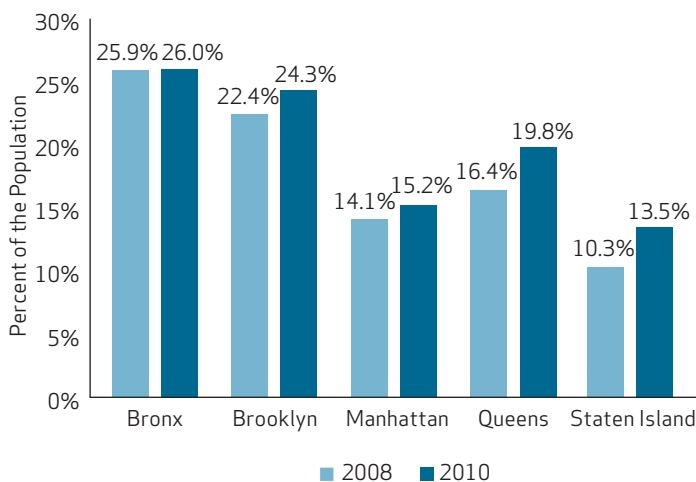
FIGURE SIX
CEO Poverty Rates by Age and Family Status,
2008 and 2010



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

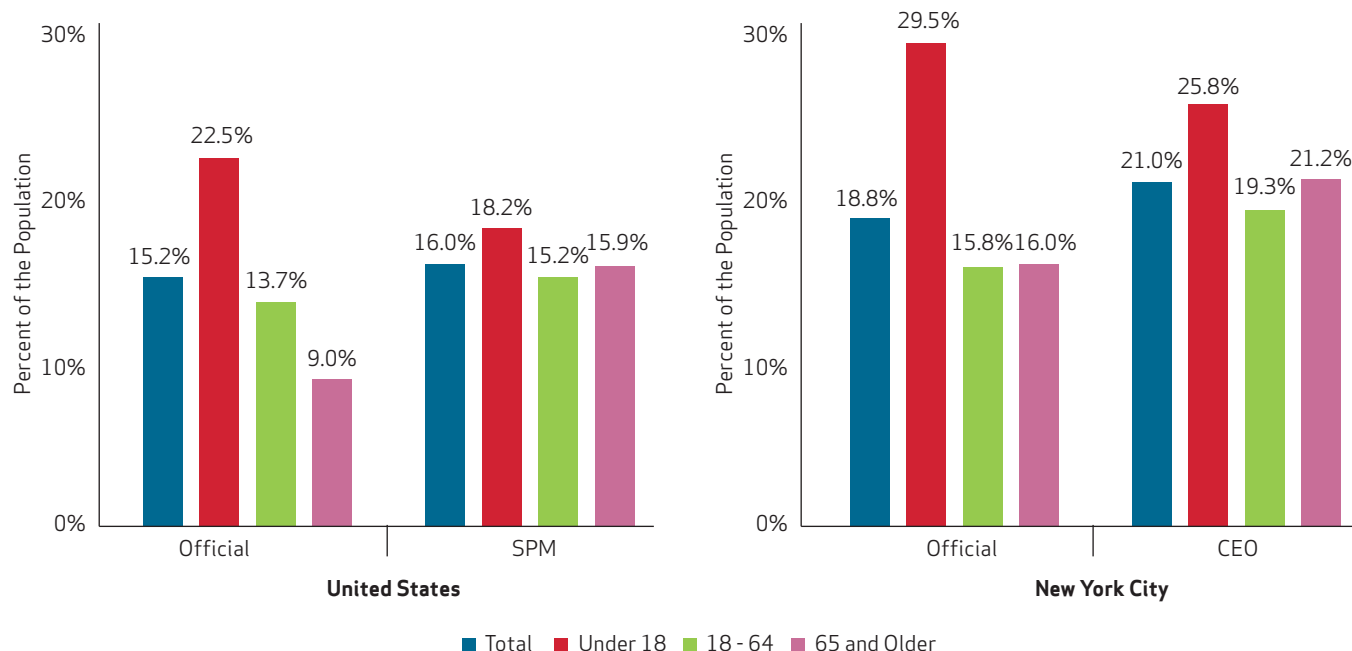
From 2008 to 2010, poverty rates increased significantly in three out of five of the City's boroughs: Brooklyn (by 1.9 percentage points to 24.3 percent), Queens (by 3.4 percentage points to 19.8 percent), and Staten Island (by 3.1 percentage points to 13.5 percent). See Figure Seven.

FIGURE SEVEN
CEO Poverty Rates by Borough, 2008 and 2010



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

FIGURE EIGHT
Comparison of Poverty Rates in the U.S. and NYC, 2010



Sources: U.S. Bureau of the Census and American Community Survey Public Use Micro Sample as augmented by CEO.

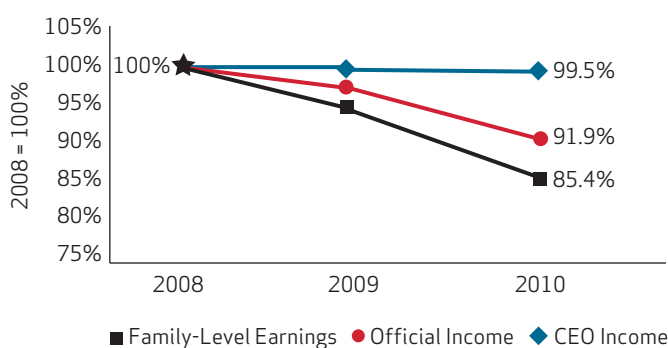
- The pattern in poverty rates for the United States based on the new Federal Supplemental Poverty Measure resembles the CEO-based pattern for New York City. Across the entire population, the two NAS-based poverty measures find a higher incidence of poverty than do the official measures. In the U.S. the difference in 2010 is 16.0 percent as opposed to 15.2 percent. In New York City the two poverty rates were 21.0 percent and 18.8 percent in that year. Because they count the value of non-cash assistance, however, both the SPM and CEO measures of poverty among children are lower than child poverty rates based on the official method, 18.2 percent compared to 22.5 percent for the nation and 25.8 percent rather than 29.5 percent for the City. See Figure Eight.

The analytical sections of this year's report focus on trends in three measures of income: earnings, pre-tax cash, and CEO income. Comparisons indicate the extent to which the recession-related declines in earned income were offset by cash and non-cash benefit programs. We find that:

- By 2010, earned income tumbled to 85.4 percent of its level in 2008. The measure of income used in the official poverty measure, pre-tax cash, fell to 91.9 percent of its 2008 level. By contrast, CEO income merely edged down to 99.5 percent of its level in

2008. This stark difference is the result of public policy, specifically the non-cash social safety net programs designed to buoy incomes during the economic downturn. Clearly, analyses based on the official income measure would understate the effectiveness of public policies in countering the fall in earned income from 2008. See Figure Nine.

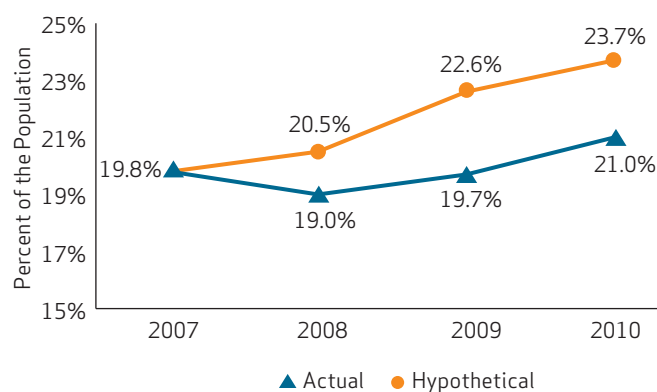
FIGURE NINE
Trends in Earned, Pre-Tax Cash, and CEO Income, 2008 - 2010



Source: American Community Survey Public Use Micro Sample as augmented by CEO.
 Note: Earnings are measured at the 30th percentile and incomes are measured at the 20th percentile of their respective distributions.

- Participation in safety net programs tends to grow as need increases during economic contractions. In addition to this “passive” increase, policymakers took active steps during the recession to bolster the purchasing power of low-income families by creating new, and expanding existing, tax credit programs. They also increased benefit levels and fostered participation in the Food Stamp program. We find that these additional steps prevented an even larger increase in the CEO poverty rate. We estimate that without these steps, the CEO poverty rate would have risen to 23.7 percent in 2010, instead of 21.0 percent. See Figure Ten.

FIGURE TEN
Actual and Hypothetical CEO Poverty Rates, 2007 - 2010



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

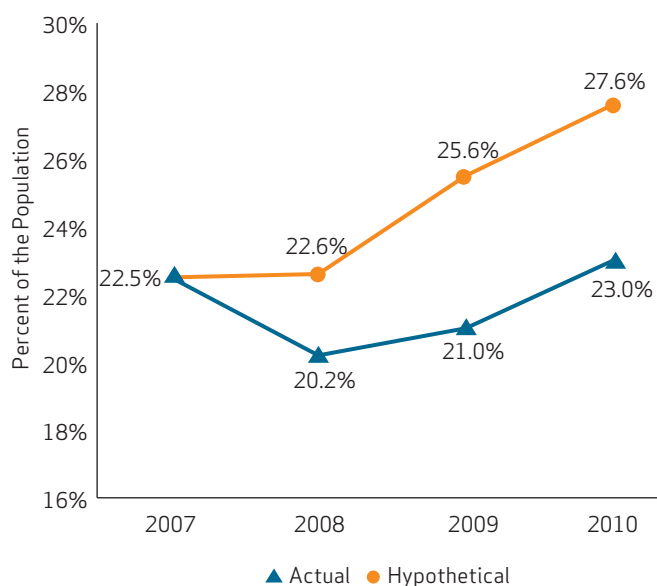
- Despite benefiting from the tax and Food Stamp initiatives, the poverty rate for persons who live in a family with children climbed from 20.2 percent in 2008 to 23.0 percent in 2010. The 2.8 percentage point rise reflects the dependence of these families on labor market income and their particular vulnerability to poverty during economic contractions. Absent the economic stimulus initiatives, moreover, the poverty rate for this group of New Yorkers would have climbed to 27.6 percent in 2010. See Figure Eleven.

Implications for Public Policy

It has been roughly a half century since the development of the nation’s official measure of poverty. In the 1960s, the measure became a focal point for the public’s growing concern about poverty in America. But over time the official poverty rate lost credibility. Its threshold has no underlying rationale and its definition of resources omits much of what public programs do to support low-income families.

CEO’s assignment has been to create a poverty measure that is useful for policymakers, but useful in what way? A credible and useful poverty measure should provide insight into how, and the degree to which, public benefit programs fill the gap between what low-income families earn through the job market and the poverty threshold, a minimally acceptable standard of living. One of the most important contributions the poverty measure can make is to encourage policymakers and the public to ask big picture questions about this broad topic.

FIGURE ELEVEN
Actual and Hypothetical Poverty Rates for Persons Living in Families with Children, 2007 - 2010



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

This report documents the growing importance of the social safety net at a time when the job market was contracting and earned income was declining. For many low-income families the distance between earnings and the poverty threshold widened. At the same time the safety net expanded, filling much, but not all, of the gap. As a consequence, the poverty rate rose.

One big picture question raised by this report is: what else could be done to prevent poverty from rising during economic downturns? The business cycle is a permanent feature of our economy; there will always be another recession. In the recovery periods that follow, moreover, renewed strength in the labor market often lags the renewed growth in output.

The organizing principle of the nation’s anti-poverty strategy since the mid-1990s has been to make employment a path out of poverty. Policymakers have

recognized that the wage rates offered by the jobs many low-income individuals could obtain would not lift them out of poverty. They have expanded programs that “make work pay” in order to keep families out of the ranks of the working poor. Within a policy context that emphasizes work-plus-benefits, what should be done when the economy contracts and work is hard to find?

Effective macroeconomic policy that shortens recessions and quickly restores strength to the job market is essential. But more is required to keep unemployed low-income workers (parents in particular) at work and eligible for tax credit programs that are contingent on earnings. One method for doing so is through subsidized employment programs. Recently, a number of states made good use of the TANF (Temporary Assistance for Needy Families) Emergency Fund for just this purpose.¹¹ That stream of funding has now dried up. But the example set by the programs it funded is a foundation upon which a larger effort can be built.

A second policy, work sharing, aims to prevent unemployment in the first place. At present 24 states, including New York State, make use of the Unemployment Insurance system to supplement the earnings of workers in firms that choose to reduce employee hours rather than resort to layoffs.¹² To date, work sharing programs have been underutilized. However, interest in these arrangements has grown recently. In February 2012, the U.S. Congress passed the Middle Class Tax Relief and Job Creation Act. In addition to extensions of the payroll tax cut and Unemployment Insurance benefits, the law expands Federal government support for work sharing programs, giving states more incentive to promote them as an alternative to layoffs.¹³

A second big question that this year’s report raises concerns the poverty rate for members of families with children. Not only did it climb in recent years, but relative to persons who do not live with children, this poverty rate is high. Means-tested public benefit programs are typically more generous to families with children than others. But the vast majority of families with children rely on income earned in the private labor

market. The poverty rate reflects the blending of these two sources of income. Do we have the right balance?

Public policy should support society’s expectation that parents make a financial as well as an emotional commitment to their children. And, with the growth of child support payments by non-custodial parents, that expectation has been extended to include *all* parents.¹⁴ But higher expectations may not go far enough.

One proposal for taking a step toward creating a better balance between social benefits and private earnings is to revamp the Child Tax Credit (CTC).¹⁵ The credit is currently worth up to \$1,000 per child. This base has not been increased in ten years. Moreover, the basic CTC is not a refundable credit, limiting its value for low-income families. The Additional Child Tax Credit has been established to create some, but not always full, refundability for the CTC. At present the credit is only refundable to families with at least \$3,000 in earned income. The CTC could become more effective if it was increased to restore its original value and was made fully refundable to all families with children. Like many other tax credits, it could be indexed each year to match increases in the cost of living.

Last year we entitled our report, *Policy Affects Poverty*. We emphasized the role that new Federal and City policy initiatives played in bolstering income during the economic contraction, limiting an apparent rise in the CEO poverty rate from 2008 to 2009 to a statistically insignificant 0.3 percentage points. The revisions we made to our measure for this year’s report hardly alter that story. The CEO poverty rate remains statistically unchanged over those two years. But 2010 was a further year of declining employment and earnings. These continued losses were not offset by enough additional income from public benefit programs to prevent a 1.2 percentage point rise in the CEO poverty rate from 2009 to 2010.

11. See Pavetti, LaDonna, Liz Schott, and Elizabeth Lower-Basch. *Creating Subsidized Employment Opportunities for Low-Income Parents: The Legacy of the TANF Emergency Fund*. Center on Budget and Policy Priorities and Center for Law and Social Policy. February 16, 2011. Available at: www.clasp.org/admin/site/publications/files/Subsidized-Employment-Paper-Final.pdf

12. Ridley, Neil and David Balducchi. *Work Sharing: An Alternative to Layoffs*. Center for Law and Social Policy. January 2011. Available at: www.clasp.org/admin/site/publications/files/Work-Sharing-An-Alternative-to-Layoffs.pdf

13. See: finance.senate.gov/newsroom/chaireman/release/?id=c42a8c8a-52ad-44af-86b2-4695aaff5378

14. Mayor Bloomberg and others have proposed revisions to the Earned Income Tax Credit that would help non-custodial parents meet their responsibilities.

15. Waldfogel, Jane. “The Role of Family Policies in Antipoverty Policy.” In *Changing Poverty, Changing Policies*. Cancian, Maria and Sheldon Danziger (eds). New York, NY: Russell Sage Foundation. Page 256.

The 2010 data offer a more sober assessment of the effect of public policy on poverty. But the recent increase in the poverty rate is no rationale for the many impending or proposed cutbacks to programs that assist low-income families. We have demonstrated how much higher the poverty rate would have risen absent the new

initiatives. In that sense our findings reinforce, rather than undermine, the message from last year's report: policy does indeed affect poverty. And because it does, protecting what works, and improving on what does not, matters greatly.

CHAPTER I: INTRODUCTION

In the fall of 2011, the U.S. Census Bureau issued its first report on poverty in the United States using a Supplemental Poverty Measure (SPM).¹⁶ As its name suggests, the SPM will not replace the current official poverty measure. It offers an alternative – and, we believe, more informative – approach. The new measure is based on a set of recommendations issued by the National Academy of Sciences (NAS), the same methodology employed in this report by the New York City Center for Economic Opportunity (CEO).

The SPM's appearance is long overdue. It has been nearly a half century since the development of the current measure. In the 1960s the measure represented an important advance, becoming a focal point for the public's growing concern about poverty in America. But, more recently, discussions about poverty have increasingly included criticism of how poorly it was being measured. Society was evolving and public policy had shifted, yet the Census Bureau was still measuring poverty as if nothing had changed.

Dissatisfaction with the official measure prompted Congress to request a study by the National Academy of Sciences. The NAS's recommendations, issued in 1995, sparked further research and garnered widespread support among poverty experts.¹⁷ However, neither the Federal nor any state or local government had adopted the NAS approach until CEO's initial report on poverty in New York City in August 2008.¹⁸

The introduction to this year's report begins with a review of the official measure and its weaknesses. We then describe our alternative, beginning with an overview of the NAS approach. We note how the new SPM builds on and revises some of the Academy's recommendations. In order to make our measure more comparable to the Census Bureau's work, CEO has adopted some of these changes. Consequently, the poverty rates in this report differ from those in earlier CEO work.

The report also extends the time span of our measure, providing poverty rates from 2005 to 2010. The most

recent data reflect the economic contraction and continued weakness in the City's labor market from 2008 to 2010. The penultimate section of the Introduction sets the context for our findings with a description of how the recession and disappointing recovery have affected employment rates and earnings of City residents in the recent past.

1.1 The Official Poverty Measure

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.¹⁹

Nearly a half century later, this poverty line has little justification. 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* they take the form of cash. Thus, payments from Unemployment Insurance, Social Security, Supplemental Security Income (SSI), and Public Assistance are included in the official resource measure.

Given the data available and the policies in place at the time, this was not an unreasonable definition. But

16. Short, Kathleen. *The Research Supplemental Poverty Measure: 2010*. U.S. Bureau of the Census. November 2011. Available at: www.census.gov/hhes/povmeas/methodology/supplemental/research/Short_ResearchSPM2010.pdf

17. Citro, Constance F. and Robert T. Michael (eds). *Measuring Poverty: A New Approach*. Washington, DC: National Academy Press. 1995. Much of the research inspired by the NAS report is available at: www.census.gov/hhes/povmeas/methodology/nas/index.html

18. New York City Center for Economic Opportunity. *The CEO Poverty Measure: A Working Paper by the New York City Center for Economic Opportunity*. August 2008. Available at: www.nyc.gov/html/ceo/downloads/pdf/final_poverty_report.pdf

19. Fischer, Gordon M. "The Development and History of the Poverty Thresholds." *Social Security Bulletin*, Vol. 55, No. 4. Winter 1992.

in recent years 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) and the cash-equivalent value of in-kind benefits (such as Food Stamps). If policymakers or the public want to know how these programs affect poverty, the official measure cannot provide an answer.

Measures of Poverty

Official: The current official poverty measure was developed in the early 1960s. It consists of a set of thresholds that were based on the cost of a minimum diet at that time. A family's pre-tax cash income is compared against the threshold to determine whether its members are poor.

NAS: At the request of Congress, the National Academy of Sciences issued a set of recommendations for an improved poverty measure in 1995. The NAS threshold represents the need for clothing, shelter, and utilities as well as food. Income accounts for taxation and the value of in-kind benefits.

SPM: In March 2010 the Obama Administration announced that the Census Bureau, in cooperation with the Bureau of Labor Statistics, would create a Supplemental Poverty Measure based on the NAS recommendations, subsequent research, and a set of guidelines proposed by an Interagency Working Group. The first report on poverty using this measure was issued by the Census Bureau in November 2011.

CEO: The Center for Economic Opportunity released its first report on poverty in New York City in August 2008. CEO's poverty measure is based on the NAS recommendations. This year's CEO report incorporates some of the guidelines from the Interagency Working Group.

1.2 The National Academy of Sciences' Alternative

NAS-based methods 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 selecting a sub-group of families as reference families,²⁰ calculating their spending on these items, and then choosing a point in the resulting expenditure distribution.²¹ A small multiplier is applied 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 NAS-style poverty line is also adjusted to reflect geographic differences in housing costs.

On the resource side, the NAS-based measure is designed to account for the flow of income and in-kind benefits that a family can use to meet the needs represented in the threshold. This creates a much more inclusive measure of income than pre-tax cash. 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 non-discretionary spending needs that reduce the income available to meet their other needs. These include the cost of commuting to work, childcare, and medical care that must be paid for out-of-pocket. This spending is accounted for as deductions from income.

1.3 The Supplemental Poverty Measure

The Census Bureau's Supplemental Poverty Measure is shaped by the NAS recommendations and a set of guidelines provided by an Interagency Technical Working Group (ITWG) in March 2010.²² The revisions to the NAS approach center on the threshold side of the poverty measure. The methodological differences between the NAS-proposed and SPM-implemented threshold are described in Appendix B. Despite those differences, in any given year the two poverty lines are often quite close quantitatively. In 2010, for example, the U.S.-wide SPM threshold for a family of two adults and two children was \$24,343. The corresponding NAS threshold was \$24,267, a difference of only \$76.²³

20. The NAS reference families are those composed of two adults and two children. The threshold for this family is then scaled for families of different sizes and composition. See Appendix B.

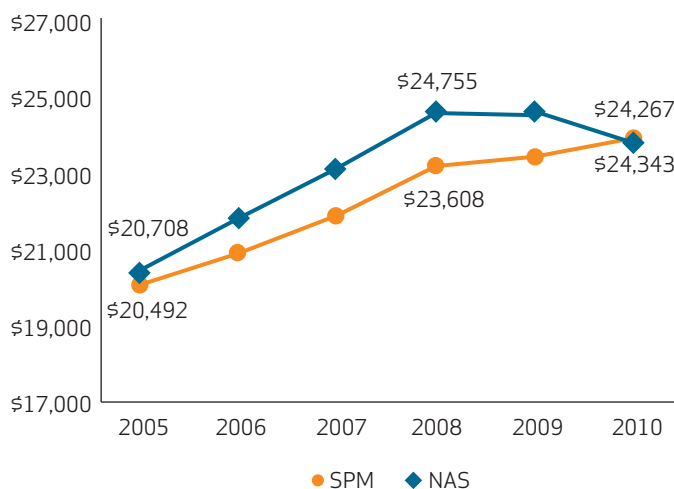
21. The NAS suggested that this point lie between the 30th and 35th percentile. Citro and Michael, p.106.

22. *Observations from the Interagency Technical Working Group on Developing a Supplemental Poverty Measure*. March 2010. Available at: www.census.gov/hhes/www/poverty/SPM_TWGObservations.pdf

23. This NAS threshold is the one that comes closest to the NAS report's recommendations and has been used by CEO in our earlier work. The NAS thresholds are available at: www.census.gov/hhes/povmeas/data/nas/tables/index.html The U.S.-wide SPM thresholds are posted at: www.bls.gov/pir/spmhome.htm#threshold

More important than the given-year difference is how the thresholds change over time. The NAS threshold is based on a three-year moving average of expenditure data calculated from the Bureau of Labor Statistics' Consumer Expenditure Survey. The SPM threshold is based on a five-year moving average from this survey. The longer time period used for the SPM threshold gives it a stability that is lacking in the NAS threshold.²⁴ This is illustrated in Figure I One. The SPM threshold rises by 15.2 percent, from \$20,492 in 2005 to \$23,608 in 2008. Over the same period, the NAS threshold climbed by 19.5 percent, from \$20,708 to \$24,755. From 2008 to 2010, the growth rate of the SPM threshold slows; it increased by 3.1 percent to reach \$24,343 in 2010. Over the same period, the NAS threshold declined by 2.0 percent, falling to \$24,267.

FIGURE I ONE
Comparison of U.S.-Wide Poverty Thresholds, SPM and NAS, 2005 - 2010



Sources: U.S. Bureau of Labor Statistics and U.S. Bureau of the Census.

The differences in growth rates suggest that poverty measures that use the SPM thresholds are more likely than poverty measures that use the NAS thresholds to register declines in the poverty rate during economic expansions; growing incomes will be compared against a more gently rising threshold. During economic downturns, measures that use the SPM threshold will be less likely than those using the NAS threshold to obscure the effect of declining incomes because they would not be lowering the bar.

1.4 CEO's Adoption of the NAS/SPM Method

The poverty rates provided in this report reflect changes made in CEO's method in light of the development of the SPM. To enhance the comparability of our poverty rates to national-level estimates by the Census Bureau, we now use the SPM thresholds.²⁵ The national-level threshold is adjusted to account for the relatively high cost of housing in New York City by applying the ratio of the New York City to U.S.-wide Fair Market Rent for a two-bedroom apartment to the housing portion of the threshold. In 2010, our poverty line for the two-adult, two-child family comes to \$30,055. We refer to this New York City-specific threshold as the CEO poverty threshold. (See Appendix B).

Poverty Thresholds

Official: The official threshold was developed in the early 1960s and was based on the cost of a minimum diet at that time. It is updated each year by the change in consumer prices. It is uniform across the United States.

CEO: The CEO poverty threshold is a New York City-specific threshold derived from the U.S.-wide threshold developed for the Federal Supplemental Poverty Measure. The threshold is based on what families spend on basic necessities: food, clothing, shelter, and utilities. It is adjusted to reflect the variation in housing costs across the United States.

To measure the resources available to a family to meet the needs represented by the threshold, our poverty measure employs the Public Use Micro Sample from the Census Bureau's American Community Survey (ACS) as its principal data set. The advantages of this survey for local poverty measurement are numerous. The ACS is designed to provide measures of socioeconomic conditions on an annual basis in states and larger localities. It offers a robust sample for New York City (roughly 25,000 households) and contains essential information about household composition, family relationships, and cash income from a variety of sources.

24. Another possible source of the relative stability of the SPM threshold is that it expands the reference "family" in the Consumer Expenditure Survey to include all two-child units, not just two-adult, two-child families.

25. CEO, however, does not follow the SPM's creation of thresholds that vary by housing status – whether the family owns its home free and clear of a mortgage; owns, but is paying off a mortgage; or is renting. We use the overall SPM poverty threshold but make a housing adjustment on the income side of the poverty measure. The rationale for this decision is provided in Appendix B.

But, as noted earlier, the NAS-recommended poverty measure greatly expands the scope of resources that must be measured in order to determine whether a family is poor. Unfortunately, the ACS provides only some of the information needed to estimate the additional resources required by the NAS measure. CEO has developed a variety of models that estimate the effect of taxation, nutritional and housing assistance, work-related expenses, and medical out-of-pocket expenditures on total family resources and poverty status. We reference the resulting data set as the “American Community Survey Public Use Micro Sample as augmented by CEO” and we refer to our estimate of family resources as “CEO income.”

Measuring Income

Official Income: The official poverty measure’s definition of family resources is pre-tax cash. This includes income from all sources such as wages and salaries, interest, as well as government transfer payments that take the form of cash. Thus, Social Security benefits are included in this measure, but the value of in-kind benefits such as Food Stamps or tax credits such as the Earned Income Tax Credit are not counted.

CEO Income: Based on the NAS recommendations, CEO income includes all the element of pre-tax cash plus the effect of income and payroll taxes, and the value of in-kind nutritional and housing assistance. Non-discretionary spending for commuting to work, childcare, and out-of-pocket medical care are deductions from income.

CEO has also revised and expanded our measure of income in light of the SPM. We have followed recent research by the Census Bureau and improved the manner in which we calculate our housing adjustment for renters. We have also expanded our coverage of in-kind benefits to include the School Breakfast program, the Supplemental Nutrition Program for Women, Infants, and Children (WIC), and the Low-Income Home Energy Assistance Program (HEAP).

Below we offer a brief description of how the non-pre-tax cash income items are estimated. More details on these procedures and any revisions we have made to

them since our last report can be found in the report’s appendices.

Housing Adjustment: The high cost of housing makes New York City an expensive place to live. The CEO poverty threshold, we noted above, is adjusted to reflect that reality. But some New Yorkers do not need to spend as much to secure adequate housing as the threshold implies. Many of the City’s low-income families live in public housing or receive a housing subsidy, such as a Section 8 housing voucher. A large proportion of New York’s renters live in rent-regulated apartments. Some homeowners have paid off their mortgages and own their homes free and clear. We make an upward adjustment to these family’s incomes to reflect these advantages.

The ACS does not provide data on housing program participation, however. To determine which households in the ACS would be participants in rental subsidies or regulation, we match households in the Census Bureau’s New York City Housing and Vacancy Survey with household-level records in the ACS. (See Appendix C.)

Taxation: CEO has developed a tax model that creates tax filing units within the ACS households; computes their adjusted gross income, taxable income, and tax liability; and estimates net income taxes after non-refundable and refundable credits are applied. The model takes account of Federal, State, and City income tax programs including all the credits that are designed to aid low-income filers. The model also includes the effect of the Federal payroll tax for Social Security and Medicare (FICA). (See Appendix D.)

Nutritional Assistance: We estimate the effect of Food Stamps²⁶ and the National School Lunch program, the School Breakfast Program, and the Supplementary Nutrition Program for Women, Infants, and Children. To estimate Food Stamp benefits, we make use of New York City Human Resources Administration Food Stamp records, imputing Food Stamp cases to “Food Stamp Units” we construct in the ACS data. We count each dollar of Food Stamp benefits as a dollar added to family income.

The likelihood of participation in the school meals programs is calculated by a probability model. Participation is assigned to eligible families to replicate data on meals served by the City’s Department of Education. We follow the Census Bureau’s method for valuing the income from the programs by using the

26. The Food Stamp program was recently renamed the Supplemental Nutritional Assistance Program (SNAP). Since the program is more widely recognized by its former name, we continue to use it.

per-meal cost of the subsidy. We identify participants in the WIC program in a similar manner, matching enrollment in the program to participation rate estimates by the New York State Department of Health. Benefits are calculated using the average benefit level per participant calculated by the U.S. Department of Agriculture. (See Appendix E.)

Home Energy Assistance Program: The Home Energy Assistance Program provides assistance to low-income households that offsets their utility costs. In New York City, households that receive cash assistance, Food Stamps, or are composed of a single person receiving SSI benefits are automatically enrolled in the program. Other low-income households can apply for HEAP, but administrative data from the City's Human Resources Administration indicate that nearly all HEAP households come into the program through their participation in other benefit programs. We identify HEAP-receiving households by their participation in public assistance, Food Stamps, and SSI, and then add the appropriate benefit to their income. (See Appendix F.)

Work-Related Expenses: Workers must travel to and from their jobs, and we treat the cost of that travel as a non-discretionary expense. We estimate the number of trips a worker will make per week based on their usual weekly hours. We then calculate the cost per trip using information in the ACS about their mode of transportation and administrative data (such as subway fares). Weekly commuting costs are computed by multiplying the cost per trip by the trips per week. Annual commuting costs equal weekly costs times the

number of weeks worked over the past 12 months.

Families in which the parents are working must often pay for the care of their young children. Like the cost of commuting, the CEO poverty measure treats childcare expenses as a non-discretionary reduction in income. Because the American Community Survey provides no information on childcare spending, we have created an imputation model that matches the weekly childcare expenditures reported in the Census Bureau's Survey of Income and Program Participation (SIPP) to working families with children in the ACS data set. Childcare costs are only counted if they are incurred in a week in which the parents (or parent) are at work. They are capped by the earned income of the lowest earning parent. (See Appendix G.)

Medical Out-of-Pocket Expenditures (MOOP): The cost of medical care is also treated as a non-discretionary expense that limits the ability of families to attain the standard of living represented by the poverty threshold. MOOP includes health insurance premiums, co-pays, and deductibles as well as the cost of medical services that are not covered by insurance. In a manner similar to that for childcare, we use an imputation model to match MOOP expenditures by families in the Agency for Healthcare Research and Quality's Medical Expenditure Panel Survey to families in the ACS sample. (See Appendix H.)

Figure I Two summarizes the discussion thus far, depicting how the official and CEO poverty measures establish a threshold and account for family resources.

FIGURE I TWO
Comparison of Poverty Measures

	Official	CEO
Threshold	Established in mid-1960s at three times the cost of "Economy Food Plan."	Equal to 33rd percentile of family expenditures on food, clothing, shelter, and utilities, plus 20 percent more for miscellaneous needs.
	Updated by change in Consumer Price Index.	Updated by change in expenditures for the items in the threshold.
	No geographic adjustment.	Inter-area adjustment based on differences in housing costs.
Resources	Total family pre-tax cash income (includes earnings, cash assistance, Social Security, etc.)	Total family after-tax income.
		Include value of near-cash, in-kind benefits such as Food Stamps.
		Housing status adjustment.
		Subtract work-related expenses such as childcare and transportation costs.
		Subtract medical out-of-pocket expenditures.

1.5 Comparing Poverty Rates

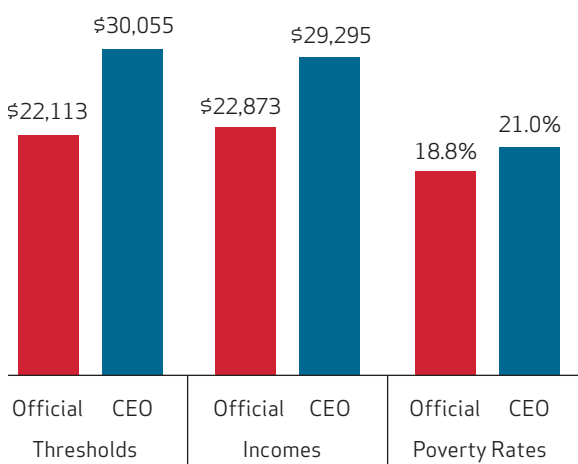
As noted above, the CEO poverty threshold for a two-adult, two-child family in 2010 was \$30,055. The official poverty line for the equivalent family was \$22,113 in that year. Obviously, if this were the only change CEO had made to the poverty measure, it would lead to a poverty rate above the official measure. But, as described above, CEO also uses a far different measure of income to compare against the poverty threshold. Although our measure includes subtractions as well as additions to resources, CEO income is higher than pre-tax cash income at the lower rungs of the income ladder. At the 20th percentile, for example, CEO income was \$29,295 in 2010.²⁷ The corresponding figure for pre-tax cash was only \$22,873. Thus, if a more complete account of resources had been the only change we had made to the poverty measure, the CEO poverty rate would fall below the official measure. Figure I Three illustrates official and CEO incomes, thresholds, and poverty rates for 2010. The effect of the higher CEO threshold (35.9 percent above the official) outweighs the effect of CEO's more complete definition of resources (which is 28.1 percent higher at the 20th percentile than the official resource measure), resulting in a higher poverty rate. In 2010, the CEO poverty rate stood at 21.0 percent while the official rate was 18.8 percent, a 2.2 percentage point difference.

Official Poverty Rates

The official poverty rates reported in this study differ from those provided by the Census Bureau. To make them more comparable to the CEO poverty rates, they are calculated using CEO's poverty universe and unit of analysis. CEO excludes all members of the group quarters population and includes all members of the household population in its universe of persons for whom a poverty status is determined. The CEO poverty unit of analysis expands the notion of the family unit to include more members of the household than just those related by blood, marriage, or adoption. Unmarried partners, for example, are treated as members of the family unit. Both these changes lower the poverty rate. In 2010, for example, the Census Bureau's official poverty rate for New York City is 20.1 percent. The 2010 official poverty rate we report is 18.8 percent. See Appendix A for further explanation.

FIGURE I THREE

Comparison of Thresholds, Income, and Poverty Rates, Official and CEO, 2010



Sources: U.S. Bureau of the Census and American Community Survey Public Use Micro Sample as augmented by CEO.
Note: Incomes are measured at the 20th percentile and stated in family size and composition-adjusted dollars.

1.6 The New York City Labor Market

As noted above, the poverty rates in this year's report reflect revisions in CEO's methodology. They are also shaped by the economic environment. The focus of this report is on the change in the CEO poverty rate since 2008. The national economy began to contract sharply in early 2008, marking December 2007 as the prior high water mark in the U.S.-wide business cycle.²⁸ Thus, most studies tracking the effects of the recent recession and subsequent sluggish recovery have used 2007 as their point of comparison. But the recession came later to New York City. Here, employment did not begin to decline until the fall of 2008, making that year the last for which annual indicators find increases in employment, earnings, and income.

27. Throughout this working paper, we report income in family size and composition-adjusted dollars. This makes the income measures directly comparable to the two-adult, two-child reference family poverty threshold.

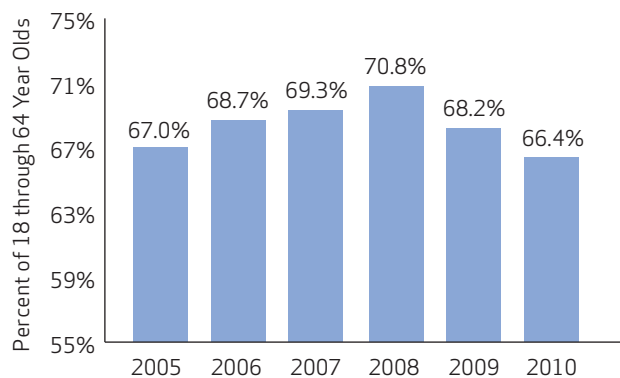
28. The National Bureau for Economic Research dates the end of the last expansion and start of the recent recession at December 2007.

Calendar Years and ACS Survey Years

The American Community Survey (ACS) is conducted as a rolling sample gathered over the course of a calendar year. Approximately one-twelfth of the total sample is collected in each month. Respondents are asked to provide information on work experience and income during the 12 months prior to the time they are in the sample. Households that are surveyed in January of 2010, for example, would report their income for the 12 months of 2009, households that are surveyed in February 2010, would report their income for February 2009 through January 2010, and so on. Consequently, estimates for poverty rates derived from the 2010 ACS do not, strictly speaking, represent a 2010 poverty rate. Rather it is a poverty rate derived from a survey that was fielded in 2010. Readers should bear in mind this difference as they interpret the findings in this report.

From 2008 to 2010 (the most recent year for which American Community Survey data are available), labor market indicators for City residents point decidedly south. A smaller proportion of the working age population was holding a job. As Figure I Four illustrates, the employment/population ratio, the share of New Yorkers 18 through 64 years of age who were holding a job at the time they were surveyed, peaked in 2008 at 70.8 percent. That proportion declined to 66.4 percent by 2010.

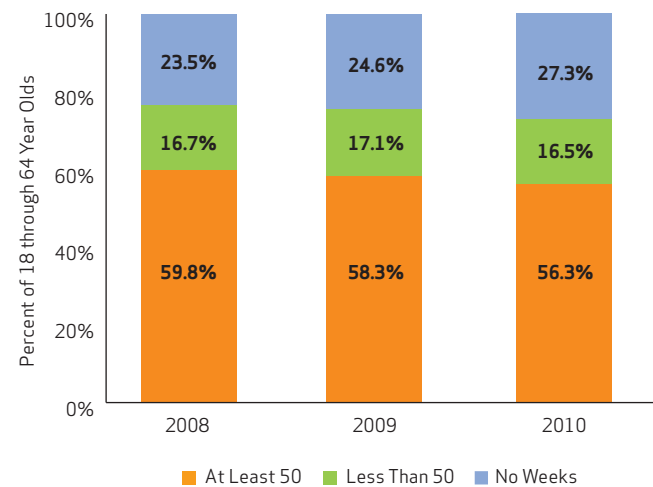
FIGURE I FOUR
Employment/Population Ratios, 2005 - 2010



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

Because poverty status is determined by annual income, employment over the course of a year is a particularly salient labor market indicator. Figure I Five shows that the share of the working age population with steady work, defined as 50 or more weeks in the prior 12 months, declined from 59.8 percent in 2008 to 56.3 percent in 2010, while the proportion of the population that had no work at all grew from 23.5 percent in 2008 to 27.3 percent 2010.

FIGURE I FIVE
Weeks Worked in Prior 12 Months, 2008 - 2010



Source: American Community Survey Public Use Micro Sample.

The decline in weeks worked is reflected in measures of earnings. Table I One reports earnings per family for those families that are in the lower half of the earnings distribution. The declines for families whose earnings would place them near the CEO poverty threshold (those between the 30th and 40th percentile) range from 14.6 percent to 11.2 percent from 2008 to 2010.

TABLE I ONE
Annual Family-Level Earned Income, 2008 - 2010

Percentile	Year			Percentage Change		
	2008	2009	2010	2008-2009	2009-2010	2008-2010
20	\$12,311	\$11,116	\$9,673	-9.7%	-13.0%	-21.4%
25	\$18,701	\$17,945	\$16,122	-4.0%	-10.2%	-13.8%
30	\$25,460	\$24,226	\$21,741	-4.8%	-10.3%	-14.6%
35	\$31,815	\$30,506	\$27,818	-4.1%	-8.8%	-12.6%
40	\$38,218	\$36,707	\$33,922	-4.0%	-7.6%	-11.2%
45	\$44,640	\$43,131	\$40,305	-3.4%	-6.6%	-9.7%
50	\$51,271	\$50,019	\$46,505	-2.4%	-7.0%	-9.3%

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

Notes: Incomes are stated in family size and composition-adjusted dollars. Persons in families with no earnings are included.

1.7 Key Findings in This Report

In the context of a weakened economy, we find that:

- After falling from 20.5 percent in 2005 to 19.0 percent in 2008, the CEO poverty rate rose to 21.0 percent in 2010. The climb in this poverty rate was driven by a 1.2 percentage point rise from 2009 to 2010. The official poverty rate followed a similar path, declining from 18.3 percent in 2005 to 16.8 percent in 2008, and then rising to 18.8 percent in 2010.
- Although the CEO poverty rate exceeds the official rate in each year for which we have data, the CEO methodology finds that a smaller proportion of the City's population is living in extreme poverty – below 50 percent of the poverty threshold – than does the official method (5.5 percent compared to 7.7 percent in 2010). The CEO measure, moreover, indicates that extreme poverty did not rise from 2008 to 2010.
- The trend in CEO poverty rates by individual characteristics such as age, family status (i.e., number of parents in the family unit), and borough generally follows the fall and subsequent rise in the Citywide poverty rate. However, considering the priority that policymakers have given to child poverty, the rise in the poverty rate for children from 22.9 percent in 2008 to 25.8 percent in 2010 is particularly notable. We find a similar rise in the poverty rate for all persons (regardless of their age) who are living in families with children, from 20.2 percent in 2008 to 23.0 percent in 2010.

From 2008 to 2010, poverty rates increased in three out of five of the City's boroughs: Brooklyn (by 1.9 percentage points to 24.3 percent), Queens (by 3.4 percentage points to 19.8 percent), and Staten Island (by 3.1 percentage points to 13.5 percent).

- The pattern in poverty rates for the United States based on the new Federal Supplemental Poverty Measure resembles the CEO pattern for New York City. Across the entire population, the two NAS-based poverty measures find a higher incidence of poverty than do the official measures. In the U.S., the rate in 2010 is 16.0 percent as opposed to 15.2 percent. In New York City, the two poverty rates were 21.0 percent and 18.8 percent in that year. Because they count the value of non-cash assistance, however, both the SPM and CEO measures of poverty among children are lower than child poverty rates based on the official method: 18.2 percent compared to 22.5 percent for the nation and 25.8 percent rather than 29.5 percent for the City.

The analytical sections of this year's report focus on trends in three measures of income: earnings, pre-tax cash, and CEO income. Comparisons indicate the extent to which the recession-related declines in earned income were offset by cash and non-cash benefit programs. We find that:

- By 2010, earned income had tumbled to 85.4 percent of its level in 2008. The measure of income used in the official poverty measure, pre-tax cash, fell to 91.9 percent of its 2008 level. By contrast, CEO income merely edged down to 99.5 percent of its level in 2008.²⁹ This stark difference is the result of the non-

29. Earnings are measured at the 30th percentile and incomes are measured at the 20th percentile of their respective distributions.

cash social safety net programs that are uncounted in the official poverty measure.

- Participation in safety net programs tends to grow as need increases during economic contractions. In addition to this “passive” expansion, policymakers took active steps during the recession to bolster the purchasing power of low-income families by creating new and expanding existing tax credit programs. They also increased benefit levels and fostered participation in the Food Stamp program. We find that these additional steps prevented an even larger increase in the CEO poverty rate. We estimate that without these steps, the CEO poverty rate would have risen to 23.7 percent in 2010, instead of 21.0 percent.
- Despite benefiting from the tax and Food Stamp initiatives, the poverty rate for persons who live in a family with children climbed from 20.2 percent in 2008 to 23.0 percent in 2010. The 2.8 percentage point rise reflects the dependence of these families on labor market income and their vulnerability to poverty during economic contractions. Absent the economic stimulus initiatives, moreover, the poverty rate for this group of New Yorkers would have climbed to 27.6 percent in 2010.

The remainder of this report proceeds as follows: The next chapter provides an overview of trends in the official and CEO poverty rates from 2005 to 2010. In that context we trace how changes in the threshold and resource sides of the two measures determined changes in their poverty rates. Chapter III details poverty rates by demographic characteristic, family status, and borough. In Chapter IV, we compare official and CEO poverty rates for New York City to official and supplemental poverty rates for the United States. The following two chapters explore the degree to which cash and non-cash public benefit programs offset recession-related declines in earned income. The report’s final chapter offers some thoughts on the implications of our findings. A set of appendices provide more detail about how our poverty estimates are created.

CHAPTER II: POVERTY IN NEW YORK CITY, 2005 - 2010

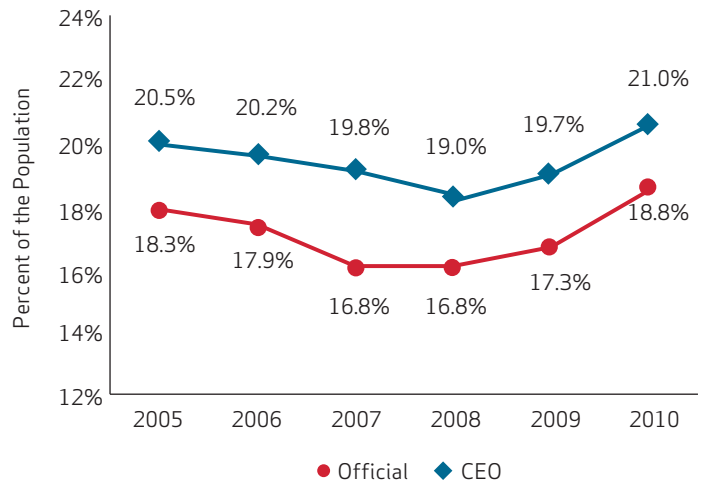
The Introduction noted that the CEO poverty rate exceeds the official rate in 2010. Indeed, it does so in each of the years for which we have comparable data. The focus of this chapter, however, is not on the different levels of poverty measured by the two approaches, but on how and why they change over time. The official and CEO poverty rates have taken parallel paths during the six-year time span covered by this report. From 2005 to 2008, when the City economy was expanding, the two measures register declines of identical magnitude. From 2008 to 2010, they record nearly equal increases.

This chapter begins with an overview of how and why the official and CEO poverty rates change from 2005 to 2010. The similarity in their trend masks important differences between the measures since 2008; recession-related declines in income are much more dramatic for the official measure than for the CEO measure. A second section explores the depth of poverty, the degree to which the poor are living close to or far below the poverty threshold, as well as the extent of near-poverty, the degree to which the population that resides above the poverty line is uncomfortably close to it. Because CEO's poverty measure provides a more inclusive definition of income, it finds a smaller proportion of the population in extreme poverty than does the official measure. Perhaps a more important difference is that, unlike the official measure, extreme poverty did not grow under the CEO measure from 2008 to 2010. The chapter's third section explores the role that non-cash resources and non-discretionary expenses play in the CEO poverty measure. We find that tax programs and Food Stamps have become increasingly important resources in recent years. This is not simply a "passive" outcome reflecting greater need in a bad economy. It is also a result of policy choices, a topic we develop in Chapter V.

2.1 New York City Poverty Rates, 2005 - 2010

Changes in the official and CEO poverty rate from 2005 to 2010 reflect the trend in labor market conditions described in the Introduction. Poverty declines during the expansion and rises after 2008. Figure II One illustrates the official and CEO poverty rates for New York City over the six-year time span covered in this report.

FIGURE II ONE
Official and CEO Poverty Rates, 2005 - 2010



Source: American Community Survey Public Use Micro Sample as augmented by CEO.
Note: Official poverty rates are based on the CEO poverty universe and unit of analysis.

Table II One provides these rates and additionally, reports differences between them and changes over time. As noted above, the CEO poverty rate exceeds the official rate in each year, a difference that ranges from 2.2 to 3.0 percentage points. Changes in the two rates, over time, are remarkably similar. While the City economy was growing, from 2005 to 2008, both poverty rates declined by 1.5 percentage points. From 2008 to 2010, as employment and earnings contracted, the official poverty rate rose by 2.1 percentage points to 18.8 percent, and the CEO poverty rate climbed by 2.0 percentage points, reaching 21.0 percent in 2010.

TABLE II ONE
Official and CEO Poverty Rates,
2005 - 2010

(Numbers are Percent of the Population)

Year	Official	CEO	Percentage Point Difference*
2005	18.3	20.5	2.2
2006	17.9	20.2	2.2
2007	16.8	19.8	3.0
2008	16.8	19.0	2.2
2009	17.3	19.7	2.4
2010	18.8	21.0	2.2

Percentage Point Change*	Official	CEO
2005-2008	-1.5	-1.5
2008-2009	0.6	0.7
2009-2010	1.5	1.2
2008-2010	2.1	2.0

* Differences and changes are measured in percentage points and are taken from unrounded numbers; those in bold type are statistically significant.

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

Note: Official poverty rates are based on the CEO poverty universe and unit of analysis.

Table II Two places the changes in poverty rates in the context of changes on the income and threshold side of their respective poverty measures.³⁰ As the table's Panel A reports, the official measure of income – pre-tax cash – rose in each year from 2005 to 2008. Across the three years income grew by 17.7 percent. From 2008 to 2010,

pre-tax cash plunged by 8.1 percent. Changes in income tell a story about poverty rates when they are compared against changes in the poverty threshold. In the 2005 to 2008 period, year-to-year changes in income exceeded the change in the threshold. From 2006 to 2007, for example, official income rose by 7.8 percent while the official threshold edged up by 2.9 percent. Consequently, the official poverty rate declined by 1.2 percentage points. In the two-year period from 2008 to 2010, by contrast, the steep fall in income (by 8.1 percent) was greater than the modest rise in the official threshold (by 1.3 percent), leading to a rise in the official rate of 2.1 percentage points.

Panel B in the table provides the same information for CEO income, thresholds, and poverty rates. The pattern of rising incomes and growth in the poverty thresholds it describes, from 2005 to 2008, mimics the pattern for the official measure. The 21.5 percent rise in CEO income from 2005 to 2008 outpaced the 17.5 percent increase in the CEO threshold, leading to a fall in the poverty rate.

From 2008 to 2010 the CEO poverty rate experienced an increase of 2.0 percentage points, roughly equal to the rise in the official rate. Both the 2008 to 2010 poverty rate increases were driven by a statistically significant rise from 2009 to 2010 of 1.5 percentage points for the official measure and 1.2 percent for the CEO measure. But the similarity in the two poverty rate rises masks important differences, particularly on the income side of the poverty measure. CEO income is remarkably more stable than official income; it was unchanged from 2008 to 2009 and edged down by merely 0.5 percent from 2009 to 2010.

30. To make the income figures in the table comparable to the two-adult, two-child family poverty thresholds, they are adjusted for family size and composition. Pre-tax cash and CEO incomes are both reported at the 20th percentile of their respective distributions.

TABLE II TWO**Income, Thresholds, and Poverty Rates, Official and CEO, 2005 - 2010****A. Official Income, Thresholds, and Poverty Rates**

Year	Income (Pre-tax Cash)		Threshold		Poverty Rate	
	Level	Percentage Change*	Level	Percentage Change*	Level	Percentage Point Change*
2005	\$21,154		\$19,806		18.3%	
2006	\$22,339	5.6%	\$20,444	3.2%	17.9%	-0.3
2007	\$24,083	7.8%	\$21,027	2.9%	16.8%	-1.2
2008	\$24,896	3.4%	\$21,834	3.8%	16.8%	0.0
2009	\$24,087	-3.2%	\$21,756	-0.4%	17.3%	0.6
2010	\$22,873	-5.0%	\$22,113	1.6%	18.8%	1.5
		Percentage Change			Percentage Point Change	
2005-2008		17.7%	10.2%		-1.5	
2008-2010		-8.1%	1.3%		2.1	

B. CEO Income, Thresholds, and Poverty Rates

Year	Income		Threshold		Poverty Rate	
	Level	Percentage Change*	Level	Percentage Change*	Level	Percentage Point Change*
2005	\$24,224		\$24,532		20.5%	
2006	\$25,502	5.3%	\$25,615	4.4%	20.2%	-0.3
2007	\$27,121	6.3%	\$26,979	5.3%	19.8%	-0.4
2008	\$29,428	8.5%	\$28,822	6.8%	19.0%	-0.8
2009	\$29,438	0.0%	\$29,265	1.5%	19.7%	0.7
2010	\$29,295	-0.5%	\$30,055	2.7%	21.0%	1.2
		Percentage Change			Percentage Point Change	
2005-2008		21.5%	17.5%		-1.5	
2008-2010		-0.5%	4.3%		2.0	

* Change from prior year.

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

Notes: Official poverty rates are based on the CEO poverty universe and unit of analysis.

Incomes are measured at the 20th percentile and are stated in family size and composition-adjusted dollars.

Differences in poverty rates are measured in percentage points and are taken from unrounded numbers; those in bold type are statistically significant.

Figure II Two illustrates this difference and sheds further light on it by bringing the earnings data reported in the Introduction's Table I One into the picture. The figure measures family-level earnings, official income (pre-tax cash), and CEO income, relative to their respective levels in 2008.³¹ Each income measure is scaled to equal 100 percent in that year. Earnings is the simplest of the three income metrics, consisting of wages, salaries, and income from self-employment per family. It is highly dependent on employment trends and thus is closely tied to the business cycle. In 2010 earnings were 85.4 percent of their level in 2008.

Pre-tax cash (the official poverty measure's definition of income) includes earnings, along with income from investments and – most importantly in this context – transfer payments if they take the form of cash. But interestingly, the time trend for this broader measure is quite similar to earnings' trend. Despite the inclusion of income from public assistance, Supplemental Security Income (SSI), Social Security, and Unemployment Insurance in official income, the decline in this income metric from 2008 to 2010 closely tracks the fall in earnings. Pre-tax cash in 2010 was 91.9 percent of its 2008 level, suggesting that the cash safety net provided a very modest cushion for low-income families.

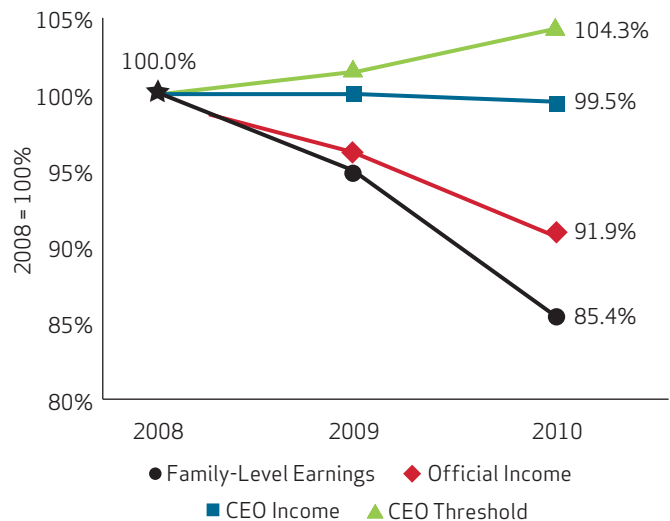
The relative stability of CEO income is the outlier in the figure, reflecting the extent to which non-cash resources (such as tax credits and in-kind benefits) filled the income gap created by the recession-related decline in earnings. After two years of economic decline, it stood at 99.5 percent of its 2008 level.

If CEO income was so much more stable than the official income measure, why did the two poverty rates have similar increases from 2008 to 2010? The answer is the more rapid increase in the CEO poverty threshold. As Table II Two indicates, the official threshold slipped by 0.4 percent from 2008 to 2009 and edged up by 1.6 percent from 2009 to 2010.³² Reflecting the post-bubble fall-off in housing expenditures, the growth in the CEO threshold from 2008 on is considerably slower than its rise from 2005 to 2008. But its increase outpaced the rise in the official threshold, growing by 1.5 percent from 2008 to 2009 and by 2.7 percent from 2009 to 2010. The growing distance between the CEO income and the CEO threshold is also illustrated in Figure II Two, but that growth is modest relative to the chasm that would have

emerged had CEO income fallen as rapidly as earnings or official income.

The difference in the growth rates of the thresholds begs a question: what would have happened to the CEO poverty rate had the CEO threshold changed at the same pace as the official threshold? For an answer, we applied the 1.3 percent increase in the official poverty threshold from 2008 to 2010 to the 2008 CEO poverty threshold. This created a hypothetical 2010 threshold of \$29,190, which is \$865 below the actual CEO threshold for that year. Comparing 2010 CEO incomes to that lowered standard yields a 2010 CEO poverty rate of 19.9 percent. A more slowly rising CEO threshold would, therefore, have resulted in a more modest increase in poverty, 0.9 percentage points rather than 2.0 percentage points. However, the decline in CEO income would still have created a statistically significant rise in the CEO poverty rate from 2008 to 2010.³³

FIGURE II TWO
Comparison of Income Trends with CEO Poverty Threshold, 2008 - 2010



Source: American Community Survey Public Use Micro Sample as augmented by CEO.
Note: Earnings are measured at the 30th percentile and incomes are measured at the 20th percentile of their respective distributions.

2.2 The Depth of Poverty and Extent of Near Poverty

The poverty rate is a one-number summary measure. It simply tells us what fraction of the population lives below the poverty threshold. Because it is based on a binary classification – people are either poor or not poor

31. As in the prior tables, each income measure is stated in family size and composition-adjusted dollars. Official and CEO incomes are taken at the 20th percentile of their respective distributions. Earnings are measured at the 30th percentile.

32. The decline in the official poverty threshold from 2008 to 2009 is due to a rare fall in the Consumer Price Index.

33. CEO calculation from the American Community Survey Public Use Micro Data as augmented by CEO.

– the rate makes no distinction between the poor who live far below the poverty line and those who live just under it. By the same token, the poverty rate does not indicate whether a relatively large share of the non-poor lives just above the line or far beyond it. These can be important distinctions. The distance between people just below and those just above the poverty line may only be a few dollars, while the distance between the poorest of the poor and those just below the poverty threshold can be \$20,000 or more.

Table II Three compares the distribution of the population by percentages of the poverty threshold under the official and CEO poverty measures for 2010. For both measures we classify the population as living below 50 percent, 50 through 74 percent, 75 through 99 percent, 100 through 124 percent, and 125 through 149 percent of the poverty line. We refer to these categories as degrees of poverty. Because the two measures' thresholds differ, the table provides the corresponding values of the reference family's poverty threshold that define each interval.

The table indicates that, although a larger share of the population lives below 100 percent of the CEO poverty threshold than the official poverty line, a smaller share of the population under the CEO measure is living in extreme poverty, below 50 percent of the poverty threshold (5.5 percent against 7.7 percent). This difference is particularly striking given the higher CEO threshold. At the 50 percent level it equals \$15,028, while 50 percent of the official threshold is only \$11,057. It results from the differences in the measures' definitions of income. Because the more inclusive CEO measure accounts for resources omitted in the official definition of income, it provides a more informative gauge of the ability of the social safety net to protect vulnerable families from extreme poverty.

The relatively smaller proportion of the population that is living below 50 percent of the poverty threshold implies, of course, that using the CEO measure, a larger share of the City population lies between 50 through 99 percent of the poverty threshold than with the official measure. The table shows that 5.8 percent and 9.6 percent of the population were in the 50 through 74 percent and 75 through 99 percent intervals, respectively, under the CEO measure. The corresponding shares under the official measure were 5.0 percent and 6.1 percent.

In addition to classifying a larger share of the poor close to 100 percent of the poverty line, the CEO measure also places a larger share of the non-poor near poverty. The "near poor" – people who are in the 100 through 124 percent and 125 through 149 percent of the poverty threshold groups – are 12.4 percent and 11.6 percent, respectively, of the City population with the CEO measure. Under the official measure, these two categories contain only 5.4 percent and 5.1 percent, respectively, of the population.³⁴

TABLE II THREE
Distribution of the Population by Degrees of Poverty, Official and CEO, 2010

A. Official Poverty Measure

Percent of Poverty Threshold	Reference Family Threshold Range	Percent	Cumulative Percent
Less than 50	Less than \$11,057	7.7	7.7
50-74	\$11,057 - \$16,584	5.0	12.7
75-99	\$16,585 - \$22,112	6.1	18.8
100-124	\$22,113 - \$27,640	5.4	24.2
125-149	\$27,641 - \$33,169	5.1	29.3

B. CEO Poverty Measure

Percent of Poverty Threshold	Reference Family Threshold Range	Percent	Cumulative Percent
Less than 50	Less than \$15,028	5.5	5.5
50-74	\$15,028 - \$22,540	5.8	11.3
75-99	\$22,541 - \$30,054	9.6	21.0
100-124	\$30,055 - \$37,568	12.4	33.4
125-149	\$37,569 - \$45,082	11.6	45.0

Source: American Community Survey Public Use Micro Sample as augmented by CEO.
Note: Official poverty rates are based on the CEO poverty universe and unit of analysis.

Given the similarities in trends in the poverty rates noted in the prior section, does this finer-grained perspective reveal differences in the poverty measures' change over time? Table II Four focuses on the rise in poverty from 2008 to 2010 and simplifies Table II Three's groupings. We track the share of population that is below 50 percent, 50 through 99 percent, and 100 through 149 percent of the poverty threshold. The final column in the table gives the percentage point change in the shares from 2008 to 2010. The table's Panel A indicates that, for the official poverty measure, all of the increases in

34. A greater share of the population is near-poor using the CEO measure than the official measure for two reasons. First, the CEO threshold creates wider income bands; all else equal they would contain more people. Second, families that lie above, but close to, the CEO threshold are in the phase-out range or income cutoff points for means-tested assistance. Their CEO income, therefore, can be less than their pre-tax cash income, making them more likely to be near the poverty threshold.

this period are statistically significant, including the 0.8 percentage point rise in the share of the population that is below 50 percent of the poverty threshold. By contrast, Panel B reveals that there was no statistically meaningful increase in extreme poverty using the CEO methodology. These two results – less extreme poverty relative to the official measure and no increase in extreme poverty from 2008 to 2010 – again call attention to the broader scope of the CEO measure of resources. The next section measures the impact on the poverty rate of the resources included in the CEO measure but omitted in the official measure.

TABLE II FOUR
Distribution of the Population by Degrees of Poverty, Official and CEO, 2008 - 2010

(Numbers are Percent of the Population)

A. Official Poverty Measure				Percentage Point Change*
	2008	2009	2010	2008 - 2010
Below 50 percent	6.9	7.3	7.7	0.8
50 through 99 percent	9.9	10.0	11.1	1.2
100 through 149 percent	9.8	10.1	10.5	0.6
B. CEO Poverty Measure				
Below 50 percent	5.3	5.0	5.5	0.3
50 through 99 percent	13.7	14.8	15.4	1.7
100 through 149 percent	22.2	22.4	24.0	1.8

*Changes are percentage point changes. Those in bold are statistically significant.

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

Note: Official poverty rates are based on the CEO poverty universe and unit of analysis.

2.3 The Effect of Non-Cash Resources on the CEO Poverty Rate

The income data reported in Table II Two indicate that from 2008 to 2010, pre-tax cash income plunged by 8.1 percent. We noted how the sharp drop in this income metric closely followed the recession-related decline in earnings. Over the same period, CEO income edged down by only 0.5 percent. Clearly, components of CEO income other than pre-tax cash softened the blow the economic downturn delivered to low-income families. Which income sources and what programs have had the most important impact?

The effects of the additional income sources are

identified in Table II Five. The table's Panel A reports poverty rates. The first row, labeled "Total CEO Income," gives the poverty rate using the full CEO income measure. This is followed by poverty rates calculated by omitting one of the non-pre-tax cash elements of CEO income. The poverty rates that are based on the omission of an item that adds resources to CEO income – beginning with the row for the housing adjustment and ending with the Home Energy Assistance Program (HEAP) – are higher than the total income rates. Likewise, the poverty rates that result from leaving out items that reduce resources – payroll taxes through medical out-of-pocket expenditures (MOOP) – are lower than the full resource poverty rate.

The effect of omitting each income element, reported in the table's Panel B, is the difference between the poverty rate without the income element and the full resource poverty rate. It gauges the percent of the City population that is moved in or out of poverty by the inclusion of the item in the CEO definition of income. For example, the 2010 poverty rate that is net of the housing adjustment to income is 26.7 percent. The difference between this poverty rate and the total income poverty rate of 21.0 indicates that, all else equal, the housing adjustment lifted 5.7 percent of the population over the CEO poverty threshold. (The marginal effect of each income element in 2010 is illustrated in Figure II Three.)

The table provides this information for 2005 to 2010, and allows us to look at change over time. During these years the rankings of the marginal effects are quite stable. The housing adjustment has the largest poverty-reducing effect in each year, followed by income taxes and Food Stamps. (The income tax system reduces poverty because so many low-income tax filers benefit from tax credits that not only eliminate their tax liability, but generate refunds that create a net addition to their after-tax income.) The other poverty-reducing income elements – school meals, the Supplemental Nutritional Program for Women, Infants, and Children (WIC), and HEAP – have relatively minor effects on the Citywide poverty rate, either because they are narrowly targeted (WIC) or because their benefit levels are so small (HEAP).

On the other side of the ledger, MOOP consistently has the largest poverty-increasing effect of the non-discretionary expenses that reduce family incomes.³⁵ This is followed by payroll taxes (FICA) and commuting costs, which have notable, and nearly equal, effects. Although childcare costs can be a considerable drain on a family's

35. The marginal effect for medical out-of-pocket expenditures drops after 2007. This may be a result of a change in the ACS questionnaire. See Appendix G for more discussion.

resources, they are incurred by too small a share of the total population to have much effect on the Citywide poverty rate.

The stability of the rankings, however, does not mean that there were no important changes in these marginal effects; in recent years income taxes and Food Stamps have grown in importance. Income tax programs

brought 2.7 percent of the population out of poverty in 2007, but this effect leapt to 4.2 percentage points in 2008 and stayed near this level through 2010. The increasing importance of Food Stamps begins a year later, rising from 1.9 percentage points in 2008 to 2.3 percentage points in 2009, and 3.4 percentage points in 2010.

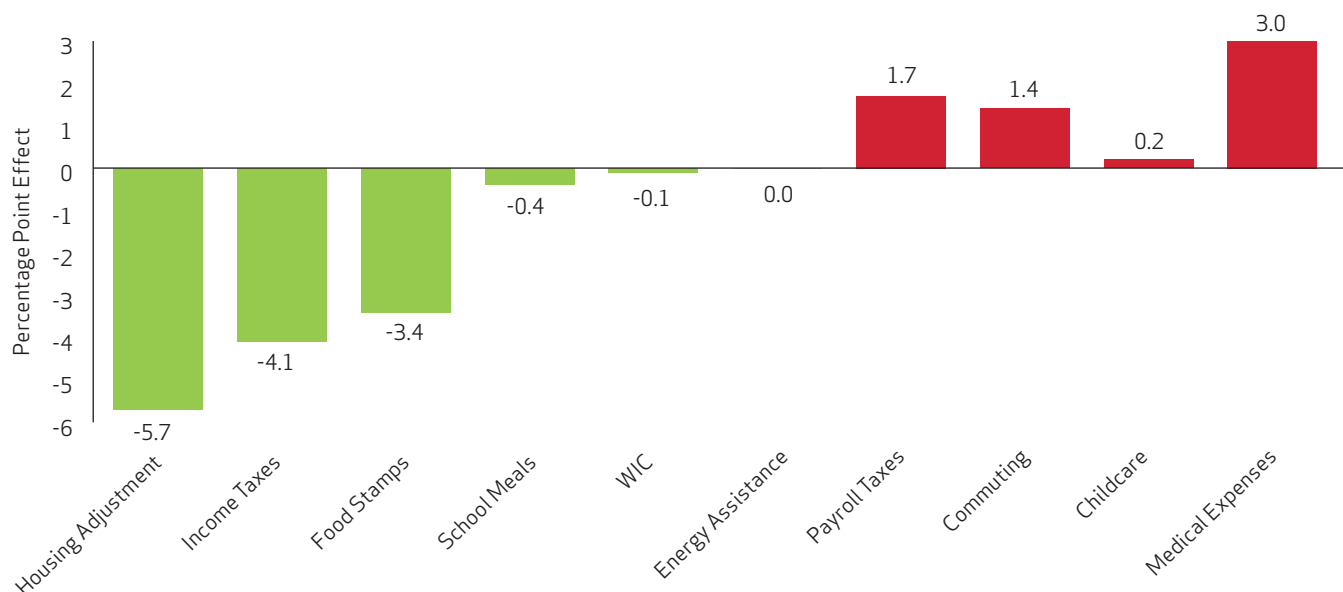
TABLE II FIVE
Marginal Effects of Non-Cash Resources on CEO Poverty Rates, 2005 - 2010

(Numbers are Percent of the Population)

	2005	2006	2007	2008	2009	2010
A. Poverty Rates						
Total CEO Income	20.5	20.2	19.8	19.0	19.7	21.0
Net of:						
Housing Adjustment	25.5	25.6	25.5	24.2	25.1	26.7
Income Taxes	23.3	22.7	22.5	23.2	23.9	25.1
Food Stamps	22.1	21.9	21.5	20.9	22.0	24.3
School Meals	21.0	20.6	20.3	19.6	20.2	21.4
WIC	20.6	20.2	19.9	19.1	19.8	21.1
HEAP	20.5	20.2	19.8	19.0	19.8	21.0
FICA (Payroll Taxes)	19.1	18.2	18.1	17.5	17.8	19.3
Commuting	19.2	18.6	18.4	17.7	18.2	19.6
Childcare	20.3	19.9	19.6	18.8	19.5	20.7
MOOP	17.1	16.4	16.0	16.0	16.7	18.0
B. Marginal Effects						
Housing Adjustment	-5.0	-5.4	-5.7	-5.2	-5.4	-5.7
Income Taxes	-2.8	-2.5	-2.7	-4.2	-4.2	-4.1
Food Stamps	-1.7	-1.8	-1.7	-1.9	-2.3	-3.4
School Meals	-0.5	-0.5	-0.5	-0.6	-0.4	-0.4
WIC	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
HEAP	0.0	0.0	0.0	0.0	0.0	0.0
FICA (Payroll Taxes)	1.4	1.9	1.7	1.5	1.9	1.7
Commuting	1.3	1.6	1.4	1.3	1.5	1.4
Childcare	0.2	0.2	0.2	0.2	0.2	0.2
MOOP	3.4	3.7	3.8	3.0	3.0	3.0

Source: American Community Survey Public Use Micro Sample as augmented by CEO.
Note: See Chapter I for definition of resources.

FIGURE II THREE
Marginal Effects of Income Elements on CEO Poverty Rate, 2010



Source: American Community Survey Public Use Micro Sample as augmented by CEO.
 Note: See Chapter I for definition of resources.

In Chapter V we explain why tax credits and Food Stamps expanded their importance, the extent to which their growing effect resulted from policy choices, and how that growth prevented what would have been an even sharper decline in CEO income and a larger rise in the CEO poverty rate. Before returning to these

issues, the next chapter explores how poverty rates have changed across demographic groups and the City's five boroughs. This is followed by a comparison of poverty measures in New York City to similar measures for the United States.

CHAPTER III: CEO POVERTY RATES IN DEMOGRAPHIC DETAIL, 2005 - 2010

CEO poverty rates by demographic characteristic, family composition and work experience, and borough are reported in Tables III One, Two, and Three, respectively. In light of the cyclical pattern in the Citywide poverty rate highlighted in Chapter II, each table reports the percentage point change in these poverty rates from 2005 to 2008 and 2008 to 2010. When these changes are statistically significant they are identified by bold type. The differences in poverty rates between groups (children compared to 18 through 64 year-old adults, for example) that are noted in the text have also been evaluated for their significance. The final column in each table provides the reader with context by reporting each sub-group's share of the City population in 2010.

3.1 Poverty Rates by Demographic Characteristic of the Individual

Changes in poverty rates among demographic groups are generally consistent with the movement in the Citywide poverty rate. All the statistically significant changes from 2005 to 2008 are declines, with the exception of a 2.4 percentage point rise for working-age adults with some, but less than full-time, year-round work. Likewise, all the statistically meaningful changes in poverty rates from 2008 to 2010 are increases, save the 1.3 percentage point decline in the poverty rate for persons 65 and older.

Poverty Rates by Gender: Females are more likely to be poor than males. In 2010, for example, the poverty rate for female New Yorkers was 22.0 percent, while it stood at 19.9 percent for males. From 2005 to 2008 the female poverty rate declined by 1.6 percentage points and the male poverty rate fell by 1.4 percentage points. Both the male and female poverty rates rose 2.0 percentage points from 2008 to 2010.

Poverty Rates by Age: Children are poorer than adults. In 2010, the poverty rate for children under 18 was 25.8 percent compared to a poverty rate of 19.3 percent for working-age adults (persons 18 through 64 years of age) and a poverty rate of 21.2 percent for the elderly (individuals 65 and older). Poverty rates for all the age groups fell from 2005 to 2008, but rose from 2008 to 2010 for children and working-age adults, by 2.9 percentage points and 2.4 percentage points, respectively. The sharp rise in the child poverty rate from 2008 coupled with a 1.3 percentage point fall in

the poverty rate for older New Yorkers widened the gap between these two groups. In 2008 the poverty rates for the youngest and oldest age groups were not statistically different, but by 2010 the poverty rate for children had become significantly higher than that for the elderly.

Poverty Rates for Children by Presence of Parent:

Children in one-parent families are nearly twice as likely to be in poverty as children in two-parent families. However, the poverty rate for children living with two parents grew by 4.2 percentage points from 2008 to 2010.

Race/Ethnicity

Race/Ethnicity categories are constructed as follows: First, individuals are categorized by Hispanic ethnicity into Non-Hispanic and Hispanic ethnic groups; Non-Hispanic individuals are then categorized by race. We use three racial categories: White, Black, and Asian. Each only includes persons who identify themselves as members of one racial group. This sorting of the population leaves the roughly 3.0 percent of the City population that is Non-Hispanic and multi-racial or Non-Hispanic and a member of some other race, such as Native American, in a residual category.

Poverty Rates by Race/Ethnicity: There is a striking disparity between the poverty rates for Non-Hispanic Whites and the other major race/ethnic groups in New York City. In 2010, the poverty rate for Non-Hispanic Blacks (21.7 percent) was 1.43 times the Non-Hispanic White poverty rate (15.2 percent). The Asian and Hispanic poverty rates (at 26.0 percent and 25.0 percent, respectively) were at least 1.65 times higher than that for Non-Hispanic Whites. Although the differences are smaller than they are when compared against Non-Hispanic Whites, Asians and Hispanics are also more likely to be poor than Non-Hispanic Blacks. Non-Hispanic Whites and Hispanics experienced decreases in poverty from 2005 to 2008, by 1.8 percentage points and 2.1 percentage points, respectively. From 2008 to 2010, the poverty rate rose for Non-Hispanic Whites (2.3 percentage points) and Asians (3.8 percentage points).

Poverty Rates by Nativity/Citizenship: The 2010 poverty rate for naturalized citizens (17.8 percent) is lower than that for native-born citizens (19.9 percent). Both rates are well below the poverty rate for non-citizens, which stood at 27.8 percent in that year. The poverty rates for citizens by birth and non-citizens declined from 2005 to 2008,

by 1.5 percentage points and 2.2 percentage points, respectively. From 2008 to 2010, the poverty rate for citizens by birth climbed by 2.2 percentage points and the poverty rate for non-citizens rose by 3.1 percentage points.

Poverty Rates for Persons 18 through 64 by Educational Attainment:

The likelihood that someone will be poor falls dramatically as his or her level of education rises. In 2010, three in ten New Yorkers (31.7 percent) who lack a high school degree were poor, while less than one in ten (9.0 percent) of City residents who have a Bachelor's degree or higher live below the poverty line. The only group that experienced change in its poverty rate from 2005 to 2008 was those without a high school degree, with a 3.2 percentage point decline. From 2008 to 2010, poverty rates increased across most educational levels, ranging from a 3.8 percentage point rise for persons with a high school degree to 1.7 percentage points for persons with a Bachelor's degree or higher.

Poverty Rates for Persons 18 through 64 by Work Experience:

To measure poverty by work experience over the past 12 months, we create three categories of working-age adults: 1) "Full-Time, Year-Round," which includes those who reported their usual weekly hours as 35 or more and who worked at least 50 weeks in the last year; 2) "Some Work," which includes those who worked part-time and/or part-year; and 3) "No Work," composed of individuals who did not work at all over the year.

The disparities in poverty rates across these categories are dramatic; in 2010 persons in the No Work group are over five times as likely to be poor as are those who have had steady work over the prior 12 months (38.7 percent compared to 7.0 percent). The poverty rate for those in the middle "Some Work" category was the only increase for this grouping from 2005 to 2008 (by 2.4 percentage points). However, as we note in the table, this increase may be due to a change in the American Community Survey (ACS) questionnaire. The poverty rate for persons with no work climbed by 1.9 percentage points from 2008 to 2010. Over the same period the poverty rate rose by 1.0 percentage points for full-time, year-round workers.

3.2 Poverty Rates by Family Characteristic

Table III Two provides poverty rates for persons based on the characteristics of the family in which they live. As described in Appendix A, "Family," from the perspective

of the CEO poverty measure, is a broader concept than that used by the official poverty measure (persons who live together and are related by blood, marriage, or adoption). The CEO "Family" definition is the "Poverty Unit," persons who live together and share resources and living costs. This includes all related persons, but also extends to unmarried partners, their children, and other persons who we believe to be economically dependent on other members of the household even if they are not kin. (See Appendix A for more details.)

Panel A in Table III Two begins by categorizing people as living in families headed by a husband-wife/unmarried partner or in a single-head family. A third category is unrelated individuals. Each family-type category includes everyone that is a member of the family. If a husband and wife have two children and two in-laws living with them, for example, then all six family members would be characterized as living in a husband-wife/unmarried partner family. Single heads are "householders" who do not have a spouse or unmarried partner, but are living in families, for instance, a single mother with her children.³⁶ Within each of these family types we distinguish between those that do or do not include children under 18. Because they have been a particular focus of public policy, we also provide the poverty rates for members of single-mother families (households headed by a single female with children under 18) as well as members of all families with children under 18 regardless of the number of parents in the family.³⁷

Not everyone is in a family or poverty unit with other persons. Unrelated individuals are people that do not have family members in their household. This would include persons that live alone (the typical case) and some persons living with others, such as roommates or boarders, who we treat as economically independent from the people they live with. Unrelated individuals are one-person poverty units.

Table III Two is organized in a similar fashion to Table III One, reporting poverty rates, the change in the poverty rate, and the group share of the population. The population shares of the categories in each of the table's two panels are calculated independently. The changes in the poverty rates from 2005 to 2008 and 2008 to 2010 in Table III Two are also consistent with the pattern of change in Table III One. From 2005 to 2008 all the statistically significant changes are declines, with the exception of persons living in families with the equivalent of less than one full-time, year-round worker.

36. The householder is typically the person in whose name the dwelling is owned or rented.

37. Single-mother families account for roughly 84 percent of families with children under 18 that are headed by a single adult.

TABLE III ONE**CEO Poverty Rates for Persons, by Demographic Characteristic, 2005 - 2010**

(Numbers are Percent of the Population)

	Year						Percentage Point Differences		Group Share of 2010 Pop.
	2005	2006	2007	2008	2009	2010	2005-2008	2008-2010	
Total New York City	20.5	20.2	19.8	19.0	19.7	21.0	-1.5	2.0	100.0
Gender									
Males	19.3	19.0	18.4	17.9	18.6	19.9	-1.4	2.0	47.3
Females	21.6	21.2	21.1	20.0	20.8	22.0	-1.6	2.0	52.7
Age Group									
Under 18	25.0	25.4	25.3	22.9	23.9	25.8	-2.1	2.9	21.9
18 through 64	18.1	17.7	17.4	16.9	17.8	19.3	-1.1	2.4	66.2
65 and Older	24.4	22.7	22.1	22.5	22.3	21.2	-1.9	-1.3	11.9
Children (under 18), by Presence of Parent									
One Parent	36.8	37.3	36.8	35.2	39.3	36.9	-1.7	1.7	35.7
Two Parents	17.3	17.9	18.3	15.5	15.5	19.6	-1.8	4.2	64.3
Race/Ethnicity									
Non-Hispanic White	14.7	13.9	14.6	12.9	13.4	15.2	-1.8	2.3	33.2
Non-Hispanic Black	20.4	21.6	19.8	20.6	20.5	21.7	0.2	1.0	22.6
Non-Hispanic Asian	24.4	24.3	24.8	22.2	23.8	26.0	-2.3	3.8	12.8
Hispanic, Any Race	26.1	25.0	24.5	24.0	25.5	25.0	-2.1	1.0	28.8
Other Race/Ethnic Group	21.4	19.1	16.6	19.2	18.3	18.8	-2.2	-0.5	2.6
Nativity/Citizenship									
Citizen by Birth	19.2	18.8	18.7	17.7	18.4	19.9	-1.5	2.2	62.3
Naturalized Citizen	18.7	18.2	18.2	18.0	18.1	17.8	-0.7	-0.2	19.3
Not a Citizen	26.9	26.8	25.2	24.7	26.4	27.8	-2.2	3.1	18.3
Working Age Adults (18 - 64), by Educational Attainment¹									
Less than High School	33.3	31.4	29.9	30.1	31.8	31.7	-3.2	1.6	18.8
High School Degree	20.3	21.2	20.9	19.3	20.8	23.1	-0.9	3.8	26.3
Some College	13.9	13.2	14.4	13.6	14.8	15.5	-0.3	1.9	20.8
Bachelor's Degree or Higher	7.1	6.9	7.1	7.3	7.5	9.0	0.2	1.7	34.1
Working Age Adults (18 - 64), by Work Experience in Past 12 Months^{1,2}									
Full-Time, Year-Round	6.2	6.8	6.8	6.1	6.7	7.0	-0.1	1.0	53.6
Some Work	20.5	20.5	20.7	22.9	22.0	23.2	2.4	0.3	21.8
No Work	38.3	36.9	36.2	36.7	37.4	38.7	-1.6	1.9	24.6

1. Category excludes people enrolled in school.

2. A change in the 2008 ACS questionnaire regarding work experience affects the comparability of estimates for 2008 and after with those for prior years. See text for definition of work experience categories.

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

Notes: Differences are taken from unrounded numbers; those in bold type are statistically significant. Shares may not sum to 100 percent due to rounding error.

All the statistically meaningful changes in the poverty rate from 2008 to 2010 are increases.

Husband-Wife/Unmarried Partner: Among all the family-type groups in Table III Two's Panel A, persons living in husband-wife/unmarried partner families without children have the lowest poverty rates (12.6 percent in 2010). The poverty rate for those living with children was 18.1 percent in that year. From 2005 to

2008 the poverty rate for persons in husband-wife/unmarried partner families with children declined by 2.0 percentage points. From 2008 to 2010 the poverty rates for persons in husband-wife/unmarried partner families without children increased by 1.1 percentage points. Persons living in husband-wife/unmarried partner families with children experienced a rise of 3.9 percentage points.

Single Head: Members of families with a single head have higher poverty rates than their counterparts in the husband-wife/unmarried partner family category. In 2010, for example, the poverty rate for persons living in a single-head family with children was 1.83 times higher than the poverty rate for persons living in a husband-wife/unmarried partner family with children (33.0 percent versus 18.1 percent). Within the single-head group, there is a large disparity in poverty rates between members of single-head families with and without children (33.0 percent for the former and 18.6 percent for the latter in 2010). The poverty rates for persons in this group are also higher than those for unrelated individuals, making them the poorest category among the family types in Panel A.³⁸ None of the changes in the poverty rates in this category were statistically meaningful.

All Families with Children: The poverty rate for persons in all families with children (a category that combines the husband-wife/unmarried partner and single-head groups) fell by 2.0 percentage points from 2005 to 2008. But echoing the increase in the child poverty rate, this poverty rate jumped 2.8 percentage points from 2008 to 2010.

Unrelated Individuals: Over one in four of the City's unrelated individuals were poor from 2005 through 2010. The group's poverty rate is the third highest of those reported in Panel A. Unrelated individuals did not experience a statistically significant change in their poverty rate from either 2005 to 2008 or 2008 to 2010.

Work Experience of Family: Panel B in Table III Two groups individuals by the work experience of the families in which they reside. (Work Experience of Family groups are defined in the adjoining text box.)

Poverty rates are steeply graduated by levels of work activity, ranging from 5.0 percent for persons in families with the equivalent of two full-time, year-round workers to 51.8 percent for persons in families with no work in 2010. But even a considerable level of work does not always spare people from poverty. Consider the one-fourth of the City's population that lives in a family with the equivalent of one full-time, year-round worker; in 2010, one-sixth of persons in this category (16.6 percent) were living in poverty. From 2005 to 2008, the poverty rate rose by 1.8 percentage points for persons in this group. Over the same period, there was a 3.1 percentage

point rise in the poverty rate for persons living in families with the equivalent of less than one full-time, year-round worker.³⁹ Over this time period persons in families with no work at all experienced a 2.5 percentage point fall in their poverty rate. Poverty rates were stable across the work experience categories from 2008 to 2010 with the exception of a 1.3 percentage point rise in the poverty rate for persons in families with the equivalent of two full-time, year-round workers.

Work Experience of Family

Work Experience of Family categories are constructed by summing the number of hours worked in the prior 12 months by persons 18 and older for each family. Families with over 3,500 hours of work are labeled as having the equivalent of "Two Full-Time, Year-Round Workers." Families with 2,341 through 3,499 hours are labeled "One Full-Time, Year-Round and One Part-Time Worker." Families with at least 1,750 through 2,340 hours are identified as "One Full-Time, Year-Round Worker." Families with at least one hour of work, but less than 1,750 hours, are called "Less than One Full-Time, Year-Round Worker." And finally, there are families that have "No Work."

3.3 Poverty Rates by Borough

In 2010, the poverty rates in the Bronx (26.0 percent) and Brooklyn (24.3 percent) were the highest in the City. This was followed by Queens' poverty rate of 19.8 percent. Manhattan's 15.2 percent poverty rate, along with the poverty rate in Staten Island (13.5 percent), were the lowest in the five boroughs. From 2005 to 2008, the poverty rate in Manhattan fell by 2.3 percentage points. Poverty rates rose from 2008 to 2010 in Brooklyn (1.9 percentage points), Queens (3.4 percentage points), and Staten Island (3.1 percentage points). This pattern of change has affected the rankings of the boroughs. In 2005 the poverty rate in Manhattan was not statistically distinguishable from the poverty rate for Queens, and Staten Island was the City's least poor borough. By 2010 the poverty rate in Manhattan was lower than that of Queens and statistically indistinguishable from the poverty rate in Staten Island.

38. As the table indicates, this is particularly true for persons living in families where the single parent is female.

39. Here we reiterate our caution that a change in the 2008 ACS questionnaire affects the comparability of data for that year with estimates for prior years.

TABLE III TWO
CEO Poverty Rates for Persons Living in Various Family Types, 2005 - 2010

(Numbers are Percent of the Population)

	Year						Percentage Point Differences		Group Share of 2010 Pop.
	2005	2006	2007	2008	2009	2010	2005-2008	2008-2010	
Total New York City	20.5	20.2	19.8	19.0	19.7	21.0	-1.5	2.0	100.0
A. Family Composition									
Husband Wife/Unmarried Partner ¹									
No Children under 18	11.9	11.9	11.6	11.4	12.4	12.6	-0.5	1.1	22.3
With Children under 18	16.2	16.6	17.0	14.2	14.5	18.1	-2.0	3.9	33.4
Single Head of Household									
No Children under 18	17.7	16.3	14.9	16.9	17.2	18.6	-0.7	1.7	10.4
With Children under 18	33.5	32.8	32.5	31.3	34.4	33.0	-2.2	1.7	16.6
Single Mother Family	35.7	34.3	34.3	32.9	35.3	34.8	-2.8	1.9	14.0
All Families with Children under 18	22.2	22.4	22.5	20.2	21.0	23.0	-2.0	2.8	50.0
Unrelated Individuals	27.1	25.7	24.5	25.9	26.5	27.2	-1.2	1.3	17.3
B. Work Experience of the Family²									
Two Full-Time, Year-Round Workers	4.2	4.8	5.7	3.7	4.1	5.0	-0.6	1.3	32.7
One Full-Time, Year-Round, One Part-Time Worker	12.7	14.8	13.2	12.2	12.4	13.4	-0.5	1.2	15.4
One Full-Time, Year-Round Worker	14.2	14.7	15.4	16.1	16.3	16.6	1.8	0.5	24.8
Less than One Full-Time, Year-Round Worker	41.7	42.6	41.6	44.8	41.6	44.6	3.1	-0.2	12.0
No Work	53.6	51.4	49.2	51.0	52.7	51.8	-2.5	0.8	15.0

1. In the CEO measure, unmarried partners are treated as spouses. See text for explanation.

2. See text for explanation of work experience categories.

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

Notes: Differences are taken from unrounded numbers; those in bold type are statistically significant. Shares may not sum to 100 percent due to rounding error. A change in the 2008 ACS questionnaire regarding work experience affects the comparability of estimates for 2008 and later with those for prior years.

TABLE III THREE
CEO Poverty Rates by Borough, 2005 - 2010

(Numbers are Percent of the Population)

	Year						Percentage Point Differences		Borough Share of 2010 Pop.
	2005	2006	2007	2008	2009	2010	2005-2008	2008-2010	
Bronx	27.5	26.0	24.1	25.9	26.6	26.0	-1.6	0.1	16.7
Brooklyn	23.7	24.5	24.2	22.4	23.2	24.3	-1.4	1.9	30.8
Manhattan	16.4	14.8	14.3	14.1	13.7	15.2	-2.3	1.1	19.2
Queens	17.3	17.3	17.7	16.4	17.2	19.8	-1.0	3.4	27.6
Staten Island	11.9	12.0	12.2	10.3	14.4	13.5	-1.6	3.1	5.7

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

Note: Differences are taken from unrounded numbers; those in bold type are statistically significant.

The rise in the poverty rate for children and for persons living in families with children are perhaps the most notable increases identified in this chapter. Families with children have long been a focus of public policy and were targeted by the recent economic stimulus programs,

making this increase particularly notable. Chapter VI explores why this increase occurred. In Chapter IV we will see that the increase in child poverty was not unique to New York City.

CHAPTER IV: ALTERNATIVE POVERTY MEASURES IN THE U.S. AND NEW YORK CITY

As the Introduction noted, CEO made a number of revisions to our methodology in light of the development of the Federal Supplemental Poverty Measure (SPM). The revisions make use of recent research to improve our measure. Another important motive is to make the CEO poverty rates more comparable to those provided by the Census Bureau's new approach. Numbers become more meaningful when they are given context; now we can compare our portrait of poverty in the City to a U.S.-wide picture.

This chapter compares some of the principal findings in the Census Bureau's inaugural report on the Supplemental Poverty Measure with our findings for New York City. The Bureau's report provided comparisons between the new SPM and the official poverty rates for the U.S. Given the attention that policymaking has paid to children and the rise in the child poverty rate we find in the City, the most salient comparisons are those by age group. This chapter compares official and alternative poverty rates by age group for the United States and New York City. We find that the pattern of differences between the official and National Academy of Sciences (NAS)-style poverty rates in the nation and the City are quite similar. Changes in the SPM and CEO poverty rates from 2009 to 2010 are also alike.

4.1 Poverty Rates by Age Group

Table IV One provides 2010 poverty rates by age using the official and NAS-style measures. Panel A reports these for the U.S.⁴⁰ The table's Panel B provides the New York City data. Differences between the official and SPM measures for the nation and differences between the official and CEO measures for the City follow the same pattern. The poverty rates for the total population using the alternative measures exceed the poverty rates using the official measure. For the U.S., the difference is 0.8 percentage points while the City's difference is 2.2 percentage points. The larger difference for the City is primarily a result of the geographic adjustment of the CEO poverty threshold. For 2010, the CEO threshold is \$30,055 while the U.S.-wide SPM threshold is \$24,343.

Another important difference between the official and alternative poverty measures – common to the City and the nation – is that, despite the higher poverty rate overall, the alternative measures yield poverty rates for children that are below the official poverty rates. The U.S. SPM poverty rate for children is 18.2 percent, 4.3 percentage points below the official rate of 22.5 percent. The New York City CEO poverty rate for children is 25.8 percent, 3.7 percentage points below the official rate of 29.5 percent. The lower poverty rate for children using the NAS-style poverty measures is a result of their more inclusive account of resources. The alternative measures capture the effect of tax credits and in-kind benefits, many of which are targeted toward families with children.⁴¹

TABLE IV ONE
Comparison of Poverty Rates by Age Group Using
Different Measures, 2010

(Numbers are Percent of the Population.)

A. United States

	Official	SPM	Percentage Point Difference
Total	15.2	16.0	0.8
Under 18	22.5	18.2	-4.3
18 through 64	13.7	15.2	1.5
65 and Older	9.0	15.9	6.9

B. New York City

	Official	CEO	Percentage Point Difference
Total	18.8	21.0	2.2
Under 18	29.5	25.8	-3.7
18 through 64	15.8	19.3	3.5
65 and Older	16.0	21.2	5.2

Sources: U.S. Bureau of the Census and American Community Survey Public Use Micro Sample as augmented by CEO.

Note: Differences are measured in percentage points and are taken from unrounded numbers; those in bold type are statistically significant.

Poverty is also markedly more prevalent among the elderly using the two NAS-style measures than it is under the official measure. This is primarily a result of the alternative measures' deduction of medical out-of-pocket expenditures (MOOP) from their measure of income. Without this deduction the NAS-based measures

40. The U.S.-level poverty rates cited in this chapter are taken from Short, Kathleen. *The Research Supplemental Poverty Measure: 2010*. U.S. Bureau of the Census. November 2011.

41. Although the SPM and CEO poverty rates for children are lower than the official rates, both the SPM and CEO child poverty rates exceed those of working age and elderly adults.

would yield poverty rates that are quite close to those from the official measure. For the U.S. SPM, the poverty rate for persons 65 and older would be 8.5 percent in 2010, close to the 9.0 percent derived from the official methodology. For the CEO measure, the 2010 elderly poverty rates net of MOOP is 16.5 percent while the official poverty rate is 16.0 percent.⁴²

4.2 Extreme Poverty

In Chapter II we noted that the proportion of the population living in extreme poverty (below 50 percent of the poverty line) is smaller under the CEO poverty measure than it is with the official measure. Table IV Two reports extreme poverty rates for the U.S. and New York City by age. For the nation, as for the City, a smaller fraction of the population is in extreme poverty using the alternative poverty measure. For the U.S. as a whole the difference is 1.4 percentage points, not unlike the 2.2 percentage point difference in New York City. The pattern of differences across the age groups is also quite similar. For the nation and the City, the largest difference between the official and alternative measures of extreme poverty is for children, 5.1 percentage points and 7.3 percentage points, respectively. Differences between the measures for working age adults are more modest: 0.8 percentage points for the U.S. and 1.2 percentage points for New York City.

This pattern of lower rates of extreme poverty with the alternative measures, however, is reversed for the elderly. The alternative measures find a higher incidence of extreme poverty for persons 65 and older than do the official measures. For the U.S., the SPM extreme poverty rate is 2.1 percentage points above the official rate. For the City, the CEO extreme poverty rate for the elderly is 1.4 percentage points above the official rate. The notable differences in extreme poverty between the NAS-style and official measures for children and the elderly echo those for the 100-percent-of-threshold poverty rates, and are the result of the same differences in the income side of the poverty measure.

TABLE IV TWO
Comparison of Extreme Poverty Rates by Age Group Using Different Measures, 2010

(Numbers are Percent of the Population.)

A. United States

	Official	SPM	Percentage Point Difference
Total	6.8	5.4	-1.4
Under 18	10.4	5.3	-5.1
18 through 64	6.3	5.5	-0.8
65 and Older	2.5	4.6	2.1

B. New York City

	Official	CEO	Percentage Point Difference
Total	7.7	5.5	-2.2
Under 18	13.1	5.8	-7.3
18 through 64	6.6	5.5	-1.2
65 and Older	3.8	5.2	1.4

Sources: U.S. Bureau of the Census and American Community Survey Public Use Micro Sample as augmented by CEO.

Note: Differences are measured in percentage points and are taken from unrounded numbers; those in bold type are statistically significant.

4.3 Change in the SPM and CEO Poverty Rates, 2009 – 2010

The Census Bureau's report provides poverty rates for 2009 and 2010. Table IV Three reproduces the Bureau's estimates for these years along with comparable data for New York City. From 2009 to 2010, the SPM rose by 0.8 percentage points while the CEO poverty rate climbed by 1.2 percentage points. Poverty rates derived from these measures increased for children (0.9 percentage points in the U.S. and 1.9 percentage points in New York City) as well as for working age adults (0.8 percentage points in the U.S. and 1.5 percentage points in New York City). Changes in the poverty rates for the elderly were not statistically significant in either the nation or the City.

At the time of writing, the Census Bureau's Supplemental Poverty Measure remains a research project. Its initial report was limited in scope and detail. The Bureau has not released a public use micro sample file that researchers could use to explore topics not covered by Census's reports. The SPM, furthermore, cannot be released at the same time as the official poverty rate because the Census Bureau and Bureau of Labor

42. See Short, 2011, Table 3a, and Appendix H in this report for details about our model for estimating MOOP and for the impact of MOOP on the poverty rate.

TABLE IV THREE
Change in Poverty Rates, U.S. SPM and NYC CEO,
2009 - 2010

(Numbers are Percent of the Population.)

A. United States, SPM

	2009	2010	Percentage Point Change
Total	15.3	16.0	0.8
Under 18	17.3	18.2	0.9
18 through 64	14.4	15.2	0.8
65 and Older	15.5	15.9	0.4

B. New York City, CEO

	2009	2010	Percentage Point Change
Total	19.7	21.0	1.2
Under 18	23.9	25.8	1.9
18 through 64	17.8	19.3	1.5
65 and Older	22.3	21.2	-1.1

Sources: U.S. Bureau of the Census and American Community Survey Public Use Micro Sample as augmented by CEO.

Note: Changes are measured in percentage points and are taken from unrounded numbers; those in bold type are statistically significant.

Statistics lack the resources to move the measure to full production mode. These limitations are a consequence of Congress's failure to provide the necessary funding.⁴³ The several million dollars that are required to enhance a major improvement in one of the nation's most important social indicators would be a wise investment.

43. *Update on the Supplemental Poverty Measure*. 2011. U.S. Bureau of the Census. Available at: www.census.gov/hhes/povmeas/methodology/supplemental/update.html

CHAPTER V: POLICY AFFECTS POVERTY

Chapter II highlighted the increased effect of income tax credits and the Food Stamp program on the CEO poverty rate since 2008. We noted that the changes were not only a reflection of an increase in program participation due to the economic downturn; they also resulted from deliberate policy choices. In response to the nationwide recession in late 2007, Federal policymakers took a variety of initiatives to stimulate the economy. These included programs that sought to promote consumer spending by directly bolstering family incomes. Often, the initiatives targeted families that are, or are in danger of becoming, poor. The expansion of Unemployment Insurance benefits, new and increased tax credit programs, and an increase in Food Stamp benefit levels fall into this category. With the exception of Unemployment Insurance, none of these income-supporting programs are reflected in the official poverty measure. Their absence explains why the decline in pre-tax cash income from 2008 to 2010 was so much steeper than the drop in CEO income, which takes these programs into account.

The purpose of this chapter is to measure the extent to which the expansion of the tax credit and Food Stamp programs offset what would have otherwise been a much sharper drop in income and an even more dramatic increase in the poverty rate. We do this by creating estimates of what Food Stamp benefits and tax programs would have contributed to family income in the absence of the new policies. These hypothetical (what would have happened) estimates can be compared against what actually did happen to isolate the policy effects.

The first section of the chapter begins with an overview of the relevant tax policy changes. It then isolates the effect of the new tax credit programs. A second section measures the effect of the increased Food Stamp benefit levels and the City's outreach effort. Next we compare estimates of CEO income absent the influence of the new policies against actual CEO income. We find that the decline in CEO income at the 20th percentile would have been 7.0 percent instead of 0.5 percent from 2008 to 2010. The more dramatic fall in hypothetical income would have created a much steeper rise in the CEO poverty rate; had it not been for the policy initiatives, the New York City poverty rate would have reached 23.7 percent in 2010 rather than 21.0 percent.

5.1 Measuring the Effects of New and Expanded Tax Credits

In February 2008, President Bush signed the Emergency Economic Stimulus Act of 2008. The act included or extended three income tax initiatives relevant to our poverty measure:

- The Economic Recovery Tax Rebate (Recovery Rebate), which provided up to \$1,200 to a filing married couple and \$600 to an individual filer. The Recovery Rebate was given to everyone that completed a 2007 tax return.⁴⁴
- An additional standard deduction for real estate taxes that allowed filers to increase their standard deduction by the amount they pay in state and local property taxes, by up to \$1,000 for married couple filers and \$500 for single filers.
- A lower minimum income eligibility threshold for the Additional Child Tax Credit.

A year later, President Obama signed the American Recovery and Reinvestment Act of 2009 (ARRA). The ARRA included:

- A continuation of the standard deduction for real estate taxes and a further expansion of the Additional Child Tax Credit.
- The establishment of the Making Work Pay (MWP) tax credit of up to \$400 (\$800 for married filers), administered through a change in payroll withholding.
- An Economic Recovery Payment (ERP), a one-time \$250 payment given to recipients of Social Security, Supplemental Security Income, Railroad Retirement benefits, and veteran's disability compensation.
- An expansion of the Earned Income Tax Credit (EITC) to include a third tier of benefits for families with three or more children. In addition, the maximum income for married couples to remain eligible for the credit was increased.
- A change in college tuition tax credits to make them partly refundable.

To illustrate the impacts of the two stimulus program's changes in tax policy, we focus on low-income tax filers – those with Federal adjusted gross income (AGI) no higher than \$50,000 – that have dependents. Table V One provides mean program effects for the roughly

44. The CEO tax model assumes that all Economic Recovery Tax Rebates were received in 2008.

780,000 filers in this group.⁴⁵ Panel A, labeled “Actual,” reports CEO estimates for 2007 (the year before the anti-recessionary changes) through 2010 along with the percentage change from 2007 to 2010. Panel B, labeled “Hypothetical,” indicates what the mean values would have been absent the changes in policy. It also shows the percentage change between the actual 2007 estimates and the hypothetical 2010 estimates. Both panels report effects for specific tax programs. This is followed by a summary of tax liability and credits. The bottom line in the panels is the “Net Income Tax Effect,” which provides the total addition to income after credits have been applied against liabilities.

Panel A begins with the Federal, State, and City EITCs. There is no difference between the actual and hypothetical EITC estimates in 2008 as the program was unchanged by the Bush stimulus package. In 2009, changes in EITC from the ARRA become evident. From 2007 to 2010, our estimates show a 26.5 percent increase in the Federal EITC, as a result of the policy changes, with similar growth rates for the State and City EITC. The remaining rows in the panel highlight the other major tax initiatives. In 2008, the Recovery Rebate created an average payment of \$907 for this group of filers. In 2009, the Making Work Pay credit came to \$459. This credit was extended in 2010, averaging \$464 per filer.

Panel A's second section indicates a decline in pre-credit tax liabilities, a reflection of the decline in income due to the economic downturn. At the same time total Federal and State credits expanded due to the stimulus initiatives mentioned above. Total credits expanded by 36.7 percent from 2007 to 2010 and the Net Income Tax Effect leapt by 82.9 percent. (City credits, however, drop as a result of a decrease in the School Tax Credit (STAR) in 2009.)

Panel B reports the hypothetical tax effects, what would have happened absent the 2008 and 2009 tax policy changes. Rather than expanding, per filer credits from the EITCs would have contracted from 2007 to 2010. A shrinking EITC, coupled with the lack of the Recovery Rebate and Making Work Pay credit, drive down total credits and the Net Income Tax Effect from 2007 to 2010 by 5.6 percent and 3.3 percent, respectively.

The stark difference between the changes over time in the actual and hypothetical estimates are only partly due to the increased generosity of the tax credit programs

that is accounted for in the former and absent in the latter. The new tax policies also expanded the pool of filers who could benefit from the credits by raising their income eligibility ceiling. At a time when employment was contracting, fewer low-income filers might have been eligible for Earned Income Tax Credits. This possibility is evident in the table's addendum, which indicates that absent the changes in policies, a declining share of the filers with AGI no greater than \$50,000 and dependents would have been able to claim the credit. Because the eligibility limits were raised, however, the proportion of these filers claiming the credit rose from 72.9 percent in 2007 to 80.8 percent in 2010. The loss of filers who could no longer qualify for the EITCs because they had no earned income was more than matched by the increase in newly eligible EITC claimants near the top of the \$50,000 AGI range.

45. Means are the total value of the tax item for this group of filers divided by the number of filers in the group.

TABLE V ONE
Actual and Hypothetical Tax Program Effects, 2007 - 2010
Filers with Dependents and Federal AGI up to \$50,000

(Numbers are Means for All Filers in this Group, Except Where Specified)*

A. Actual					Percentage Change
Selected Credits	2007	2008	2009	2010	2007-2010
Federal EITC	1,708	1,804	2,077	2,161	26.5%
State EITC	487	516	597	623	27.9%
City EITC	85	90	104	108	26.5%
Recovery Rebate	N.A.	907	N.A.	N.A.	N.A.
Making Work Pay	N.A.	N.A.	459	464	N.A.
Summary of Tax Effect					
Total Pre-Credit Liability	1,894	1,857	1,883	1,770	-6.6%
Federal Credits	2,554	3,635	3,815	3,865	51.3%
State Credits	815	850	920	938	15.1%
City Credits	300	302	211	212	-29.2%
Total Credits	3,668	4,787	4,946	5,015	36.7%
Net Income Tax Effect	1,774	2,930	3,063	3,245	82.9%
Sum of Net Income Tax Effect (in 1,000's)	1,394,812	2,286,853	2,376,707	2,468,790	77.0%
B. Hypothetical					Percentage Change
Selected Credits	2007	2008	2009	2010	2007-2010
Federal EITC	N.A.	1,804	1,534	1,665	-2.5%
State EITC	N.A.	516	439	478	-1.9%
City EITC	N.A.	90	77	83	-2.5%
Recovery Rebate	N.A.	0	N.A.	N.A.	N.A.
Making Work Pay	N.A.	N.A.	0	0	N.A.
Summary of Tax Effect					
Total Pre-Credit Liability	N.A.	1,864	1,872	1,749	-7.7%
Federal Credits	N.A.	2,632	2,380	2,474	-3.1%
State Credits	N.A.	856	810	802	-1.5%
City Credits	N.A.	302	195	187	-37.6%
Total Credits	N.A.	3,790	3,385	3,463	-5.6%
Net Income Tax Effect	N.A.	1,926	1,514	1,714	-3.3%
Sum of Net Income Tax Effect (in 1,000's)	N.A.	1,503,210	1,187,792	1,327,312	-4.8%

ADDENDUM

Percent of Filers Receiving Earned Income Tax Credit**

	2007	2008	2009	2010	Percentage Point Change
					2007-2010
A. Actual	72.9%	74.9%	77.6%	80.8%	7.8
B. Hypothetical	N.A.	74.9%	63.2%	67.5%	-5.5

*Means are aggregated values of each tax item divided by number of filers with income up to \$50,000 and dependents.

**CEO's model assumes all Federal EITC claimers get State and City EITC.

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

Notes: N.A. - Not applicable in that tax year. Percentage change in hypothetical value is the change from Actual 2007 to Hypothetical 2010.

5.2 Measuring the Effect of Changes in Food Stamp Policy

Federal and local Food Stamp policy changed in two important ways since 2007: 1) a 13.6 percent increase in Food Stamp benefits included in the 2009 American Recovery and Reinvestment Act (ARRA); and 2) an outreach initiative in New York City aimed at increasing participation among eligible households. In order to identify the impact of these changes on CEO income and the CEO poverty rate, we need to separate them from the increase in Food Stamp benefit levels that would have occurred without the ARRA and from the growth in Food

We also constructed hypothetical estimates for the growth rate of the Food Stamp caseload, based on the historical relationship between program participation and labor market conditions. This data approximates the growth of caseloads absent the outreach effort and increase in benefit levels.⁴⁸ The actual Food Stamp caseload grew by 48.7 percent from 2007 to 2010. Absent the policy initiatives, the number of cases would have grown by 41.0 percent. Overall, these policies increased the aggregate level of Food Stamp benefits by nearly \$600 million in 2010, compared with the hypothetical estimate.

TABLE V TWO
Actual and Hypothetical Food Stamp Estimates, 2007 - 2010

A. Actual					Percentage Change
	2007	2008	2009	2010	2007-2010
Food Stamp Cases	689,675	773,634	875,458	1,025,575	48.7%
Mean Benefit per Case	\$1,893	\$1,881	\$2,279	\$2,773	46.5%
Aggregate Benefits*	\$1,240,477	\$1,379,449	\$1,915,239	\$2,713,023	118.7%
B. Hypothetical					Percentage Change
	2007	2008	2009	2010	2007-2010
Food Stamp Cases	N.A.	759,137	840,728	972,228	41.0%
Mean Benefit per Case	N.A.	\$1,885	\$2,010	\$2,410	27.4%
Aggregate Benefits*	N.A.	\$1,340,315	\$1,570,176	\$2,139,596	72.5%

* In thousands.

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

Notes: Percentage change in Panel B is the change from actual 2007 to hypothetical 2010.

N.A. - Not applicable because hypothetical not calculated in that year.

Stamp participation that would have occurred simply because of the deteriorating condition of the City labor market.

We do this by creating a hypothetical data series to go along with the actual ACS data.⁴⁶ In the hypothetical estimates, we first assume that Food Stamp benefit levels would have grown as prescribed by pre-ARRA Federal law. The mean Food Stamp benefit (per Food Stamp case) is shown in Table V Two. We find that actual Food Stamp benefit levels grew by 46.5 percent from 2007 to 2010. Without the ARRA, benefits per case would have been only 27.4 percent higher.⁴⁷

5.3 Policy Affects Income

We incorporate the hypothetical estimates to identify the effect the changes in tax and Food Stamp policy have on CEO income. Table V Three reports CEO incomes for 2007 through 2010. As in Table II Two in Chapter II, incomes are at the family level and are stated in family size and composition-adjusted dollars. Because our interest is in families vulnerable to poverty, we provide estimates for the lower tail of the income distribution. The table is broken into two panels: A, which reports actual CEO incomes and B, hypothetical, which shows CEO income absent the policy changes.

46. See Appendix D for a detailed description of the methods used to construct the hypothetical data.

47. Readers should bear in mind that the change in benefit levels reflects differences in the composition of the Food Stamp caseload as well as changes in the law.

48. A more generous benefit level would, all else equal, increase the Food Stamp participation rate.

TABLE V THREE**Actual and Hypothetical CEO Incomes, 2007 - 2010**

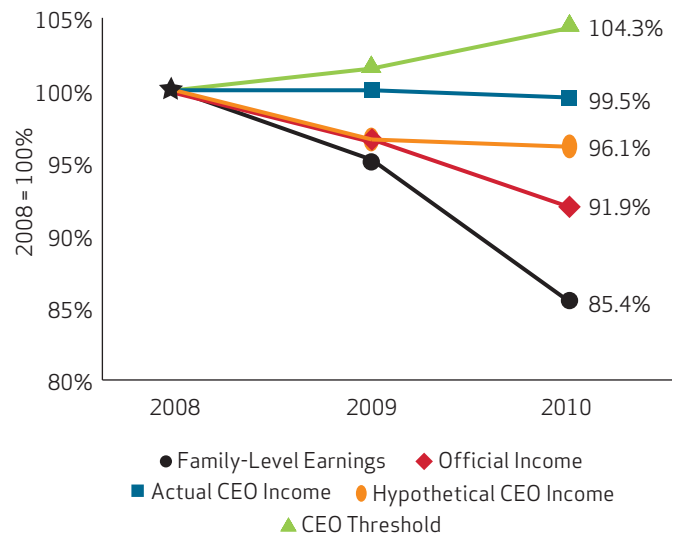
A. Actual					Percentage Change
Percentile	2007	2008	2009	2010	2008-2010
15	23,525	25,675	25,924	25,515	-0.6%
20	27,121	29,428	29,438	29,295	-0.5%
25	30,109	32,806	32,593	32,602	-0.6%
30	33,092	35,762	35,533	35,505	-0.7%
35	36,287	39,081	38,808	38,644	-1.1%
B. Hypothetical					Percentage Change
Percentile	2007	2008	2009	2010	2008-2010
15	N.A.	25,007	23,899	23,383	-8.9%
20	N.A.	28,476	27,505	27,359	-7.0%
25	N.A.	31,753	30,723	30,767	-6.2%
30	N.A.	34,561	33,819	33,876	-5.3%
35	N.A.	37,753	37,286	36,921	-5.5%

Source: American Community Survey Public Use Micro Sample as augmented by CEO.
 Notes: N.A. - Not applicable because hypothetical values were not calculated for 2007.
 Percentage change in hypothetical value is the change from actual 2008 to hypothetical 2010.
 Incomes are stated in family size and composition-adjusted dollars.

For any given percentile, of course, the hypothetical CEO incomes are lower than their actual counterparts. Incomes fell for all the percentiles in both the actual and hypothetical measures. Of greater relevance to this chapter are the differences in the declines. At the 20th percentile, for example, actual income edged down by 0.5 percent from 2008 to 2010, from \$29,428 to \$29,295. Over the same period, hypothetical income at the 20th percentile fell to \$27,359, 7.0 percent below actual income in 2010.⁴⁹

Figure V One is constructed in a similar manner to Figure II Two, illustrating the 2008 to 2010 trend in earnings, actual CEO income, and hypothetical CEO income along with the CEO threshold. As we would expect, the declines in both CEO income measures are modest relative to the sharp drop in earnings. The difference between the trend in the actual and hypothetical CEO incomes is more noteworthy. Hypothetical income would have dropped to 96.1 percent of its 2008 value by 2010, while actual CEO income in 2010 stood at 99.5 percent of its 2008 value. Interestingly, the difference between the two CEO income measures is driven by the relatively sharp decline in hypothetical CEO income from 2008 to 2009. From 2009 to 2010, the gap between actual and hypothetical incomes does not grow. The

pattern suggests that effects of the new policy initiatives had reached a plateau by 2010, a consequence of the lack of new Federal initiatives in 2010 that would have further bolstered actual CEO income.

FIGURE V ONE
Comparison of Trends in Incomes and the CEO Poverty Threshold, 2008 - 2010

Source: American Community Survey Public Use Micro Sample as augmented by CEO.
 Note: Earnings are measured at the 30th percentile and incomes are measured at the 20th percentile of their respective distributions.

49. Interestingly, this hypothetical decline is not far from the 8.1 percent decline in pre-tax cash income at the 20th percentile, reported in Chapter II.

5.4 Policy Affects Poverty

The hypothetical income estimates can be used to create CEO poverty rates that suggest what the City poverty rate would have been in the absence of the tax and Food Stamp policy initiatives. Panels A and B in Table V Four report actual and hypothetical poverty rates from 2007 through 2010. As in Table II Five, the table provides marginal effects for tax and the Food Stamp programs. The marginal effects are calculated by taking the difference between poverty rates derived from total CEO income and poverty rates based on CEO income without taxes and Food Stamps, respectively. In 2010, income tax programs lifted 4.1 percent of the City population above the poverty line. Had policy not changed, the marginal effect of income taxes would have only been 2.0 percent. Food Stamps create a 3.4 percentage point reduction in the poverty rate. Absent changes in policy, the marginal impact of the program would have been only 2.8 percent.

TABLE V FOUR
Actual and Hypothetical CEO Poverty Rates,
2007 - 2010

(Numbers are Percent of the Population)

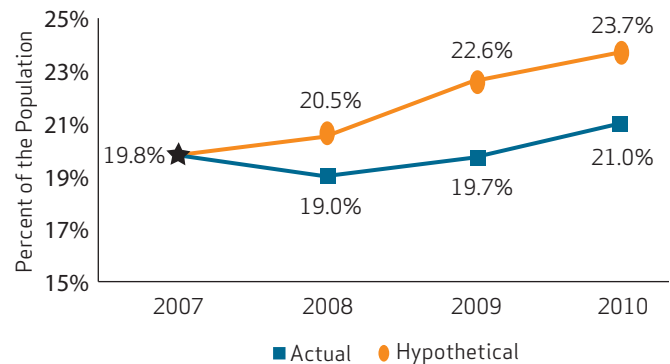
A. Actual				
	2007	2008	2009	2010
Poverty Rates				
Total CEO Income	19.8	19.0	19.7	21.0
Net of:				
Income Taxes	22.5	23.2	23.9	25.1
Food Stamps	21.5	20.9	22.0	24.3
Marginal Effects				
Income Taxes	-2.7	-4.2	-4.2	-4.1
Food Stamps	-1.7	-1.9	-2.3	-3.4
B. Hypothetical				
	2007	2008	2009	2010
Poverty Rates				
Total CEO Income	N.A.	20.5	22.6	23.7
Net of:				
Income Taxes	N.A.	23.2	24.2	25.8
Food Stamps	N.A.	22.4	24.6	26.6
Marginal Effects				
Income Taxes	N.A.	-2.7	-1.6	-2.0
Food Stamps	N.A.	-1.9	-1.9	-2.8

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

Note: N.A. - Not applicable because hypothetical values were not calculated for 2007.

Figure V Two summarizes our analysis by plotting the actual and hypothetical poverty rates from 2007 to 2010. Over the period, both rates increase but their timing and pace vary. The actual CEO poverty rate fell from 2007 to 2008 while the hypothetical does not.⁵⁰ Absent the Bush Administration's tax initiatives, the growth in CEO income would not have been sufficient to create a fall in the poverty rate. From 2008 to 2010 both rates trend upward, but the increase in the actual poverty rate (which was further influenced by the Obama Administration's ARRA) is by 2.0 percentage points to 21.0 percent, rather than to the 23.7 percent hypothetical rate.

FIGURE V TWO
Actual and Hypothetical CEO Poverty Rates,
2007 - 2010



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

The pattern of difference between the actual and hypothetical poverty rates echoes that between the actual and hypothetical income measures. The difference between the two poverty rates was 1.5 percentage points in 2008 and grew to 2.9 percentage points in 2009. The difference between the rates was 2.8 percentage points in 2010, again suggesting that the effect of the new initiatives had leveled off.

50. The change in the hypothetical poverty rate from 2007 to 2008 is too small to be statistically significant.

CHAPTER VI:

THE RISE IN THE POVERTY RATE FOR PERSONS LIVING IN FAMILIES WITH CHILDREN

This report has tracked how the economic downturn has affected employment and earnings and the extent to which public policy, especially tax programs and Food Stamps, bolstered family incomes and staved off what would have been a very sharp rise in the New York City poverty rate. This chapter explores the same terrain, but focuses on persons living in families with children. In recent years, these families have been a priority in the nation's anti-poverty efforts. This commitment was reflected in the Federal stimulus programs, particularly in the 2009 American Recovery and Reinvestment Act (ARRA). Therefore, the degree to which anti-poverty policies were effective in countering the effects of the weakening job market for this particular group of New Yorkers may offer important insights into the strengths and limitations of current social policy.

We find that the poverty rate for persons living in families with children is high relative to a comparable group of persons living in family units without children. The chapter also reveals that – despite the impressive expansion of tax credits and Food Stamp benefits – the 2008 to 2010 increase in the poverty rate for persons living in families with children was no less severe than the increase for the comparison group. This chapter asks why. The tax and Food Stamp policy initiatives did not miss their target. Job losses for adults in families with children were no more severe than for adults in our comparison group. Our findings suggest another explanation. Declines in employment and earnings push all affected families down the income ladder. What is different for families with children is that, absent a robust safety net, these declines are much more likely to knock them below the rung of the ladder that represents the poverty line.

6.1 Poverty Rates for Persons by Family Unit Type

Chapter III called attention to the poverty rate for children and for persons living in families with

children.⁵¹ Compared against other City residents, the poverty rate for both groups is high. In 2010, 25.8 percent of the City's children under 18 were poor, a higher poverty rate than that for either working age (19.3 percent) or elderly adults (21.2 percent). Since children rarely have much personal income, a child's poverty status is almost entirely determined by the income of the adults they are living with. Thus it is hardly surprising that the poverty rate for the 50 percent of the City population that is living in a family that includes at least one child is not far from the child poverty rate; it was 23.0 percent in 2010. Like the child poverty rate, this is also high relative to others, in particular to a comparison group we use throughout this chapter – persons living in family units that do not include children under 18 and are headed by a person younger than 65.⁵² In 2010 the poverty rate for members of this group was 18.1 percent. Table VI One compares CEO poverty rates for persons living in these two family unit types. In each year the poverty rate for members of the with-children group exceeds that for members of the childless group, a difference that ranges from 3.9 percentage points to 4.9 percentage points.

TABLE VI ONE
Poverty Rates by Family Unit Type, 2008 -2010

(Numbers are Percent of the Population)

	2008	2009	2010	Percentage Point Change 2008 - 2010
Families with Children	20.2	21.0	23.0	2.8
Family Units without Children*	16.0	17.1	18.1	2.1
Percentage Point Difference	-4.2	-3.9	-4.9	

*Family Units without Children are headed by an individual less than 65 years old. Source: American Community Survey as augmented by CEO.

Notes: Rates are for persons in these categories. Changes and differences are measured in percentage points. Those in bold are statistically significant.

51. See Table III One. Readers are reminded that a person's poverty status is determined by their family's income relative to the poverty threshold. If its income lies below the threshold, all members of the family are poor. Although the chapter discusses differences in poverty rates for categories of people, all the poverty rates in this report are measured by the number of poor individuals over the total number of individuals who are members of the group.

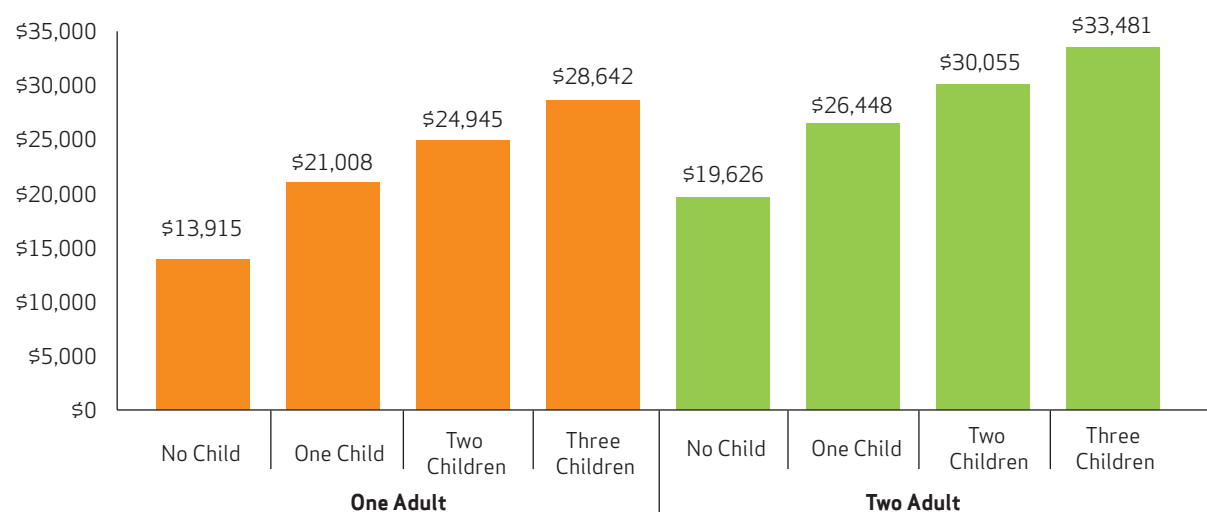
52. We use the term "family unit" to alert readers that many members of the comparison group do not live with other persons they are related to. The comparison group excludes family units that are headed by someone 65 or older because the majority of units with an elderly head do not rely on earned income. Since less than 5 percent of families with children are headed by someone who is older than 65, we have created two groups that are almost always headed by working-age adults.

One reason why families with children would have higher poverty rates than others is that the presence of children raises the poverty line. As Figure VI One illustrates, the 2010 poverty threshold for a family composed of two adults is \$19,626. If one child is added to the family, the threshold rises to \$26,448. A second child brings the threshold to \$30,055.

To some extent, the effect of a higher threshold is offset by social policy. Many programs, such as Food Stamps

One reports, the poverty rate for this group rose by 2.8 percentage points from 2008 to 2010. The increase in the poverty rate for members of the without-child group was 2.1 percentage points over the same time period. The difference between these two increases is not statistically meaningful. But what can be said is that the climb in the poverty rate for members of families with children was no less severe than the rise in the poverty rate for members of the comparison group.

FIGURE VI ONE
CEO Poverty Thresholds, by Number of Children, 2010



Sources: U.S. Bureau of Labor Statistics and U.S. Department of Housing and Urban Development.

and public assistance, provide more generous benefits to larger families. Tax credits, such as the Earned Income Tax Credit (EITC), increase with the number of children or – like the Child Tax Credit (CTC) – are specifically designed to defray the cost of child rearing. But public policy is outweighed by the effect of the private labor market; workers' wage rates are not determined by the size of their families. In families with children, adults' paychecks get stretched over more needy persons.

Children also create costs. This can take the form of forgone earnings as some adults curtail or entirely leave paid employment to become stay-at-home parents. Other families choose to pay for childcare. Either option reduces the income available to meet the needs represented in the poverty threshold. The presence of children increases the likelihood that a family will be poor.

Not only are nearly one in four persons living in families with children poor, but as the final row in Table VI

The similarity begs the question: why, given the recent policy initiatives, were the increases so alike? The next sections of this chapter consider two possibilities: that either the tax and Food Stamp initiatives missed their target or that job losses were particularly severe for adults in families with children. Neither of these provides an answer. The expansion of the tax credit and Food Stamp programs had the expected increased effect on poverty rates for persons living in families with children. The declines in employment and earnings were no more dramatic for families with children than they were for the comparison group.

The reason why the expansion of benefits appears to have a more limited impact than might have been expected is that, relative to the comparison group, a greater share of members of families with children live above, but precariously close to, the poverty threshold. Declines in employment and earnings move all affected families down the income ladder. What is different for families with children is that these declines have a much

greater likelihood of pushing them not just down the income ladder, but below the rung of the ladder that represents the poverty line.

6.2 The Effect of Income Taxes and Food Stamps

The similarity in poverty rate increases from 2008 to 2010 for persons living in families with children and our comparison group occurred despite the growing effect of non-cash benefits that disproportionately benefit families with children. Table VI Two recreates the analysis of the marginal effects of the non-cash elements in the CEO poverty measure provided in Chapter II's Table II Five. The first row in the table's Panel A reports the poverty rate using total CEO income. This is followed by poverty rates that are based on CEO income with one of the income elements omitted. The table's Panel B reports the difference between the total CEO income poverty rate and each of the alternative poverty rates. The numbers in this panel are the percent of the population that would be moved into or out of poverty had a particular source of income or non-discretionary expense been omitted from total CEO income. It provides poverty rates and marginal effects from 2007, the year before the Federal stimulus efforts began, to 2010.

Table VI Two divides the City population into two groups: individuals who are living with children and

the comparison group – persons living in family units without children and headed by someone younger than 65. Differences in the marginal effects of the non-cash components of CEO income between the two groups are evident in the expected places; school meals, WIC,⁵³ and childcare costs affect poverty rates for persons living with children, but have no effect on the childless. Because there are more workers per family unit in the with-children group than the comparison group (1.4 compared to 1.1), payroll taxes and commuting costs have a larger negative effect for the former than the latter.

But what stands out in the table is the much larger and growing effect of income taxes and Food Stamps for the with-children group. From 2007 to 2010 the income tax effect for the families with children group grew from -5.4 percent to -7.9 percent, while the income tax effect for members of the childless group merely edged up from 0.2 percent to -0.3 percent. Over the same time period the marginal impact of Food Stamps grew from -2.2 percent to -4.6 percent for persons in families with children. The corresponding increase for persons in the comparison group was from -0.7 percent to -1.5 percent.⁵⁴ In sum, the tax and Food Stamp initiatives were hitting their intended target.

53. Special Supplemental Nutrition Program for Women, Infants and Children (WIC).

54. Recall that a negative number indicates that the omitted income source lifts a given percentage of the population over the poverty line.

TABLE VI TWO
Marginal Effects of Non-Cash Resources on CEO Poverty Rates, 2007 - 2010

(Numbers are Percent of the Population)

	Families with Children				Family Units without Children*			
	2007	2008	2009	2010	2007	2008	2009	2010
A. Poverty Rates								
Total CEO Income	22.5	20.2	21.0	23.0	15.5	16.0	17.1	18.1
Net of:								
Housing Adjustment	29.0	26.4	27.2	29.7	18.9	18.6	20.1	21.4
Income Taxes	27.9	28.2	28.9	31.0	15.3	16.1	17.3	18.4
Food Stamps	24.7	22.8	24.0	27.7	16.2	16.7	18.1	19.6
School Meals	23.5	21.3	21.9	23.9	15.5	16.0	17.1	18.1
WIC	22.6	20.3	21.1	23.3	15.5	16.0	17.1	18.1
HEAP	22.5	20.2	21.0	23.0	15.6	16.0	17.1	18.1
FICA (Payroll Taxes)	20.2	18.4	18.6	20.8	14.2	14.6	15.4	16.6
Commuting	20.5	18.5	19.0	21.2	14.4	14.8	15.8	16.9
Childcare	22.0	19.8	20.6	22.6	15.5	16.0	17.1	18.1
MOOP	18.5	17.6	18.1	20.2	12.7	13.6	14.9	15.8
B. Marginal Effects								
Housing Adjustment	-6.5	-6.2	-6.2	-6.6	-3.4	-2.6	-3.0	-3.3
Income Taxes	-5.4	-8.0	-7.9	-7.9	0.2	-0.1	-0.2	-0.3
Food Stamps	-2.2	-2.6	-3.0	-4.6	-0.7	-0.7	-1.0	-1.5
School Meals	-1.0	-1.1	-0.9	-0.9	0.0	0.0	0.0	0.0
WIC	-0.2	-0.1	-0.1	-0.3	0.0	0.0	0.0	0.0
HEAP	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
FICA (Payroll Taxes)	2.3	1.8	2.4	2.2	1.3	1.4	1.7	1.5
Commuting	1.9	1.7	2.0	1.8	1.1	1.3	1.3	1.2
Childcare	0.4	0.4	0.4	0.4	0.0	0.0	0.0	0.0
MOOP	4.0	2.6	2.9	2.8	2.8	2.4	2.3	2.3

* Family Units without Children are headed by an individual less than 65 years old.
Source: American Community Survey Public Use Micro Sample as augmented by CEO.
Note: See Chapter I for definitions of resources.

6.3 Employment Trends

The recession did not single out families with children. From 2008 to 2010, declines in employment were not much different for members of families with children and the comparison group. Table VI Three reports employment/population ratios, the share of persons in each group that was holding a job at the time they participated in the American Community Survey (ACS). The population in the table is composed of a group we refer to as “primary adults.” These are persons, 18 and older, who have been designated as the family unit head plus – if the unit includes such a person – the

spouse or the unmarried partner of the unit head.⁵⁵ The employment status of these persons is likely to have the greatest relevance to a family’s income.

Not surprisingly, given the discussion above, a lower proportion of primary adults in families with children are employed than their counterparts in family units that do not include children. As Table VI Three indicates, in 2010, 68.8 percent of all heads and spouse/partners in families with children held a job compared to 73.6 percent of those in family units without children. This difference is driven by the lower share of single heads and spouse/partners in families with children who were

55. CEO’s definition of a family unit treats unmarried partners and spouses alike.

employed relative to their counterparts in family units that do not include children. In 2010, for example, 66.4 percent of the single heads of families with children were employed compared to 74.5 percent of the single heads in family units without a child. By contrast, in two of the three years represented in the table, the employment/population ratio for the heads of two adult families with children exceeded that of the heads of two adult family units without children.

More salient to the focus of this chapter is that the declines in employment rates from 2008 to 2010 for the primary adults in families with children are not much more severe than those in the comparison group. The employment/population ratio for all primary adults in families with children declined by 4.5 percentage points from 2008 to 2010. The corresponding fall in the comparison group was 4.0 percent.

declines range from 22.3 percent to 12.1 percent across the percentiles. The fall in earnings for the comparison group is similar, ranging from 25.8 percent to 10.2 percent.

Because earnings are stated in family size and composition-adjusted dollars, readers should be cautious about comparing the level of earnings between the groups at any given percentile. The without-child group is composed of much smaller family units (1.6 persons on average) than the with-child group (an average of 4.1). Therefore, their earnings are being adjusted upward relative to the with-child group.

The advantage of stating earnings in this way is that they can readily be compared against the reference family poverty threshold. What the data indicate is the much larger proportion of the with-child population that is vulnerable to poverty because their earnings are

TABLE VI THREE
Employment/Population Ratios for Primary Adults, 2008 - 2010

(Numbers are Percent of the Population)

	Families with Children				Family Units without Children*			
	All	Single Head	Two Parent Families Head	Spouse/ Partner	All	Single Head	Two Adult Family Units Head	Spouse/ Partner
2008	73.3	70.9	82.3	65.9	77.6	78.4	81.4	71.6
2009	70.6	66.0	79.5	64.4	74.9	75.2	78.8	70.1
2010	68.8	66.4	75.6	63.5	73.6	74.5	77.2	67.9
Percentage Point Change:								
2008-2010	-4.5	-4.5	-6.6	-2.4	-4.0	-3.9	-4.2	-3.6

* Family Units without Children are headed by an individual less than 65 years old.

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

Note: Primary adults include the family unit head and the spouse or partner of the head.

6.4 Declines in Earnings

The declines in job-holding among primary adults created a steep falloff in earned income from 2008 to 2010. Table VI Four provides the details, reporting earnings for families with children and family units without children.⁵⁶ Because we are interested in persons who are below or not far above the poverty threshold, earnings are reported for the 15th through 40th percentiles of their respective distributions.

The table also reports the percentage change in earnings from 2008 to 2010. For the families with children group,

low relative to the poverty line. In 2010, for example, earnings for this group only surpass the \$30,055 reference family threshold at the 40th percentile (\$31,659), indicating that nearly 40 percent of the population in this group would be poor if earnings were their only source of income. By contrast, earnings exceed the poverty threshold for the without-child group at the 25th percentile. This difference underlines the point made in section 6.1; in families with children, paychecks get spread across more need. The difference explains why persons living in families with children

56. As in the other tables in this report, incomes are stated in family size and composition-adjusted dollars.

are more vulnerable to poverty than persons in our comparison group at any given time. But the question we have about change over time remains.

in families with children that are below 100 percent of the poverty line, the table indicates that the extreme poverty rate, the share of the population living below 50

TABLE VI FOUR
Family-Level Earnings, 2008 - 2010

Percentile	Families with Children				Family Units without Children*			
	2008	2009	2010	Percentage Change 2008 - 2010	2008	2009	2010	Percentage Change 2008 - 2010
15	12,727	11,578	9,889	-22.3%	17,579	14,992	13,045	-25.8%
20	17,152	16,150	14,653	-14.6%	28,126	24,987	21,741	-22.7%
25	21,581	20,970	18,815	-12.8%	37,402	33,642	30,839	-17.5%
30	26,211	25,333	22,896	-12.6%	45,194	41,978	39,462	-12.7%
35	31,240	29,984	27,187	-13.0%	52,986	49,220	47,178	-11.0%
40	36,037	34,634	31,659	-12.1%	61,816	58,120	55,509	-10.2%

* Family Units without Children are headed by an individual less than 65 years old.
Source: American Community Survey Public Use Micro Sample as augmented by CEO.
Note: Earnings are stated in family size and composition-adjusted dollars.

6.5 The Vulnerability to Poverty

Another perspective on vulnerability to poverty is to compare shares of the population by degrees of poverty. Table VI Five, like Table II Three, reports the share of the population living in intervals of the poverty threshold. Despite the higher cumulative percent of persons living

percent of the poverty line for this group, is no higher than that for the less poor without-child comparison group.⁵⁷ This is another indication of how social benefit programs have greater effects on families with children than on others.

The table also indicates that a much larger share of the

TABLE VI FIVE
Distribution of the Population by Degrees of Poverty, 2008 - 2010

Family Unit Type	Percent of Poverty Threshold	2008		2009		2010	
		Percent	Cumulative Percent	Percent	Cumulative Percent	Percent	Cumulative Percent
Families with Children	Less than 50	4.9	4.9	4.2	4.2	4.9	4.9
	50-74	5.7	10.6	6.4	10.5	6.5	11.4
	75-99	9.6	20.2	10.5	21.0	11.6	23.0
	100-124	14.3	34.5	14.4	35.4	15.1	38.1
	125-149	13.9	48.4	13.1	48.5	14.6	52.7
Family Units without Children*	Less than 50	5.9	5.9	6.0	6.0	6.5	6.5
	50-74	4.2	10.1	4.2	10.1	4.6	11.1
	75-99	5.9	16.0	7.0	17.1	7.0	18.1
	100-124	7.2	23.3	8.1	25.3	8.6	26.6
	125-149	7.4	30.6	7.5	32.8	8.2	34.9

* Family Units without Children are headed by an individual less than 65 years old.
Source: American Community Survey Public Use Micro Sample as augmented by CEO.

57. The small differences in the proportions are not statistically significant.

population living in families with children are near-poor – above the poverty line, but uncomfortably close to it – compared to the without-child group. In 2008, before the recession took hold of the City economy, 14.3 percent of persons living in families with children were living at or above 100 percent, but no higher than 125 percent of the poverty line. The corresponding proportion for the comparison group in that year was 7.2 percent. The same pattern holds in the next interval up; 13.9 percent of the members of families with children were living at or above 125 percent, but no higher than 150 percent of the poverty threshold in that year. By contrast, only 7.4 percent of persons in family units without children were in this category in 2008.

The implication of this disparity is that similar declines in earnings across the two groups *can* have very dissimilar impacts on their poverty rates. Because a higher proportion of the population living in families with children is just above the poverty line, job losses place more of them in danger of being pushed not just down the income ladder, but also below the poverty line. The next sections of the chapter demonstrate that this would have happened, had it not been for the tax and Food Stamp policy initiatives.

6.6 The Role of Policy Initiatives

In this section we focus on the role of Food Stamps and tax credits and follow the approach taken in Chapter V, comparing actual participation and benefit levels to estimates of hypothetical participation and benefit levels that would have occurred had it not been for new policy initiatives. As detailed in Chapter V, the Federal economic stimulus packages and the local effort to enroll more eligible City residents into the Food Stamp program dampened what would have been an even sharper rise in the Citywide poverty rate.

Tax Programs

To measure the impacts of the two Federal stimulus programs on tax policy, we focus on low-income tax filers – those with Federal adjusted gross income (AGI) no higher than \$50,000 – that have dependents under 18 years of age. Table VI Six provides mean (per-filer) values for the filers in this group for 2007, the year before the anti-recessionary changes, through 2010.⁵⁸ The table's Panel A provides per-filer values for the most important tax credit programs for families with children. The last two rows in the table provide the value of all tax credits and "Net Income Tax Effect," the net gain to filers from the income tax system after credits have been subtracted from pre-credit liabilities. Table VI Six's Panel B reports estimates of tax credits and the Net Income Tax Effect, had tax policy not been changed.

The table's final column reports the percentage change from the actual value in 2007 to either the actual value in 2010 (in Panel A) or the hypothetical value in 2010 (in Panel B). Differences between what did (actual) and what would have (hypothetical) happened can be summarized by comparing these two rates of change. The actual Net Income Tax Effect grew by 61.9 percent from 2007 to 2010, while the hypothetical effect declined by 9.6 percent.

The striking divergence between the changes over time in the actual and hypothetical estimates is not only due to the increased generosity of the tax credit programs, it also reflects how the new tax policies expanded the pool of filers who could benefit from the credits. At a time when employment was falling, fewer low-income filers might have been eligible for Earned Income Tax Credits. This possibility is evident in the table's addendum, which indicates that absent the changes in policies, a declining share of the filers with AGI no greater than \$50,000 and child dependents would have been able to claim the credit. But the change in policy also expanded eligibility for the credits. Consequently, the proportion of these filers claiming the credit rose from 77.0 percent in 2007 to 85.0 percent in 2010.

58. Per-filer values are the total value of the tax item for all filers divided by the total number of filers.

TABLE VI SIX
Actual and Hypothetical Income Tax Program Effects, 2007 - 2010
Filers with Child Dependents and Federal AGI up to \$50,000

(Numbers are Means for All Filers in this Group, Except Where Specified)*

A. Actual					Percentage Change
Selected Credits	2007	2008	2009	2010	2007-2010
Federal EITC	1,865	1,971	2,275	2,359	26.5%
State EITC	534	566	656	682	27.8%
City EITC	93	99	114	118	26.5%
Recovery Rebate	N.A.	984	N.A.	N.A.	N.A.
Making Work Pay	N.A.	N.A.	476	475	N.A.
Total Credits	4,060	5,281	5,388	5,492	35.3%
Net Income Tax Effect	2,324	3,567	3,633	3,763	61.9%
Sum of Net Income Tax Effect (in 1,000's)	1,446,789	2,195,046	2,196,774	2,244,772	55.2%
B. Hypothetical					Percentage Change
Selected Credits	2007	2008	2009	2010	2007-2010
Federal EITC	N.A.	1,971	1,599	1,725	-7.5%
State EITC	N.A.	566	458	497	-6.9%
City EITC	N.A.	99	80	86	-7.5%
Recovery Rebate	N.A.	0	N.A.	N.A.	N.A.
Making Work Pay	N.A.	N.A.	0	0	N.A.
Total Credits	N.A.	4,183	3,648	3,718	-8.4%
Net Income Tax Effect	N.A.	2,462	1,904	2,101	-9.6%
Sum of Net Income Tax Effect (in 1,000's)	N.A.	1,515,090	1,161,734	1,239,426	-14.3%

ADDENDUM

Percent of Filers Receiving Earned Income Tax Credits**

	2007	2008	2009	2010	Percentage Point Change 2007-2010
A. Actual	77.0%	79.0%	81.0%	85.0%	8.0
B. Hypothetical	N.A.	79.0%	64.0%	68.0%	-9.0

* Means are aggregated values of each tax item divided by number of filers with income up to \$50,000 and dependent children under 18.

** CEO's model assumes all Federal EITC claimers get State and City EITC, and vice versa.

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

Note: N.A. - Not applicable in that tax year.

The Effect of Changes in Food Stamp Policy

As detailed in Chapter V, City and Federal Food Stamp policy changed in two important ways since 2007. There was an outreach initiative in New York City aimed at increasing participation among eligible households. In

addition, the 2009 American Recovery and Reinvestment Act (ARRA) increased Food Stamp benefits by 13.6 percent. In order to identify the impact of Food Stamp policy we present estimates of actual Food Stamp cases, annual benefit levels per case, and the aggregate value of Food Stamp benefits and compare them against a

corresponding set of hypotheticals – estimates of what would have occurred had it not been for the changes in policy.

Panel A in Table VI Seven reports actual Food Stamp cases, mean benefits per case, and aggregate benefits for 2007 through 2010. The final column in the panel gives the percentage change in cases and benefits from 2007 (the year before policies began to change) and 2010. The number of cases grew by 54.7 percent, benefits per case rose by 41.1 percent, and aggregate benefits (a metric that combines participation and benefit level effects) jumped by 120.1 percent.

Panel B indicates what would have happened had it not been for the change in policy. The percentage changes for the panel compare the hypothetical values for 2010 against the actual values for 2007. The rates of growth in this panel are smaller than those in Panel A, but not equally so. The hypothetical increase in the caseload would have been 47.9 percent, which is nearly 88 percent of the actual growth rate of 54.7 percent. By contrast, had it not been for the ARRA, the Food Stamp benefit level would only have risen by 18.2 percent, a little over 44 percent of the actual increase.

The similarity between the actual and hypothetical increases in the Food Stamp caseload stands in sharp contrast to the differences between the actual and

hypothetical participation rates in the EITC reported previously. The disparity highlights the potential differences in effects between those programs that are work-conditioned and those that are not when economic conditions make work hard to find. We will return to this issue in the report's final chapter.

6.7 Policy Affects Income

We incorporate the hypothetical estimates to identify the effect the changes in tax and Food Stamp policy have on CEO income for persons living in families with children. Table VI Eight reports CEO incomes for 2007 through 2010. Because our interest is in families vulnerable to poverty, we provide estimates for the lower tail of the income distribution. The table is broken into two sections, Panel A, which reports actual CEO income, and Panel B, which provides estimates of CEO income absent the policy changes. The table's final column gives the percentage change in income. In Panel A, the change is measured from the actual 2008 value to the actual 2010 value. In Panel B, the change is taken from the actual value in 2008 to the hypothetical value in 2010. Actual income, at the 20th percentile, edged down by 0.9 percent to \$28,393 from 2008 to 2010. Over the same period, hypothetical income at the 20th percentile fell to \$25,329, 11.6 percent below actual income in 2008.

TABLE VI SEVEN
Actual and Hypothetical Food Stamp Estimates, Families with Children, 2007 - 2010

A. Actual	2007	2008	2009	2010	Percentage Change 2007-2010
Food Stamp Cases	323,253	341,386	403,399	499,973	54.7%
Mean Benefit per Case	\$2,490	\$2,494	\$2,955	\$3,512	41.1%
Aggregate Benefits*	\$763,461	\$812,190	\$1,156,392	\$1,680,170	120.1%
B. Hypothetical	2007	2008	2009	2010	Percentage Change 2007-2010
Food Stamp Cases	N.A.	335,888	391,098	478,150	47.9%
Mean Benefit per Case	N.A.	\$2,502	\$2,597	\$2,942	18.2%
Aggregate Benefits*	N.A.	\$789,429	\$950,949	\$1,333,501	74.7%

* In thousands.

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

Notes: Percentage change in Panel B is the change from actual 2007 to hypothetical 2010.

N.A.- Not applicable because hypothetical not calculated in that year.

TABLE VI EIGHT
Annual and Hypothetical CEO Income, Families with Children,
2007 - 2010

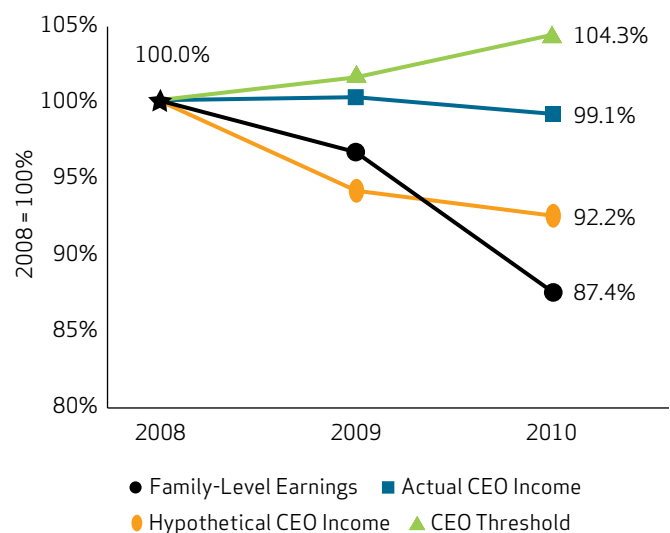
A. Actual					Percentage Change
Percentile	2007	2008	2009	2010	2008-2010
15	22,348	25,200	25,651	24,886	-1.2%
20	25,403	28,647	28,697	28,393	-0.9%
25	28,313	31,455	31,403	31,072	-1.2%
30	30,584	34,012	33,863	33,485	-1.6%
35	33,270	36,248	36,292	36,013	-0.6%

B. Hypothetical					Percentage Change
Percentile	2007	2008	2009	2010	2008-2010
15	N.A.	24,004	22,865	22,147	-12.1%
20	N.A.	27,470	26,067	25,329	-11.6%
25	N.A.	30,132	29,009	28,656	-8.9%
30	N.A.	32,635	31,707	31,240	-8.2%
35	N.A.	34,901	34,240	33,801	-6.8%

Source: American Community Survey Public Use Micro Sample as augmented by CEO.
 Note: Percentage change in Panel B is the change from actual 2008 to hypothetical 2010.

Figure VI Two is constructed in a similar manner to Figure V One, illustrating the 2008 to 2010 trend in earnings, actual CEO income, and hypothetical CEO income along with the CEO threshold. Hypothetical income would have dropped to 92.2 percent of its 2008 value by 2010, while actual CEO income in 2010 stood at 99.1 percent of its 2008 value. Following the pattern evident for the Citywide population we saw in Chapter V, the difference between the two CEO income measures is driven by the relatively sharp decline in hypothetical CEO income from 2008 to 2009. From 2009 to 2010, the gap between actual and hypothetical incomes did not widen. The pattern suggests, again, that effects of the new policy initiatives had leveled by 2010.

FIGURE VI TWO
Comparison of Trends in Income and the CEO
Poverty Threshold, Families with Children,
2008 - 2010



Source: American Community Survey Public Use Micro Sample as augmented by CEO.
 Note: Earnings are measured at the 30th percentile and incomes are measured at the 20th percentile of their respective distributions.

6.8 Policy Affects Poverty

The hypothetical income estimates can be used to create CEO poverty rates that suggest what the City poverty rate would have been in the absence of the tax and Food Stamp policy initiatives. Table VI Nine reports actual and hypothetical poverty rates from 2007 through 2010. Panel A summarizes the information that appeared in Table VI Two, reporting actual poverty rates and the marginal effect of income taxes and Food Stamps. Panel B provides the hypothetical estimates. The smaller marginal impacts of income taxes and Food Stamps in the hypotheticals, of course, create higher poverty rates. In 2010, for example, the actual marginal impact of income taxes was to reduce the poverty rate for persons living in families with children by 7.9 percentage points. Absent the policy initiatives, the income tax effect would only have been 4.4 percentage points. Without the expansion of the Food Stamp program, its poverty-reducing impact would have been diminished to 4.0

percentage points from 4.6 percentage points. The combined effect of both initiatives was 4.5 percentage points in 2010, while the actual poverty rate was 23.0 percent and the hypothetical rate was 27.6 percent.

Because persons who do not live in families with children did not benefit as greatly from the new or expanded tax programs, the differences between the actual and hypothetical marginal impacts are smaller than those for the with-child group. For example, the actual impact of the Food Stamp program in 2010 for this group was 1.5 percentage points, while the hypothetical effect was 1.2 percentage points. As a result, the difference between the actual and hypothetical poverty rates was only 1.0 percentage point, 19.1 percent in the hypothetical estimate and 18.1 percent in the actual poverty rate.

The disparity in the actual versus hypothetical differences is striking and even more informative when we look at change over time. As we noted in section 6.1, the 2008

TABLE VI NINE
Actual and Hypothetical Poverty Rates, 2007 - 2010

(Numbers are Percent of the Population)

	Families with Children				Family Units without Children*			
	2007	2008	2009	2010	2007	2008	2009	2010
A. Actual								
Poverty Rates								
Total CEO Income	22.5	20.2	21.0	23.0	15.5	16.0	17.1	18.1
Net of:								
Income Taxes	27.9	28.2	28.9	31.0	15.3	16.1	17.3	18.4
Food Stamps	24.7	22.8	24.0	27.7	16.2	16.7	18.1	19.6
Marginal Effects								
Income Taxes	-5.4	-8.0	-7.9	-7.9	0.2	-0.1	-0.2	-0.3
Food Stamps	-2.2	-2.6	-3.0	-4.6	-0.7	-0.7	-1.0	-1.5
B. Hypothetical								
	2007	2008	2009	2010	2007	2008	2009	2010
Poverty Rates								
Total CEO Income	N.A.	22.6	25.5	27.6	N.A.	16.6	18.3	19.1
Net of:								
Income Taxes	N.A.	28.2	29.3	31.9	N.A.	16.1	17.5	18.7
Food Stamps	N.A.	25.1	28.0	31.6	N.A.	17.4	19.1	20.3
Marginal Effects								
Income Taxes	N.A.	-5.6	-3.8	-4.4	N.A.	0.5	0.8	0.4
Food Stamps	N.A.	-2.5	-2.5	-4.0	N.A.	-0.7	-0.8	-1.2

* Family Units without Children are headed by an individual less than 65 years old.
Source: American Community Survey Public Use Micro Sample as augmented by CEO.
Notes: N.A. - Not applicable because hypothetical not calculated in that year.

to 2010 increase in the poverty rates for persons living in families with children was similar to the poverty rate rise for members of our comparison group. This is not true for the hypothetical poverty rates. Had it not been for the new policies, the poverty rate for members of the former group would have leapt to 27.6 percent in 2010, a jump of 7.4 percentage points from the actual poverty rate in 2008. The corresponding rise for the latter group would have been 3.0 percentage points, from 16.0 percent to 19.1 percent.

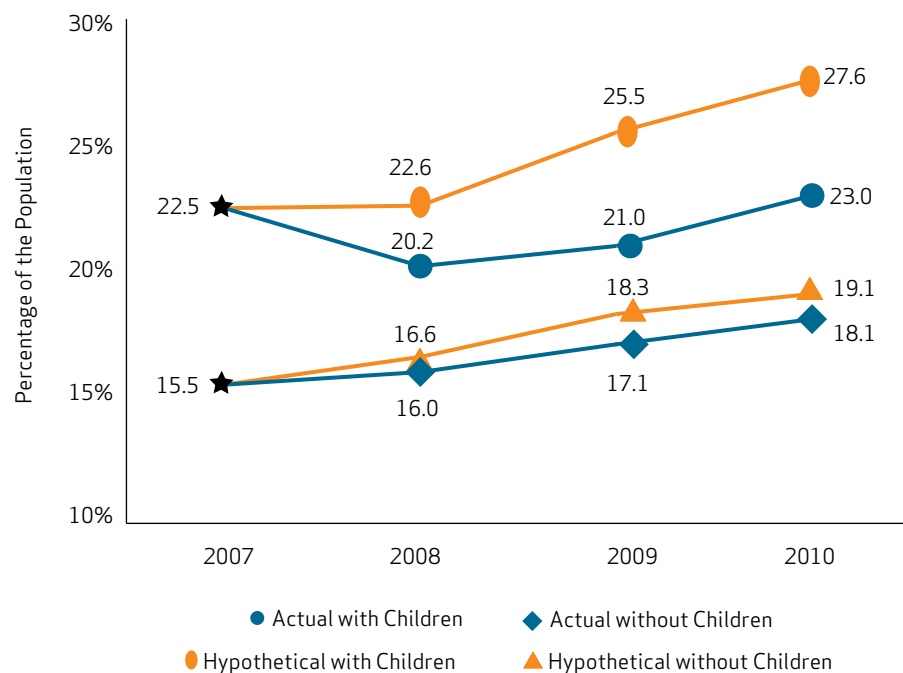
Figure VI Three summarizes our analysis by plotting the actual and hypothetical poverty rates from 2007 to 2010 for persons living in families with children and members of our comparison group. Over the period all four rates increase but their timing and pace vary. For members of families with children, the actual CEO poverty rate fell from 2007 to 2008 while the 2008 hypothetical was unchanged from 2007. Absent the Bush Administration's tax initiatives, the growth in CEO income would not have been sufficient to create a fall in the poverty rate. From 2008 to 2010, both rates trend upward; the actual poverty rate reaches 23.0 percent while the hypothetical rate climbs to 27.6 percent. The gap between the actual and hypothetical poverty rates grew to 4.5 percentage points by 2009. Reflecting the trends for actual and hypothetical income, the difference between the actual

and hypothetical poverty rates did not increase from 2009 to 2010.

For persons living in family units without children, actual poverty rates rise from 2008 to 2010, when they stood at 18.1 percent. The hypothetical poverty rate follows the same path, climbing to 19.1 percent in 2010. The difference between the actual and hypothetical rates in that year was only 1.0 percentage point.

This chapter began by noting the degree to which recent anti-poverty initiatives were targeted toward families with children. We then asked why the recession-related increase in the poverty rate for persons living in families with children was similar to another group composed of members of childless family units. But as the chapter progressed it became evident that posing the question in this way neglected an important difference between the groups: they are not equally vulnerable to the possibility that job losses will lead to increases in poverty. The potential for an increase in the poverty rate for persons living in families with children larger than the increase in our comparison group was averted by the tax and Food Stamp initiatives. The initiatives did not prevent a rise in poverty, but they did succeed in equalizing the increases. Chapter VII offers some thoughts about ways to do even better.

FIGURE VI THREE
Actual and Hypothetical Poverty Rates, 2007 - 2010



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

CHAPTER VII: IN CONCLUSION

It has been roughly a half century since the development of the nation's official measure of poverty. In the 1960s, the measure became a focal point for the public's growing concern about poverty in America. But over time the official poverty rate lost credibility. Its threshold no longer has an underlying rationale. Its definition of resources omits much of what public programs do to support low-income families.

CEO's assignment has been to create a poverty measure that is useful for policymakers. But useful in what way? A poverty rate, no matter how well improved, cannot tell us everything we want to know. Some policies affect poverty indirectly or can only deliver measurable effects over a number of years. Reducing crime or improving the performance of public schools that serve low-income children are examples of essential efforts that affect poverty, but are not immediately detectable in a poverty rate that compares a family's resources over a 12 month period to an income threshold. An improved poverty measure can tell us more about the degree to which income support programs, if they are large enough, reduce poverty, but it does not readily indicate if any particular program was the only, let alone the best, way to achieve that result.

The poverty rate can play a different but no less important role. It is a broad social indicator. A credible and useful poverty measure should provide insight into how and the degree to which public benefit programs fill the gap between what low-income families earn through the job market and the poverty threshold, a minimally acceptable standard of living. One of the most important contributions it can make is to encourage policymakers and the public to ask big picture questions about this broad topic.

This report documents the growing importance of the social safety net at a time when the job market was contracting and earned income was declining. For many low-income families, the distance between earnings and the poverty threshold widened. At the same time the safety net expanded, filling some, but not all of the gap. As a consequence, the poverty rate rose. An increase in the official poverty rate during a recessionary period can lack credibility given the limited scope of the resources

it measures. This is not so with National Academy of Sciences (NAS)-based poverty measures. Had the safety net been more effective, the CEO poverty measure for New York City and the Federal Supplemental Poverty Measure (SPM) would have detected it.

One big picture question raised by this report is what else could be done to prevent poverty from rising during economic downturns? The business cycle is a permanent feature of our economy; there will always be another recession. In the recovery periods that follow, moreover, renewed strength in the labor market often lags the renewed growth in output.

The organizing principle of the nation's anti-poverty strategy since the mid-1990s has been to use employment as a path out of poverty. Policymakers have recognized that the wage rates offered by the jobs many low-income individuals could obtain would not lift them out of poverty. They have expanded programs that "make work pay" in order to keep families out of the ranks of the working poor. Within a policy context that emphasizes work-plus-benefits, what should be done when the economy contracts and work is hard to find?

Effective macroeconomic policy that shortens recessions and quickly restores strength to the job market is essential. But more is required to keep unemployed low-income workers (parents in particular) at work and eligible for tax credit programs that are contingent on earnings. One method for doing so is through subsidized employment programs. Recently a number of states made good use of the TANF (Temporary Assistance for Needy Families) Emergency Fund for just this purpose.⁵⁹ That stream of funding has now dried up. But the example set by the programs it funded is a foundation upon which a larger effort can be built.

A second policy, work sharing, aims to prevent unemployment in the first place. At present, 24 states, including New York State, make use of the Unemployment Insurance system to supplement the earnings of workers in firms that choose to reduce employee hours rather than resort to layoffs.⁶⁰ To date, work sharing programs have been underutilized. But recently, interest in these arrangements has grown, in part because of their extensive use in Germany. The German economy suffered a sharper decline in output from the fourth quarter of 2007 to the fourth quarter of

59. See Pavetti, LaDonna, Liz Schott, and Elizabeth Lower-Basch. *Creating Subsidized Employment Opportunities for Low-Income Parents: The Legacy of the TANF Emergency Fund*. Center on Budget and Policy Priorities and Center for Law and Social Policy. February 16, 2011. Available at: www.clasp.org/admin/site/publications/files/Subsidized-Employment-Paper-Final.pdf

60. Ridley, Neil and David Balducchi. *Work Sharing: An Alternative to Layoffs*. Center for Law and Social Policy. January 2011. Available at: www.clasp.org/admin/site/publications/files/Work-Sharing-An-Alternative-to-Layoffs.pdf

2010 than did the U.S. economy. Yet, unlike the U.S., the German unemployment rate did not rise during that time span.⁶¹ In February 2012, the U.S. Congress passed the Middle Class Tax Relief and Job Creation Act. In addition to extensions of the payroll tax cut and Unemployment Insurance benefits, the law expands Federal government support for work sharing programs, giving states more incentive to promote them as an alternative to layoffs.⁶²

A second big question that this year's report raises concerns the poverty rate for members of families with children. Not only did it climb in recent years, but relative to persons who do not live with children, this poverty rate is high. Means-tested public benefit programs are typically more generous to families with children than others. But the vast majority of families with children rely on income earned in the private labor market. The poverty rate reflects the blending of these two sources of income. Do we have the right balance?

Public policy should support society's expectation that parents make a financial as well as an emotional commitment to their children. And, with the growth of child support payments by non-custodial parents, that expectation has been extended to include all parents.⁶³ But higher expectations may not go far enough and the consequences of falling short are far reaching. A childhood in poverty is a lifelong disadvantage. Its cost is not just borne by the poor; the society-wide effects are enormous. A recent study estimates that child poverty costs the United States \$500 billion each year.⁶⁴

Nearly every economically advanced nation addresses the balance between private and social responsibility through a comprehensive system of family policies, not anti-poverty policies. Across Europe, for example, generous family allowances or child benefits are typically a universal entitlement. Moreover, policies that support all families with children are not counterposed against policies that promote work. The United Kingdom's impressive effort to reduce child poverty has combined child benefits with work-conditioned tax credits.⁶⁵ The U.S. tax credit programs available to families with children are meager by comparison and

they are conditional on some level of earned income.

One proposal for taking a step toward creating a better balance between social benefits and private earnings is to revamp the Child Tax Credit (CTC).⁶⁶ The credit is currently worth up to \$1,000 per child. This base has not been increased in ten years. Moreover, the basic CTC is not a refundable credit, limiting its value for low-income families. The Additional Child Tax Credit has been established to create some, but not always full, refundability for the CTC. At present the credit is only refundable to families with at least \$3,000 in earned income. The CTC could become more effective if it was increased to restore its original value and was made fully refundable to all families with children. Like many other tax credits, it could be indexed each year to match increases in the cost of living.

Last year we entitled our report, *Policy Affects Poverty*. We emphasized the role that new Federal and City policy initiatives played in bolstering income during the economic contraction, limiting an apparent rise in the CEO poverty rate from 2008 to 2009 to a statistically insignificant 0.3 percentage points. The revisions we made to our measure for this year's report hardly alter that story. The CEO poverty rate remains statistically unchanged over those two years. But 2010 was a further year of declining employment and earnings. These continued losses were not offset by enough additional income from public benefit programs to prevent a 1.2 percentage point rise in the CEO poverty rate from 2009 to 2010.

The 2010 data offer a more sober assessment of the effect of public policy on poverty. But the recent increase in the poverty rate is no rationale for the many impending or proposed cutbacks to programs that assist low-income families. We have demonstrated how much higher the poverty rate would have risen absent the new initiatives. In that sense our findings reinforce, rather than undermine, the message from last year's report: policy does indeed affect poverty. And because it does, protecting what works, and improving on what does not, matters greatly.

61. Baker, Dean. *Work Sharing: The Quick Route Back to Full Employment*. Center for Economic and Policy Research. June 2011. Available at: www.cepr.net/documents/publications/work-sharing-2011-06.pdf

62. See: finance.senate.gov/newsroom/chairman/release/?id=c42a8c8a-52ad-44af-86b2-4695aaff5378

63. Mayor Bloomberg and others have proposed revisions to the Earned Income Tax Credit that would help non-custodial parents meet their responsibilities.

64. Holzer, Harry, Diane Whitmore Schanzenbach, Greg J. Duncan, and Jens Ludwig. *The Economic Costs of Poverty in the United States: Subsequent Effects of Children Growing Up Poor*. Center for American Progress. 2007. Available at: www.americanprogress.org/issues/2007/01/pdf/poverty_report.pdf

65. Smeeding, Timothy M. and Jane Waldfogel. "Fighting Poverty: Attentive Policy Can Make a Huge Difference." *Journal of Policy Analysis and Management*. Vol. 29, No. 2, pp. 401-407. Spring 2010.

66. Waldfogel, Jane. "The Role of Family Policies in Antipoverty Policy." In *Changing Poverty, Changing Policies*. Cancian, Maria and Sheldon Danziger (eds). New York, NY: Russell Sage Foundation. Page 256.

APPENDIX A: THE POVERTY UNIVERSE AND UNIT OF ANALYSIS

The Introduction to this report noted that a measure of poverty must establish a threshold, a line that demarcates the poor from the rest of society. It must also define what resources a family can draw on to meet its needs. Once these are in place, a method for measuring poverty needs to assess which groups in the population it can be meaningfully applied to. The “poverty universe” is the population whose poverty status can be determined.

Another important task is to create a “poverty unit of analysis.” People live together for a variety of reasons. The ones that are relevant to poverty measurement are that they pool economic resources and satisfy material needs as a unit. As described below, CEO expands the definition of the unit of analysis beyond the family-based unit that is employed by the official measure.

Who is Counted in Measuring Poverty?

Not everyone can be counted in measuring poverty. For example, the poverty universe used by the Census Bureau in its official poverty measure excludes most people living in “group quarters” such as college dormitories, nursing homes, military bases, and prisons.¹ It is easy to see why. Much of this population is in no position to earn income. At the same time, group quarters residents typically receive housing, meals, and other services that are provided by the institutions they reside in. The former condition could be used to judge that every individual in an institutionalized setting is poor. The latter condition could be used to judge that these persons’ basic material needs are being met and that they are not poor. Either choice reveals that a concept of poverty as material deprivation is an awkward fit for this group.

An additional challenge to determining the poverty status of group quarters residents is the lack of information the American Community Survey (ACS) provides about them, particularly their relationship with others. A college student living in a dormitory, for example, may have little or no personal income, but might be comfortably supported by her parents. That information is unavailable in the survey. All of these reasons make it very difficult to determine the poverty status of group quarters residents. CEO, therefore, excludes the entire group quarters population from our measure.

Another group that is excluded from the official poverty measure is unrelated persons living in households who are under 15 years of age. They are not assigned a poverty status because, as unrelated individuals, whether they would be poor or not poor would depend on their personal income. The ACS, however, does not collect data on the incomes of persons under 15 years of age. CEO, by contrast, includes this group in our poverty universe. As explained below, unrelated individuals under 15 are placed in a poverty unit with other members of the household they reside in and their poverty status is determined by the income of the unit as a whole.

In sum, the CEO poverty universe excludes the entire group quarters population, but includes the entire household population in the ACS sample for New York City. As Table A One illustrates, the universe for this study includes over 8.019 million out of the 8.185 million City residents in 2010. All of the excluded, close to 166,000 people (2.0 percent of the population), are living in group quarters.

TABLE A ONE
The CEO Poverty Universe, 2010

	Number	Percent
Household Population	8,019,368	98.0%
Group Quarters Population	165,946	2.0%
Total Population	8,185,314	100.0%

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

The Poverty Unit of Analysis: Who is Sharing Income and Expenses?

From the perspective of the current, official methodology, individuals are considered poor if the total income of the family they live in fails to reach the appropriate poverty threshold for their family’s size and type. The rationale for this is straightforward: family members who reside in the same household share resources and living expenses. Spouses typically pool their income and make joint decisions about major expenditures. Parents provide financial support to their children. Treating family members as lone individuals whose poverty status is determined by their own income would place nearly every non-working spouse and child in poverty.

1. For a definition of group quarters, see: www.census.gov/acs/www/Downloads/data_documentation/SubjectDefinitions/2010_ACSSubjectDefinitions.pdf

Families in the official poverty measure are composed of people who are related to the household head by blood, marriage, or adoption.² CEO modifies this definition of the family unit in three ways:

1. People who are unmarried partners of the household head are considered part of that head's family rather than separate unrelated individuals.³ Following a recommendation by the National Academy of Sciences (NAS) Panel, such people are treated as the householder's spouse.⁴ If the household also includes children of the partner who have not already been identified as children of the reference person, they are included as children in the householder-unmarried partner family.
2. CEO creates additional family units, referred to as "unrelated subfamilies." These are family units within households that do not include someone who is related to the householder. An example of such a unit would be two persons who are married to each other and are boarders in someone else's home. Because of data limitations, unrelated subfamilies can only be observed when they are composed of married couple families, with or without their own children, or single persons with children.
3. We place other unrelated individuals who we identify as being claimed as dependents for tax filing purposes into the poverty unit of those claiming them. Individuals claimed as dependents are being supported by others in the household. Given that relationship, we judge that they should be members of the poverty unit of the person(s) who they are dependent upon. This step assigns non-relative indigent adults and nearly all the unrelated children in private households to a poverty unit. In the few instances where the tax program (see Appendix D describing the CEO tax model) cannot connect an unrelated child to a tax unit, the child joins the poverty unit of the household's reference person.⁵

Together, these three modifications bring slightly over 215,000 individuals who would have been treated as single-person poverty units or excluded from the poverty universe in the official measure into multi-person poverty units in the CEO measure.

Thus, the poverty unit of analysis for this study is composed of:

1. Expanded families: all persons residing in the same household who are related to the household's reference person by blood, marriage, adoption, or are the reference person's unmarried partner (and any children and dependents of that partner not already identified as related to the reference person), or others who are claimed by the household head as dependents for tax filing purposes. As Table A Two reports, this group accounts for 83.8 percent of the total poverty universe. Persons living in families that include an unmarried partner, a subgroup within the expanded family category, comprise 6.6 percent of the poverty universe.
2. Unrelated subfamilies. This subgroup accounts for less than 1.0 percent of the poverty universe.
3. The remainder of the poverty universe is composed of "unrelated individuals." These are people who are either living alone (12.0 percent of the universe) or are living in a household with others, but with whom they have no familial or obvious economic relationship (4.1 percent of the universe). Both groups of unrelated individuals are treated as "single-person families" and their poverty status is determined using their individual CEO incomes.⁶

A poverty threshold is assigned to each unit based on its size and composition. (See Appendix B.) The sum of the resources of all the people in the unit is computed and compared to the thresholds to determine whether the members of the unit are poor.

2. The ACS does not identify unrelated subfamilies.

3. The ACS Subject Definitions defines an unmarried partner as, "a person age 15 years and over, who is not related to the householder, who shares living quarters, and who has a close personal relationship with the householder." The gender of the partners is irrelevant to this designation.

4. Citro, Constance F. and Robert T. Michael (eds). *Measuring Poverty: A New Approach*. Washington, DC: National Academy Press. 1995.

5. For a detailed description of how these units are created and evaluation of the accuracy of CEO's methods, see Virgin, Vicky. "Creating the CEO Poverty Unit: An Evaluation Using the CPS ASEC." June 2011. Available at: www.irp.wisc.edu/research/povmeas/Poverty_unit_analysis_CEO_2011.pdf

6. One exception to this is when we have prorated the housing adjustment across several poverty units within households.

TABLE A TWO
The Unit of Analysis for Poverty Measurement, 2010

	Number of Persons	Share of Poverty Universe
People in CEO Expanded Families	6,723,051	83.8%
People in Unmarried Partner Families	526,511	6.6%
People in Unrelated Subfamilies	24,978	0.3%
Unrelated Individuals Living with Others	330,061	4.1%
Unrelated Individuals Living Alone	966,256	12.0%
Total Poverty Universe	8,019,368	100%

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

APPENDIX B: DERIVING A POVERTY THRESHOLD FOR NEW YORK CITY

One of the primary goals of the CEO poverty measure is to establish a realistic standard of need for New York City. In our three prior reports we created a poverty threshold that was based on the 1995 recommendations of the National Academy of Sciences (NAS). The Interagency Technical Working Group's (ITWG) March 2010 guidelines called for a similar, but not identical, approach to drawing the poverty line.⁷ These recommendations are reflected in the Supplemental Poverty Measure (SPM) the Census Bureau released in November 2011.⁸

For this report CEO has revised the method we use to construct a New York City-specific threshold in light of the ITWG's guidelines. Bringing our threshold into closer alignment with the SPM makes our poverty rates more commensurable with those issued by the Census Bureau. However, we have not followed the SPM in all respects. This appendix briefly notes how the SPM threshold differs from the earlier NAS threshold; it describes the ways in which CEO has followed or diverged from the new SPM method; and explains how the U.S.-level threshold is adjusted for inter-area differences in housing costs and scaled for poverty units of different size and composition.

From NAS to SPM

The NAS recommended that the first step in creating the poverty threshold was to compute a nationwide threshold based on the distribution of expenditures on food, clothing, shelter, and utilities by a reference unit composed of two-adult, two-child families.¹⁰ An additional factor is included to account for miscellaneous expenses, such as non-work-related

travel, household supplies, and personal care products. Expenditures are measured using a three-year moving average of data available in the Bureau of Labor Statistics' Consumer Expenditure Survey (CE).

The NAS did not recommend a specific poverty line; instead it suggested that the threshold fall between the thirtieth and thirty-fifth percentile of the distribution of what families spend on the items in the threshold. (These percentiles were equivalent to 78 percent and 83 percent of the median level of spending on these goods at the time of the report.)¹¹ The NAS also offered an upper and lower bound for the factor that accounts for miscellaneous necessities, a multiplier ranging from 1.15 to 1.25 times the food, clothing, shelter, and utilities expenditure estimate.¹² In its NAS-based research, staff at the Bureau of Labor Statistics and the Census Bureau (as well as CEO) have used the mid-point of the percentage of the median (80.5 percent) and multiplier (1.2) for miscellaneous expenses to create the threshold.¹³

The new SPM threshold is also based on CE measures of expenditures on the same group of necessities. However, the SPM differs from the prior NAS method in four respects:

1. The SPM expands the reference family to include all Consumer Units in the CE with exactly two children, not just those with two adults.
2. The SPM is based on the thirty-third percentile of the expenditure distribution, not a fixed percentage of the median of the distribution.
3. The SPM uses a five-year moving average of expenditure data. The NAS had proposed a three-year moving average.
4. The SPM creates separate thresholds to reflect differences in housing status for owners with a mortgage, owners free and clear of a mortgage, and

7. *Observations from the Interagency Technical Working Group on Developing a Supplemental Poverty Measure*. March 2010. Available at: www.census.gov/hhes/www/poverty/SPM_TWGObservations.pdf

8. Short, Kathleen. *The Research Supplemental Poverty Measure: 2010*. U.S. Bureau of the Census. November 2011. Available at: www.census.gov/hhes/povmeas/methodology/supplemental/research/Short_ResearchSPM2010.pdf

9. We use "NAS threshold" as shorthand to describe the methods proposed by the NAS as implemented by Bureau of Labor Statistics and Census Bureau researchers prior to the issuance of the ITWG observations. These were also the basis for CEO's New York City-specific threshold, which we used in our prior work.

10. Two-adult, two-child units are referred to as the reference family because, as we discuss below, the thresholds for other families are calculated in reference to families of this type. This family was chosen by the NAS because it is the most common structure among families that include children less than 18 years of age.

11. The relationship between the percentiles of the distribution and the percentages of the median may have changed since the NAS Panel report.

12. Citro and Michael, p. 106.

13. For example, see: Short, Kathleen, et al. *U.S. Bureau of the Census: Experimental Poverty Measures, 1990 to 1997*. Washington, DC: U.S. Department of Commerce, Economics and Statistics Administration. 1999; and Short, Kathleen. *U.S. Bureau of the Census: Experimental Poverty Measures: 1999*. Washington, DC: U.S. Department of Commerce, Economics and Statistics Administration. 2001.

renters. The NAS-based research had used a common threshold for these groups.¹⁴

In any given year the quantitative difference between the SPM and NAS thresholds is small. For example, the U.S.-wide SPM threshold for a two-adult, two-child poverty unit, before accounting for differences in housing status, is \$23,854 for 2009; the equivalent NAS threshold used in last year's CEO report is \$24,522.¹⁵ But, as we discussed in the Introduction, differences in how these two thresholds will change over time may be a more important basis for choosing between them. CEO believes that a more even rate of change will likely result from using five rather than three years of CE data, an important improvement to the poverty measure.¹⁶ We expect that the SPM threshold will grow more slowly than the NAS threshold during business cycle expansions and that the SPM threshold will be less likely to decline during economic contractions.

Our expectation is borne out during the brief period for which we have estimates for both thresholds. As the bottom rows of Table B One indicate, the U.S.-wide SPM threshold grew by 15.2 percent from 2005 to 2008; over the same period the U.S.-wide NAS threshold climbed by 19.5 percent. From 2008 on, the rate of growth in the SPM threshold slowed, edging up by 1.0 percent from 2008 to 2009 and 2.0 percent from 2009 to 2010. During the same period, the NAS threshold declined by 0.9 percent and 1.0 percent.

The differences in growth rates suggest that poverty measures that use the SPM thresholds are more likely than poverty measures that use the NAS thresholds to register declines in the poverty rate during economic expansions; growing incomes will be compared against a more gently rising threshold. During economic downturns, measures that use the SPM threshold will be less likely than those using the NAS threshold to obscure the effect of declining incomes; they would not be lowering the bar. For this reason, as well as the desire to make our measure more comparable with the SPM, CEO has adopted the first three of the changes listed above.

TABLE B ONE
Comparison of U.S.-wide Poverty Thresholds

	SPM	NAS	Change from Prior Year	
			SPM	NAS
2005	\$20,492	\$20,708		
2006	\$21,320	\$21,818	4.0%	5.4%
2007	\$22,317	\$23,465	4.7%	7.5%
2008	\$23,608	\$24,755	5.8%	5.5%
2009	\$23,854	\$24,522	1.0%	-0.9%
2010	\$24,343	\$24,267	2.0%	-1.0%
			SPM	NAS
Percentage Change	2005-2008		15.2%	19.5%
	2008-2010		3.1%	-2.0%

Sources: U.S. Bureau of Labor Statistics and U.S. Bureau of the Census.

Accounting for Housing Status

CEO, however, does not follow the ITWG guidelines that call for the creation of separate thresholds by housing status. Instead, CEO continues to account for differences in housing status on the income side of the poverty measure, applying a housing status adjustment to all households that reside in "non-market rate" housing. This includes homeowners without a mortgage, renters living in rent-regulated units, and renters who do not pay cash rent, along with renters participating in means-tested housing assistance programs.

The different approaches reflect the availability of data that describe the unique features of the New York City housing market. The SPM method has been created for use with the Census Bureau's Current Population Survey (CPS). The CPS indicates whether respondents own or rent their housing. A newly added question identifies homeowners who make or do not make mortgage payments. The CPS, however, does not provide information about housing expenditures, and the Survey provides little other information (such as the size or condition of the housing unit) that would make estimating these feasible. The SPM's recourse is to create separate thresholds, by housing status, that are derived from the housing expenditure data available in the CE.

14. The NAS report was aware of the limitations of this approach and suggested that one remedy would be to develop a separate threshold for homeowners with low or no housing costs. Citro and Michael, p. 245.

15. The NAS thresholds are available at: www.census.gov/hhes/povmeas/data/nas/tables/2010/index.html The SPM thresholds are provided at: www.bls.gov/pir/spmhome.htm#threshold

16. Another possible source of the relative stability of the SPM threshold is that it expands the reference "family" in the Consumer Expenditure Survey to include all two-child units, not just two-adult, two-child families.

CEO, by contrast, uses the American Community Survey (ACS) as its principal data set. The ACS identifies homeowners who make mortgage payments, homeowners free and clear of a mortgage, renters who pay rent, and renters who do not pay cash for their shelter. In addition, the ACS provides data on what nearly all households pay out-of-pocket for their shelter and utilities.¹⁷ The unique-to-New York City Housing and Vacancy Survey provides CEO with the ability to identify households that are participating in the wide variety and far-reaching array of housing affordability programs available to renters in the City. This creates the opportunity to account for the advantages of home ownership free of a mortgage and participation in housing affordability programs on a household-by-household basis without having to construct separate thresholds that try to capture them “on average.” Given the wealth of data available to us, CEO concluded that we should take advantage of it. Our income-side method for accounting for housing status is detailed in Appendix C.

Geographic and Poverty Unit Size Adjustment

The NAS argued that because living costs are not uniform across the United States, the poverty thresholds should be geographically adjusted. Since research indicates that the largest source of the disparity in inter-area living costs is a result of differences in housing costs, the Panel recommended that only the part of the threshold that is made up of shelter and utilities expenditures should be adjusted. It further suggested that the U.S. Department of Housing and Urban Development’s (HUD) Fair Market Rents (FMR) could be used as the adjustment factor.¹⁸

In its NAS-related research, the Census Bureau has used 44.0 percent as the share of the total threshold that represents shelter and utilities expenditures.¹⁹ For 2009, this share equaled \$10,790. In our last report, CEO adjusted this amount by comparing a five-year moving average of the New York City Metropolitan Area FMR for a two-bedroom apartment to the national average

(weighted by population) for a similar apartment. The New York City five-year moving average of the FMR in 2009 was \$1,206 versus a national average of \$826; this implies that New York City rents for such apartments were roughly 1.46 times the national average.²⁰

Adjusting the shelter and utilities component of the threshold by multiplying it by the New York City/U.S.-wide FMR ratio created a new shelter and utilities portion of the reference family threshold equal to \$15,744. When this is added to the non-shelter and utilities portion of the threshold (which remains unchanged from the NAS national measure), the total threshold for the reference family of two adults and two children became \$29,477.

There are two differences between the SPM and CEO’s prior method for geographic adjustment. One is that the methods use different shares of their thresholds to represent the housing portion. The housing portion for the U.S.-wide NAS threshold (equal to 44.0 percent) was first calculated from the CE for the 1995 NAS report and has not been updated.²¹ The SPM housing portion is based on data from the most recent five years of CE data. In 2009, it comes to 49.4 percent.²² Clearly, CEO should be using the most recent data available. Therefore, we have revised our geographic adjustment procedure to follow the SPM method for computing the housing portion of the threshold.

The second difference is that the SPM and CEO use different data to calculate the ratio of New York City to U.S.-wide rents. The SPM uses median rents for two-bedroom units computed from the ACS, while CEO has used the HUD’s Fair Market Rents for two-bedroom units. The FMR ratio for New York City differs from the ACS ratio (1.4592 vs. 1.3537) because they measure different things. Fair Market Rents are representative of recently rented units of standard quality. The rent data from the ACS covers all rental units except the very small number that lack complete plumbing and kitchen facilities. Because rent regulation is so widespread in New York City, rents at the median of the ACS

17. The exception is renters participating in tenant-based subsidy programs. CEO imputes their expenditures by a statistical match with the New York City Housing and Vacancy Survey.

18. Citro and Michael, pp. 182-201.

19. This proportion has not been recalculated or updated since the early 1990s. Given the run up in housing prices and expenditures since that time, this proportion may well have risen.

20. This approach is a deviation from that taken in the Census Bureau’s NAS-based experimental poverty measures reports. In that research the regional adjustments are carried out by grouping all households within each state into one metropolitan and one non-metropolitan area. This method would have put New York City in the same housing market as far lower housing cost areas such as Albany, Buffalo, and Syracuse. Our approach provides a more New York City-specific measure. The Fair Market Rents are available at: www.huduser.org

21. Citro and Michael, page 198.

22. The housing portion of the threshold is available at: www.bls.gov/pir/spmhome.htm#threshold

distribution are not an accurate reflection of the market rate rental housing market. This creates an inconsistency. The SPM method compares a New York City median rent that is influenced by housing affordability programs against a U.S.-wide median that (because of the very narrow scope of these programs nationally) is not. The FMRs are a more appropriate basis for a New York City geographic adjustment factor because they create a more consistently defined comparison of differences in the rental market. CEO, therefore, will continue to use the FMRs to create the adjustment factor.

Table B Two summarizes the discussion by comparing the CEO threshold used in last year's report to a 2009 threshold constructed with CEO's revised method. Despite different starting points (the U.S.-wide thresholds), different housing portions of the thresholds, as well as adjustment factors, the two New York City thresholds are remarkably similar; only \$212 separates them.

TABLE B TWO
Comparison of CEO Thresholds, 2009

A. CEO Threshold in Prior Report

NAS-U.S. Threshold	\$24,522
Housing Portion of Threshold	44.0%
Geographic Adjustment Factor	1.4592
Adjusted Housing Portion of Threshold	\$15,744
Former CEO Threshold	\$29,477

B. CEO Threshold with Revised Method

U.S.-wide SPM Threshold	\$23,854
Housing Portion of Threshold	49.4%
Geographic Adjustment Factor	1.4592
Adjusted Housing Portion of Threshold	\$17,195
Revised CEO Threshold	\$29,265

Sources: U.S. Bureau of the Census, U.S. Department of Housing and Urban Development, and U.S. Bureau of Labor Statistics.

Table B Three provides the steps taken in creating the CEO threshold for 2010. The 2010 U.S.-wide SPM threshold is \$24,343, 2.0 percent higher than its level in 2009. The New York City-specific threshold comes to \$30,055, 2.7 percent above 2009. The small difference between the national and local level growth rates is generated by the slightly larger housing portion of the threshold and adjustment factor used for 2010 compared to those used in 2009.

TABLE B THREE
Creation of CEO Threshold, 2010

U.S.-wide SPM Threshold	\$24,343
Housing Portion of Threshold	49.6%
Geographic Adjustment Factor	1.4730
Adjusted Housing Portion of Threshold	\$17,786
CEO Threshold	\$30,055

Sources: U.S. Bureau of Labor Statistics, U.S. Department of Housing and Urban Development, and U.S. Bureau of the Census. Note: See text for explanation of concepts.

Once a threshold for the reference family has been set, thresholds need to be calculated for families (or poverty units) of other sizes and compositions (i.e., number of children and number of adults). This study uses the three-parameter scale developed by David Betson after the release of the NAS report.²³ The scale has been used in the Census Bureau's NAS-based poverty reports and in the new SPM.

Table B Four provides a selection of family size adjustments using Betson's scale. These are known as equivalence scales, because they are used to compute the amounts of income needed by families of different types to be equivalently well-off. The scales give the adjustments that are needed to convert the threshold for the reference family of two adults and two children to thresholds for other family sizes. For example, to calculate the threshold for a family of two adults and one child, the table indicates that the reference family threshold of \$30,055 would have to be multiplied by 0.88, and would yield a threshold of \$26,448.

TABLE B FOUR
Factors Used by CEO to Adjust Reference Family Thresholds for Units of Other Sizes and Types

Number of Adults	Number of Children Under 18			
	None	One	Two	Three
One	0.463	0.699	0.830	0.953
Two	0.653	0.880	1.000	1.114
Three	1.000	1.114	1.223	1.328
Four	1.223	1.328	1.430	1.529

Source: Computed by CEO based on Betson, David. *Is Everything Relative? The Role of Equivalence Scales in Poverty Measurement*. University of Notre Dame. 1996.

23. Betson, David. *Is Everything Relative? The Role of Equivalence Scales in Poverty Measurement*. University of Notre Dame. March 1996. Available at: aspe.hhs.gov/poverty/papers/escale.pdf

Table B Five lists the resulting CEO poverty thresholds for a variety of families and compares them to the official thresholds for families of corresponding sizes and compositions. The CEO thresholds are always higher, but not by the same factor. This reflects the differences between the Betson scale and the scale implicit in the official thresholds. An important difference between the scaling methods (not reported in the table) is that the official method creates a different, and lower, poverty threshold for individuals and some families with a householder who is age 65 or older. The official threshold for a single adult is \$11,344 if he or she is under 65, but \$10,458 if that person is older. The CEO threshold makes no distinction by age. While the CEO threshold for a single, non-elderly person is 1.227 times the official threshold, it is 1.331 times the official threshold for a single, elderly person.

TABLE B FIVE
Comparison of Poverty Thresholds, 2010

Poverty Unit Composition	CEO	Official	CEO/Official
One Adult*, No Child	\$13,915	\$11,344	1.227
Two Adults*, No Child	\$19,626	\$14,602	1.344
One Adult*, One Child	\$21,008	\$15,030	1.398
One Adult, Two Children	\$24,945	\$17,568	1.420
One Adult, Three Children	\$28,642	\$22,190	1.291
Two Adults, One Child	\$26,448	\$17,552	1.507
Two Adults, Two Children	\$30,055	\$22,113	1.359
Two Adults, Three Children	\$33,481	\$26,023	1.287

Source: CEO Calculations from Tables B Three and B Four.

*Adult is non-elderly in official threshold.

APPENDIX C: ADJUSTMENT FOR HOUSING STATUS

Housing plays a central role in National Academy of Sciences (NAS)-type poverty measures. As noted in Appendix B, housing needs are represented in the creation of the threshold and account for nearly one-half of the U.S.-wide Supplemental Poverty Measure (SPM) poverty line. Differences in housing expenditures are also the basis for adjusting the SPM poverty thresholds to account for inter-area differences in living costs.

An ongoing concern among poverty researchers is how to account for differences in housing status. This has often been thought of as two distinct issues. One is the need to account for the lower spending needs that homeowners who are free and clear of a mortgage have relative to homeowners who are carrying a mortgage.²⁴ A second issue is how to value means-tested housing assistance, such as residence in public housing or participation in tenant-based subsidy programs.²⁵

The Interagency Technical Working Group (ITWG) Observations addressed these concerns. The new SPM accounts for the first housing status issue by creating distinct thresholds for owners with a mortgage, owners without a mortgage, and renters. In addition, recent research by Census Bureau staff has established an approach to valuing means-tested housing assistance that has been incorporated into the SPM.²⁶

Appendix B explained why CEO believes that a household-by-household adjustment on the income side of the poverty measure is the most appropriate way for us to measure the advantages of ownership free and clear of a mortgage, residence in rent-regulated housing units, or participation in a means-tested housing assistance program. This appendix begins with the conceptual issue of how best to define “advantage” in a way that can be measured in dollars that are added to a family’s income. CEO’s reconsideration of this question prompted us to follow the Census Bureau’s lead and revise our housing adjustment method for renters. After describing the new approach, the appendix details the steps we take to create the estimates needed to implement it.

Measuring Advantage

Not all New Yorkers require the same level of expenditure to obtain shelter of comparable size and quality. Renters in public housing or rent-regulated units, renters who receive a tenant-based subsidy, and homeowners free and clear of a mortgage have lower housing costs than residents of “market rate” housing. To account for this advantage, the CEO poverty measure makes an adjustment to the income of the non-market rate households.²⁷

In prior CEO reports, the housing adjustment was based on the difference between the housing portion of the CEO poverty threshold and what non-market rate households were paying out-of-pocket for their housing. If out-of-pocket housing expenditures were less than the housing portion of the threshold, we added this difference to the poverty unit’s income. The housing adjustment was then calculated as:

(1) Adjustment = Housing Portion of the Threshold minus Out-of-Pocket Housing Expenditures

This approach rests on several judgments. The first is that residence in non-market rate housing can make resources which would have been devoted to housing available to meet other non-housing needs. However, the advantage of residence in non-market rate housing is not fully fungible. By its construction, the adjustment cannot exceed the value of the housing portion of the threshold. Even if a household is enjoying shelter that would cost many times the value of the housing portion of the threshold, the entire difference between what it is paying for its housing and the housing’s market value does not represent a resource it can use for other purposes.

Second, we do not allow for negative adjustments. If out-of-pocket expenditures exceed the housing portion of the threshold, the difference is not deducted from the poverty unit’s income. This rule rests on the judgment that housing of adequate quality is available at a level of expenditure equal to the housing portion of the threshold. Or, more simply put, that the housing portion of the threshold is not too low. Expenditures in excess of the housing portion of the threshold, therefore, are

24. See, for example: Garner, Thesia I. and David Betson. *Housing and Poverty Thresholds: Different Potions for Different Notions*. March 2010. Available at: www.bls.gov/pir/spm/spm_pap_housing10.pdf

25. A variety of approaches to valuing housing subsidies are discussed in: Renwick, Trudi. *Improving the Measurement of Family Resources in a Modernized Poverty Measurement*. U.S. Bureau of the Census. January 2010. Available at: www.census.gov/hhes/povmeas/publications/overview/RenwickSGE2010.pdf

26. Johnson, Paul D., Trudi Renwick, and Kathleen Short. *Estimating the Value of Federal Housing Assistance for the Supplemental Poverty Measure*. SEHSD Working Paper #2010-13. July 2011. Available at: www.census.gov/hhes/povmeas/methodology/supplemental/research/SPM_HousingAssistance.pdf

27. If more than one poverty unit resides in a household, the housing adjustment is prorated across the units according to their relative size.

discretionary and do not belong in a measure of poverty.

A third assumption is that the quality of non-market housing units is not inferior to market rate units whose cost equals the housing portion of the threshold. If non-market housing residents were simply paying less for their housing because they were living in poorer quality homes, there would be little or no advantage to their housing status.

The approach CEO adopts for this report relaxes the third assumption for renter households. We create two equations and calculate the housing adjustment by using the lesser of:

Either,

(1) Adjustment = Housing Portion of the Threshold minus Out-of-Pocket Housing Expenditures

Or,

(2) Adjustment = Market Value of the Unit minus Out-of-Pocket Housing Expenditures

The market value of a rent-regulated or subsidized unit is what the household would be paying for the unit if its costs equaled that of a market rate unit of similar size and quality. If the market value of their unit is less than the housing portion of the threshold, the first equation would over-estimate the advantage of their housing status. Taking the lesser of the two differences addresses this shortcoming in our prior housing adjustment method.

In order to implement this approach we need to: 1) Distinguish market from non-market rate housing units; 2) Measure out-of-pocket housing costs; and 3) Estimate market rents for non-market rate units. The next section of the appendix describes how we make use of the New York City Housing and Vacancy Survey (HVS) to create the necessary data.²⁸

Identifying Housing Status and Out-of-Pocket Rents

Households living in “non-market rate” housing units (participants in means-tested housing assistance programs, tenants in rent stabilized/controlled apartments, tenants who pay no rent, and homeowners free and clear of a mortgage) receive an addition to their income. The American Community Survey (ACS) provides some of the information needed to identify

these groups. The survey indicates which households own their home and whether or not they are carrying a mortgage. It also identifies those renter households who do not pay any cash rent.

There are, however, two crucial pieces of information that the ACS does not contain, both of which pertain to renters. First, the ACS does not indicate whether the household resides in public housing, a rent regulated unit, or is receiving a tenant-based subsidy. The second piece of missing information is that the ACS does not identify a tenant-based subsidy recipient’s out-of-pocket expenditures for shelter and utilities. There are two rent variables in the ACS – contract rent and gross rent. Contract rent is the rent received each month by the landlord. Gross rent is contract rent plus utility payments. These two variables do not represent renter out-of-pocket expenditures for shelter and utilities, if the household is participating in a rental subsidy program.

To address these deficiencies we turn to the HVS, which collects detailed information on geographic, demographic, and housing-related characteristics of housing units and their occupants. By matching renter households in the ACS to renter households in the HVS we are able to impute the missing housing program status and the out-of-pocket expenditures data to the ACS. Our matching routine is based on a set of household and head of household characteristics that identify corresponding households between the ACS and HVS. Listed below are characteristics used for matching renter households in the matching algorithm:

1. Neighborhoods: Community District (CD) or Public Use Microdata Area (PUMA).
2. Race/Ethnicity of the householder: (Non-Hispanic White, Non-Hispanic Black, Hispanic, Non-Hispanic Other Race).
3. Whether the householder was 65 or older.
4. Equivalized household income as a ranking based on the distribution. (Income is banded into septiles, sextiles, quintiles, and quartiles calculated for each respective data set.)
5. Contract rent as a ranking based on the distribution. (Contract rent is also banded similarly to equivalized household income.)

28. A complete description of the HVS can be found at: www.census.gov/hhes/www/housing/nychvs/nychvs.html

6. Number of bedrooms in the household (studio, 1 through 4+).
7. Household composition (husband and wife with and without children, male and female-headed single households with and without children, households of unrelated people, and single person households).
8. Whether or not the household had wage income.

Our initial match is an attempt to match on all eight household characteristics. If we did not find a matching household in the HVS, we incrementally remove or relax characteristics and attempt to match again. Our goal is to preserve the geographical, racial, and family composition distribution of the housing statuses found in the HVS. Because the distribution of participation in means-tested housing assistance (in particular the location of public housing) varies by neighborhood, we attempted to match as many households as possible within the same neighborhood. We then move to

adjacent neighborhoods and finally neighborhoods within the same borough.

Once the ACS and HVS renter households are matched, we create a housing status variable to categorize the ACS households. This is a CEO-created categorical scheme derived from both variables found in the HVS²⁹ and variables that are common to the ACS and HVS: renter with no rent, homeowner free and clear of a mortgage, and homeowner with a mortgage. The housing status categories are summarized in Table C One. It's important to note that if a household lived in public housing or Mitchell-Lama rental housing and received tenant-based subsidies, it is characterized as a tenant-based subsidy household. This allows us to use ACS housing expenditures for all housing statuses except subsidy recipients, whose HVS out-of-pocket rent variable is used. A more detailed description of our ACS-HVS match can be found in the housing appendix of our previous report.³⁰

TABLE C ONE
Definition of CEO Housing Status

Renter	
Public Housing	Living in a building that is NYCHA-operated public housing.
Mitchell-Lama	Living in Mitchell-Lama rental housing.
Tenant-Based Subsidy	Receiving Federal Section 8, Public Assistance Shelter Allowance, Senior Citizen Rent Increase Exemption, "Jiggets" rent supplement program, Employee Incentive Housing Program, Work Advantage Housing program for the homeless, or some other Federal, State, or City subsidy program.
Stabilized/Controlled	Living in an apartment under rent control or rent stabilization status.
Other Regulated	Living in an apartment under Article 4 or 5, HUD or Loft Board regulated building, or building owned by the City in "In Rem" status.
Market Rate	Living in a rental apartment that is neither public housing, nor stabilized/controlled, and whose occupants do not receive a subsidy.
No Cash Rent	Does not pay cash rent to occupy apartment.
Owner	
Owned Free and Clear	Living in a housing unit that is owned with no mortgage.
Paying Mortgage	Living in a housing unit that is owned and has a mortgage.
No Mortgage Status Reported	There is no mortgage status reported in the HVS.

Source: New York City Housing and Vacancy Survey and American Community Survey Public Use Micro Sample as augmented by CEO.

Note: Tenant-based subsidy takes precedence over all other housing statuses. For example, if someone lives in public housing and also receives a subsidy, they are categorized as receiving a subsidy.

29. The variables used were Control Status, which indicates what type of housing development the unit is in and whether or not that household participated in at least one of the several tenant-based subsidy programs that are available to low-income renters.

30. Available at: www.nyc.gov/html/ceo/downloads/pdf/poverty_measure_2011.pdf

Table C Two provides the results of the match between the 2008 HVS and 2010 ACS. The relative distribution of households between the donor HVS and the recipient ACS by housing status categories is extremely close. In no case does the difference between the distributions exceed 1.1 percentage points.

TABLE C TWO
Comparison of Housing Status Between 2008 HVS and 2010 ACS

Housing Status	2008 HVS		2010 ACS		Percentage Point Difference
	Frequency	Percent	Frequency	Percent	
Renter					
Public Housing	158,304	5.1%	150,860	5.0%	0.1
Mitchell-Lama Rental	40,164	1.3%	39,029	1.3%	0.0
Tenant-Based Subsidy	238,391	7.7%	235,527	7.7%	-0.1
Stabilized/Controlled	884,845	28.5%	856,583	28.2%	0.3
Other Regulated	37,592	1.2%	69,106	2.3%	-1.1
Market Rate	687,254	22.2%	664,205	21.9%	0.3
No Cash Rent	35,402	1.1%	49,658	1.6%	-0.5
Owner					
Owned Free and Clear	359,039	11.6%	354,775	11.7%	-0.1
Paying Mortgage	654,100	21.1%	619,723	20.4%	0.7
No Mortgage Status Reported	6,206	0.2%			
Total	3,101,298	100.0%	3,039,466	100.0%	

Source: New York City Housing and Vacancy Survey and American Community Survey Public Use Micro Sample as augmented by CEO.

Estimating Market Rents

Market value is a hypothetical level of expenditure that must be estimated. In the economics literature the value of housing services is often thought of as a bundle of different physical and location-specific characteristics of a given unit.³¹ We can, therefore, estimate the market rent of non-market rate housing by fitting a regression model accounting for these factors to a sample consisting of market rate units and then apply the resulting coefficients to the same set of characteristics of non-market rate units.

Before describing the model, two clarifications should be made. The first is that the dependent variable in the regression is the gross rent currently paid for the unit. Thus, market value is not necessarily equal to what a unit would rent for if it were placed on today's market. Since our concern is differences in current spending needs between residents of market and non-market housing

units, the former sense of market value is what we need to measure.

Second, and as noted above, we do not estimate market values for homeowners and continue to value the advantage of ownership free and clear of a mortgage by taking the difference between the housing portion of the threshold and owners' out-of-pocket housing costs for all such households. The dependent variable in a regression model for homeowners with a mortgage would be their current out-of-pocket costs. Unlike renters, these costs depend not only on the location, size, and quality of their homes, but also on the timing and terms of their mortgages. As a result, a regression model that estimated current homeowner spending needs based only on physical and neighborhood characteristics could be highly inaccurate.

To estimate market rate rents, we again rely on the 2005 and 2008 New York City Housing and Vacancy

31. An application of this approach in New York City can be found in Roistacher, Elizabeth A. "Rent Regulation in New York City: Simulating Decontrol Options." *Journal of Housing Economics* 2, pp.107-138. 1992.

Surveys, which contain detailed information on the location and physical condition of rental units. For both of these years, we estimate a regression model on the subset of observations that are in market rate rental units. We focus on variables that measure housing quality at three levels: the unit/tenant, the building, and the neighborhood. The unit/tenant-specific indicators are the size (rooms and rooms squared, to account for a non-linear relationship) and the length of the tenant's tenure, which captures the negotiating power accrued by long-term tenants. At the building level, we use measures of building conditions, building size, building

age, and whether the owner lived in the building. To capture neighborhood effects, we included a subjective "neighborhood quality" measure as reported by the tenant, as well as mean PUMA income and dummy variables for the super-PUMA in which the building is located.³² We used super-PUMA dummies rather than PUMA dummies in order to address the small sample sizes within some of the PUMAs. By including mean PUMA income in the model, however, we are able to capture some of the variation in neighborhood effects at the PUMA level. The regression variables are defined in Table C Three.

TABLE C THREE
Regression Variables

Variable	Description	Variable	Description
Building Condition	Dummy (1 = Not Sound)	Number of Units Indicators	1-2 Units Omitted
Boarded-up Windows	Dummy (1 = Broken/Boarded Windows in Neighborhood)	3-5 Units	
Tenant Tenure	Years in Apartment	6-9 Units	
Owner in Building	Dummy (1 = Owner Not in Building)	10-19 Units	
Rooms	Number of Rooms	20-49 Units	
Rooms Squared	Number of Rooms Squared	50-99 Units	
1-3 Stories	Dummy (1 = 1-3 Stories in Building)		
4+ Stories, No Elevator	Dummy (0 = Four or More Stories and No Elevator)	Super-PUMA Indicators	Eastern Manhattan Omitted
Mean PUMA Income	Mean Income within PUMA, in Thousands of Dollars	Northern Bronx	
		Southern Bronx	
		Northern Kings	
Tenant Rating Indicators	Rated Fair Omitted	Western Kings	
Rated Excellent	Buildings in Neighborhood Rated by Tenant	Central Kings	
Rated Poor	Buildings in Neighborhood Rated by Tenant	Eastern Kings	
		South Kings	
		Northern Manhattan	
Year Built Indicators	Built before 1947 Omitted	Western Manhattan	
Built 2000+		Richmond	
Built 1990-1999		Northern Queens	
Built 1970-1989		Eastern Queens	
Built 1947-1969		South Eastern Queens	
		Southern Queens	

32. Super-PUMAs are Census-defined geographic units that represent approximately 400,000 residents. In their level of geographic detail, New York City's 15 super-PUMAs stand between the City's five boroughs and its 55 PUMAs.

The results of these regressions are shown in Table C Four. The models for 2005 and 2008 have a similar fit. The widest divergence in the coefficients across the years is in variables that are not statistically significant.

In particular, the coefficient on “Mean PUMA Income”³³ in the 2005 and 2008 models is quite close and highly significant.

TABLE C FOUR
Regression Models of Market Rate Rents

Variable	2005	2008	Variable	2005	2008
Intercept	147.20 [1.34]	514.19*** [4.47]	10-19 Units	-36.82 [-0.56]	-451.549*** [-7.24]
Building Condition	-13.46 [-0.13]	23.47 [0.13]	20-49 Units	-238.43*** [-4.48]	-418.38*** [-7.72]
Boarded-up Windows	-31.56 [-0.78]	-75.53 [-1.48]	50-99 Units	-263.43*** [-4.82]	-198.32*** [-3.48]
Tenant Tenure	-129.39*** [-11.68]	-124.46*** [-9.50]	Northern Bronx	-16.07 [-0.31]	-84.69 [-1.32]
Built 2000+	169.25*** [3.94]	221.80*** [5.19]	Southern Bronx	-2.06 [-0.02]	-204.79* [-2.19]
Built 1990-1999	-52.23 [-1.18]	461.85*** [6.87]	Northern Kings	374.02*** [4.83]	424.94*** [5.07]
Built 1970-1989	-32.09 [-0.98]	9.61 [0.23]	Western Kings	1044.50*** [14.09]	1310.34*** [15.87]
Built 1947-1969	-18.22 [-0.77]	-36.29 [-1.05]	Central Kings	1259.00*** [17.25]	1360.08*** [15.28]
Owner in Building	86.83*** [4.51]	51.43* [2.24]	Eastern Kings	-117.48 [-1.78]	-391.24*** [-5.20]
Rooms	299.22*** [10.00]	263.37*** [8.08]	South Kings	-21.93 [-0.41]	-34.13 [-0.55]
Rooms Squared	-12.12*** [-3.32]	-7.77 [-1.93]	Northern Manhattan	147.84** [2.82]	91.25 [1.55]
1-3 Stories	-117.58 [-1.85]	-107.48 [-1.69]	Western Manhattan	-93.10 [-1.72]	-194.43** [-3.00]
4+ Stories, No Elevator	267.79*** [4.58]	272.35*** [4.64]	Richmond	-14.26 [-0.27]	-181.56** [-2.81]
Rated Excellent	21.57 [0.88]	132.93*** [4.35]	Northern Queens	105.88* [2.14]	39.86 [0.66]
Rated Poor	-88.76 [-1.08]	-215.88* [-2.40]	Eastern Queens	56.14 [0.94]	-119.80 [-1.75]
Mean PUMA Income	6.96*** [5.31]	6.20*** [5.06]	South Eastern Queens	-76.24 [-1.27]	-327.70*** [-4.54]
3-5 Units	49.12* [2.14]	-4.99 [-0.18]	Southern Queens	-131.58* [-2.47]	-202.17** [-3.28]
6-9 Units	-59.26 [-0.76]	-256.08*** [-3.45]			
			R²	0.587	0.553
			N	2,986	4,102

Sources: 2005 and 2008 New York City Housing and Vacancy Survey. Notes: Dependent variable is monthly gross rent. Data weighted with the New York City Housing and Vacancy Survey household weight. Significance codes: ***p<0.001 **p<0.01 *p<0.05.

33. We measure “PUMA Income” as average income within the PUMA, expressed in thousands of dollars.

We then use the coefficients from these models to compute estimated market rate rent values for the non-market rental units. Table C Five shows the reported gross rent, estimated market rent, and their difference for various categories of renters in both the 2005 and 2008 HVS (in 2010 dollars). The data are presented as rent per number of bedrooms since the average number of bedrooms tends to vary across rental groups. The small difference between the reported and estimated rents for

rate estimates to the households in the ACS that have been matched to the HVS. It reports the mean difference between households' out-of-pocket housing expenditures and two values: 1) the housing portion of the threshold; and, 2) the estimated market rent. These differences correspond to equations one and two above. The differences based on the estimated market rate rents are uniformly higher (on average) than the housing portion of the threshold for all groups.³⁴ When we apply the

TABLE C FIVE
Mean Reported Gross Out-of-Pocket Rent and
Estimated Market Rate Rent, Per Bedroom

Housing Status	2008 HVS		Difference
	Gross Out-of-Pocket Rent	Estimated Market Rent	
Market Rate	\$730	\$739	\$8
Public Housing	\$179	\$626	\$447
Mitchell-Lama Housing	\$379	\$751	\$372
Tenant-Based Subsidy	\$154	\$584	\$430
Stabilized/Controlled	\$562	\$714	\$152
Other Regulated	\$306	\$695	\$389
No Cash Rent	\$0	\$645	\$645

Housing Status	2005 HVS		Difference
	Gross Out-of-Pocket Rent	Estimated Market Rent	
Market Rate	\$750	\$754	\$4
Public Housing	\$186	\$692	\$506
Mitchell-Lama Housing	\$426	\$781	\$355
Tenant-Based Subsidy	\$183	\$626	\$443
Stabilized/Controlled	\$659	\$854	\$195
Other Regulated	\$348	\$778	\$431
No Cash Rent	\$0	\$663	\$663

Sources: 2005 and 2008 New York City Housing and Vacancy Survey.
Note: All data presented in 2010 dollars.

market rate units highlights the quality of the model's fit. By contrast, there are large per-room differences between the reported out-of-pocket rent and the estimated market rate rents for all the non-market rate groups. This is especially the case for public housing units, with a mean per-room difference of \$447 in 2008. The considerably higher market rate estimates are consistent with our assumption that non-market renters are, indeed, advantaged relative to market rate renters.

Table C Six provides the results of applying the market

new rule of taking the smaller of the two differences to compute the housing adjustment to income, equation one is used in the majority of cases, ranging from 58.1 percent of the time for renters with tenant-based subsidies to 86.2 percent of the time for renters in Mitchell-Lama housing. This indicates that, for the most part, renters of non-market units are not "paying" for their cheaper rents by living in housing that is of such low quality that it would rent for less than the housing portion of the threshold.

34. The mean adjustment using the housing portion of the threshold for rent-stabilized and controlled units is negative, indicating that a majority of these households' housing expenditures exceed that standard. This is not surprising as rent control and stabilization are not means-tested programs.

TABLE C SIX**Housing Portion of the Threshold vs. Estimated Market Rate Rent, 2010**

Housing Status	Adjustment using Housing Portion of the Threshold		Adjustment using Estimated Market Rate		Share using Housing Portion of the Threshold
	Mean	Median	Mean	Median	
Public Housing	\$6,755	\$5,723	\$12,958	\$11,235	75.6%
Mitchell-Lama Housing	\$1,455	\$943	\$9,868	\$7,983	86.2%
Tenant-Based Subsidy	\$8,335	\$7,679	\$11,335	\$10,841	58.1%
Rent-Stabilized/Controlled	-\$1,401	-\$871	\$3,761	\$1,865	64.3%
Other Regulated	\$4,075	\$4,163	\$9,890	\$9,555	77.0%
No Cash Rent	\$11,079	\$8,243	\$17,148	\$14,314	71.5%

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

Note: Data weighted by the ACS household weight.

Impact of the Housing Adjustment on the Poverty Rate

Table C Seven shows the impact of the methodological change in the housing adjustment. Although equation one (the difference between the housing portion of the threshold and the household's out-of-pocket housing expenditures) is still being employed for most of the households, the new two-equation method reduces the poverty-lowering effect of the housing adjustment by

2.2 percentage points Citywide. The effects, of course, are dramatically larger for those living in non-market rate rental units, reaching 8.5 percentage points for recipients of tenant-based subsidies. These differences indicate that for a number of non-market rate renters, using the housing portion of the threshold had overstated the quality of the housing occupied by a considerable degree.

TABLE C SEVEN**Comparison of New and Old Housing Adjustment Methods, 2010**

	Poverty Rate Based on New Housing Adjustment	Poverty Rate Based on Old Housing Adjustment	Percentage Point Difference
Total Population	21.0%	18.8%	2.2
Renter			
Public Housing	33.5%	28.1%	5.4
Mitchell-Lama Rental	26.0%	24.3%	1.7
Tenant-Based Subsidy	32.0%	23.5%	8.5
Stabilized/Controlled	24.7%	20.5%	4.2
Other Regulated	33.3%	30.5%	2.8
Market Rate	25.6%	25.6%	N.A.
No Cash Rent	16.6%	15.0%	1.6
Owner			
Owned Free and Clear	9.8%	9.8%	N.A.
Paying Mortgage	10.5%	10.5%	N.A.

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

Note: N.A. - Not applicable because there is either no housing adjustment or the adjustment was unchanged.

Despite this change in our method, the housing adjustment continues to have the largest impact on the CEO poverty rate of all the non-cash resource components. In 2010, it reduced the Citywide poverty rate by 5.7 percentage points. As Table C Eight indicates, the reductions for recipients of means-tested assistance

are particularly large. For example, valuing housing assistance reduces the poverty rates for individuals in public housing and those receiving tenant-based subsidies by 23.8 and 26.7 percentage points, respectively.

TABLE C EIGHT
Effect of Housing Adjustment on the Poverty Rate, 2010

	Poverty Rate Based on Total CEO Income	Poverty Rate without Housing Adjustment	Percentage Point Difference
Total Population	21.0%	26.7%	-5.7
Renter			
Public Housing	33.5%	57.3%	-23.8
Mitchell-Lama Rental	26.0%	35.9%	-9.9
Tenant-Based Subsidy	32.0%	58.7%	-26.7
Stabilized/Controlled	24.7%	28.5%	-3.8
Other Regulated	33.3%	51.5%	-18.2
Market Rate	25.6%	25.6%	0.0
No Cash Rent	16.6%	31.0%	-14.4
Owner			
Owned Free and Clear	9.8%	16.6%	-6.8
Paying Mortgage	10.5%	10.5%	0.0

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

APPENDIX D: THE CEO TAX MODEL

Tax programs have become an increasingly important component of the resources available to families to meet their needs. Tax credits have expanded over the past decade and are a centerpiece of the recent Federal stimulus programs. Families with income above a minimal level incur income tax liabilities, but low-income families – especially if they have children – are eligible for tax credits that may be refundable in an amount even greater than the taxes they would owe. The result is that many low-income families have a negative tax rate – they receive more from the income tax system than they pay into it. Working families are also subject to payroll taxes under the Federal Insurance Contribution Act (FICA). FICA offsets some of the increased income coming from the income tax credits. But even when payroll taxes are accounted for, the total tax effect on income leads to a reduction in the CEO poverty rate.

The Tax Model

The American Community Survey (ACS), our primary source of data, does not include any information about taxes. CEO, therefore, has created a tax model. The model's first task is to create tax filing units within the ACS's households. Then it applies the tax code to estimate the taxes owed and tax credits received for New York City tax filers.

Creating Tax Filing Units

ACS households consist of all persons residing in the same housing unit. Within the household, each member is identified only through their relationship to the person answering the ACS questionnaire. This person is designated as the respondent and is usually, but not always, the primary owner or renter of the household. The remaining residents of the household may form a complex network of relationships. Occupants can include a family embodying several generations; related sub-families; families unrelated to the respondent; and

one or more unrelated individuals, including roomers and boarders.

For tax purposes, this presents a challenge. We need to use the information available in the ACS to estimate how many tax returns are filed from each household, and identify who on the return is the filer (along with their spouse and dependents). CEO addresses this problem by first dividing ACS households into Minimal Household Units (MHUs) that create a richer set of information about how persons in the household are related to each other. For example, two married boarders with a child will be linked together, using age and other demographic characteristics. The children of unmarried partners (unless they are coded as children of the respondent) are identified in a similar manner and are then coded as the child of a specific parent.³⁵

The tax model then identifies MHU members who are tax filers, along with their spouse or dependent. Additional decisions are made about allocating children and indigent household members to filers as dependents.³⁶ Based on these decisions, each tax filer is then given a status of Married Filing Joint, Head of Household, Single, or Married Filing Separate.³⁷

The Tax Calculator

A simulated Federal, New York State, and New York City tax return is prepared for each tax filing unit based on income and other data provided in the ACS.³⁸ We identify adjusted gross income (AGI) for the tax unit, which is the sum of all earned income, interest income, and other income sources. Social Security income is included to the extent it is taxable. Personal exemptions and standard deductions are then subtracted from AGI to find taxable income. The Federal tax liability on that income is calculated and then – going through the steps of a Federal 1040 tax return – we compute each of the tax credits for which filers are eligible. Once the 1040 is completed, an IT-201 New York State tax return is created, which relies on income and credit calculations from the Federal return. The IT-201 generates New York State and City tax liabilities and credits. In a final step,

35. The MHU methodology is derived from Passel, Jeffery. "Editing Family Data in Census 2000 Public-Use Microdata Samples: Creating Minimal Household Units (MHU's)." August 23, 2002. The application of Passel's method to the CEO model is explained in: Virgin, Vicky. *Creating the CEO Poverty Unit: An Evaluation Using the CPS ASEC*. June 2011. Available at: www.irp.wisc.edu/research/povmeas/Poverty_unit_analysis_CEO_2011.pdf

36. The methodology used to create tax filing units is discussed at length in: NYC Center for Economic Opportunity. *The CEO Poverty Measure, 2005-2008*. New York, NY: Center for Economic Opportunity. 2010.

37. The ACS does not provide enough information to identify widows, the other filing status used by the IRS.

38. Due to a lack of data in the ACS, tax estimates for middle to higher income households are less accurate than estimates for lower income households. We do not include itemized deductions, capital gains, and other tax items more common to higher income returns. For this reason, we confine our analysis to filers with AGI under \$50,000.

FICA payroll taxes are applied to all wage and salary income, and self-employment taxes are deducted from self-employment earnings.

Tax Policy

The years 2008 to 2010 contain additional deductions, credits, or expansion of existing credits as part of the stimulus programs. Our tax model incorporates the following changes for those years:

- **Recovery Rebate Tax Credit for Individuals:** A one-time tax rebate included in the Economic Stimulus Act of 2008. The credit is based on information provided in the 2007 tax return, to be paid out in 2008. The maximum payment was \$600 for single filers, \$1,200 for married filers, and an additional \$300 per qualifying child. The timing of this credit is difficult to model. The Stimulus Act became law in early 2008, just as returns were being filed for 2007 taxes. Individuals who were not required to file for that year were required to file a return in order to receive the credit. Filers who had already sent in a tax return could claim it retroactively, possibly carrying their rebate into calendar year 2009. Filers whose 2008 income generated a different credit than that estimated by their 2007 return had to reconcile the difference in their 2008 return, filed in early 2009. The ACS does not contain any information as to when this credit was received, nor can we track tax units from year to year using 2007 returns to estimate rebates filed for in 2008. Therefore, we assumed that all filers received the credit in calendar year 2008, based on the model's 2008 returns. We include no rebate credit in 2009. We expect this overestimates the amount of credit that was actually awarded within the year 2008 and underestimates it for 2009.
- **Additional Standard Deduction for Real Estate:** Passed as part of the Housing Assistance Act of 2008 and extended for 2009 by the Emergency Economic Stabilization Act of 2009. Filers who take the standard deduction (all filers in the CEO tax model) and are homeowners can claim an additional standard deduction of up to \$500 (\$1,000 for married filers) against their local property taxes.
- **Additional Child Tax Credit:** The Additional Child Tax Credit is a refundable supplement to the Child Tax Credit. Prior to passage of the Emergency Economic Stabilization Act of 2008, the credit for some filers was to be based on an earned income threshold of over \$12,050 in 2008 and \$12,550 in 2009. The Act lowered the threshold to \$8,500 for 2008 and reduced it again to \$3,000 in 2009. The 2009 threshold was extended into 2010. The result is that more filers with lower incomes receive a refundable credit.
- **Making Work Pay Tax Credit:** A credit of up to \$400 (\$800 for married filers). The credit was awarded via a change in withholding tables, not through tax filing. The CEO model adds it as a standard tax credit in 2009 and 2010.
- **Economic Recovery Payment:** A payment of \$250 distributed in 2009 to recipients of Social Security or Supplemental Security Income (SSI) payments and Veterans or Railroad Retirement benefits. The ACS allows us to identify only Social Security and SSI recipients. Although not technically a tax credit, we include this payment as a tax offset.
- **Expansion of the Earned Income Tax Credit (EITC):** Two changes occurred in 2009. First, the maximum credit for married filers increased in an acceleration of the ongoing elimination of the marriage penalty in the EITC. Second, a third tier of credits was added to allow filers with more than two children to claim a larger credit. The maximum possible credit for a married couple with three children was \$4,824 in 2008. In 2010, the maximum credit for this family rose to \$5,666.
- **College Tuition Credits:** The tuition credit in the CEO model combines the Lifetime Learning Credit and, prior to 2009, the Hope Credit for college students in the tax unit. In 2009 the Hope Credit was replaced by the American Opportunity Credit. The new credit is up to 40.0 percent refundable.
- **School Tax Relief Credit:** A credit against the income tax for New York City residents and funded by New York State. The credit was reduced significantly in 2009.
- **New York State and City Earned Income Credit:** No legislative change was made to these credits, but they are calculated at 30.0 percent and 5.0 percent of the Federal EITC, respectively. Thus, changes at the Federal level beginning in 2009 resulted in an expansion of the State and City EITC.

The changes below originate with the American Recovery and Reinvestment Act of 2009:

Taxes in Detail

The section below compares tax liabilities and tax credits from 2008 to 2010. Tables D One through D Three divide tax filers into two groups: Panel A consists of those filers with AGI from \$1 to \$25,000 and Panel B consists of filers with AGI from \$25,001 to \$50,000. This division roughly illustrates the impact of tax programs for those filers who are most likely to be poor separately from those filers with incomes closer to or somewhat above the poverty line.

Major Tax Components

Table D One shows the major components of the tax model. Taxable Income is income after deductions and exemptions. Pre-Credit Liability is the total Federal, State, and City income tax due on Taxable Income before any credits are applied. Federal, State, and City credits are the sum of tax credits received from each level of government. The last component, Net Income Tax Effect, is the effect on household resources after taxes. A positive value for Net Income Tax Effect indicates that tax credit refunds are greater than the taxes owed. In other words, the tax system generates a net gain to

the taxpayer. A negative number indicates a net loss to the taxpayer, since taxes paid are greater than taxes refunded.

Panel A of Table D One shows that filers with AGI up to \$25,000 have a positive value for Net Income Tax Effect for each of the years shown, representing a net gain to CEO income after taxes. The greatest gain occurred in 2008 with an almost \$1.7 billion Net Income Tax Effect. Filers with AGI over \$25,000 and up to \$50,000, shown in Panel B, have an annual net loss to their household resources after taxes. This loss was greatest in 2009 at nearly \$4 billion for filers in this income group. All filers in Table D One have a decline in AGI from 2008 to 2010. This in turn generates a lower Taxable Income and a lower tax bill in the form of lower Pre-Credit Liability.³⁹ At the same time, there were fewer stimulus credits available: The Rebate Recovery Credit, Economic Recovery Payment, and Standard Deduction for real estate tax expired by 2010. At the City level, the School Tax Credit (STAR) was cut nearly in half. Only New York State Tax Credits continued to rise. There were no changes in State tax policy, but the State EITC grew as a function of the rise in the Federal EITC.

39. The Real Estate Standard Deduction, applicable in 2008 and 2009, is the only tax policy in effect that impacts Taxable Income and Pre-Credit Liability.

TABLE D ONE
Components of Net Income Tax Effect, 2008 - 2010

Total Dollar Value (in \$1,000s)

A. Adjusted Gross Income, \$1 - \$25,000				Percentage Change
	2008	2009	2010	2008-2010
Adjusted Gross Income (AGI)	15,711,206	16,847,449	15,606,274	-0.7%
Taxable Income	4,219,371	4,511,308	3,962,563	-6.1%
Pre-Credit Liability	1,025,829	1,120,705	1,011,403	-1.4%
Federal Credits*	1,977,209	2,067,622	2,033,497	2.8%
State Credits	483,912	507,675	501,351	3.6%
City Credits	263,786	166,164	158,957	-39.7%
Net Income Tax Effect	1,699,079	1,558,274	1,682,402	-1.0%
B. Adjusted Gross Income, \$25,001 - \$50,000				Percentage Change
	2008	2009	2010	2008-2010
Adjusted Gross Income (AGI)	38,301,528	39,564,328	36,324,775	-5.2%
Taxable Income	23,940,259	24,470,442	21,939,586	-8.4%
Pre-Credit Liability	5,589,512	5,776,278	5,106,480	-8.6%
Federal Credits*	1,686,856	1,482,669	1,488,426	-11.8%
State Credits	249,371	282,165	290,996	16.7%
City Credits	200,963	100,987	99,277	-50.6%
Net Income Tax Effect	-3,452,323	-3,931,662	-3,227,781	-6.5%

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

*Includes Economic Recovery Payment to Social Security and SSI recipients in 2009.

Changes in each of the individual tax credits from 2008 to 2010 are detailed in Table D Two below. Total Tax Relief is the sum of all credits. For lower income taxpayers in Panel A, the greatest assistance from tax credits occurred in 2009 at nearly \$3 billion dollars in total credits from Federal, State, and City sources. For the higher income group in Panel B, tax relief peaked in 2008 at \$2.2 billion, falling from this high by just over 16 percent in 2010. The most notable increases in tax credits were due to the changes in the Federal EITC, the Additional Child Tax Credit (described above), and the tuition credit, which was no longer capped by tax liability, but was made partially refundable.⁴⁰

40. This is solely an increase in the tuition tax credit and does not include the itemized tuition deduction. The CEO tax model does not include itemized deductions.

TABLE D TWO
Selected Tax Credits, 2008 - 2010

Total Dollar Value (in \$1,000s)

	A. Adjusted Gross Income, \$1 - \$25,000			Percentage Change 2008-2010	B. Adjusted Gross Income, \$25,001 - \$50,000			Percentage Change 2008-2010
	2008	2009	2010		2008	2009	2010	
Federal								
Child and Dependent Care Credit	17,030	16,320	12,812	-24.8%	17,243	18,795	17,643	2.3%
Child Tax Credit*	216,184	332,597	319,269	47.7%	393,732	407,741	390,000	-0.9%
Elderly and Dependent Credit	172	286	247	44.1%	0	0	0	0.0%
Education Credit**	34,042	114,052	113,099	232.2%	149,137	222,559	223,974	50.2%
Earned Income Credit Federal	1,146,501	1,255,827	1,244,488	8.5%	275,084	374,382	415,528	51.1%
Real Estate Standard Deduction	89,116	89,819	N.A.	N.A.	117,077	123,836	N.A.	N.A.
Recovery Rebate Credit	578,019	N.A.	N.A.	N.A.	852,859	N.A.	N.A.	N.A.
Making Work Pay Credit	N.A.	363,187	355,370	N.A.	N.A.	468,662	454,510	N.A.
Economic Recovery Payment	N.A.	62,483	N.A.	N.A.	N.A.	21,205	N.A.	N.A.
New York State								
Household Credit	36,452	39,786	36,648	0.5%	7,332	6,511	7,043	-3.9%
Child and Dependent Care Credit	18,733	17,952	14,094	-24.8%	17,848	19,419	18,405	3.1%
Child Tax Credit	32,905	23,604	19,518	-40.7%	89,170	87,834	77,824	-12.7%
Tuition Credit	68,016	67,598	74,436	9.4%	57,256	60,243	67,703	18.2%
Real Property Tax Credit	1,069	1,114	559	-47.7%	0	0	0	0.0%
Earned Income Credit State	326,738	357,622	356,096	9.0%	77,764	108,158	120,020	54.3%
New York City								
Household Credit	9,999	9,754	9,608	-3.9%	0	0	0	0.0%
School Tax Credit (STAR)	186,406	82,841	79,616	-57.3%	186,341	81,306	76,992	-58.7%
Child and Dependent Care Credit	10,056	10,777	7,509	-25.3%	868	961	1,509	73.9%
Earned Income Credit City	57,325	62,791	62,224	8.5%	13,754	18,719	20,776	51.1%
Total Tax Relief	2,828,762	2,908,410	2,705,594	-4.4%	2,238,223	2,001,537	1,874,285	-16.3%

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

*Includes refundable additional child tax credit.

**Combines American Opportunity Credit and Hope Credit in 2008; American Opportunity Credit and Lifetime Learning Credit in 2009 and 2010.

Notes: N.A. - Not applicable in that tax year. The sum of nonrefundable credits may be limited by total tax liability at the level of individual filers.

In addition to income taxes, FICA (payroll taxes for Social Security and Medicare) is another piece of the total tax picture. For filers earning up to \$25,000, FICA payments peaked at just over \$1 billion in 2009 before falling to \$932 million in 2010, reflecting a decline in earnings. For higher income filers, a similar pattern occurs. Their FICA payments drop from \$2.5 billion in 2008 to \$2.4 billion in 2010.

peaked in 2008 and 2009, generating a 4.2 percentage point effect on the poverty rate in both years. This fell to a 4.1 percentage point effect by 2010. Compare this to the years 2005-2007, before the enactment of tax stimulus programs. In those years, the marginal impact of income taxes in offsetting poverty averaged 2.7 percentage points. Tables D One and D Two show the declining impact of stimulus tax credits by 2010, yet

TABLE D THREE
FICA (Payroll Taxes), 2008 - 2010

Total Dollar Value (in \$1,000s)

	2008	2009	2010
A. Adjusted Gross Income, \$1 - \$25,000			
FICA (Payroll Taxes)	958,222	1,037,703	931,944
Net Gain/Loss from Income Taxes*	1,699,079	1,558,274	1,682,402
Net Tax Effect After FICA	740,857	520,571	750,459
B. Adjusted Gross Income, \$25,001 - \$50,000			
FICA (Payroll Taxes)	2,527,862	2,620,239	2,403,023
Net Gain/Loss from Income Taxes*	-3,452,323	-3,931,662	-3,227,781
Net Tax Effect After FICA	-5,980,185	-6,551,901	-5,630,804

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

*From Table D One, Net Income Tax Effect

FICA payments offset tax benefits and are subtracted from resources. In 2010, FICA payments offset well over half of the net income received from the income tax system for the lowest income filers. For filers in our higher group, the inclusion of FICA adds to their net loss after income taxes. In 2010, this represented an additional \$2.4 billion reduction in resources.

Taxes and the Poverty Rate

The poverty rate would be higher in the absence of net taxation. For low income New Yorkers, payroll and income tax credits are offset by tax credits to the extent that the tax system creates an addition to their total resources. Over the past three years this has been enhanced by the Federal economic stimulus programs. Table D Four illustrates the impact of taxation on the poverty rate by comparing poverty rates that are calculated net of the tax effect on income against poverty rates calculated with total CEO income. The benefit of stimulus programs is apparent. Income tax credits

the overall net tax impact on the poverty rate remains positive and greater than before the enactment of stimulus credits. Chapters V and VI of this report provide more details on the effect of the stimulus related credits and how they provide tax relief, especially for families with children.

Some of the income tax benefit is offset by mandatory payroll taxes. The marginal effect of FICA on the poverty rate ranges from 1.4 to 1.9 percentage points, yet taxes still have an overall positive effect on household resources. Measuring the combined effect of payroll and income taxes we find that taxes account for a 2.4 percent decline in the CEO poverty rate in 2010.

TABLE D FOUR
Impact of Net Taxes on Poverty Rates, 2005 - 2010

(Numbers are Percent of the Population)

	2005	2006	2007	2008	2009	2010
A. Poverty Rates						
Total CEO Income	20.5	20.2	19.8	19.0	19.7	21.0
Net of:						
Income Taxes	23.3	22.7	22.5	23.2	23.9	25.1
FICA (Payroll Taxes)	19.1	18.2	18.1	17.5	17.8	19.3
Income Taxes and FICA	21.6	21.0	20.7	21.4	22.1	23.4
B. Marginal Effects						
Income Taxes	-2.8	-2.5	-2.7	-4.2	-4.2	-4.1
FICA (Payroll Taxes)	1.4	1.9	1.7	1.5	1.9	1.7
Income Taxes and FICA	-1.1	-0.8	-0.9	-2.4	-2.4	-2.4

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

APPENDIX E: ESTIMATING THE VALUE OF NUTRITIONAL ASSISTANCE

The National Academy of Sciences Panel recommended that the value of in-kind nutritional benefits be included in the tally of family resources.⁴¹ As in prior CEO reports we account for the value of the two largest nutritional assistance programs, the Supplemental Nutritional Assistance Program (Food Stamps)⁴² and the National School Lunch Program (NSLP). In this report we also include the cash-equivalent value of the School Breakfast Program (SBP) and the Special Supplemental Nutritional Program for Women, Infants, and Children (WIC). Information about these programs is either incomplete (Food Stamps) or entirely omitted (school meals and WIC) in the American Community Survey (ACS). Their value must be estimated using other data sources. This appendix describes how we identify program participation and benefit levels in these programs. It concludes with estimates of the impact of nutritional assistance on the CEO poverty rate.

Food Stamps

Data in the ACS about Food Stamp participation are very limited. First, as of 2008, the ACS only indicates whether a member of a household received Food Stamps at any time in the prior 12 months, providing no information on the value or duration of the benefit.⁴³ This must be estimated. CEO's decision to make use of New York City administrative data as its source for imputing the value of Food Stamps received leads to a second problem: Food Stamp participation in the ACS is reported at the household level, which differs from a typical Food Stamp case. A household is comprised of persons who share residence in a housing unit. A Food Stamp case, in contrast, includes household members who purchase and prepare food in common. The distinction shows up clearly in the data. In 2010, for example, the average New York City Food Stamp case had 1.93 members, while the average ACS household reporting Food Stamp receipt had 3.01 members. A third problem is underreporting of program participation.

CEO's method for imputing the yearly value of Food Stamps thus entails three steps: (1) creating Food Stamp units within ACS household units; (2) estimating the value of yearly Food Stamp receipt; and (3) adjusting the number of Food Stamp cases created in the ACS data to correct for underreporting.

To create commensurable units, CEO developed a program to divide ACS households into the maximum number of "Food Stamp units" that the program rules allow. The Supplemental Nutrition Assistance Program (SNAP) uses the following rules to determine who in a household must be in the same Food Stamp case:

1. Spouses.
2. Parents and children under 22, including spouses of these children, and grandchildren.
3. A child under 18 living with, and under the parental control of, an adult that provides 50 percent or more of the minor child's support.
4. Anyone else in the household that purchases and prepares food together.

The first three of these rules are based on relationships within the household. Some of these are readily described by variables in the ACS. Others are not and must be created. To construct these relationships, we used the minimal household unit (MHU) program, which was originally written by Jeff Passel, Senior Demographer at the Pew Hispanic Center. The MHU program is designed to parse an ACS household into its smallest family units.⁴⁴ The program loops through the data, linking individuals within the household by kinship and marriage. This work creates Food Stamp case units that conform to the first three rules listed above.

Because CEO does not attempt to infer who else in the household is purchasing and preparing food together, the program creates the maximum number of Food Stamp units within each household allowable under SNAP rules. The size and composition of the Food Stamp cases produced with this method accurately reproduced that of the cases in the administrative data. In 2010, for example, the proportion of single-person Food Stamp cases created in the ACS (56.8 percent) is virtually

41. Citro and Michael, pp. 66-67.

42. The Food Stamp program was renamed as the Supplemental Nutritional Assistance Program in the 2008 Farm Bill. We will refer to SNAP benefits colloquially as "Food Stamps," as most people still use the term.

43. The decision to drop the question about the value of Food Stamps received was influenced by the Census Bureau's testing of the ACS questionnaire, which revealed that respondents were more likely to indicate receipt of the benefit if the follow-up question about the value of the benefit did not appear in the survey instrument. See: www.census.gov/acs/www/Downloads/methodology/content_test/H6_Food_Stamps.pdf

44. Passel, Jeffrey. "Editing Family Data in Census 2000 Public-Use Microdata Samples: Creating Minimal Household Units (MHUs)." August 23, 2002.

identical to the proportion of single-person cases in the administrative data (56.5 percent). Using the Food Stamp unit rather than the ACS household also increases the estimated number of Food Stamp cases in the 2010 ACS from 586,037 (57.2 percent of the administrative total) to 916,208 (89.4 percent of the administrative total).

the demographic characteristics present in both the administrative and ACS data sets in order to predict the yearly value of Food Stamp payments to families in New York City.

We focused on variables that were strongly predictive of Food Stamp benefits and for which high quality data

TABLE E ONE
Percentage Distribution of Food Stamp Cases by Size, 2010

Size	ACS Unadjusted		CEO Food Stamp Units		Administrative Cases	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
1	151,325	25.8	520,490	56.8	579,501	56.5
2	122,678	20.9	157,914	17.2	211,079	20.6
3	99,267	16.9	99,346	10.8	122,161	11.9
4	88,522	15.1	72,995	8.0	65,207	6.4
5	57,338	9.8	37,475	4.1	27,279	2.7
6	33,958	5.8	16,128	1.8	10,754	1.0
7	15,399	2.6	6,360	0.7	4,443	0.4
8	9,030	1.5	2,660	0.3	2,354	0.2
9	4,193	0.7	1,550	0.2	1,224	0.1
10 or More	4,327	0.7	1,290	0.1	1,325	0.1
Total	586,037	100.0	916,208	100.0	1,025,327	100.0

Sources: American Community Survey Public Use Micro Sample as augmented by CEO and New York City Human Resources Administration.

Once commensurable units were created, we began the Food Stamp value estimation process by compiling administrative data on Food Stamp cases in New York City from the Human Resources Administration's internal database. The data includes all cases in New York City that were active for any period between July and June of the appropriate year. This period is chosen because it represents the mid-point in the ACS rolling sample, helping to ensure that the administrative data was comparable to the ACS data. To preserve comparability with our poverty universe, individuals in group quarters were removed from both the administrative data and the ACS sample.

The administrative data set contains demographic information about the Food Stamp case-heads and families, as well as relevant budget information such as household income. For each case, we summed the total of Food Stamp payments over the previous year. Using this data, we developed a regression model using

existed in both the ACS and administrative data sets. Case size was, unsurprisingly, the strongest predictor of benefit level. Further, the number of children, and the dummy variables for elderly case head and elderly or disabled member in the case were also predictive of the benefit level. This is likely due to the fact that it is easier for these groups to remain on Food Stamps longer since they are not subject to work requirements. Age of the case head was included as a proxy for factors such as work status.⁴⁵ The coefficient on the age of the case head is positive in all four years, even controlling for elderly status. This may be because the probability of employment among low-income New Yorkers declines after age 50, which would lead to an increasing benefit with age in the administrative data that is independent of elderly status.

We tested numerous regression specifications, evaluating them on the basis of fit. The final model is generally consistent over the years 2005-2010. It is worth noting,

45. While the New York City administrative database does contain information on work status of Food Stamp recipients, this data is generally low quality and contains large numbers of missing observations. As a result, we decided to use the age proxy in the regression model.

however, that the sign of the coefficients on elderly case head and elderly or disabled member in the case changed in 2008 and 2009, respectively. This likely reflects the changing composition of the Food Stamp caseload in New York City over the sample period. In 2008 and 2009, as the recession began to impact New York City families, the proportion of two-parent families on Food Stamps grew. This may have changed the benefit level of elderly cases, relative to the average, resulting in a change in the sign of the coefficients.

variables in the two data sets lead to a poor statistical match, since Food Stamp units in the ACS have higher income than otherwise comparable administrative Food Stamp cases. As a result, we made the decision to leave income out of the regression model.

The ACS contains data on whether a household received Food Stamps for some period over the previous year, but does not contain data on how many months the household participated in the program. This is,

TABLE E TWO
Regression Model of Yearly Food Stamp Value, 2005 - 2010

Variable	2005	2006	2007	2008	2009	2010
Intercept	123.10 [30.77]	123.13 [31.52]	47.22 [30.33]	38.09 [30.44]	47.40 [29.40]	24.64 [31.52]
Household Size	696.56 [8.40]	699.45 [8.61]	674.70 [8.37]	738.73 [16.55]	793.86 [16.14]	1001.48 [16.45]
Number of Children	105.80 [7.77]	121.01 [8.02]	161.36 [7.91]	93.62 [13.60]	169.11 [13.13]	127.50 [13.32]
Elderly Household Head	82.55 [25.09]	50.87 [25.69]	19.59 [24.65]	-22.24 [25.85]	-53.06 [26.60]	-62.99 [27.70]
Elderly or Disabled Person in Unit	-144.13 [16.89]	-158.49 [17.57]	-54.41 [17.11]	-77.41 [17.92]	160.98 [18.64]	291.19 [19.56]
Age of Household Head	5.57 [0.66]	7.33 [0.68]	7.98 [0.66]	8.84 [0.69]	9.09 [0.69]	11.01 [0.71]
R²	0.513	0.505	0.488	0.479	0.496	0.514

Source: New York City Human Resources Administration.

Notes: The dependent variable is the annual value of Food Stamps. Standard errors in brackets. All coefficients significant at the $p < 0.001$ level.

The ACS and administrative data are constructed differently and are utilized for very different purposes, a fact that complicated the development of a regression model for the purpose of matching records. This was a particular issue with regard to measuring income. While the ACS reports yearly cash income from all sources, the administrative data only contains the monthly income reported on the Food Stamp application. This creates two challenges. First, families often apply for Food Stamps after an income shock, such as a job loss, yielding a potentially biased estimate of the family's income over the past year. Second, Food Stamp applicants are allowed to make deductions from their income while applying, further complicating comparisons of the two variables. These differences between the income

potentially, a source of unexplained variation, as a household receiving Food Stamps for six months will have a lower yearly value than a household receiving them for the full year, holding other factors constant. However, using a model that excludes the months of receipt variable is justified for two reasons. First, the variables included in regression correlate with the months of receipt variable. As a result, a good deal of the variation in the months of receipt variable is captured by the coefficients in the included variables. Second, since this model is used for prediction rather than inference, we are less concerned with potential bias in the individual coefficients.

We then matched the administrative data into the ACS through a predictive mean match (PMM).⁴⁶ First, we used

46. For an application of this method in a similar context see: O'Donnell, Sharon and Rodney Beard. "Imputing Medical Out-of-Pocket (MOOP) Expenditures using SIPP and MEPS." 2009.

the regression coefficients to estimate Food Stamp values for observations in the ACS and in the administrative data. These ACS and administrative values were then matched using a nearest neighbor algorithm, whereby an ACS case would be matched with the administrative case with the closest estimated value, with the added constraint that both the host and donor cases were in the same Community District.⁴⁷ This additional match criterion was designed to capture neighborhood effects that were not explicitly in the model. The ACS case was then given the actual Food Stamp value from the administrative case. Once an administrative case donated its value to an ACS case, it was removed from the donor pool.

The advantage of using PMM rather than simply using the estimated values is that PMM does a better job at preserving the actual distribution of Food Stamp values, as can be seen in Table E Three. Regression estimates accurately capture the mean and aggregate values of the distribution, but yield considerably less variation than seen in the administrative data. This is unsurprising, given the fact that regressions are designed to model means rather than full distributions.

TABLE E THREE
Comparison of Regression, PMM, and Administrative Food Stamp Data, 2010

	Regression	PMM*	Administrative
Food Stamp Units	1,025,575	1,025,575	1,025,327
Mean Benefit	\$2,825	\$2,773	\$2,700
Median Benefit	\$2,137	\$2,400	\$2,400
Standard Deviation	\$1,574	\$2,055	\$2,013
Aggregate Value	\$2,763,828,757	\$2,713,022,846	\$2,667,479,233

Sources: American Community Survey Public Use Micro Sample as augmented by CEO and New York City Human Resources Administration.

*PMM refers to the administrative values matched into the ACS via a predicted mean match.

47. The ACS's public use micro sample areas are constructed to match New York City's Community Districts.

Given the gap between the number of Food Stamp cases in the administrative data and the number of cases in the ACS households reporting Food Stamp receipt, CEO decided to assign participation in the Food Stamp program to some of the apparently eligible units that did not report receipt. There are several possible reasons for not reporting receipt. Unfortunately, none of these factors are directly measureable in the ACS, which limits our ability to model underreporting of participation.

What is known is that Food Stamp participation is highly correlated with participation in other income

support programs, such as Public Assistance (PA) and Supplemental Security Income (SSI). Analysis of administrative data shows that roughly 80 percent of people on PA and SSI participate in the Food Stamp program. Given this high degree of participation, we assigned Food Stamp values to individuals who were eligible for Food Stamps and reported PA or SSI receipt, but did not report Food Stamp receipt.⁴⁸ Adding these cases increased the number of Food Stamp units from 916,208 to 1,025,575 in 2010.

TABLE E FOUR
Comparison of Self-Reported and Estimated Food Stamp Values, 2010

	Cases		Individuals		Aggregate Value	
	Number	Ratio	Number	Ratio	Number	Ratio
ACS Households, Self-Reported Participation	586,037	0.57	1,805,039	0.95	N.A.	N.A.
CEO Food Stamp Units, Self-Reported Participation, Estimated Value	916,208	0.89	1,805,039	0.95	\$2,556,848,912	0.96
CEO Food Stamp Units, Estimated Value, Case Adjusted	1,025,575	1.00	1,976,593	1.04	\$2,713,022,846	1.02
Administrative	1,025,327	1.00	1,905,207	1.00	\$2,667,479,233	1.00

Sources: American Community Survey Public Use Micro Sample as augmented by CEO and New York City Human Resources Administration.

Notes: "Ratio" compares the estimated value to administrative data.

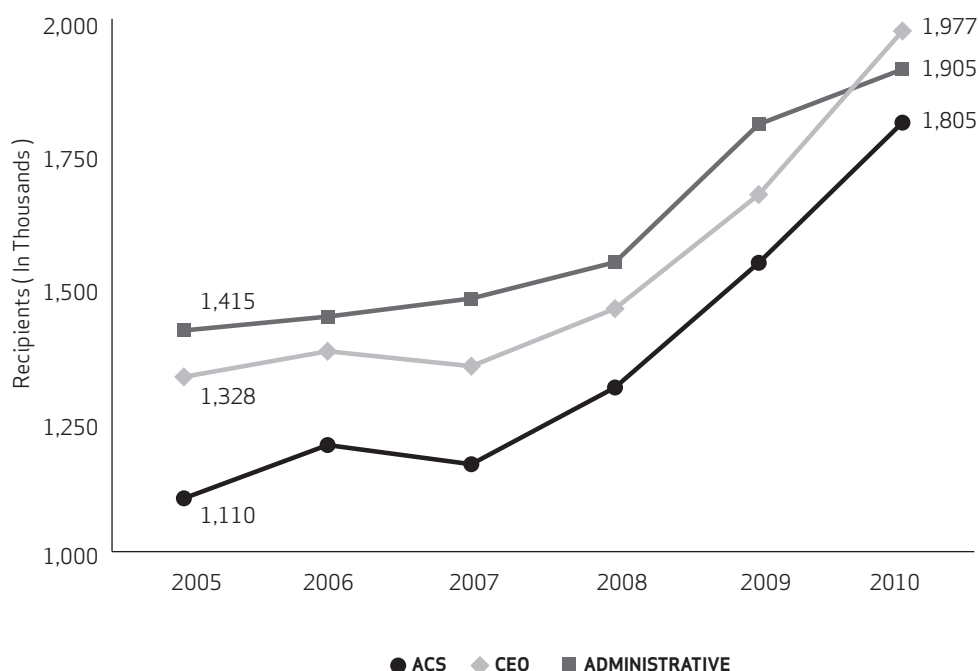
N.A. - Not applicable due to the fact that the unadjusted ACS does not contain data on the value of the Food Stamp benefit.

48. "Eligible" is defined using the SNAP program rules such as that the recipient be a citizen or legal resident for five years or more with a gross income less than 130 percent of the official poverty line.

The CEO Food Stamp estimates of the trends in Food Stamp receipt from 2005 to 2010 are reported in Figure E One and Table E Five. They come close to replicating the observed trends in the administrative data, but do not do so exactly. Specifically, while the administrative data shows a consistent upward trend over the six years, the CEO estimates show a decrease in cases and aggregate value from 2006 to 2007, which interrupts the overall trend of increases. This is likely the result of sampling

variability in the ACS. Additionally, the CEO estimates show a larger spike in the number of cases between 2007 and 2008 than seen in the administrative data. This may be a result of the change in the question regarding Food Stamps in the 2008 ACS survey, described above. Finally, growth in both the ACS and CEO estimates between 2009 and 2010 is higher than reflected in the administrative data.

FIGURE E ONE
Food Stamp Recipients, 2005 - 2010



Sources: Tabulated from American Community Survey Public Use Micro Sample as augmented by CEO and New York City Human Resources Administration.

Note: "ACS" refers to unadjusted values.

TABLE E FIVE
Comparison of Food Stamp Recipient Trends, 2005 - 2010

	2005	2006	2007	2008	2009	2010
ACS	1,109,669	1,194,812	1,163,822	1,308,248	1,542,138	1,805,039
CEO	1,328,009	1,376,327	1,348,240	1,455,704	1,670,127	1,976,593
Administrative	1,415,038	1,441,229	1,475,087	1,542,536	1,802,617	1,905,207

Sources: Tabulated from American Community Survey Public Use Micro Sample as augmented by CEO and New York City Human Resources Administration.

Note: "ACS" refers to unadjusted values.

Developing Hypothetical Food Stamp Data

The impact of the Food Stamp program on the New York City poverty rate has grown in recent years, decreasing poverty by 1.9 percentage points, 2.4 percentage points, and 3.3 percentage points in 2008, 2009, and 2010, respectively.⁴⁹ The program's growing impact on poverty in New York City is the result of three factors, two of which were recent, deliberate policy decisions: (1) an outreach initiative in New York City aimed at increasing participation among eligible households; (2) the 13.6 percent increase in Food Stamp benefit amount in the 2009 American Recovery and Reinvestment Act (ARRA); and (3) an increase in demand for Food Stamps in response to the recession. In order to understand the impact of Food Stamp policy changes on the poverty rate, independent of the growth in demand from the recession, we need to parse these different factors. We did this by creating a counterfactual data series to go along with the observed ACS data.

First, we re-estimated Food Stamp data in the 2009 and 2010 ACS assuming no ARRA. Maximum Food Stamp benefit allotments are based on the USDA's "Thrifty Food Plan" (TFP) for a family of four. Each October, for the new fiscal year, the prior year's SNAP maximum benefits are adjusted for changes in the TFP for the most recent June over the prior year's June TFP for a family of four consisting of a couple (19-50 years) and two children (6-8 and 9-11 years). Using the TFP data⁵⁰ for 2009 and 2010, we estimated the maximum benefits tables for these years in the absence of the ARRA. We estimate that the maximum Food Stamp allotments would have been 12.0 percent lower in 2009 and 12.8 percent lower in 2010 without the ARRA. We used these estimates to deflate the Food Stamp data in these two years. The mean Food Stamp values (per Food Stamp unit) are shown in Table E Six.

TABLE E SIX
Mean Food Stamp Value per Food Stamp Unit, 2009 - 2010

	2009	2010
CEO Estimate	\$2,279	\$2,773
Hypothetical	\$2,010	\$2,410
Percentage Difference	11.8%	13.1%

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

Second, we looked at the role of local policy in expanding Food Stamp participation, independent of the impact of the recession. In order to assess the role of local policy, we decomposed the growth in Food Stamp cases into two components: increased demand resulting from the recession and increased "supply" from the local outreach campaign. We did so by compiling data on monthly Food Stamp caseloads and monthly payroll employment (seasonally adjusted) for New York City from June 1999 to December 2010. Using this data, we developed a time-series regression model that estimates the relationship between Food Stamp caseloads and labor market conditions. The results of the regression are shown in Table E Seven.

49. See Table E Nine.

50. USDA TFP data can be found at: www.cnpp.usda.gov/USDAFoodCost-Home.htm

TABLE E SEVEN
Regression Model of Food Stamp
Caseload and Employment

Variable	Estimate
Intercept	0.002 [2.36]
Food Stamp Caseload Growth Rate (lagged one month)	0.334 [4.01]
Food Stamp Caseload Growth Rate (lagged two months)	0.294 [3.57]
Payroll Employment Growth Rate (lagged one month)	-0.414 [-1.70]
Payroll Employment Growth Rate (lagged two months)	0.222 [0.91]
N	136
R²	0.292

Sources: New York City Human Resources Administration and U.S. Bureau of Labor Statistics.
 Notes: t-statistics in brackets. Data covers the period June 1999 - December 2010. The dependent variable is the month-over-month growth rate in the Food Stamp caseload.

Using this model, we constructed predicted values for the growth rate of the Food Stamp caseload, based on the lagged value of the growth in payroll employment and keeping the other factors constant. This data represents a counterfactual series that approximates the growth of caseloads based solely on the employment situation in New York City, absent the outreach effort and increase in benefit level. This alternative scenario yields caseloads 1.9 percent lower than the observed data in 2008, 4.0 percent lower in 2009, and 5.2 percent lower in 2010 as is shown in Table E Eight below:

TABLE E EIGHT
Number of Food Stamp Cases, 2008 - 2010

	2008	2009	2010
CEO Estimate	773,634	875,458	1,025,575
Hypothetical	759,137	840,728	972,228
Percentage Difference	1.9%	4.0%	5.2%

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

The ARRA benefit increase and the Food Stamp outreach initiative had a noticeable impact on the poverty rate in 2009 and 2010, though not in 2008. Table E Nine shows the total impact of Food Stamps on the poverty rate, as well as the specific impact of Food Stamp policies. These policies lowered the poverty rate in 2009 and 2010 by 0.4 percentage points and 0.7 percentage points, respectively.

TABLE E NINE
Impact of Food Stamp Policy on the New York City
Poverty Rate, 2008 - 2010

(Numbers are Percent of the Population)

	2008	2009	2010
A. Poverty Rates			
Total CEO Income	19.0	19.7	21.0
Net of:			
Food Stamps	20.9	22.0	24.3
Food Stamp Policy	19.0	20.1	21.6
B. Marginal Effect			
Food Stamps	-1.9	-2.3	-3.4
Food Stamps without Change in Policy	-1.9	-1.9	-2.7
Change in Policy	-0.1	-0.4	-0.7

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

The National School Lunch Program

The National School Lunch Program (NSLP) and the School Breakfast Program (SBP) offer free and reduced-price meals to low-income students. Free lunches are provided to children with family income below 130 percent of the Federal Poverty Guidelines (FPG) and reduced-price lunches are provided to children with family income between 130 and 185 percent of the FPG. The ACS does not contain information on whether children receive a free or reduced-price school lunch. Our previous reports assigned participation in NSLP solely on their eligibility; every child in an income-eligible family received the cash-equivalent value of either free or reduced-price lunch. Research (much of it sponsored by the U.S. Department of Agriculture) and the City's own administrative data, however, suggest that only about 75 percent of eligible students participate in the NSLP and as children get older they are less likely to participate.⁵¹ Based on this information we revised the methodology we used in prior reports. Instead of assuming that all eligible students are participants, we have created a statistical model that assigns a probability that a given eligible family would participate in the program. In addition, we account for a school's participation in Provision 2 of the NSLP, which affects whether a free or reduced-price lunch is assigned to a particular student.

We constructed our probability model with data from the Annual Social and Economic Supplement (ASEC) of the Current Population Survey (CPS). The ASEC is a supplement to the CPS and provides extensive information about income, employment, and non-cash benefits received in the previous calendar year, including participation in government programs such as school lunch. The CPS is a national-level survey with a very limited sample for local areas. But,

given the possibility that the relationship between demographic characteristics and NSLP participation might vary between New York City residents and the rest of the nation, we limited our analysis to New York City residents eligible for free or reduced-price school lunch. This required pooling six years of ASEC data in order to muster a sample of 1,453 records, which was sufficient for our analysis. (This decision assumes that the relationship between the relevant demographic characteristics and NSLP participation does not vary over relatively short periods of time.)

The model is based on characteristics of eligible households which are common and consistently defined in both the ASEC and the ACS. We defined children eligible for free lunch as those with less than 130 percent of the FPG, or children from families that received Food Stamps, or those with a family member that received Public Assistance. We defined children eligible for reduced-price lunch as children from families with income between 130 percent and 185 percent of the FPG unless they were already receiving free lunch based on Food Stamp or Public Assistance reciprocity.

Prior research on the factors associated with NSLP participation was important in selecting which household head characteristics and other household variables to include in our analysis.⁵² Dahl and Scholz, for example, suggested that the race/ethnicity of the household head plays a large role in determining participation in free or reduced-price meals. Other characteristics included in our analysis are the number of persons in the household and the education and the employment status of the householder. The full list of householder characteristics and household variables used are provided in Table E Ten below, as well as their coefficient values and their statistical significance.

51. Dahl, Molly W. and John Karl Scholz. *The National School Lunch Program and School Breakfast Program; Evidence on Participation and Noncompliance*. March 9, 2011. Available at: www.econ.wisc.edu/~scholz/Research/Lunch.pdf; Garner, Thesia I. and Charles Hokayem. *Supplemental Poverty Measure Thresholds: Imputing Noncash Benefits to the Consumer Expenditure Survey Using Current Population Survey – Parts I and II*. Paper prepared for the 2011 Joint Statistical Meetings, Miami, Florida, July 27, 2011, revised September 20, 2011. Available at: www.census.gov/hhes/povmeas/methodology/supplemental/research/Garner&Hokayem_ASA-2011.pdf; Glantz, R. Berg, D. Porcari, E. Sackoff, and S. Pazer. U.S. Department of Agriculture, Food and Nutrition Service. *School Lunch Eligible Non-Participants: Final Report*. December, 1994. Available at: www.fns.usda.gov/ora/menu/Published/CNP/FILES/EligNonPart-Pt1.pdf, www.fns.usda.gov/ora/menu/Published/CNP/FILES/EligNonPart-Pt2.pdf, and www.fns.usda.gov/ora/menu/Published/CNP/FILES/EligNonPart-Pt3.pdf

52. Garner and Hokayem, 2011; Dahl and Scholz, 2011.

TABLE E TEN**Logit Regression Model of School Meals Participation, Coefficient Definitions and Values**

		Variable			Estimate		
Household Head Characteristics					B	S.E.	Exp(B)
Race/Ethnicity	Non-Hispanic White				.010	.006	1.010
	Non-Hispanic Black				.246	.005	1.278
	Hispanic				.620	.005	1.859
	<i>Other Race/Ethnicity (Omitted Variable)</i>						
Education	High School Graduate through College Graduate				-.173	.003	.841
	Master's Degree or Higher				-.435	.009	.647
	<i>Less Than High School (Omitted Variable)</i>						
Citizenship	Foreign Born, Citizen by Naturalization				.223	.004	1.249
	Foreign Born, Not a Citizen				.216	.003	1.241
	<i>Citizen by Birth (Omitted Variable)</i>						
Work Experience	Works Less Than Full-Time, Year Round				.074	.004	1.077
	Does Not Work				-.238	.004	.788
	<i>Works Full-Time, Year Round (Omitted Variable)</i>						
Household Characteristics							
	Female Householder				.194	.004	1.214
	Age of Householder				-.001	.000	.999
	Age of Youngest School-aged Child				-.087	.000	.916
	Single Householder				.427	.003	1.533
	Number of Persons in Household				-.033	.001	.967
	Household Receives Food Stamps				.905	.003	2.473
	Household Income/Poverty Guideline Ratio				-.413	.002	.662
	Constant				1.143	.010	3.137

Source: Consumer Expenditure Survey Annual Social and Economic Supplement, New York City Sample, 2006 - 2011. N = 1453.
 Notes: All coefficients significant at the $p < 0.01$ level except "Non-Hispanic White," which is significant at $p < 0.1$ level. Analysis used the household weight. Dependent Variable, HFLUNCH, recoded to a binary.

In the ACS, we flagged as eligible for free or reduced-price lunch poverty units with school age children⁵³ that have incomes below 185 percent of the poverty guideline, or are receiving Food Stamps, or have a member that was receiving Public Assistance. We then applied the model based on the poverty unit head's characteristics and other poverty unit variables to calculate each eligible poverty unit's probability of participation. These values fall between 0 and 1, with 1 being the highest probability of participation. Once the probability is calculated, we used administrative data as our target number for assigning participation.

The administrative data we received from the New York City Department of Education (DOE) identified the daily average number of free, reduced price, and paid lunches served at New York City schools broken down by elementary, middle, and high school.⁵⁴ The data was also reported by whether or not the lunches were served in schools that participated in Provision 2 of the NSLP. Provision 2 is a program designed to reduce the administrative cost of determining eligibility by allowing schools to provide free lunch to everyone, regardless of eligibility, for four years. A significant portion of New York City schools participate in Provision 2, so it was

53. Children were defined as school age if they were 5 or older and less than 18.

54. We classify children aged 5 through 10 years old as elementary school students, 11 through 13 years old as middle school students, and 14 through 17 years old as high school students.

important to account for the program to get an accurate estimate of school lunch benefits. Table E Eleven below shows CEO calculations of the number of free and reduced-price lunches served based on the DOE data.⁵⁵

TABLE E ELEVEN
Average Number of Free and Reduced-Price School Lunches Served Per Day, 2010

Grade Level	Free	Reduced-Price
Elementary	328,738	15,989
Middle	96,375	5,980
High	75,589	5,829
Total	500,702	27,798

Source: CEO calculation from data provided by the New York City Department of Education, Office of School Foods.

Provision 2 required us to assign some students who – given their families’ income – would be receiving reduced-price school meals, free meals. The adjustment is made so that the distribution of students in the ACS who are estimated as receiving free or reduced-price meals corresponds to the distribution in the administrative data. Table E Twelve below shows the number of students receiving free or reduced-price school lunch estimated for the 2010 ACS.

TABLE E TWELVE
Average Number of Students Receiving Free or Reduced-Price School Lunch per Day, 2010

Grade Level	Free	Reduced-Price
Elementary	292,146	15,497
Middle	95,758	6,177
High	74,285	5,227
Total	462,189	26,901

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

In all years the number of ACS-eligible elementary school students was significantly smaller than the average daily number of free lunches served. Therefore, all elementary-aged children who were eligible for free lunch were given it. Each free and reduced-price lunch was then assigned a dollar value which is provided by

the Census Bureau.⁵⁶ We assumed that students receive 175 school lunches.⁵⁷ Table E Thirteen below shows the number of families receiving a free or reduced lunch and the mean, median, and sum of the school lunch value for 2010.

TABLE E THIRTEEN
Participation and Value of Free and Reduced-Price School Lunch, 2010

Number of Families	290,145
Mean Value	\$868
Median Value	\$509
Aggregate Value	\$251,751,949

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

The School Breakfast Program

To assign participation in the School Breakfast Program (SBP), we employ the same probability model used for the NSLP. Since the program eligibility rules for the SBP are identical to the NSLP, our pool of eligible poverty units is also the same. Table E Fourteen below provides DOE data on the number of school breakfasts served by the DOE. We used these totals as our targets when deciding the cutoff values in our probability model. Table E Fourteen also shows the number of students assigned by our model in the 2010 ACS.

TABLE E FOURTEEN
Comparison of Average Number of Free Breakfasts Served Per Day and Students Receiving Free Breakfast, DOE and ACS, 2010

Grade Level	DOE	ACS
Elementary	128,338	131,656
Middle	24,929	25,719
High	26,499	26,461
Total	179,766	183,836

Sources: New York City Department of Education, Office of School Foods and American Community Survey Public Use Micro Sample as augmented by CEO.

After assigning participation, we calculate the impact on the poverty unit. All school breakfasts in New York City are served free of charge.⁵⁸ Table E Fifteen below reports

55. The table categorizes reduced-price lunches served in Provision 2 schools as free lunches.

56. The Census Bureau provides these values annually. For 2010, the free lunch was valued at \$2.910 and the reduced-price lunch was valued at \$2.508.

57. The school year is required to be no less than 180 days; we used 175 days to account for sickness.

58. For 2010 we use a free breakfast value of \$1.46; this is the “Non-Severe Need” value of free school breakfast for the school year 2009-2010 provided by the Food and Nutrition Service, USDA. See: www.fns.usda.gov/cnd/Governance/notices/naps/NAPs.htm

the number of poverty units with at least one school breakfast recipient, the mean and median value per poverty unit, and the aggregate value for all poverty units participating.

TABLE E FIFTEEN
Participation and Value of
Free School Breakfast, 2010

Number of Families	107,969
Mean Value	\$442
Median Value	\$256
Aggregate Value	\$47,700,828

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

The addition of school meals to resources has a 0.4 percentage point effect on the Citywide poverty rate, as Table E Sixteen below illustrates. The effect is much larger on persons in families receiving school meals, 2.7 percentage points.

TABLE E SIXTEEN
Impact of School Meals on CEO Poverty Rate,
2010

(Numbers are Percent of the Population)

	Total Population	Persons in Participating Families
A. Poverty Rates		
Total CEO Income	21.0	43.1
Net of School Meals	21.4	45.8
B. Marginal Effect		
School Meals	-0.4	-2.7

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

Special Supplemental Nutrition Program for Women, Infants, and Children

CEO obtained data from the New York State Department of Health (NYS DOH) on the number of WIC participants and the WIC participation rate (the number of participants as a percentage of all eligible persons). This data, along with a probability model, now enables us to include the value of WIC in our measure of family resources. As with both the SBP and NSLP programs, not every family with an eligible recipient participates in WIC.⁵⁹

To estimate which eligible families are receiving benefits, we used a statistical model similar to the one used in the school meals programs. It assigns a probability that a given eligible family would participate in the program. We limited our analysis to New York City residents in the CPS ASEC, again requiring us to pool six years of data. The model is based on characteristics of WIC eligible households⁶⁰ which are common and consistently defined in both the ASEC and the ACS. Although pregnant women who indicate receipt of WIC are identified in the CPS, we cannot identify them in the ACS. Therefore, we omitted this group from our eligible pool in the ASEC. Our universe of eligible households is households with a child less than six years of age,⁶¹ or a household with a woman and an infant less than one year old that were income eligible, or had a member receiving Food Stamps or Public Assistance.⁶² To identify which households were receiving WIC, we used the ASEC's HRWICYN variable, which tells us whether anyone in the household participated in the WIC program at any time in the last calendar year.

We then estimated a logit regression based on the characteristics of the household and its head to create a probability of household participation in WIC. Prior research regarding factors associated with WIC participation was important when determining which household head characteristics and other household variables to include in our analysis.⁶³ Both Garner

59. Pregnant women, women breastfeeding a baby under 1 year of age, women who have had a baby in the past six months, infants up to the first birthday and children up to their fifth birthday can receive WIC if they are income eligible or if they are "adjunctively eligible" because they receive Public Assistance, Food Stamps, or Medicaid.

60. WIC participation in the CPS is defined at the household level.

61. We chose to include children less than 6 years of age because the ASEC supplement of the CPS is fielded in March and asks about benefits and income received the previous calendar year. Therefore, a child that is 6 in March would have at some time in the previous calendar year been younger than 5 and eligible for WIC benefits.

62. Medicaid participants are also eligible for WIC. However, health insurance status was not measured in the ACS until the 2008 survey.

63. Bitler, Marianne, Janet Currie and John Karl Scholz. "WIC Eligibility and Participation." *Journal of Human Resources*. Volume 38, pp.1139-79. 2003. Garner, Thesia I. and Charles Hokayem. *Supplemental Poverty Measure Thresholds: Imputing Noncash Benefits to the Consumer Expenditure Survey Using Current Population Survey – Parts I and II*. Paper prepared for the 2011 Joint Statistical Meetings, Miami, Florida, July 27, 2011, revised September 20, 2011.

and Hokayem (2011) and Bitler, Currie, and Scholz (2003) suggested that race/ethnicity and education of the household head play a large role in determining participation in WIC. Other characteristics included in our analysis were number of persons in the household and whether the household was headed by a single woman. The full list of householder characteristics and household variables we used in the model are listed in Table E Seventeen below, as well as their coefficient values and statistical significance.

Our analysis showed that New York City households with heads that were Non-Hispanic White were less likely to participate than other race/ethnicities, and households with heads having less than a high school education were more likely to participate than householders with higher educational attainment. We also found that

households headed by single mothers and households with infants present were more likely to participate than husband/wife households, or households headed by males, or households with no infants, respectively.

Table E Eighteen shows the participation rates for 2008 estimated by NYS DOH for infants (under one year of age), children (one through four years old), and women. We strove to ensure that our ACS participation rates reflected these rates.

TABLE E SEVENTEEN
Logit Regression Model of WIC Participation, Coefficient Definitions and Values

		Estimate		
Variable		B	S.E.	Exp(B)
Household Head Characteristics				
Race/ Ethnicity	Non-Hispanic White	-.161	.009	.851
	Non-Hispanic Black	.530	.008	1.700
	Hispanic	.739	.008	2.093
	<i>Other Race/Ethnicity (Omitted Variable)</i>			
Education	High School Graduate through College Graduate	-.109	.004	.897
	Master's Degree or Higher	-.706	.015	.494
	<i>Less Than High School (Omitted Variable)</i>			
Citizenship	Foreign Born, Citizen by Naturalization	.001	.006	1.001
	Foreign Born, Not a Citizen	.393	.005	1.482
	<i>Citizen by Birth (Omitted Variable)</i>			
Work Experience	Works Less Than Full-Time, Year Round	.806	.005	2.239
	Does Not Work	.636	.005	1.889
	<i>Works Full-Time, Year Round (Omitted Variable)</i>			
Household Characteristics				
	Single Female Houshold Head	.335	.005	1.397
	Infant Present in Household	1.126	.005	3.082
	Number of Persons in Household	-.012	.001	.988
	Household Receives Food Stamps	.792	.004	2.208
	Household Income/Poverty Guideline Ratio	.437	.003	1.547
	Constant	-2.725	.012	.066

Source: Current Population Survey Annual Social and Economic Supplement, New York City Sample, 2006 - 2011. N = 691.

Notes: All coefficients significant at the $p < 0.01$ level except "Foreign Born, Not a Citizen," which was not statistically significant. Analysis used the household weight. Dependent Variable was HRWICYN, "does anyone in household participate in WIC program."

TABLE E EIGHTEEN**New York City WIC Participation Rate, 2008**

Infants	53.0%
Children	30.8%
Women	32.1%

Source: Division of Nutrition, New York State Department of Health.

In the ACS, we identified eligible poverty units as those with incomes below 185 percent of the poverty guideline, or poverty units that received Food Stamps, or had a member that received Public Assistance that contained an infant, child, or women with a newborn.⁶⁴ We then applied the model based on the poverty unit head's characteristics and other poverty unit variables to calculate each poverty unit's probability values. These values fall between 0 and 1, with 1 being the highest probability of participation. Once a family's probability is estimated, we assign participation beginning with the most likely until the number of participants creates a participation rate that matches the participation rate estimated by NYS DOH.

After applying the model at the poverty unit level, we determined participation for infants, children, and women on an individual basis. For example, when looking at all eligible infants, we selected a cut-off probability value that assigned 53.3 percent of them as participants, using the DOH rates as our target. Table E Nineteen below shows the numbers and rates for the 2008 ACS.

TABLE E NINETEEN**Estimated New York City WIC Participation Rate, 2008**

	Participating	Eligible	Rate
Infants	27,917	52,423	53.3%
Children	70,871	229,768	30.8%
Women	17,864	54,594	32.7%

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

The data that we were able to obtain from New York State did not report participation rates for any year other than 2008. However, the State did provide the number of

participants for 2007 through 2010. The data indicated little change in the number of WIC recipients during this time span; therefore we set our target for all years at the same participation rate as 2008. Table E Twenty below shows the New York State Department of Health count of New York City WIC participants for 2007 through 2010.

TABLE E TWENTY**New York City WIC Participants, 2007 - 2010**

Year	Women	Infants	Children	Total
2007	72,711	72,405	131,962	277,078
2008	73,994	73,211	136,324	283,529
2009	69,666	72,595	146,374	288,634
2010	64,352	71,673	146,783	282,808

Source: Division of Nutrition, New York State Department of Health.

After identifying WIC participants, we summed up the number of participants per poverty unit. The USDA Food and Nutrition Service reported that the average monthly WIC benefit for New York State residents in fiscal year 2010 was \$51.43,⁶⁵ which gave us an annual value of \$617.16.⁶⁶ This is also the median benefit for poverty units receiving WIC benefits, as illustrated in Table E Twenty-One below. There were over 80,000 ACS poverty units that received the benefit, with a mean annual benefit of \$930 and slightly over \$74.5 million in aggregate benefits for New York City.

TABLE E TWENTY-ONE**Participation and Value of WIC, 2010**

Number of Families	80,155
Mean Value	\$930
Median Value	\$617
Aggregate Value	\$74,520,836

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

64. We defined infants as persons with age of 0 in the ACS. We defined children as persons aged 1 to 4 years, and we defined women with newborns with the ACS's FER variable, which indicates whether a woman has given birth within the last 12 months.

65. See USDA Food and Nutrition Service data at [www.fns.usda.gov/pd/25wifayavgfd\\$.htm](http://www.fns.usda.gov/pd/25wifayavgfd$.htm)

66. We assume that WIC recipients participate for 12 months. This overstates the value of the benefit, but given the program's modest effect, we do not believe we have introduced much distortion in our poverty estimates.

The addition of WIC benefits to resources has a negligible effect on the Citywide poverty rate. It only creates a 0.1 percentage point fall in the poverty rate, as Table E Twenty-Two below indicates.⁶⁷ The effect is much larger, however, among those persons in families receiving WIC benefits, coming to 3.1 percentage points.

TABLE E TWENTY-TWO
Impact of WIC Benefits on CEO Poverty Rate, 2010

(Numbers are Percent of the Population)

	Total Population	Persons in Participating Families
A. Poverty Rates		
Total CEO Income	21.0	28.2
Net of WIC	21.1	31.4
B. Marginal Effect		
WIC	-0.1	-3.1

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

Impact of Nutritional Assistance on CEO Poverty Rate

Nutritional assistance is an important component of CEO income and has a considerable impact on the poverty rate. Table E Twenty-Three below pulls together the effects of the Food Stamp, school meals, and WIC programs on the City poverty rate. Food Stamps account for the bulk of the impact of nutritional assistance, while school meals and WIC have more modest impacts for the City as a whole. This is unsurprising, given that the latter two programs are targeted at specific populations while Food Stamps are available more broadly. Food Stamps also accounts for the increase in the impact of Nutritional Assistance from 2008-2010. As was discussed earlier, this is the result of the rapid expansion of the program during this period.

TABLE E TWENTY-THREE
Impact of Nutritional Assistance on the Poverty Rate, 2005 - 2010

(Numbers are Percent of the Population)

	2005	2006	2007	2008	2009	2010
A. Poverty Rates						
Total CEO Income	20.5	20.2	19.8	19.0	19.7	21.0
Net of:						
Food Stamps	22.1	21.9	21.5	20.9	22.0	24.3
School Meals	21.0	20.6	20.3	19.6	20.2	21.4
WIC	20.6	20.2	19.9	19.1	19.8	21.1
Total Nutritional Assistance	22.7	22.5	22.0	21.5	22.7	24.8
B. Marginal Effects						
Food Stamps	-1.7	-1.8	-1.7	-1.9	-2.3	-3.4
School Meals	-0.5	-0.5	-0.5	-0.6	-0.4	-0.4
WIC	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Total Nutritional Assistance	-2.2	-2.4	-2.2	-2.5	-2.9	-3.8

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

67. This echoes the effect of WIC benefits for the nation in the new Federal Supplemental Poverty Measure (SPM). See: Short, 2011.

APPENDIX F: ESTIMATING THE VALUE OF HEAP BENEFITS

In order to increase the comparability of the CEO poverty measure with the new Federal Supplemental Poverty Measure (SPM), this report includes payments from the Home Energy Assistance Program (HEAP) in our resource measure. HEAP is a federally funded program that provides monetary assistance to low-income households that offsets their energy costs. Unless a household faces a heating emergency, HEAP typically takes the form of a one-time annual payment. If the household's heat charges are included in its rent or mortgage payments, it is eligible to receive HEAP benefits.⁶⁸ Households who directly pay a utility company for their heating fuel do not receive benefits in this manner. Instead, the program sends the HEAP benefit to the provider, who then reduces the household's heating bill.

HEAP benefits are available to households whose income is under the HEAP Benefit Income Guidelines.⁶⁹ In New York City, households that receive cash assistance, Food Stamps, or are composed of a single person receiving SSI benefits are automatically enrolled in the program. Other low-income households can apply for HEAP, but administrative data from the City's Human Resources Administration (HRA) indicate that the vast majority of HEAP households are those whom it automatically enrolls. In 2010, for example, 689,745 households out of the 702,665 households that received HEAP benefits – 98.2 percent – were automatic enrollees.⁷⁰

HEAP benefits are very modest. If the eligible household resides in public housing or receives a Section 8 subsidy, as of 2008 it is entitled to an annual one dollar HEAP payment, receipt of which entitles the household to claim a higher Food Stamp benefit. Otherwise, the household is eligible to receive an annual \$40 or \$50 payment, depending on whether its income is above or below 130 percent of the Federal Poverty Level, or if the household contains a "vulnerable" individual; someone under age six, over age 59, or under age 65 and receiving SSI benefits.⁷¹

Presently, there is no reliable survey data that collects information on HEAP benefits in New York City. Fortunately, CEO was able to add a question about HEAP to the 2011 New York City Housing and Vacancy Survey,

but this data has not yet been released by the Census Bureau. As an interim strategy for estimating the value of HEAP in our income measure, we take advantage of the large degree to which beneficiaries are automatically enrolled and the simplicity of the program's benefit structure for those enrollees. To estimate the value of HEAP payments for households in the American Community Survey (ACS), program rules were turned into a formula: a poverty unit in which any member is receiving Food Stamps or public assistance, or is a single-person household with SSI benefits, is assumed to be receiving a HEAP benefit.

Based on official guidelines, if the household resides in public housing or receives a rent subsidy, as of 2008, the value of its HEAP benefit is set to one dollar. Other households had their HEAP benefit set to \$50 if their cash income was below 130 percent of the official poverty threshold or contained a person matching the criteria for "vulnerable" individuals mentioned above. Higher income households not containing vulnerable individuals had their benefit set to \$40.

The value of the HEAP benefit is added to a poverty unit's income. Since there can be more than one poverty unit in an ACS-defined household, the benefit is only given to one poverty unit in a multi-poverty-unit household. This follows program rules that limit payments to one per household.

Table F One compares CEO's estimates to HRA administrative data for the number of New York City households that received HEAP benefits, the total value of the benefits, and the mean benefit per household in 2010. CEO's estimates come to 90.0 percent of the administrative data for the number of HEAP households, 86.7 percent of the administrative data for total benefits, and 96.3 percent of the administrative data for mean benefit per household. This very low benefit level explains the too-small-to-register effect of HEAP on the CEO poverty rate noted in Table II Five in Chapter Two.

68. Households with a Common Benefit Identification Card receive a HEAP benefit as an electronic benefit transfer.

69. These guidelines are based on household size, and are available at: www.otda.ny.gov/programs/heap/program.asp#income

70. These figures do not include the small number of HEAP participants who pay their home heating bills directly.

71. OTDA (Office of Temporary and Disability Assistance), www.otda.ny.gov/programs/heap/program.asp#regular

TABLE F ONE
Comparison of CEO Estimates to
Administrative Data for HEAP Program, 2010

A. Recipient Households

CEO Estimate	632,558
HRA Administrative Data	702,665
CEO as a Percentage of Administrative	90.0%

B. Total Benefits

CEO Estimate	\$21,108,154
HRA Administrative Data	\$24,341,207
CEO as a Percentage of Administrative	86.7%

C. Mean Benefit per Household

CEO Estimate	\$33
HRA Administrative Data	\$35
CEO as a Percentage of Administrative	96.3%

Sources: American Community Survey Public Use Micro Sample as augmented by CEO and New York City Human Resources Administration.

APPENDIX G: WORK-RELATED EXPENSES

Many families with children must pay for childcare in order to work. The expense of getting to and from work is an unavoidable cost for nearly every worker. These costs are non-discretionary and limit the ability of families to meet the needs that are represented in the poverty threshold. The National Academy of Sciences recommended that work-related expenses be deducted from family resources.⁷² The American Community Survey (ACS) does not include data on childcare costs or commuting costs, nor does it contain all the data needed to calculate these expenses. This appendix describes our childcare cost imputation and the methodology used to calculate commuting costs.

Childcare Costs

CEO deducts the cost of childcare expenditures from income in the construction of our poverty measure. Because we are only interested in childcare costs that are non-discretionary, that is, necessary for work, we only count the expenses incurred when all of the parents are working. If one or both parents are not working, their childcare spending is uncounted.

Since childcare spending is not reported in the ACS, CEO developed an imputation model to estimate childcare spending. This childcare cost imputation model employs a predicted mean match (PMM) of observations in the Census Bureau's Survey of Income and Program Participation (SIPP) to observations in the ACS. The model uses a tobit regression to generate expected childcare expenditure values that will be used for the match between working families (poverty units) in the SIPP and ACS.

Creation of the SIPP Data Set

In order to generate a sufficient sample, we pooled data from the 2004 and 2008 SIPP childcare module data sets. These surveys cover the periods January 2005 through April 2005 and December 2009 through March 2010, respectively. In our previous reports, we used pooled data from the 2001 and 2004 SIPP. The 2008 SIPP data was released in late 2011; we decided to drop the 2001 SIPP data in favor of this newer data. This way, the SIPP data used for imputation more closely reflects the 2005-2010 period covered by this report.

Setting up the pooled SIPP data involved several steps. First, we removed foster children from this sample, given that their childcare costs are subsidized by government programs. Next, we took several steps to ensure that the unit of analysis within the SIPP was consistent with the "poverty units" CEO creates in the ACS.

The SIPP is a longitudinal data set in which participants are sampled over a two-year period. Individual observations in the SIPP are linked by sampling unit, household address, and family. The sampling unit is the original household as of the first round of interviews. A "household" is defined, as in the ACS, as all members living within the household unit, including family members and all unrelated individuals, such as lodgers, foster children, or employees. Over the two-year SIPP sampling period, some members of a sampling unit leave and form their own households at a different address. Thus, in order to form a unique identifier for each household, we concatenated the sampling unit ID (SSUID) and the household address ID (SHHADID). Further, since ID markers can be reassigned to new sampling units between survey panels, we also included panel year as part of the constructed household ID. This yielded an unweighted count of 74,047 unique households.

Within a household, a "family" in the SIPP is comprised of a group of two or more persons related by birth, marriage, or adoption who reside together. Unlike the ACS, the SIPP identifies and links members of subfamilies, even if they are unrelated to the reference person. (CEO creates unrelated sub-families in the ACS.)⁷³ Unique families within a sampling unit are identified with the RFID variable. The constructed family ID variable concatenates RFID with the constructed household ID. This yielded 80,731 unique families.

The SIPP places unmarried partners of the reference person into a different family within the household, which does not include their own children, if there are any. This is inconsistent with CEO's unit of analysis, which treats unrelated partners as equivalent to spouses and includes them and their children in the reference person's poverty unit. Thus, in order to make "families" in the SIPP commensurate with CEO poverty units, we placed unmarried partners of the reference person and their children into the reference person's family.

Individual relationships to the reference person are designated in the SIPP with a household relationship

72. Citro and Michael, pp. 70-71.

73. For a more detailed explanation of CEO's "poverty unit of analysis," see Appendix A in this report.

variable (ERRP). All unmarried partners of the reference person (ERRP = 10) were placed in the same family as the reference person. Additionally, all children of the unmarried partner (including non-biological children) were placed in the reference person's family.

Finally, we had to address the issue of minors classified as "other non-relatives of the reference person" (ERRP = 13). For this group, we used the following rule: if there was no other parent or guardian in the household, the individual was placed in the reference person's family; otherwise, they were placed in their parent/guardian's family.

Placing unmarried partners and unrelated minors in the reference person's family reduced the number of unique families to 77,220. Out of this number, 20.9 percent of the families (16,160) had all parents working at least part of the year,⁷⁴ at least one child 12 years of age or younger,⁷⁵ and lived in an urban area. This number represents the sample of SIPP families that was used for the regression model and the match.

Matching SIPP and ACS Cases

Since SIPP data is measured for the reference month, the two income variables (total person income and earned

income) were annualized and adjusted using the Betson equivalency scales,⁷⁶ and inflated using the ratio of the Consumer Price Index (CPI) all-items index for the ACS data set year and the periods covered by the SIPP panels.⁷⁷ This data was aggregated from the person to the family level.

The SIPP divides childcare payments into 11 categories, organized by provider. These include: grandparents; other relatives; family day care; day care; preschool; Head Start; other non-relative; after school sports; clubs; other after-school activities; and private lessons. These payments are further subdivided in the SIPP by child, yielding a total of 80 childcare payment variables. Childcare payments were measured as the sum of all such childcare payment variables in the SIPP topical mode. These values were inflated using the CPI childcare cost index.

This SIPP data set was then used to develop a regression model to predict childcare costs for families. Following work by John Iceland and David Ribar⁷⁸ – as well as our previous model – we estimated separate regressions for the two-parent and single-parent sub-samples in the SIPP. The results of these regressions are presented in Table G One.

74. The CEO childcare model caps childcare costs by the weeks worked of the spouse that works less. If one spouse does not work, this family will have no childcare costs. In order to reflect this in the imputation procedure, we narrowed the SIPP sample to mirror the rules we apply to ACS observations.

75. The age range is consistent with the tax code, which provides childcare tax credits for children 12 and under.

76. See Appendix B for a description.

77. We took the average of the CPI Index from January 2005 through April 2005 and December 2009 through March 2010 for panel years 2004 and 2008, respectively.

78. Iceland, John and David C. Ribar. *Measuring the Impact of Child Care Expenses on Poverty*. Paper presented at the 2001 Population Association of America (PAA) meetings in Washington, D.C., March 29, 2001.

TABLE G ONE
Regression Model of Weekly Childcare Costs

Married-Parent Sample			Single-Parent Sample		
Variable	Coefficient	Z-Statistic	Variable	Coefficient	Z-Statistic
Intercept	-876.5	-1160	Intercept	-576.2	-563
Log Income	99.5	932	Log Income	42.8	375
Log Earned	-34.7	-486	Log Earned	-3.3	-66
Race	6.9	65	Race	-1.1	-9
Child 0-5	78.2	1420	Child 0-5	61.7	695
Child 6-12	-6.8	-132	Child 6-12	13.4	168
Child 13-17	-38.5	-566	Child 13-17	-30.0	-289
Adults	-52.8	-671	Adults	-51.2	-549
Female Income Proportion	1.4	874	Female Income Proportion	0.6	329
Work Hours	1.0	675	Work Hours	0.9	356
Food Stamps	-39.7	-186	Food Stamps	-50.8	-329
High School	-11.8	-45	High School	17.7	67
Some College	11.7	47	Some College	36.4	143
College	22.1	87	College	80.0	278
Graduate Degree	56.5	216	Graduate Degree	67.1	198
Rent Proportion	-9.9	-105	Rent Proportion	16.9	135
N	12,319		N	3,841	
pseudo-R²	0.264		pseudo-R²	0.213	

Source: 2004 and 2008 Survey of Income and Program Participation (SIPP).

Notes: Dependent variable is weekly childcare expenditures in 2010 dollars. Sample comprised of SIPP families with at least one child under 13 and all parents working. Regressions were run using the SIPP person weight of the family head. This weight functions similarly to a family weight for each adjusted family unit within the household.

These regression coefficients were used to compute predicted means for childcare expenditures in both the SIPP and ACS files. ACS observations were then matched with SIPP observations based on their predicted means, and the actual weekly childcare cost value from the SIPP observation was donated to the ACS observation. We constrained the match so that SIPP observations could only match ACS observations with the same number of parents. Table G Two compares the distributions of the SIPP childcare values and the matched values for the subset of families with at least one working parent and at least one child 12 years of age or younger in the 2010 ACS. The matched values closely reproduce the distribution of childcare costs in the SIPP and percentage of observations with zero childcare costs.

TABLE G TWO
Comparison of Weekly Childcare Payments, ACS and SIPP, 2010

	All Workers	
	ACS	SIPP
Mean	\$48	\$50
Percent Zero	65.3%	62.7%
Percentile		
5	\$0	\$0
10	\$0	\$0
25	\$0	\$0
50	\$0	\$0
75	\$51	\$63
90	\$162	\$172
95	\$254	\$253

	Working Parents That Pay for Childcare	
	ACS	SIPP
Mean	\$139	\$135
Percentile		
5	\$9	\$10
10	\$20	\$20
25	\$50	\$50
50	\$100	\$100
75	\$186	\$182
90	\$305	\$299
95	\$406	\$383

Sources: American Community Survey Public Use Micro Sample as augmented by CEO, and 2004 and 2008 Survey of Income and Program Participation (SIPP) inflated to 2010 prices using the CPI childcare index.

Notes: Sample comprised of ACS and SIPP families with at least one child under 13 and all parents working. Values are reported at the level of the designated parent. Values are unweighted.

The weekly childcare values were then adjusted to reflect annual costs. In order to calculate these costs, we followed the procedure from our previous report, which is designed to capture non-discretionary childcare spending. We multiplied the weekly value by the lowest reported number of weeks worked among the spouses and capped the childcare costs for the family by the wages of the lower-earning spouse. Table G Three shows the distributions for the annualized values using the PMM procedure.

TABLE G THREE
Annual Non-Discretionary Childcare Expenditures, 2010

	Working Parents	Working Parents with Non-Zero Expenditures
Mean	\$2,022	\$6,092
Percent Zero	66.8%	N.A.
Percentile		
5	\$0	\$251
10	\$0	\$507
25	\$0	\$1,674
50	\$0	\$4,151
75	\$1,569	\$8,095
90	\$7,406	\$14,119
95	\$11,261	\$18,825

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

Notes: Sample comprised of ACS families with at least one child under 13 and all parents working. Values are reported at the level of the designated parent. Data weighted by ACS household weight. N.A. - Not applicable because these families all have positive childcare costs.

Commuting Costs

This report employs the same model for calculating commuting costs that we used in our previous working papers. The only significant change to the model was the IRS standard mileage rate which decreased to \$0.50 from \$0.55 in 2009.⁷⁹ There was one change in mass transit fares and bridge and tunnel tolls for 2010 but that change was implemented on December 30th. Because of the timing, we did not update the 2010 fares. That change will be reflected in future poverty estimates.

The ACS does not contain a variable for journey-to-work cost, so we use the available ACS variables to make our estimation. We assume an eight-hour work day and use the ACS variable, "WKHP – Usual hours worked per week past 12 months" to calculate the number of days worked per week. To account for a trip to and from work, we multiply the number of days worked per week by two and cap the number of possible work trips per week at 14.

Using the "JWTR – Means of transportation to work," "JWRIP – Vehicle occupancy," "POWPUMA – Place of work PUMA," and "POWSP – Place of work – State or foreign country recode" variables, we make per trip cost estimations for each transportation mode. The cost per trip is then multiplied by the number of trips per week

79. See: www.irs.gov/pub/irs-drop/rp-09-54.pdf

to arrive at a weekly commuting cost. The weekly cost is then multiplied by the “WKW – Weeks worked in the last 12 months”⁸⁰ variable to arrive at an annual commuting cost.

The cost per subway or bus trip of \$1.96 was unchanged from our 2009 model.⁸¹ As shown in the table below, close to half (47.7 percent) of all commuters use either

the subway or bus for their commute. This results in a median annual commuting cost of \$980 per commuter. As Table G Four indicates, the highest commuting costs were incurred by those that commuted by taxi, railroad, or drove alone.

TABLE G FOUR
Transportation Mode and Costs, 2010

Mode of Transport	Number of Commuters	Percent	Weekly Cost		Annual Cost	
			Median	Mean	Median	Mean
Drove Alone	813,391	20.1%	\$41	\$48	\$1,845	\$2,322
Drove with Others	179,765	4.4%	\$17	\$22	\$820	\$1,038
Bus	447,220	11.1%	\$20	\$18	\$980	\$865
Subway	1,484,039	36.7%	\$20	\$19	\$980	\$923
Railroad	58,457	1.4%	\$47	\$54	\$2,350	\$2,454
Ferry	9,552	0.2%	\$0	\$0	\$0	\$0
Taxi	36,573	0.9%	\$96	\$89	\$4,800	\$4,262
Motorcycle	1,786	0.0%	\$29	\$31	\$1,435	\$1,502
Bike	28,252	0.7%	\$0	\$0	\$0	\$0
Walked	354,162	8.8%	\$0	\$0	\$0	\$0
Worked at Home	151,231	3.7%	\$0	\$0	\$0	\$0
Other Method	22,314	0.6%	\$20	\$20	\$980	\$910
No Mode	460,047	11.4%	\$20	\$16	\$392	\$471
All Modes	4,046,789	100.0%	\$20	\$23	\$980	\$1,080
Percent Using Subway or Bus		47.7%				
Cost per Subway or Bus Trip		\$1.96				

Sources: American Community Survey Public Use Micro Sample as augmented by CEO using data from the following: “Regional Travel-Household Interview Survey.” New York Metropolitan Transportation Council-New Jersey Transportation Planning Authority. February 2000; IRS Revenue Procedure 2009-54 established the standard mileage rates for deductible costs of operating an automobile for business purposes; *The New York City Taxicab Fact Book*. Schaller Consulting. March 2006.

Note: Those that commuted via “Other Method” or reported no mode but did have work within the last 12 months were assigned the average cost per subway or bus trip.

80. In 2008, the WKW variable was changed from the actual number of weeks to a range format. For our 2008, 2009, and 2010 calculations, we used the mid-point of each range in our calculations.

81. For 2005-2008, we used a weighted average of the prices of the different MetroCard options. This was done because the price per ride for the long-term unlimited ride MetroCard options were the cheapest but they also required the largest upfront payment. In 2009 and 2010, we chose to use \$1.96, the price per ride for the pay-per-ride MetroCard because it was by far the cheapest option and required a much smaller initial investment than the other unlimited ride options. Please see information on MTA website: www.mta.info/mta/09/

Table G Five reports the effect of childcare, commuting, and total work-related expenses on the poverty rate. The effects are calculated in the same manner as those reported in Table Five, Chapter II, the difference between a hypothetical poverty rate that omits these costs and a poverty rate based on total CEO income. The table's Panel A provides these effects for the total New York City population. Across the years, the increase in the poverty rate that is due to work-related expenses is fairly uniform. Childcare expenses push only 0.2 percent of the population below the poverty line. Commuting costs have a larger effect, ranging from 1.3 percent to 1.6 percentage points.

Panel B reports these effects for persons who are living in working families with children. Given the makeup of this group, the larger effect of work-related expenses on its poverty rate is hardly surprising. However, the still-modest impact of childcare costs for working families with children is noteworthy. The explanation of why the effect is small can be found in Table G Three, which reports that roughly two out of three working families with children under 13 had no non-discretionary childcare costs.

TABLE G FIVE
Impact of Work-Related Expenses on Poverty Rates, 2005 - 2010

(Numbers are Percent of the Population)

	2005	2006	2007	2008	2009	2010
A. Total Population						
Poverty Rates						
Total CEO Income	20.5	20.2	19.8	19.0	19.7	21.0
Net of:						
Commuting Cost	19.2	18.6	18.4	17.7	18.2	19.6
Childcare Expenses	20.3	19.9	19.6	18.8	19.5	20.7
Total Work Expenses	18.9	18.4	18.2	17.4	18.0	19.4
Marginal Effects						
Commuting Costs	1.3	1.6	1.4	1.3	1.5	1.4
Childcare Expenses	0.2	0.2	0.2	0.2	0.2	0.2
Total Work Expenses	1.5	1.8	1.6	1.6	1.7	1.6
B. Persons Living in Working Families with Children						
Poverty Rates						
Total CEO Income	12.0	13.1	13.4	11.6	12.1	13.2
Net of:						
Commuting Cost	10.2	10.9	11.1	9.8	9.8	11.3
Childcare Expenses	11.6	12.7	12.9	11.2	11.6	12.7
Total Work Expenses	9.8	10.5	10.8	9.4	9.3	10.8
Marginal Effects						
Commuting Costs	1.8	2.3	2.2	1.8	2.3	1.9
Childcare Expenses	0.3	0.5	0.4	0.4	0.5	0.5
Total Work Expenses	2.2	2.7	2.6	2.3	2.7	2.4

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

APPENDIX H: MEDICAL OUT-OF-POCKET SPENDING

Following the National Academy of Sciences' recommendation, CEO's measure of income is net of what families spend for their medical care.⁸² Medical out-of-pocket expenditure (MOOP) includes health insurance premiums, co-pays, deductibles, and health services that are not covered by insurance. Since the American Community Survey (ACS) does not report this information, it must be imputed from an outside data source. We impute MOOP values to families in the ACS using a predicted mean match (PMM) to data from the Medical Expenditure Panel Survey (MEPS).

Developing a PMM Model for MOOP Imputation

We developed a regression model to predict MOOP values in the MEPS. All variables were measured for the head of the poverty unit.⁸³ Income, poverty unit size, and number of children are measured as continuous variables, while the age, race, education, and working status categories are included as binary variables. Additionally, income is included as a quadratic term, as the data suggest that MOOP is a concave function of income. Health insurance status is measured as a categorical variable, with private insurance coded as one, public insurance coded as two, and no insurance coded as three. Coding the variable in this fashion yields a negative coefficient on insurance status, as the groupings are ordered from the one with the highest MOOP spending to the one with the lowest MOOP spending.

In 2008, the ACS began measuring insurance status, which is an important covariate in a model of MOOP. Thus the imputation model for 2008 and onward contains insurance status, while the previous years cannot. This may create some discontinuity, over time, in our estimates. We address it by using Food Stamp receipt as a proxy for Medicaid status for the years prior to 2008. In addition, a good deal of the variation in insurance status is picked up by the full-time work and income variables (which proxy for private insurance) and the age of the poverty unit head variable (which proxies for Medicare enrollment). We tested the 2008

data using the model without insurance status and found similar outcomes to the model with insurance status, yielding a mean MOOP value of \$2,867 compared with \$2,895 for the model including insurance status.⁸⁴ This proxy method is imperfect, however, and may impact the quality of the statistical match.

Following O'Donnell and Beard, we estimated a tobit model, since the MOOP data in the MEPS contain a large fraction of families with zero expenditures.⁸⁵ We tested several regression models, evaluating them based on goodness of fit. Since tobit models do not have traditional R² values, we relied on a pseudo-R² measure developed and tested in Veall and Zimmermann (1994).⁸⁶ The regression coefficients are reported in Table H One below:

TABLE H ONE
Regression Model of Medical Out-of-Pocket Spending

Variable	Coefficient	Z-Statistic
Intercept	1,604	941
Income	188	1093
Income Squared	-3	-523
Family Size	918	1978
Number of Children	-634	-996
Age 30-39	192	169
Age 40-49	898	812
Age 50-64	1,221	1173
Age 65 and Older	1,579	1393
Insurance Status	-1,325	-2642
Work Full-Time	-455	-599
Black	-1,026	-1007
Hispanic	-886	-820
Asian	-986	-590
Other Race/Ethnicity	-486	-220
High School Degree	256	249
Bachelor's Degree or Greater	691	600
N	14,719	
pseudo-R²	0.260	

Source: 2009 Medical Expenditure Panel Survey inflated to 2010 prices using the CPI Medical Index.

Notes: Dependent is family-level MOOP. Income measured as household income divided by 10,000. All coefficients significant at the $p < 0.001$ level.

82. Citro and Michael. pp. 67-69.

83. See Appendix A for a description of the CEO poverty unit of analysis.

84. Additional information on the comparison of imputation models with and without insurance status is available upon request.

85. O'Donnell, Sharon and Rodney Beard. *Imputing Medical Out of Pocket Expenditures using SIPP and MEPS*. Presented at the American Statistical Society Annual Meetings, August 2009.

86. Veall, Michael and Klaus Zimmermann. "Goodness of Fit Measures in the Tobit Model." *Oxford Bulletin of Economics and Statistics*, 56, 4. 1994.

The final model had a pseudo- R^2 of 0.260, which is relatively low. This is likely due to the fact that the ACS does not have measures of individual and family health status, which contribute greatly to the variation in MOOP. However, if the matching variables capture the systematic determinants of healthcare spending, then we can regard individual health status as randomly distributed. Conditional on the matching variables, a matched pair of cases should be equally likely to suffer from ill or enjoy good health. Thus, even though the model leaves a good deal of variance unexplained, that unexplained variance should be unrelated to the distribution of MOOP values across the two data sets.

ACS and MEPS cases are matched based on their predicted means, using the regression model. When cases are matched, the actual MOOP value from the MEPS case is donated. Since there are slightly less than half as many donor cases in the MEPS as cases in the ACS, we allowed MEPS observations to donate their value to multiple ACS observations. We also applied a rule that a single MEPS case could not donate more than three times. This ensured that all ACS cases could be matched and helped preserve the full distribution of MOOP values from the MEPS. After some experimentation, we imposed a further restriction on the match: MEPS and ACS observations could only be paired if they matched on health insurance status and the elderly status of their respective reference person. We did this because initial testing of the imputation model without these conditions yielded poor matches for certain sub-groups. Adding these matching criteria overcame this problem.

Table H Two shows the distribution of MOOP values in the MEPS and the PMM values for 2010.

TABLE H TWO
Comparison of MOOP Distributions,
MEPS and ACS, 2010

	MEPS	ACS
Mean	\$3,163	\$2,781
Aggregate (in thousands of dollars)	N.A.	\$9,147,233
Percentile		
5	\$0	\$0
10	\$32	\$12
25	\$532	\$310
50	\$1,982	\$1,617
75	\$4,464	\$3,936
90	\$7,579	\$6,776
95	\$10,222	\$9,334
Proportion of families with Zero MOOP Values	6.8%	7.7%

Sources: American Community Survey Public Use Micro Sample as augmented by CEO, and 2009 Medical Expenditure Panel Survey (MEPS) inflated to 2010 prices using the CPI Medical Index.
Note: N.A. - Not applicable due to the fact that the MEPS provides data at the U.S. level as opposed to the New York City level.

The matched MOOP values in the ACS are lower than those in the MEPS, particularly at the mean. This does not necessarily mean that the imputation procedure yields a poor match. The MEPS is a nationally representative survey, while our estimates are for New York City. Since New York City differs in demographic composition from the rest of the U.S., the overall mean MOOP value may be higher or lower than for the overall population.

A better measure of the match quality is the *conditional* distributions. By looking at the matched values conditional on the matching variables, we can see whether or not the medical spending patterns are reproduced in the ACS, adjusting for the compositional differences in the data sets. Table H Three reports the mean and median MOOP expenditures in the MEPS and ACS by insurance and elderly status.

TABLE H THREE
Comparison of MEPS and ACS MOOP
Expenditures, by Age and Insurance Status, 2010

	ACS					
	Non-Elderly			Elderly		
	Private	Public	Uninsured	Private	Public and Uninsured	
Mean	3,739	792	1,007	4,150	2,204	
Median	2,657	139	183	2,894	1,374	
	MEPS					
	Non-Elderly			Elderly		
	Private	Public	Uninsured	Private	Public and Uninsured	
Mean	3,952	688	1,084	4,295	2,870	
Median	2,785	115	207	3,283	2,014	

Sources: American Community Survey Public Use Micro Sample as augmented by CEO and 2009 Medical Expenditure Panel Survey (MEPS) inflated to 2010 prices using the CPI Medical Index.

As the table shows, the conditional MOOP distribution is preserved in the ACS. The mean and median values by subgroups are much closer to the MEPS data than the Citywide mean.

Impact of MOOP on the CEO Poverty Rate

Table H Four reports the impact of MOOP on the poverty rate. MOOP has a substantial impact on the poverty rate, increasing poverty throughout the City by between 3.0 and 3.8 percentage points. The impact of MOOP on the poverty rate is larger in 2005-2007 than in 2008-2010. This is likely the result of the better statistical match that is generated when insurance status is included as a matching variable.

TABLE H FOUR
Impact of MOOP on Poverty Rates, 2005 - 2010

(Numbers are Percent of the Population)

	2005	2006	2007	2008	2009	2010
A. All Persons						
Poverty Rates						
Total CEO Income	20.5	20.2	19.8	19.0	19.7	21.0
Net of MOOP	17.1	16.4	16.0	16.0	16.7	18.0
Marginal Effect of MOOP	3.4	3.7	3.8	3.0	3.0	3.0
B. Elderly Individuals						
Poverty Rates						
Total CEO Income	24.4	22.7	22.1	22.5	22.3	21.2
Net of MOOP	17.2	16.7	16.3	17.1	16.8	16.5
Marginal Effect of MOOP	7.2	6.0	5.9	5.4	5.5	4.7

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

Table H Four also reports the impact of MOOP on poverty among the elderly, the group most affected by medical spending. The MOOP adjustment raises elderly poverty by a much larger amount, ranging from 7.2 percentage points to 4.7 percentage points. As a result, the elderly had a higher total CEO income poverty rate than the City as a whole from 2005 to 2009. Over the same period, however, the elderly have a net-of-MOOP poverty rate that is close to the Citywide poverty rate net-of-MOOP. In 2010 this pattern changes. The total CEO income poverty rate for the elderly is similar to the Citywide poverty rate and the net-of-MOOP poverty rate for the elderly is 1.5 percentage points below the comparable poverty rate for the City as a whole. The pattern in 2010 differs from the prior years because poverty rose for younger and more labor-market dependent New Yorkers and because the effect of MOOP declined. Indeed, it declines markedly over the 2005-2010 period. This may be a reflection of implementation of Medicare Part D, the prescription drug coverage program that could be protecting more of the elderly from catastrophic medical costs.

APPENDIX I: ACCURACY OF THE DATA

The principal data set for CEO's poverty estimates is the American Community Survey (ACS) Public Use Micro Sample (PUMS). The ACS is designed to sample one percent of the households in the U.S. each year. The PUMS is a subset of the full ACS sample. It provides information collected from roughly 25,000 households in New York City annually. Because the ACS is a survey, it is subject to two types of error: nonsampling error and sampling error.

Nonsampling Error: Nonsampling error is the error within survey data that is not specifically associated with the statistical sampling procedures of the sample data. Nonsampling error can occur because of erroneous responses by survey respondents, for example. Another source of nonsampling error can come from mistakes in the processing of the data by the Census Bureau, such as when data are edited or recoded.

Nonsampling error can affect the data in two ways: either randomly, which increases the variability of the data, or systematically, which introduces bias into the results. To minimize bias in the survey, the Census Bureau conducts extensive research of sampling techniques, questionnaire design, and data collection and processing procedures. For instance, after identifying a systematic underreporting of Food Stamp receipt and benefit dollar values in the ACS, the Census Bureau researched methods to increase the reported participation rate. The Census Bureau concluded, through this research, that changing the wording of the Food Stamp question to include "Food

Stamp benefit card," as well as not asking about the Food Stamp benefit value, would significantly increase the number of households responding that they received Food Stamps.⁸⁷

Sampling Error: Sampling error occurs in the ACS, as in other sample survey data, because inferences about the full population (such as the poverty rate for New York City) are derived from a subset of it (the poverty rate for the ACS sample). Another sample drawn from the same population would provide a different estimate of the poverty rate. The sampling error is estimated by the standard error, which can be thought of as a measure of the deviation of an estimate drawn from one sample from the average estimate of all possible samples.

For this report, CEO employed the replicate weight method recommended by the Census Bureau to compute direct standard errors for our estimated poverty rates. The standard errors provide a measure of sampling error and some types of nonsampling error.⁸⁸ Using the standard errors, we tested the statistical significance of differences and changes in the report's poverty rates at the 10 percent level of significance. In the report's tables, we highlight, in bold, statistically significant differences between poverty rates.

An additional source of error in the data results from CEO's need to impute information on items such as the value of Food Stamp benefits, housing status, childcare expenditures, and medical out-of-pocket expenditures from other survey data into the ACS sample. We do not, however, account for the imputation error in this report.

87. John Hisnanick, T. Loveless, and J. Chesnut. U.S. Bureau of the Census. *2006 American Community Survey Content Test Report H.6 - Evaluation Report Covering Receipt of Food Stamps*. January 3, 2007. See: www.census.gov/acs/www/AdvMeth/content_test/H6_Food_Stamps.pdf
88. *PUMS Accuracy of the Data (2010)*. U.S. Bureau of the Census. 2011. Available at: www.census.gov/acs/www/Downloads/data_documentation/pums/Accuracy/2010AccuracyPUMS.pdf



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