The CEO Poverty Measure, 2005 - 2012

An Annual Report from the Office of the Mayor

NYC™
Office of the Mayor

April 2014

THE CITY OF NEW YORK
OFFICE OF THE MAYOR
NEW YORK, NY 10007

MEMORANDUM

TO: Melissa Mark-Viverito, Speaker, New York City Council
FROM: Mindy Tarlow, Director, Mayor's Office of Operations
DATE: April 28, 2014
SUBJECT: The CEO Poverty Report, 2005 - 2012

In accordance with Section 16, Chapter 1 of the New York City Charter, I am pleased to submit the annual poverty report on behalf of Mayor de Blasio. This year marks the first report issued since the New York City Charter was revised in December 2013, requiring the Mayor to submit an annual report on poverty.

The report covers the years 2005-2012. **The latest data available is calendar year 2012, representing a two-year lag from present conditions.**

The methodology used by the City, and now mandated by the Charter, is conducted by the New York City Center for Economic Opportunity (CEO), and provides an alternative to the 50-year-old official U.S. poverty measure. This new methodology more fully reflects New York City conditions.

The report finds that poverty rates in New York City rose from 19.0 percent in 2008 to 20.9 percent in 2010, and then remained unchanged at 21.4 percent in 2011 and 2012. By comparison, the official poverty rate rose from 16.8 percent in 2008 to 18.8 percent in 2010, and continued to climb, reaching 20.0 percent in 2012. Although our overall poverty rate findings exceed the official rate, this report finds that a smaller proportion of the City's population was living in extreme poverty – below 50 percent of the poverty threshold – in 2012. The CEO method locates this figure at 5.4 percent in 2012 compared to 8.1 percent according to the official method. Conversely, however, our measure finds a larger share of the population was living near poverty – below 150 percent of respective poverty thresholds compared to the official measure. The CEO measure puts this figure at 41.0 percent in 2008 and at 45.6 percent in 2012, compared to the respective 26.6 percent and 30.7 percent of the official method.

Increases in poverty were particularly pronounced for Asians and non-citizens, and there is considerable overlap between these two demographic groups; nearly one-third (32.9 percent) of the City's Asian population falls into the non-citizen category. The increase in poverty has also been notable among workers and working families. The poverty rate for working age adults (persons 18 through 64 years of age) who were employed full-time, year-round, rose by 1.8 percentage points from 2008-12, reaching 8.0 percent in 2012.

The de Blasio Administration, with significant Council support, has already taken dramatic steps towards addressing the issues raised in this report including adding paid sick days for hundreds of thousands of additional working New Yorkers, increasing the number of jobs paying a living wage, and prioritizing the development of a municipal identification that will increase access to basic services for all New Yorkers regardless of immigration status.

This Administration will continue to implement initiatives that address needs and specific trends identified in this report. The City will seek opportunities to lift wages and increase labor market participation, as well as continue efforts to improve access to basic services for immigrants, including expanding language access programs to better assist non-English speaking New Yorkers in obtaining social benefits. Expanding language access will help thousands

of Limited English Proficient (LEP) New Yorkers access health care services, housing, small business support, and school programs such as after school opportunities and universal pre-K, which will prepare more children for academic success while potentially achieving child care savings for their parents.

Language access is particularly important for Asian immigrant communities, which show the highest rates of poverty in the City. Nearly half of all working-age Asian immigrants in the City are LEP, and three out of every four Asian seniors are in the same category. Community monitoring of existing language access laws and policies in New York City show that speakers of Korean and South Asian languages suffer particularly poor language access at key City agencies. As a result, Asian communities are unable to access vital City services that can help them prevent or rise out of poverty. Mayor de Blasio's commitment to strengthening and expanding language access will help tackle this disparity.

This data-driven framework for identifying, understanding, and responding to poverty will be a foundation of the Administration's approach moving forward. We look forward to working in partnership with the Council to reduce poverty, and to making a significant impact on the lives of struggling New Yorkers.

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Preface and Acknowledgments

This year marks a turning point in the release of the New York City poverty report. This is the first report issued since the New York City Charter was revised in December 2013, requiring the Mayor to issue an annual report on poverty in the City. As such, it is also the first to contain newly mandated data describing the City's strategy and resources aimed at alleviating poverty. The report covers the years 2005-2012, demonstrating the connections between policy and poverty during an economic boom, the Great Recession and a relatively weak recovery. Notably, the period of time reflected here ends in 2012, representing a two-year lag from present conditions.

The poverty measure originated in 2006 when a Commission on Economic Opportunity was convened to craft innovative approaches to reducing poverty in the City. The Commissioners soon learned what social scientists have known for decades: the nation's fifty-year-old measure of poverty no longer provides useful information. In the 1960s, the poverty measure was a focal point for the nation's growing concern about poverty. Over the decades, society evolved and policies have shifted, but the official poverty measure remains frozen in time. As a result, it has steadily lost credibility and usefulness as a social indicator. The Commissioners concluded that, along with new programs, the City needed to develop a new measure of poverty. The development of an improved measure of poverty became a goal of the New York City Center for Economic Opportunity (CEO), which was tasked with implementing the Commission's recommendations.

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 branch of government had adopted this approach until 2008 when we released our first working paper on poverty in New York City. This study – our sixth – continues our practice of issuing annual updates of our measure.

The CEO poverty measure has become an important resource for how our thinking about poverty in New York City continues to evolve. We have gained a better estimate of the rate of poverty – what portion of the City is poor and near poor; the extent to which some anti-poverty programs lower the poverty rate; and a demographic and economic profile of New Yorkers in poverty. This data-backed understanding of the nature of poverty is now the first step in a progressive framework for addressing inequality and expanding opportunity as initiated by the administration of Mayor Bill de Blasio. The next steps are to implement solutions based on the growing body of evaluation data and then to continue to monitor and measure the effectiveness of these solutions.

The need for an alternative poverty measure is seen in the increasing interest in a new measure. In recent years, New York City 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, California, Connecticut, Georgia, Illinois, Massachusetts, Minnesota, Wisconsin and the city (and metropolitan area) of Philadelphia. In addition, longitudinal estimates for the U.S. have been developed by the Population Research Center at Columbia University. All these projects have been enormously helpful to our work. We have benefited 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.

In 2011, the U.S. Bureau of the Census began releasing annual reports on poverty in the United States using a new Supplemental Poverty Measure, which is also based on the NAS recommendations. To enhance the commensurability of our work with the new Federal 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 – have been 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 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 presented our work at 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, the International Association for Research in Income and Wealth, 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 of 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, Dr. Joseph Salvo, Director of the Population Division at the New York City Department of City Planning, has made several important contributions. Many other colleagues in City government have shared their expertise about public policy, the City's administration of benefit programs and agency-level data. Sondra Sanchez, Director of HEAP and Tracey Thorne, Director of Program and Policy Analysis, Office of Emergency and Intervention Services at the City's Human Resources Administration, provided data and insight on the Home Energy Assistance Program; Robert Deschak, at the Department of Education's Office of School Support Services, shared data on school meals; and Jackson P. Sekhobo, Director, Evaluation and Analysis Unit, Division of Nutrition, New York State Department of Health, provided data on participation in the WIC program. Thanks are due to Dave Hall and the staff at the City's Human Resources Administration (HRA) print shop, and also to Hildy Dworkin, librarian at the HRA, for her continuing support.

Staff at other government agencies that also assisted us include: Ramchal Kaveeta, Metropolitan Transit Authority; Kim Kessler, Office of the Mayor; Grace Forte-Fitzgibbon, Long Island Railroad; Robert Hickey, Office of Management and Budget; 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 also amassed a considerable debt to past and present CEO colleagues, including Linda Gibbs, former Deputy Mayor for Health and Human Services; Kristen Morse, former director of CEO; Todd Seidel, an original member of the poverty research unit; and David Berman, Brigit Beyea, Jean-Marie Callan, Corey Chambliss, Harry Copson, Kate Dempsey, Emily Firgens, Carmen Genao, Patrick Hart, Courtney Jones, Sinead Keegan, Parker Krasney, Albert Pulido, Ada Rehnberg-Campos, Kashay Sanders and Shammara Wright.

A debt of gratitude is also owed to Kristin Misner, Chief of Staff to the Deputy Mayor for Health and Human Services and Director of Social Services.

This report was authored by Mark Levitan, Ph.D., Daniel Scheer, Ph.D., John Krampner and Vicky Virgin, along with myself. This year we gratefully acknowledge the assistance of Carson Hicks, CEO's Director of Programs and Evaluations.

Mindy Tarlow, Director of the Mayor's Office of Operations; Morgan Monaco, Senior Policy Advisor at Operations; Matthew Klein, Executive Director of CEO; and Dan Bloom of MDRC were all indispensable in their guidance as we navigated this report through new waters.

We began this Preface by stating that the report is a first in several ways. But this report also marks an important ending. It is the last to be produced under the supervision of Mark Levitan, Director of Poverty Research, before his retirement from CEO. Dr. Levitan's vision made this project possible in 2008. His steady, insightful wisdom is responsible for the ongoing quality of the report through the years and serves as a solid base for the future. We wish him the best.

Christine D'Onofrio, Ph.D.
Senior Research Associate
On behalf of the New York City Center for Economic Opportunity and the Mayor's Office of Operations

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Executive Summary

In December 2013, the New York City Charter was revised, requiring the Mayor to issue an annual report on poverty in the City. The Charter specifically requires that the report be based on the poverty measure developed by the New York City Center for Economic Opportunity (CEO), in order to provide policy makers and the public a more informative alternative to the 50-year-old official U.S. poverty measure. This report is the first under the new mandate. It finds that the recession-related growth in the poverty rate, which began in 2008, has ended. In 2012, 21.4 percent of the New York City population (1,175,000 persons) was living below the CEO poverty line. The 2012 poverty rate was unchanged from the prior year.

Over the 2005 to 2012 period covered in this report, changes in the CEO poverty rate have closely matched trends in employment and earned income in the City. The poverty rate fell from 2005 to 2008, to 19.0 percent, when the local economy was expanding. After the Great Recession took hold of the City economy in 2008, the poverty rate rose to 20.9 percent in 2010 and reached a cyclical peak of 21.4 percent in 2011. In short, the recent growth in employment and earnings has arrested a further increase in the poverty rate. However, the post-recession recovery has yet to gather sufficient strength to generate a fall in the poverty rate toward its pre-recession level.

Figure One illustrates the trend in the CEO poverty rate. It is paralleled by the movement in the official poverty rate. This on-the-surface similarity, however, masks many important differences between the two poverty measures. The first part of the Executive Summary reviews them. We then turn to the economic and public policy context that has shaped recent trends in the poverty rate. The next section identifies the report's key findings. In the final section we define the policy framework for addressing poverty.

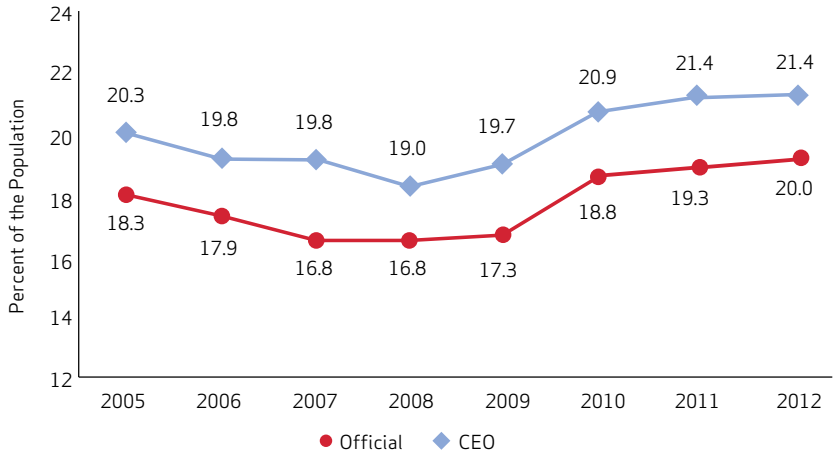
The Official Poverty Measure

The official poverty measure was developed in the early 1960s. Its threshold 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.[1]

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

FIGURE ONE

Official and CEO Poverty Rates, 2005 - 2012



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

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 income. 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 over the decades an increasing share of what government programs do 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. The NAS threshold represents the need for clothing, shelter, and utilities as well as food. The NAS income measure 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 largely based on the NAS recommendations, with modifications based on the guidelines from the Interagency Working Group.

The National Academy of Sciences' Alternative

Dissatisfaction with the official measure prompted Congress to request a study by the National Academy of Sciences (NAS). The NAS's recommendations for an improved measure were issued in 1995.[2] The NAS took a considerably different approach to both the threshold and resource side of the poverty measure. Its 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,[3] calculating their spending on these items and then choosing a point in the resulting expenditure distribution.[4] 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 proposed that the poverty line be adjusted to reflect geographic differences in housing costs.

On the resource side, the NAS 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 create 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 non-discretionary spending is accounted for as deductions from income.

The NAS report sparked further research and garnered widespread support among poverty experts.[5] 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.[6]

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2. Citro, Constance F. and Robert T. Michael (eds). *Measuring Poverty: A New Approach*. Washington, DC: National Academy Press. 1995.
3. 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 compositions. See Appendix B.
4. The NAS suggested that this point lie between the 30th and 35th percentile. Citro and Michael, p.106.
5. Much of the research inspired by the NAS report is available at: www.census.gov/hhes/ povmeas/methodology/nas/index.html
6. 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

More recently the U.S. Bureau of the Census has been issuing annual reports on poverty using a Supplemental Poverty Measure (SPM). Like CEO's measure, the Census Bureau's SPM – first issued in November 2011 – is also shaped by the NAS recommendations, along with a set of guidelines provided by an Interagency Technical Working Group in March 2010.[7] Subsequent to the original NAS report, the guidelines incorporated work by researchers at the Census Bureau, the Bureau of Labor Statistics, and others. Many of these recommendations are reflected in our measure.

CEO's Adoption of the NAS/SPM Method

CEO bases our New York City-specific poverty threshold on the U.S.-wide threshold developed for 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 the U.S.-wide Fair Market Rent for a two-bedroom apartment to the housing portion of the threshold.[8] In 2012, our poverty line for the two-adult, two-child family comes to $31,039. We refer to this New York City-specific threshold as the CEO poverty threshold. The 2012 official poverty threshold for the corresponding family was $23,283.

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 sources such as wages and salaries, as well as government transfer payments, provided that they take the form of cash. Thus, Social Security benefits are included in this measure, but the value of in-kind benefits, like Food Stamps or tax credits such as the Earned Income Tax Credit, are not counted.

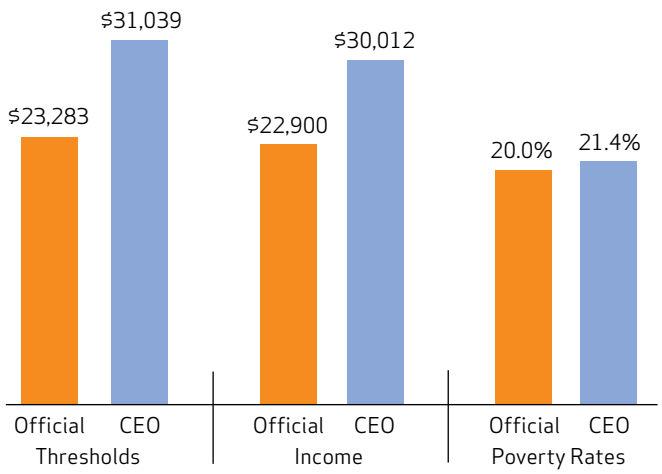
CEO Income: Based on the NAS recommendations, CEO income includes all the elements of pre-tax cash plus the effect of income and payroll taxes, as well as the value of in-kind nutritional and housing assistance. Non-discretionary spending for commuting to work, childcare, and out-of-pocket medical care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

Obviously, if this were the only change CEO had made to the poverty measure, it would lead to a poverty rate higher than the official rate. 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 $30,012 in 2012. The corresponding figure for pre-tax cash was only $22,900. 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 2012. The effect of the higher CEO threshold (33.3 percent above the official) outweighs the effect of CEO's more complete definition of resources (which is 31.1 percent higher, at the 20th percentile, than the official resource measure), resulting in a higher poverty rate. In 2012, the CEO poverty rate stood at 21.4 percent while the official rate was 20.0 percent, a 1.5 percentage point difference.[9]

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. Details of the calculation are given in Appendix B.
9. Differences are taken from unrounded numbers.

FIGURE TWO

Comparison of Thresholds, Income, and Poverty Rates, Official and CEO, 2012



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.

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."

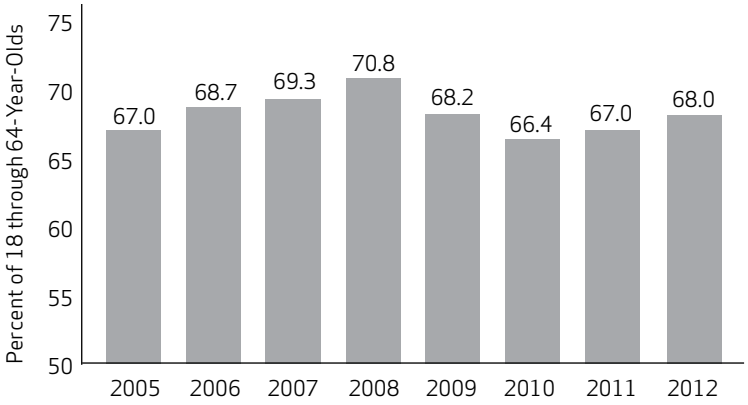
This Report

This report incorporates data through 2012. The focus of this year's report is on poverty in New York City since 2008, a period of recession, which has been followed by a modest recovery in the local job market. From 2008 to 2010, labor market indicators for City residents pointed decidedly south. A declining proportion of the working age population was employed. As Figure Three illustrates, 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 in 2010. By 2012 it had edged back up to 68.0 percent.

Because poverty status is determined by annual income, employment over the course of a year is a particularly useful labor market indicator for understanding trends in the poverty rate. 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

FIGURE THREE

Employment/Population Ratios, 2005 - 2012



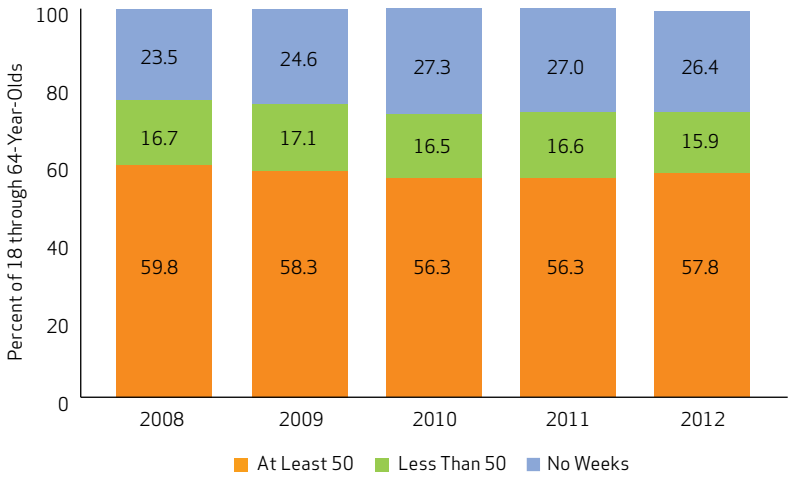
Source: American Community Survey Public Use Micro Sample as augmented by CEO.

proportion of the population that had no work at all grew from 23.5 percent in 2008 to 27.3 percent 2010. This indicator stabilized in 2011 and improved somewhat in 2012. The share of the working age population with year-round work was 57.8 percent in the most recent year. The 2008 to 2010 decline in weeks worked is reflected in measures of annual earnings. Table One reports cost of living (COL) adjusted per family earnings for those families whose earnings would put them near the CEO poverty threshold (between the 25th and 40th percentile of the earnings distribution).[10] The declines range from 18.1 percent to 14.9 percent from 2008 to 2010. The fall in earnings continued in 2011. The 2012 data indicate an improvement from the prior year.

The job market, we have seen, 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 means-tested assistance takes the form of cash payments such as public assistance, while a larger proportion is composed of tax credits and in-kind benefits. The trend has been reinforced by the Bush and Obama Administrations' economic stimulus programs. The Economic Recovery Rebate, a tax program, 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

FIGURE FOUR

Weeks Worked in Prior 12 Months, 2008 - 2012



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

TABLE ONE

Annual Family-Level Earned Income, 2008 - 2012

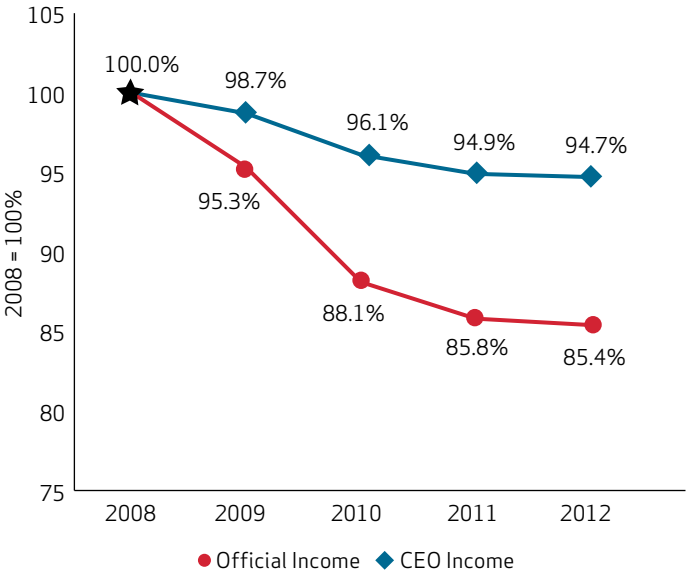
	Year					Percentage Change		
Percentile	2008	2009	2010	2011	2012	2008-2010	2010-2011	2011-2012
25	$20,139	$19,033	$16,650	$16,078	$16,348	-17.3%	-3.4%	1.7%
30	$27,418	$25,694	$22,453	$22,037	$22,387	-18.1%	-1.9%	1.6%
35	$34,262	$32,356	$28,729	$27,767	$28,481	-16.1%	-3.4%	2.6%
40	$41,158	$38,932	$35,033	$33,402	$34,009	-14.9%	-4.7%	1.8%

Source: American Community Survey Public Use Micro Sample as augmented by CEO.
Notes: Earnings are stated in family size and composition-adjusted dollars. They are stated in 2012 dollars using the CEO threshold as a price index. Persons in families with no earnings are included.

10. These earnings data are stated in 2012 dollars using the CEO threshold as a price index.

Recovery and Rebuilding Act. Because the CEO poverty measure accounts for all these resources, we find that CEO income was markedly more stable during the recession than the official resource, which is solely composed of pre-tax cash. As Figure Five illustrates, COL adjusted official (pre-tax cash) income fell to 88.1 percent of its 2008 value by 2010 and 85.8 percent of its 2008 level by 2011. It was stable from 2011 to 2012. COL adjusted CEO income, by contrast, declined to 96.1 percent of its 2008 value in 2010 and edged down to 94.9 percent of its 2008 value in 2011. CEO income was unchanged from 2011 to 2012.[11]

FIGURE FIVE



Comparison of Income Trends, 2008 - 2012

Source: American Community Survey Public Use Micro Sample as augmented by CEO.
Notes: Incomes are measured in family size and composition-adjusted dollars and reported at the 20th percentile of their respective distributions. They are stated in 2012 dollars using the CEO threshold as a price index.

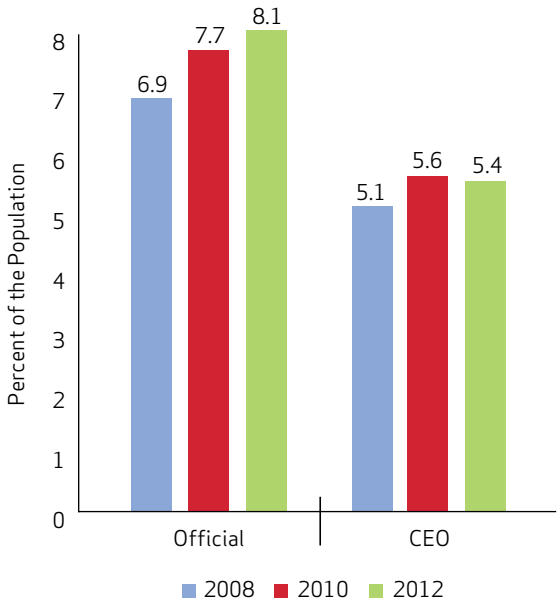
Key Findings

In the context of a labor market that is slowly recovering from a sharp two year slump, we find a fairly consistent pattern in trends over time. Poverty rates rose markedly from 2008 to 2010 and then held steady from 2010 to 2012.

- After climbing from 19.0 percent in 2008 to 20.9 percent in 2010, the CEO poverty rate was 21.4 percent in 2012, statistically unchanged from its 2010 and 2011 levels. The official poverty rate rose from 16.8 percent in 2008 to 18.8 percent in 2010 and continued to climb, reaching 20.0 percent in 2012. (See Figure One.)
- 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 the official method (5.4 percent compared to 8.1 percent in 2012). The CEO extreme poverty rate rose from 5.1 percent in 2008 to 5.6 percent in 2010, and then leveled off. The official extreme poverty rate increased from 6.9 percent to 7.7 percent from 2008 to 2010. Since 2010 this measure has been stable. (See Figure Six.)

FIGURE SIX

Share of the Population in Extreme Poverty



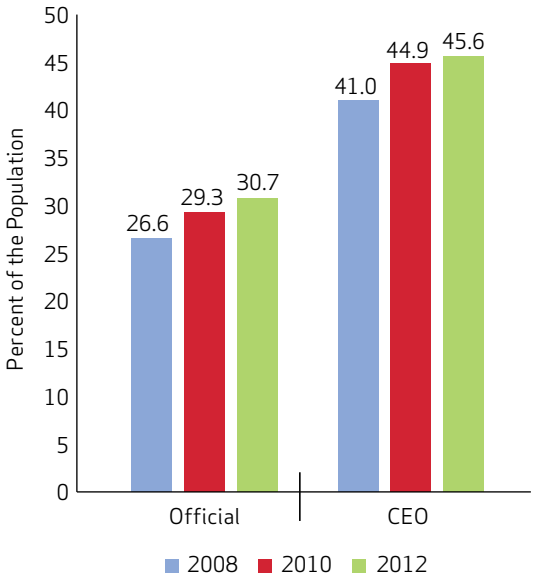
Source: American Community Survey Public Use Micro Sample as augmented by CEO.

11. These income data are also stated in 2012 dollars using the CEO threshold as a price index.

- The CEO measure categorizes a much larger share of the population as living in "near poverty" – above, but uncomfortably close to the poverty threshold – than the official measure. This is reflected in comparisons of the share of the population that is living below 150 percent of the respective poverty thresholds. In 2012, 45.6 percent of New York City residents were living below 150 percent of the CEO poverty threshold, up from 41.0 percent in 2008. The corresponding shares for the official measure were 30.7 percent in 2012 and 26.6 percent in 2008. (See Figure Seven.)

FIGURE SEVEN

Share of the Population below 150 Percent of the Poverty Threshold

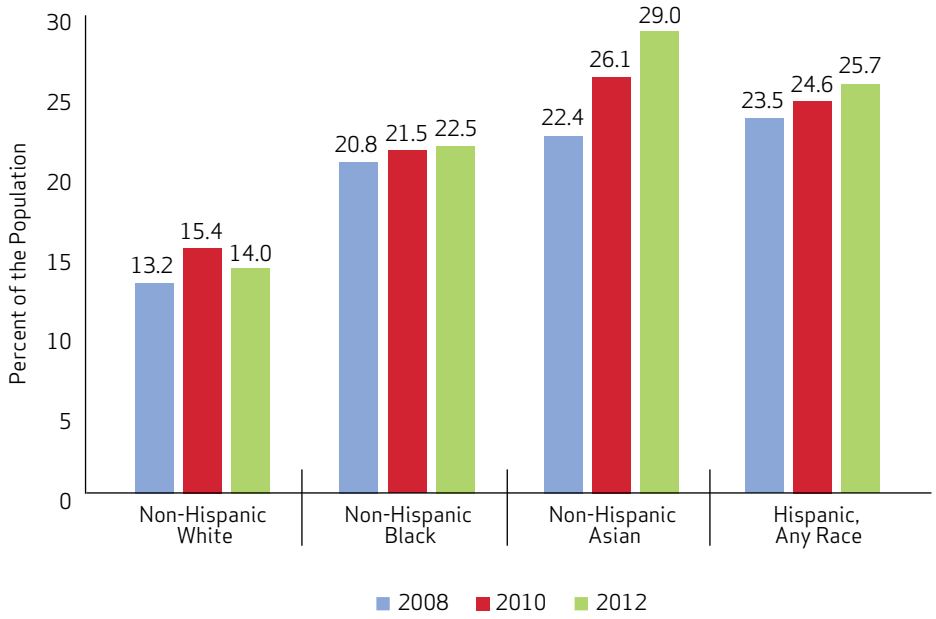


Source: American Community Survey Public Use Micro Sample as augmented by CEO.

- The trend in CEO poverty rates by demographic characteristics such as age, race/ethnicity, nativity/citizenship and family type generally follows the rise in the Citywide poverty rate from 2008 to 2010 and its statistical stability from 2010 to 2012. Looking over the 2008 to 2012 time period, there are statistically significant increases in the poverty rate across nearly every demographic group. Increases in poverty were particularly pronounced for Asians (by 6.6 percentage points to 29.0 percent) and non-citizens (by 5.3 percentage points to 29.9 percent). (See Figures Eight and Nine.) There is considerable overlap between these two demographic groups; nearly one-third (32.9 percent) of the City's Asian population falls into the non-citizen category.
- From 2008 to 2012, poverty rates increased in three out of five of the City's boroughs: Manhattan (by 1.6 percentage points to 15.4 percent), Queens (by 5.5 percentage points to 21.9 percent), and Staten Island (by 3.2 percentage points to 14.5 percent). (See Figure Ten.) The relatively large jump in the Queens poverty rate is consistent with its demographic composition. One-half of the City's Asian population (50.2 percent) lives in Queens and the borough is home to almost one-third (32.8 percent) of New York's non-citizens.
- The 2008 to 2012 increase in poverty has been particularly pronounced for workers and working families. The poverty rate for working age adults (persons 18 through 64 years of age) who were employed full-time, year-round rose by 1.8 percentage points from 2008, reaching 8.0 percent in 2012. (See Figure Eleven.) Over the same time period, poverty rates increased for persons living in families with the equivalent of two full-time, year-round workers; one full-time, year-round and one part-time worker; and one full-time, year-round worker by 1.3 percentage points (to 5.2 percent), 2.6 percentage points (to 14.8 percent), and 1.0 percentage points (to 17.1 percent), respectively. (See Figure Twelve.)
- 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. In both the nation and the City, the two NAS-based poverty measures find a higher incidence of poverty than do the official measures. In the U.S., the rate in 2012 is 16.0 percent as opposed to the official rate of 15.1 percent. In New York City, the two poverty rates were 21.4 percent and 20.0 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: 18.0 percent compared to 22.3 percent for the nation; 25.4 percent rather than 30.8 percent for the City. (See Figures Thirteen and Fourteen.)

FIGURE EIGHT

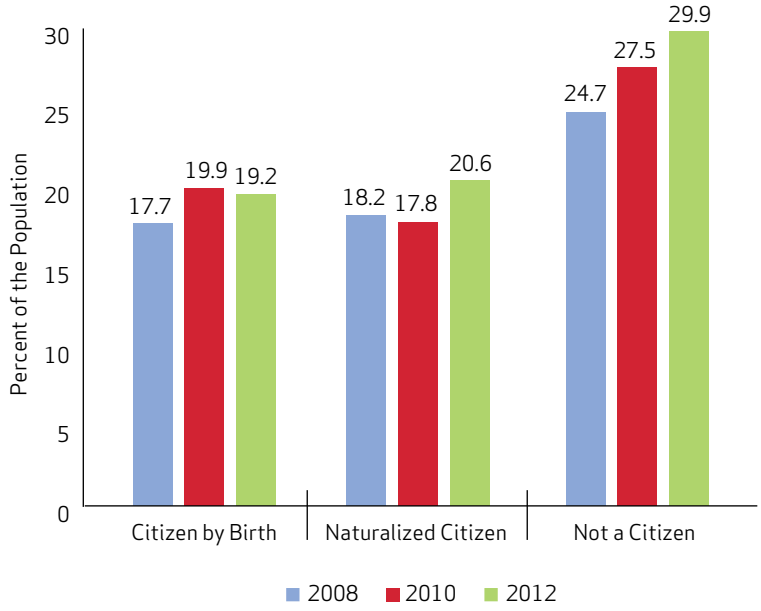
CEO Poverty Rates by Race/Ethnicity



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

FIGURE NINE

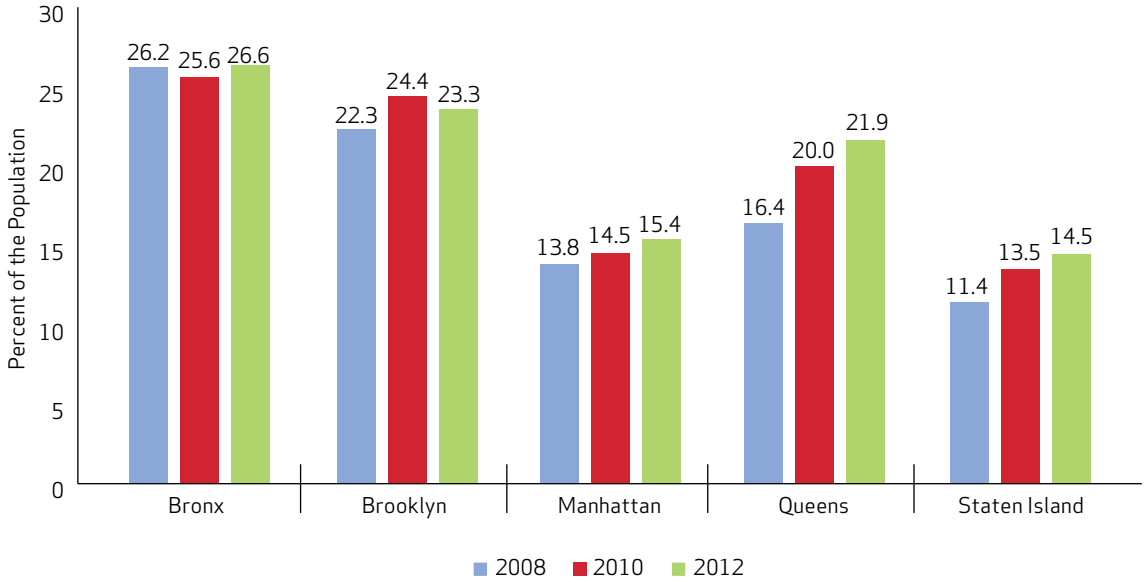
CEO Poverty Rates by Nativity/Citizenship



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

FIGURE TEN

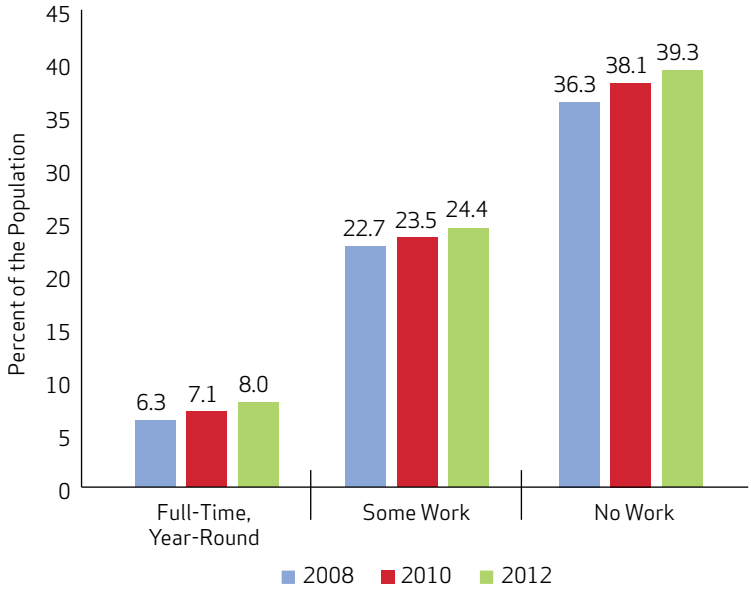
CEO Poverty Rates by Borough



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

FIGURE ELEVEN

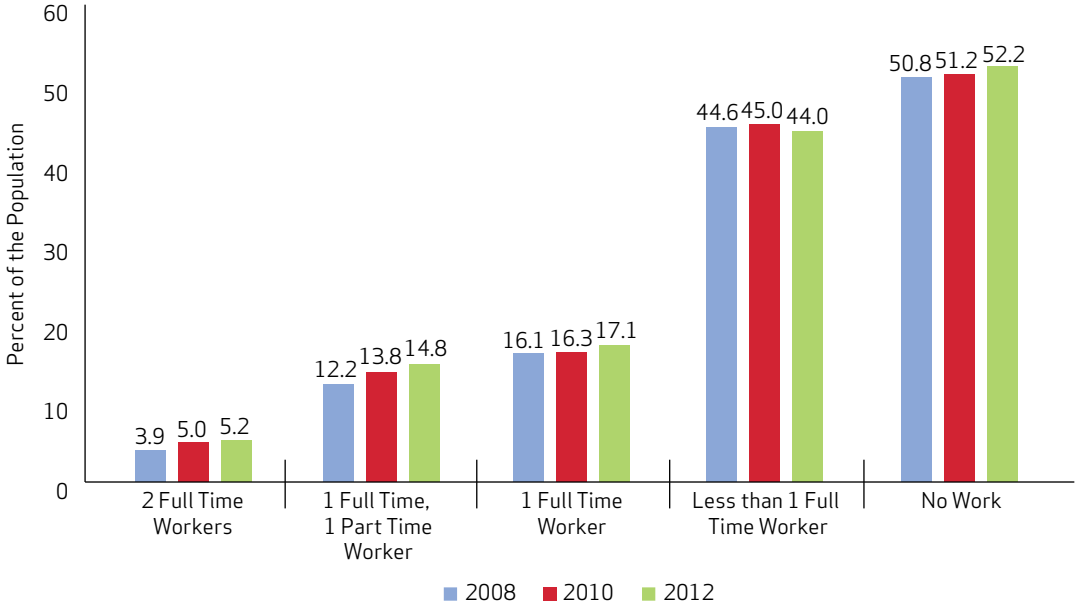
CEO Poverty Rates by Individual Work Experience



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

FIGURE TWELVE

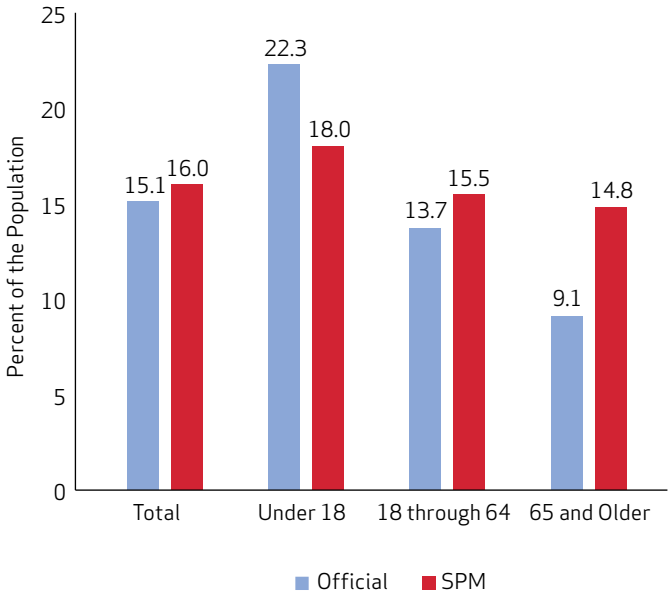
CEO Poverty Rates by Family's Work Experience



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

FIGURE THIRTEEN

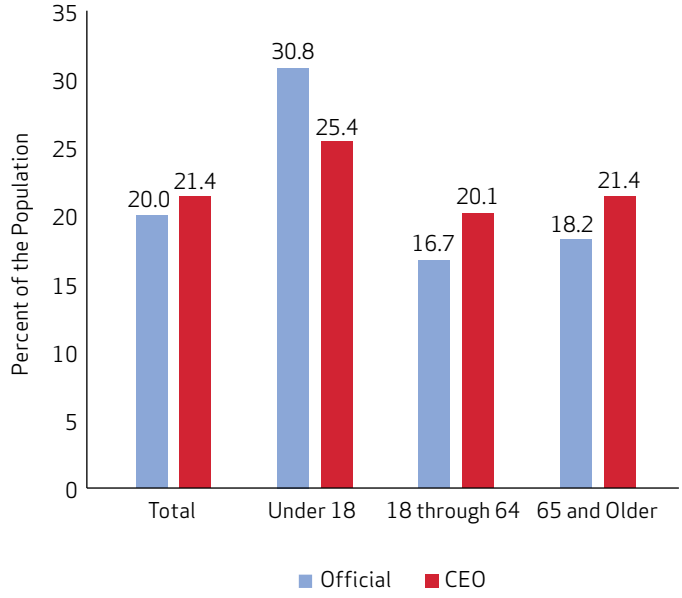
Official and SPM Poverty Rates for the U.S., by Age, 2012



Source: U.S. Bureau of the Census.

FIGURE FOURTEEN

Official and CEO Poverty Rates for New York City, by Age, 2012



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

Poverty and Policy: A Framework for an Evidence- and Data-Driven Progressive Agenda

The data and trends presented in this year's report continue to present a challenge to the City of New York. Nearly half of all New Yorkers are classified as either poor or near poor. But the data also shows that large, citywide programs have an effect on the immediate alleviation of poverty. Tax credits, the Food Stamp program and existing housing supports combine to significantly lower the poverty rate for recipients. To truly grapple with poverty in the long run, we need to maintain this safety net but also provide resources that allow people to move beyond poverty and towards self-sufficiency.

There are many ongoing City programs tailored to the needs of groups we have noted in this report for their significantly higher poverty rates. Some programs work across agencies to break the cycle of poverty. Job training, asset development, health care and other initiatives are packaged together. Other cross-agency programs, such as the Young Men's Initiative, specifically target the needs of disadvantaged youth, focusing on education, employment, fatherhood and peer mentoring. For the elderly, program goals are somewhat different: they combine agency resources in order to create safe communities that keep seniors mobile, engaged and self-sufficient.

Besides these important cross-agency initiatives, there are programs within agencies that both maintain the safety net and provide a path out of poverty. Early child care, high school dropout prevention, college retention, child support enforcement, cash assistance, housing assistance, job training and placement, and in-home elder care are but some of the City's ongoing efforts.

Strategies to reduce poverty and inequality are central to the agenda of Mayor Bill de Blasio and his Administration. In response to specific findings noted in this report are programs targeted towards the unemployed and those New Yorkers who are working full time yet remain in poverty due to low wages. Efforts to raise the lowest wages will be coupled with initiatives to raise labor market participation and build skills that will increase the ability of targeted populations to earn a higher income. For unauthorized immigrants, a municipal identification card will increase access to basic services. All workers, but particularly immigrant workers, will benefit from efforts to enforce the labor rights of low-wage workers and from jobs created as the City improves its infrastructure.

A systematic, cost-effective, evidence-driven framework will be used to meet the challenges ahead. Data such as what we have presented in this report will be used to identify the nature of the problem. Evidence from evaluations of successful policy in the City and elsewhere will be incorporated into new initiatives to address poverty, and the specific findings of this, and future, reports. Policy initiatives to address needs and specific trends identified in this report will include efforts to boost jobs and wages and to improve the lives of New York City's immigrant population.

The City's "employment to population" ratio has not reached the level at which it stood before the recession began in 2008. Even in areas that have seen increases, wages continue to lag. To address this, the de Blasio administration will take on efforts to gain control over the local minimum wage, raise wages paid by companies doing business with or receiving subsidies from the City, and increase career and technical education. The administration will also focus on efforts to create more private sector jobs, and to increase employment of local residents on the City's infrastructure projects.

Immigrants face barriers to accessing important government benefits. The de Blasio administration is exploring opportunities to remove barriers, allowing immigrants to access more supports. The implementation of a municipal identification card will be a key first step – enabling increased access to basic services such as entrance into City buildings and the creation of bank accounts. Expanding translation services and adult language education will also support increased utilization of social benefits, small business services, housing and school programming.

Developing responses that are clearly tied to evidence of need will continue to be the basis of the de Blasio Administration's framework for addressing issues of inequality, helping to identify clear trends that lend themselves to specific solutions designed to address specific needs: by population, demographics, and geography. It is through this kind of detailed, evidence-informed approach that the most promising solutions can be developed and implemented.

Programs will be monitored for effectiveness, correcting where needed and eliminating programs that don't succeed. This balance between innovation and accountability will be the hallmark of anti-poverty initiatives as we move forward.

Chapter I: Introduction

Mayor Bloomberg signed into law an amendment to Section 16 of Chapter 1 of the New York City Charter. The amendment required the Mayor to issue an annual report on poverty in the City. The legislation also specified that the report should be based on the poverty measure developed by the New York City Center for Economic Opportunity (CEO). This chapter introduces the first report under the new mandate.

The chapter establishes context. It begins with an overview of the reasons why CEO developed a new measure of poverty and a description of our alternative measure. Because trends in poverty are so closely associated with economic conditions, the second part of the Introduction moves the discussion from methodology to trends in the local labor market. The Introduction's final section summarizes the report's principal findings.

1.1 The Need for an Alternative to the Official Poverty Measure

It has been a half century since the development of the current official measure of poverty. In the early 1960s the measure represented an important advance, serving as a focal point for the public's growing concern about poverty in America. But over the decades, discussions about poverty have increasingly included criticism of how poorly it was being measured. Society has evolved and public policy has shifted, yet the Census Bureau has been measuring poverty as if nothing had changed. This still widely used indicator is now sorely out of date.

The official poverty measure is income-based. All such measures must answer two key questions. First, how much is enough? The answer to this question is an income threshold (the poverty line) that separates the poor from the non-poor. The second question is, how much of what? Which resources available to families to meet their needs should be counted as income and compared against the poverty thresholds?

The official measure's threshold, developed in the early 1960s, 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.[12]

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. 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 when 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 living standards 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 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.

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

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. The NAS income measure 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 largely based on the NAS recommendations, with modifications based on the guidelines from the Interagency Working Group.

1.2 The National Academy of Sciences' Alternative

Dissatisfaction with the official measure prompted Congress to request a study by the National Academy of Sciences (NAS). The NAS's recommendations, issued in 1995, sparked further research and garnered widespread support among poverty experts.[13] 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.[14]

The NAS-based methodology is also income based, but takes a considerably different approach to both the threshold and resource sides 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,[15] calculating their spending on these items, and then choosing a point in the resulting expenditure distribution.[16] 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 expenses 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

Since November 2011, the U.S. Bureau of the Census has been issuing a Supplemental Poverty Measure (SPM).[17] The new Federal measure is shaped by the NAS recommendations and an additional set of guidelines provided by an Interagency Technical Working Group (ITWG) in March 2010.[18] The guidelines made several revisions to the 1995 NAS recommendations. The most important of these are:

1. An expansion of the type of family unit whose expenditures determine the poverty threshold from

13. 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
14. 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
15. The reference family proposed by the NAS is composed of two adults and two children. The threshold for this family is then scaled for families of different sizes and compositions. See Appendix B.
16. The NAS suggested that this point lie between the 30th and 35th percentile of the distribution. Citro and Michael, p.106.
17. U.S. Bureau of the Census. *The Research Supplemental Poverty Measure: 2010*. November 2011. Available at: www.census.gov/hhes/povmeas/methodology/supplemental/research/ Short_ResearchSPM2010.pdf
18. *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

two-adult families with two children to all families with two children.

2. Use of a five-year, rather than three-year, moving average of expenditure data to update the poverty threshold over time.

3. Creation of separate thresholds based on housing status: whether the family owns its home with a mortgage; owns, but is free and clear of a mortgage; or rents.

1.4 CEO's Adoption of the NAS/SPM Method

CEO has followed the first two of these three revisions to the NAS recommendations in our poverty measure. However, we do not utilize the SPM's development of thresholds that vary by housing status. We account for all differences in housing status – including residence in rent-regulated apartments and participation in means-tested housing assistance programs – on the income side of the poverty measure.[19] By applying the ratio of New York City to U.S.-wide Fair Market Rent for a two-bedroom apartment to the housing portion of the SPM poverty line, we adjust the national-level threshold (before its adjustment for housing status) to account for the relatively high cost of housing in New York City. In 2012, our poverty line for the two-adult, two-child family comes to $31,039, 24.4 percent above the U.S.-wide SPM threshold of $24,949. 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, we employ the Public Use Micro Sample from the Census Bureau's American Community Survey (ACS) as our 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 the additional resources required by the NAS measure. Therefore, 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 sources such as wages and salaries, as well as government transfer payments, provided that they take the form of cash. Thus, Social Security benefits are included in this measure, but the value of in-kind benefits, like 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 elements of pre-tax cash plus the effect of income and payroll taxes, as well as 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.

19. The rationale for this decision is provided in Appendix B of our 2012 report. See: *The CEO Poverty Measure, 2005 – 2010: A Working Paper by the NYC Center for Economic Opportunity*. Available at: www.nyc.gov/html/ceo/downloads/pdf/CEO_Poverty_Measure_April_16.pdf

Below is a brief description of how the non-pre-tax cash income items are estimated. More details on these procedures can be found in the report's technical 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 higher 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 families' incomes to reflect these advantages. The adjustment equals the difference between what they would be paying for their housing if it were market rate and what they are actually paying out of pocket. The adjustment is capped so that it cannot exceed the housing portion of the CEO threshold.

The ACS does not provide data on housing program participation. To determine which households in the ACS could be participants in rental subsidy or regulation programs, 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 then 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 Stamps,[20] the National School Lunch program, the School Breakfast Program, and the Supplementary Nutrition Program for Women, Infants, and Children (WIC). To estimate Food Stamp benefits, we make use of New York City Human Resources Administration Food Stamp records, imputing Food Stamp cases to the "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 administrative data on meals served provided to us by the City's Department of Education. We follow the Census Bureau's method for valuing the income from the programs by using the 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 from 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 (HEAP) 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 these 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. For 2011 and 2012, we also make use of HEAP receipt reported in the Housing and Vacancy Survey. (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 number of 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 these 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

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

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 the single 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 One summarizes the discussion thus far, contrasting how the official and CEO poverty measures establish a threshold and account for family resources.

1.5 Comparing Poverty Rates

As noted above, the CEO poverty threshold for a two-adult, two-child family in 2012 was $31,039. The official poverty line for the equivalent family was $23,283 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 $30,012 in 2012.[21] The corresponding figure for pre-tax cash was only $22,900. Thus, if a more complete account of resources had been the only change we made to the poverty measure, the CEO poverty rate would fall below the official measure. Figure I Two illustrates official and CEO thresholds, incomes, and poverty rates for 2012. The effect of the higher CEO threshold (33.3 percent above the official) outweighs the effect of CEO's more complete definition of resources (which is 31.1 percent higher at the 20th percentile than the official resource measure), resulting in a higher poverty rate. In 2012, the CEO poverty rate stood at 21.4 percent while the official rate was 20.0 percent, a 1.5 percentage point difference.

FIGURE I ONE
Comparison of Poverty Measures

	Official	CEO
Threshold	Established in early 1960s at three times the cost of "Economy Food Plan."	Equal to the 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 the 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 earned income and transfer payments, if they take the form of cash.	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.

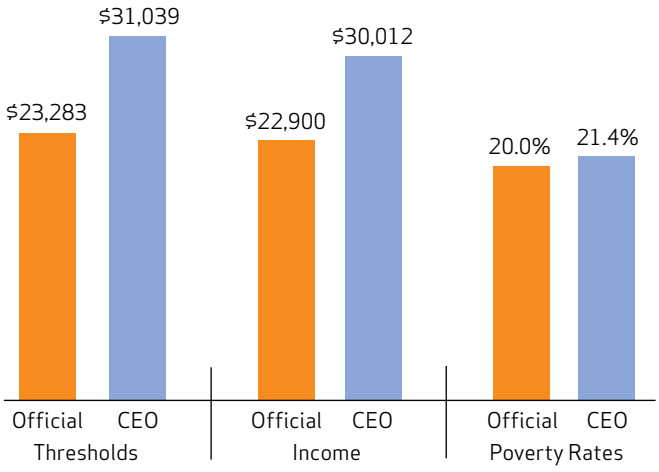
21. Throughout this paper we report income in family size and composition-adjusted dollars. This makes the income measures directly comparable to the two-child reference family poverty threshold.

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 2012, for example, the Census Bureau's official poverty rate for New York City is 21.2 percent. The 2012 official poverty rate for the City that we report is 20.0 percent. See Appendix A for further explanation.

FIGURE I TWO

Comparison of Thresholds, Income, and Poverty Rates, Official and CEO, 2012



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

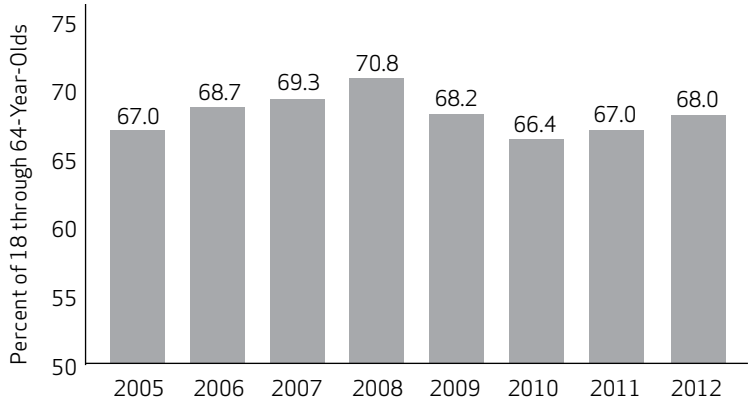
Poverty rates are influenced by the economic environment. A focus of this report is on the change in the CEO poverty rate since 2008. The national economy began to contract sharply in early 2008, marking December 2007 as the prior high water mark in the U.S.-wide business cycle.[22] Thus, U.S.-level studies tracking the effects of the recent recession and subsequent period of sluggish employment growth 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 before the post-recession upturn for which annual indicators find increases in employment, earnings, and income. Therefore we use 2008 as our comparison point in time.

From 2008 to 2010, labor market indicators for City residents point decidedly south. A smaller proportion of the working age population was holding a job. As Figure I Three 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. The downward trend, however, is broken by the 2011 uptick in the ratio (of 0.6 percentage points) to 67.0 percent. Data for 2012 mark a continuation of the upward trend, as the ratio increased 1.0 percentage points to 68.0 percent.

22. The National Bureau for Economic Research dates the start of the recent recession at December 2007.

FIGURE I THREE

Employment/Population Ratios, 2005 - 2012



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

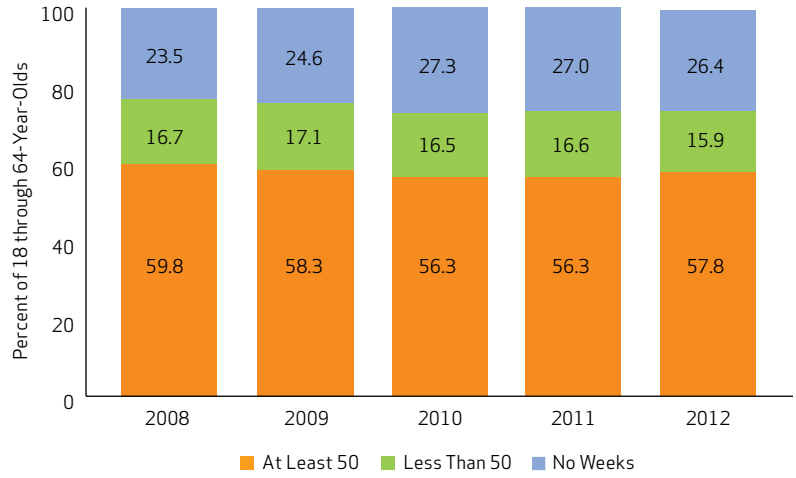
Because poverty status is determined by annual income, employment over the course of a year is a particularly salient labor market indicator. Figure I Four shows that the share of the working age population with steady work, defined as 50 or more weeks in the prior 12 months, declined from 59.8 percent 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 in 2010. After holding steady from 2010 to 2011, the proportion of the working age population employed at least 50 weeks increased to 57.8 percent in 2012.

The trend in weeks worked is reflected in measures of earnings. Table I One reports cost of living (COL) adjusted earnings per family for those families that are in the lower half of the earnings distribution.[23] The declines range from 21.4 percent to 9.3 percent from 2008 to 2010. Except at the 20th percentile, the fall in earnings continued in 2011. The 2012 data indicate some improvement from the prior year.

The labor market data from the 2012 ACS describe an economy that is yet to fully recover from the recent recession. Both the rise in the employment/population ratio and the upward trend in annual weeks worked indicate that employment levels are recovering (albeit

FIGURE I FOUR

Weeks Worked in Prior 12 Months, 2008 - 2012



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

23. These earnings data are stated in 2012 dollars using the CEO threshold as a price index.

TABLE I ONE
Annual Family-Level Earned Income, 2008 - 2012

	Year					Percentage Change		
Percentile	2008	2009	2010	2011	2012	2008-2010	2010-2011	2011-2012
20	$13,258	$11,790	$9,990	$10,188	$10,102	-24.7%	2.0%	-0.8%
25	$20,139	$19,033	$16,650	$16,078	$16,348	-17.3%	-3.4%	1.7%
30	$27,418	$25,694	$22,453	$22,037	$22,387	-18.1%	-1.9%	1.6%
35	$34,262	$32,356	$28,729	$27,767	$28,481	-16.1%	-3.4%	2.6%
40	$41,158	$38,932	$35,033	$33,402	$34,009	-14.9%	-4.7%	1.8%
45	$48,073	$45,745	$41,625	$40,445	$40,472	-13.4%	-2.8%	0.1%
50	$55,215	$53,051	$48,027	$47,143	$47,480	-13.0%	-1.8%	0.7%

Source: American Community Survey Public Use Micro Sample as augmented by CEO.
Notes: Earnings are stated in family size and composition-adjusted dollars. They are stated in 2012 dollars using the CEO threshold as a price index. Persons in families with no earnings are included..

modestly) from their deep 2008 to 2010 plunge. The earnings data, however, are less encouraging. Despite the modest uptick from 2011 to 2012, they suggest that while more New Yorkers are on the job, income growth during the post-recession period has been limited.

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 included in the sample. Households that are surveyed in January of 2012, for example, would report their income for the 12 months of 2011; households that are surveyed in February 2012 would report their income for February 2011 through January 2012, and so on. Consequently, estimates for poverty rates derived from the 2012 ACS do not, strictly speaking, represent a 2012 poverty rate. Rather, it is a poverty rate derived from a survey that was fielded in 2012. Readers should bear in mind this difference as they interpret the findings in this report.

1.7 Key Findings in This Report

In the context of a labor market that is slowly recovering from a sharp two year slump, we find a fairly consistent pattern in trends over time. Poverty rates rose markedly from 2008 to 2010 and then held steady from 2010 to 2012.

- After climbing from 19.0 percent in 2008 to 20.9 percent in 2010, the CEO poverty rate was 21.4 percent in 2012, statistically unchanged from its level in 2010 and 2011. The official poverty rate rose from 16.8 percent in 2008 to 18.8 percent in 2010 and continued to climb, reaching 20.0 percent in 2012.
- 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 the official method (5.4 percent compared to 8.1 percent in 2012). The CEO extreme poverty rate rose from 5.1 percent in 2008 to 5.6 percent in 2010, and then leveled off. The official extreme poverty rate increased from 6.9 percent to 7.7 percent from 2008 to 2010. Since 2010 this measure has been stable.

- The CEO measure categorizes a much larger share of the population as living in "near poverty" – above, but uncomfortably close to the poverty threshold – than the official measure. This is reflected in comparisons of the share of the population that is living below 150 percent of the respective poverty thresholds. In 2012, 45.6 percent of New York City residents were living below 150 percent of the CEO poverty threshold, up from 41.0 percent in 2008. The corresponding shares for the official measure were 30.7 percent in 2012 and 26.6 percent in 2008.
- The trend in CEO poverty rates by demographic characteristics such as age, race/ethnicity, nativity/citizenship and family type generally follows the rise in the Citywide poverty rate from 2008 to 2010 and its statistical stability from 2010 to 2012. Looking over the 2008 to 2012 time period, there are statistically significant increases in the poverty rate across nearly every demographic group. Increases in poverty were particularly pronounced for Asians (by 6.6 percentage points to 29.0 percent) and non-citizens (by 5.3 percentage points to 29.9 percent). There is considerable overlap between these two demographic groups; nearly one-third (32.9 percent) of the City's Asian population falls into the non-citizen category.
- From 2008 to 2012, poverty rates increased in three out of five of the City's boroughs: Manhattan (by 1.6 percentage points to 15.4 percent), Queens (by 5.5 percentage points to 21.9 percent), and Staten Island (by 3.2 percentage points to 14.5 percent). The relatively large jump in the Queens poverty rate is consistent with its demographic composition. One-half of the City's Asian population (50.2 percent) lives in Queens and the borough is home to almost one-third (32.8 percent) of New York's non-citizens.
- The 2008 to 2012 increase in poverty has been particularly pronounced for workers and working families. The poverty rate for working age adults (persons 18 through 64 years of age) who were employed full-time, year-round rose by 1.8 percentage points from 2008, reaching 8.0 percent in 2012. Over the same time period, poverty rates increased for persons living in families with the equivalent of two full-time, year-round workers; one full-time, year-round and one part-time worker; and one full-time, year-round worker by 1.3 percentage points (to 5.2 percent), 2.6 percentage points (to 14.8 percent), and 1.0 percentage points (to 17.1 percent), respectively.
- 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. In both the nation and the City, the two NAS-based poverty measures find a higher incidence of poverty than do the official measures. In the U.S., the rate in 2012 is 16.0 percent as opposed to the official rate of 15.1 percent. In New York City, the two poverty rates were 21.4 percent and 20.0 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: 18.0 percent compared to 22.3 percent for the nation; 25.4 percent rather than 30.8 percent for the City.

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 2012. In that context we trace how changes in the threshold and resource sides of the two measures determined changes in their respective poverty rates. Chapter III details poverty rates in New York City by demographic characteristic, family status, borough, and neighborhood. In Chapter IV, we compare official and CEO poverty rates for New York City to official and Supplemental Poverty Measure rates for the United States. In Chapter V we describe existing anti-poverty programs and a framework for new policy initiatives designed by the de Blasio Administration that directly respond to the demographic characteristics identified in Chapter III. Chapter V also provides citywide indicators that further describe City-measured conditions from the reporting period. A set of appendices provide more detail about how our poverty estimates are created.

Chapter II: Poverty In New York City, 2005 - 2012

The Introduction noted that the CEO poverty rate exceeds the official rate in 2012. 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 derived from the two approaches, but on how and why they change over time. The official and CEO poverty rates have taken parallel paths during the eight-year time span covered by this report. From 2005 to 2008, when the City economy was expanding, the two measures register declines of nearly equal magnitude. From 2008 to 2012, they record roughly similar increases.

This chapter begins with an overview of how and why the official and CEO poverty rates changed from 2005 to 2012. The similarity in their trend masks important differences between the measures. This is most evident in how their gauges of income evolve after 2008. From 2008 to 2010, the recession-related decline in the official measure of income – pre-tax cash – is dramatic. Over the same time period, however, CEO income was remarkably stable. From 2010 to 2012, official income was unchanged while CEO income rose by 1.9 percent.

A second section in the chapter 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 resides above the poverty line but 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. On the other hand, because eligibility for means-tested benefits ends and the value of tax credits phase out as incomes rise, the CEO measure finds a larger share of the population living in near poverty compared to the official measure.

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 since 2008, tax programs and Food Stamps have become increasingly important resources for low-income families. This is not simply a "passive" outcome reflecting greater need in a bad economy. It is also a result of policy initiatives, most notably President Obama's American Recovery and Reinvestment Act.

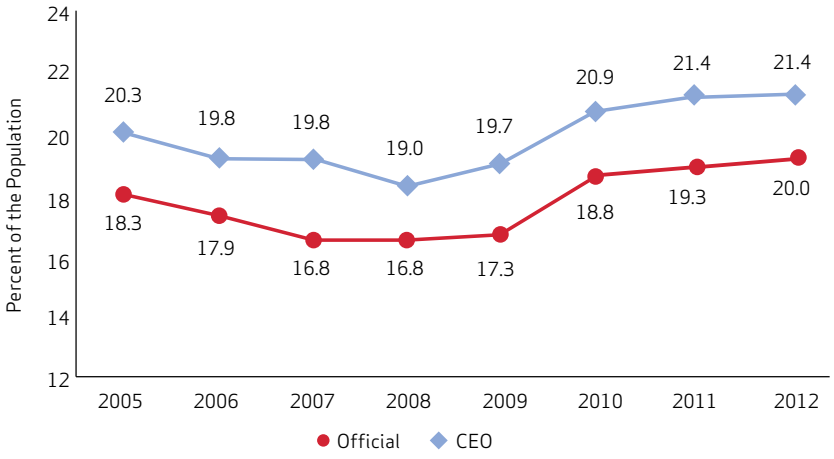
2.1 New York City Poverty Rates, 2005 - 2012

Changes in the official and CEO poverty rate from 2005 to 2012 move in tandem with the 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 eight-year time span.

Table II One provides these rates, indicates differences between them, and reports changes over time. As noted above, the CEO poverty rate exceeds the official rate in each year, a difference that ranges from 1.5 to 3.0 percentage points. However, changes in the two rates over time are remarkably similar. While the City economy was growing from 2005 to 2008, the official poverty rate declined by 1.5 percentage points while the CEO poverty rate fell by 1.3 percentage points. From 2008 to 2010, as employment and earnings contracted,

FIGURE II ONE

Official and CEO Poverty Rates, 2005 - 2012



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.

the official poverty rate rose by 2.1 percentage points to 18.8 percent and the CEO poverty rate climbed by 1.9 percentage points, reaching 20.9 percent in 2010. The most recent data reflect a stabilized labor market; neither poverty rate experienced a statistically significant change from 2011 to 2012. However, unlike the CEO measure, the official measure of poverty did increase by 1.2 percentage points over the two-year period from 2010 to 2012.

Revisions to 2011 Data

The 2011 poverty rates presented in this report are revised from data published in our April 2013 report. We have incorporated new data from the Medical Expenditure Panel Survey to re-estimate medical out-of-pocket expenditures for that year. The effects of the revisions are small. In last year's report we estimated that the 2011 poverty rate was 21.3 percent; the revised poverty rate is 21.4 percent. See Appendix H for details.

TABLE II ONE

Official and CEO Poverty Rates, 2005 - 2012

(Numbers are Percent of the Population)

Year	Official	CEO	Percentage Point Difference*
2005	18.3	20.3	**2.0**
2006	17.9	19.8	**1.9**
2007	16.8	19.8	**3.0**
2008	16.8	19.0	**2.3**
2009	17.3	19.7	**2.3**
2010	18.8	20.9	**2.1**
2011	19.3	21.4	**2.1**
2012	20.0	21.4	**1.5**

Percentage Point Change*	Official	CEO
2005-2008	**-1.5**	**-1.3**
2008-2012	**3.2**	**2.4**
2008-2010	**2.1**	**1.9**
2010-2012	**1.2**	0.6
2011-2012	0.7	0.1

*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 explores the changes in poverty rates from the vantage point of changes on the income and threshold side of their respective poverty measures.[24] As the table's Panel A reports, the official measure of income – pre-tax cash – rose in each year from 2005 to 2008 on a nominal basis, growing by 17.7 percent across the period. From 2008 to 2010, pre-tax cash plunged by 8.1 percent. This measure of income was unchanged from 2010 to 2012.

Changes in income tell a story about the direction of poverty rates when they are compared against changes in the poverty threshold. In the 2005 to 2008 period, the growth in pre-tax income exceeded the increase in the official threshold, 17.7 percent versus 10.2 percent. As a consequence, the official poverty rate declined by 1.5 percentage points. In the two-year period from 2008 to 2010, by contrast, the steep fall in nominal income (of 8.1 percent) was coupled with a modest rise in the official threshold (of 1.3 percent), leading to a rise in the official rate of 2.1 percentage points. The 5.3 percent climb in the official threshold from 2010 to 2012 outpaced the essentially unchanged measure of income, which generated a rise in the official poverty rate of 1.2 percentage points over that time span. (The apparent increase in the official poverty rate from 2011 to 2012 is not large enough to be statistically significant.)

Panel B in the table provides the same information for nominal CEO income, the CEO poverty 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 20.9 percent rise in nominal CEO income from 2005 to 2008 outpaced the 17.5 percent increase in the CEO threshold, leading to a fall in the poverty rate of 1.3 percentage points.

From 2008 to 2010 the CEO poverty rate rose by 1.9 percentage points, roughly equal to the climb in the official rate. But the similarity in the two poverty rate increases masks important differences on the income side of the poverty measure, particularly during the economic contraction. CEO income is remarkably more stable than official income; measured in current dollars it was essentially unchanged from 2008 to 2010. From 2010 to 2012, CEO income rose by 1.9 percent.

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 during the economic contraction. 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.[25] Reflecting the post-bubble fall-off in housing expenditures, the rate of growth in the CEO threshold from 2008 to 2010 is considerably slower than its pace from 2005 to 2008. Yet the CEO threshold grew more rapidly than the official threshold, rising by 1.5 percent from 2008 to 2009 and by 2.7 percent from 2009 to 2010. From 2010 to 2012, however, growth in the official threshold (5.3 percent) outpaced the change in the CEO threshold (3.3 percent).[26]

24. 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 and both are stated in current, not inflation adjusted, dollars.

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

26. The connection between trends in housing costs and expenditures and the CEO threshold is discussed in Appendix B.

TABLE II TWO

Income, Thresholds, and Poverty Rates, Official and CEO, 2005 - 2012

A. Official Income, Thresholds, and Poverty Rates

	Income (Pre-tax Cash)		Threshold		Poverty Rate	
Year	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**
2011	$22,944	0.3%	$22,811	3.2%	19.3%	0.5
2012	$22,900	-0.2%	$23,283	2.1%	20.0%	0.7

	Percentage Change	Percentage Change	Percentage Point Change
2005-2008	17.7%	10.2%	**-1.5**
2008-2012	-8.0%	6.6%	**3.2**
2008-2010	-8.1%	1.3%	**2.1**
2010-2012	0.1%	5.3%	**1.2**

B. CEO Income, Thresholds, and Poverty Rates

	Income		Threshold		Poverty Rate	
Year	Level	Percentage Change*	Level	Percentage Change*	Level	Percentage Point Change*
2005	$24,332		$24,532		20.3%	
2006	$25,711	5.7%	$25,615	4.4%	19.8%	-0.5
2007	$27,108	5.4%	$26,979	5.3%	19.8%	0.0
2008	$29,417	8.5%	$28,822	6.8%	19.0%	**-0.8**
2009	$29,483	0.2%	$29,265	1.5%	19.7%	0.6
2010	$29,465	-0.1%	$30,055	2.7%	20.9%	**1.2**
2011	$29,958	1.7%	$30,945	3.0%	21.4%	0.5
2012	$30,012	0.2%	$31,039	0.3%	21.4%	0.1

	Percentage Change	Percentage Change	Percentage Point Change
2005-2008	20.9%	17.5%	**-1.3**
2008-2012	2.0%	7.7%	**2.4**
2008-2010	0.2%	4.3%	**1.9**
2010-2012	1.9%	3.3%	**0.6**

*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. They are not adjusted for inflation. Differences in poverty rates are measured in percentage points and are taken from unrounded numbers; those in bold type are statistically significant.

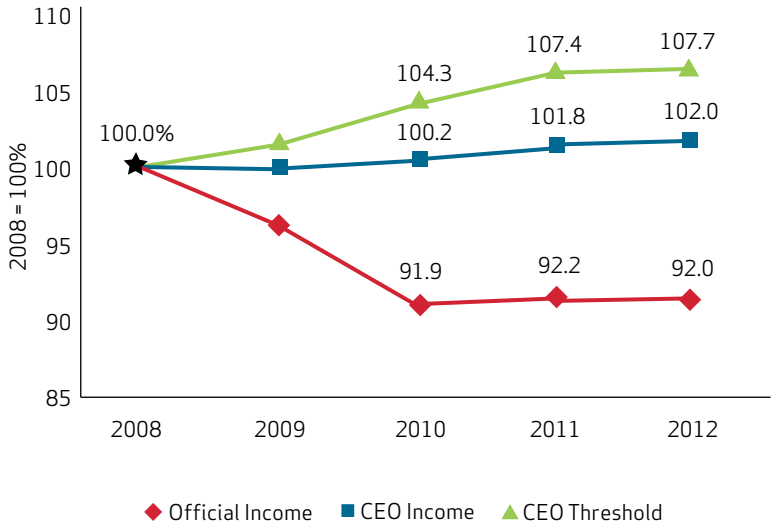
Figure II Two illustrates some of these patterns. The figure measures nominal official income (pre-tax cash), nominal CEO income, and the CEO threshold relative to their respective levels in 2008.[27] Each income measure is scaled to equal 100 percent in that year. Pre-tax cash (the official poverty 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. Despite the inclusion of income from public assistance, Supplemental Security Income (SSI), Social Security, and Unemployment Insurance in 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 as the economy was contracting. This measure of income was essentially unchanged from 2010 to 2012.

The stability of CEO income during the economic downturn is striking, 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 100.2 percent of its 2008 level. This measure of income then rose to 102.0 percent of its 2008 level in 2012.

Figure II Two also illustrates how the trends in two income measures compare to the growth in the CEO threshold. By 2010 the CEO poverty threshold stood at 104.3 percent of its 2008 value, illustrating a growing gap between the threshold and all the income measures, including CEO income. But that growth is modest relative to the chasm that would have occurred had CEO income fallen as rapidly as official income. (The chapter's third section discusses the expanding importance of non-cash resources in the CEO measure during this time period.)

FIGURE II TWO

Comparison of Income Trends with the CEO Poverty Threshold, 2008 - 2012



Source: American Community Survey Public Use Micro Sample as augmented by CEO.
Notes: Earnings are measured at the 30th percentile and incomes are measured at the 20th percentile of their respective distributions. Incomes are not inflation adjusted.

27. 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. All three measures are stated in current, not inflation adjusted, dollars.

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 – 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 2012. 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 next two columns in the table give the percent of the population within each interval of the respective threshold and the cumulative percent of the population below the upper bound of the interval. The table's final two columns report the corresponding number and cumulative total of persons.

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: 5.4 percent against 8.1 percent for the official measure. This difference is particularly striking given the higher CEO threshold. At the 50 percent level it equals $15,520, while 50 percent of the official threshold is only $11,642. The lower proportion of the population in extreme poverty under the CEO measure is the result of CEO's more inclusive definition of income, which is capturing the effects of tax credits and in-kind benefits that are missing from the official measure. (This is illustrated later in this section in Figure II Three.)

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 under the CEO measure, 6.0 percent and 10.0 percent of the population were in the 50 through 74 percent and 75 through 99 percent intervals, respectively. The corresponding shares under the official measure were 5.3 percent and 6.5 percent.

TABLE II THREE

Distribution of the Population by Degrees of Poverty, Official and CEO, 2012

A. Official Poverty Measure

Percent of Poverty Threshold	Reference Family Threshold Range	Percent	Cumulative Percent
Less than 50	Less than $11,642	8.1%	8.1%
50-74	$11,642 - $17,461	5.3%	13.4%
75-99	$17,462 - $23,282	6.5%	20.0%
100-124	$22,283 - $29,103	5.3%	25.2%
125-149	$29,104 - $34,924	5.5%	30.7%

B. CEO Poverty Measure

Percent of Poverty Threshold	Reference Family Threshold Range	Percent	Cumulative Percent
Less than 50	Less than $15,520	5.4%	5.4%
50-74	$15,520 - $23,278	6.0%	11.4%
75-99	$23,279 - $31,038	10.0%	21.4%
100-124	$31,039 - $38,798	12.7%	34.1%
125-149	$38,799 - $46,558	11.5%	45.6%

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.

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 proportion 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 12.7 percent and 11.5 percent, respectively, of the City's population using the CEO measure. Under the official measure, these two categories also respectively contain only 5.3 percent and 5.5 percent of the population. A greater share of the population is near poor using the CEO measure than the official measure for two reasons. As noted above, the CEO threshold creates wider income bands; all else equal they would contain more families. Second, families that lie above, but close to, the CEO threshold are in the phase-out ranges of tax credits such as the Earned Income Tax Credit. In addition they are hitting income cutoff points that disqualify them for in-kind

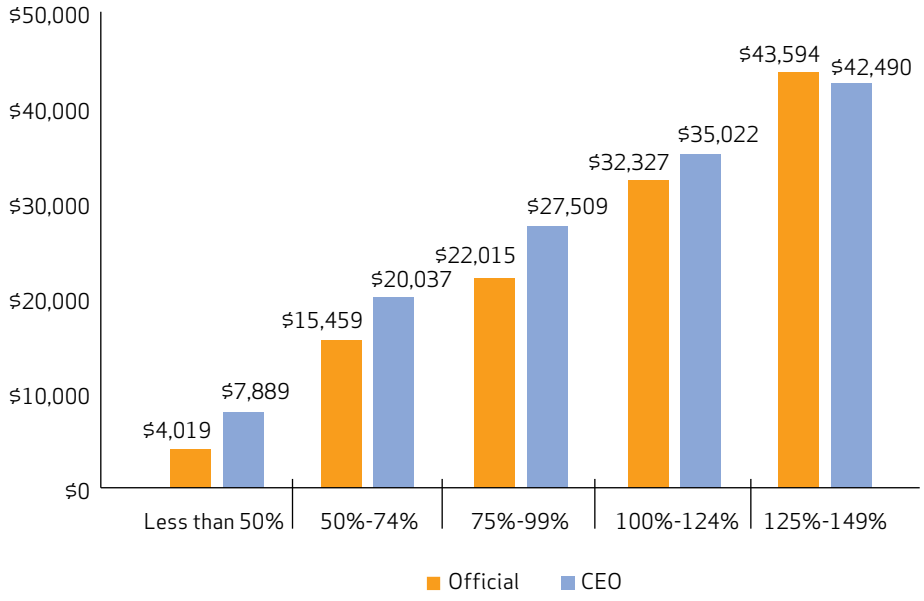
means-tested assistance such as Food Stamps. Their CEO income is no longer being bolstered by these resources and can be less than their pre-tax cash income. The effect of the more inclusive CEO measure of income, therefore, is no longer offsetting the effect of the higher CEO poverty threshold. This brings a large share of the population into the near-poverty group.

This is illustrated in Figure II Three. Each pair of the figure's bars compares the median pre-tax cash and median CEO income for families that lie within five intervals of the CEO threshold. CEO income is nearly twice the official income ($7,889 versus $4,019) for families below 50 percent of the CEO threshold. The differences between the two income measures narrow on the rungs further up the income ladder. For families residing at 100 percent through 124 percent of the CEO threshold, CEO income is only 8.3 percent higher than pre-tax cash income, $35,022 compared to $32,327. On the next rung (families living at 125 percent through 149 percent of the CEO threshold) official income exceeds CEO income by 2.5 percent, $43,594 versus $42,490.

Given the similarities in trends in the CEO and official 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 2008 to 2012 period 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 columns in the table give the percentage point change in the shares from 2008 to 2012 and then report changes from 2008 to 2010 and from 2010 to 2012. The table's Panel A indicates that, for the official poverty measure, all of the increases from 2008 to 2012 are statistically significant, including the 1.2 percentage point rise in the share of the population that is living below 50 percent of the poverty threshold. These increases, like those for the under 100 percent of the poverty threshold measure, were driven by the rise in poverty rates from 2008 to 2010. Panel B reveals a somewhat similar pattern of increases across the groupings, for the CEO poverty measure, from 2008 to 2010. The one notable difference between the two poverty measures in this context is that, owing to the downtick in the under 50 percent of the threshold poverty rate from 2010 to 2012, there was no increase, from 2008 to 2012, in extreme poverty using the CEO methodology.

FIGURE II THREE

Median Income at Intervals of the CEO Threshold, 2012



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

TABLE II FOUR

Distribution of the Population by Degrees of Poverty, Official and CEO, 2008 - 2012

(Numbers are Percent of the Population)

	Year					Percentage Point Changes		
	2008	2009	2010	2011	2012	2008-2012	2008-2010	2010-2012
A. Official Poverty Measure								
Below 50 percent	6.9	7.3	7.7	7.9	8.1	**1.2**	**0.8**	0.4
50 through 99 percent	9.9	10.0	11.1	11.4	11.9	**2.0**	**1.2**	**0.8**
100 through 149 percent	9.8	10.1	10.5	11.4	10.8	**0.9**	**0.6**	0.3
Total below 150 percent	26.6	27.4	29.3	30.6	30.7	**4.1**	**2.7**	**1.5**
B. CEO Poverty Measure								
Below 50 percent	5.1	4.8	5.6	5.7	5.4	0.3	**0.5**	-0.2
50 through 99 percent	13.9	14.8	15.3	15.7	16.1	**2.1**	**1.3**	**0.8**
100 through 149 percent	22.0	22.6	24.1	24.5	24.1	**2.1**	**2.1**	0.1
Total below 150 percent	41.0	42.3	44.9	45.9	45.6	**4.5**	**3.9**	0.6

*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, nominal pre-tax cash income plunged by 8.1 percent. We noted how the sharp drop in this income metric closely tracked the recession-related decline in earnings. Over the same period, nominal CEO income was essentially unchanged. From 2010 to 2012, the two income measures continued along different paths. Official income was unchanged while CEO income rose. Clearly, components of CEO income other than pre-tax cash softened the blow the economic downturn delivered to low-income families and were responsible for the rise in income in the latest data. Which income sources and what programs have had the most important impact?

The effects of the additional (non-pre-tax cash) 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 2012 poverty rate that is net of the housing adjustment to income is 27.7 percent. The difference between this poverty rate and the total income poverty rate of 21.4 indicates that, all else equal, the housing adjustment lifted 6.3 percent of the population over the CEO poverty threshold.

The table provides this information for 2005 to 2012, 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.[28] 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 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. Several of them directly reflect policy initiatives that were part of Presidents Bush and Obama's economic stimulus programs. Both included initiatives that directly bolstered consumer demand by providing families with more resources. Tax programs were one of the tools used. President Bush's 2008 Economic Recovery Rebate, for example, provided as much as $1,200 per married couple income tax filer. President Obama's American Recovery and Reinvestment Act created new and expanded several existing tax credit programs that are targeted to low-income working families.[29]

These initiatives are reflected in the growth of the poverty reducing effect of tax programs illustrated in the table. Income tax programs brought 2.9 percent of the population out of poverty in 2007, but this effect leapt to 4.3 percentage points in 2008 and stayed at this level through 2010. The subsequent drop off in the income tax effect in 2011 and 2012 reflects the expiration of several of the income tax credit programs, particularly the Making Work Pay Credit. However, the fall in the income tax effect was offset by a 2.0 percentage point reduction in the payroll tax rate that took effect in 2011. The poverty increasing effect of payroll taxes fell from 2.1 percentage points in 2010 to 1.7 percentage points in 2011 and 2012.

Another initiative to alleviate hardship and bolster consumer spending was through the Food Stamp program. The increasing importance of Food Stamps as a poverty reducing resource is evident in the post-2007 data, rising from 1.8 percentage points in that year to 3.7 percentage points in 2012. The growth of the program's effect reflects a sharp rise in enrollment in the program along with a 13.6 percent increase in benefit levels that was part of President Obama's American Recovery and Reinvestment Act.[30]

28. The marginal effect for medical out-of-pocket expenditures drops after 2007. This may be a result of a change in the ACS questionnaire as well as the implementation of prescription drug coverage for Medicare enrollees. See Appendix G for more discussion.
29. Details on the size and timing of the tax initiatives are found in Appendix D.
30. Table II Five also indicates a jump in the effect of the housing adjustment from 2010 to 2011 and 2012. Unlike the changes we have noted for tax programs and Food Stamps, this does not appear to be driven by any change in policy. Rather, as we note in Appendix C, it is a reflection of several factors including differences between the 2008 and 2011 New York City Housing and Vacancy Surveys.

TABLE II FIVE

Marginal Effects of Non-Cash Resources on CEO Poverty Rates, 2005 - 2012

(Numbers are Percent of the Population)

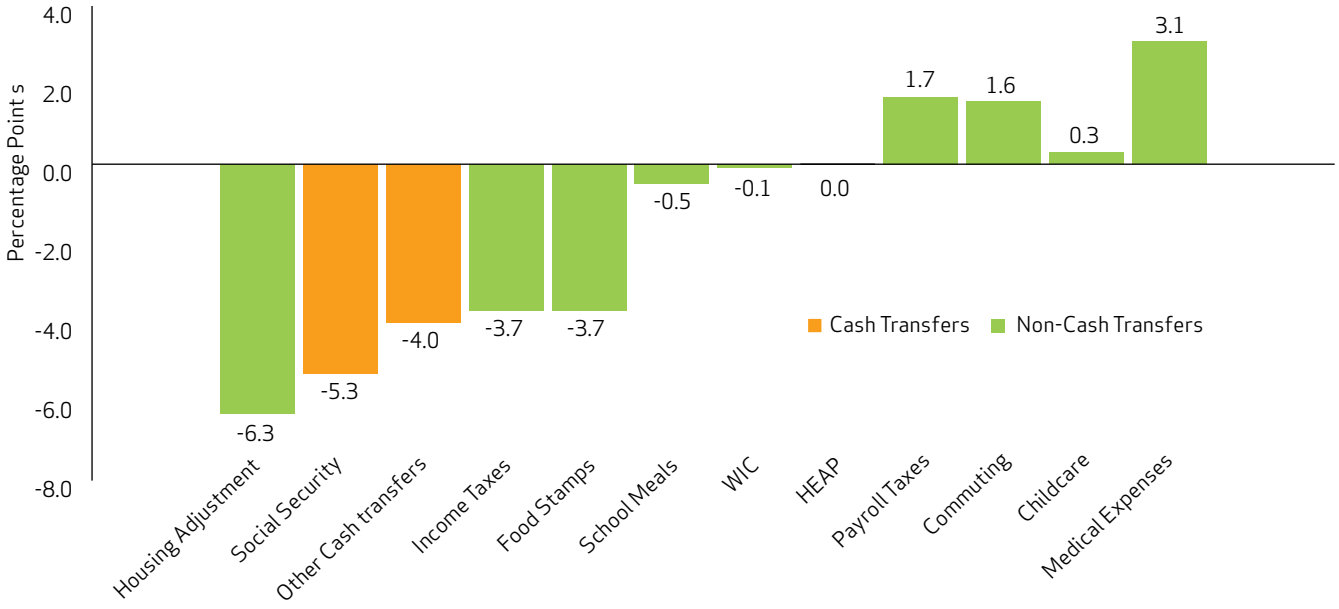
	2005	2006	2007	2008	2009	2010	2011	2012
A. Poverty Rates								
Total CEO Income	20.3	19.8	19.8	19.0	19.7	20.9	21.4	21.4
Net of:								
Housing Adjustment	25.5	25.2	25.4	24.6	25.5	26.4	27.7	27.7
Income Taxes	23.3	22.7	22.7	23.3	24.0	25.2	25.1	25.2
Food Stamps	22.3	21.8	21.6	21.2	22.3	24.4	24.9	25.1
School Meals	20.9	20.4	20.3	19.6	20.2	21.4	21.8	21.9
WIC	20.4	19.9	19.9	19.1	19.7	21.0	21.5	21.5
HEAP	20.3	19.8	19.8	19.0	19.7	20.9	21.4	21.4
FICA (Payroll Taxes)	18.5	17.6	17.7	17.0	17.6	18.8	19.7	19.8
Commuting	19.0	18.4	18.1	17.5	18.0	19.2	19.7	19.8
Childcare	20.1	19.5	19.6	18.8	19.5	20.6	21.2	21.2
MOOP	16.9	16.3	15.9	15.8	16.5	18.1	18.3	18.4
B. Marginal Effects								
Housing Adjustment	-5.2	-5.4	-5.6	-5.5	-5.8	-5.5	-6.4	-6.3
Income Taxes	-3.0	-2.9	-2.9	-4.3	-4.3	-4.3	-3.7	-3.7
Food Stamps	-2.0	-2.0	-1.8	-2.1	-2.7	-3.5	-3.5	-3.7
School Meals	-0.6	-0.6	-0.5	-0.6	-0.5	-0.5	-0.5	-0.5
WIC	-0.1	-0.1	-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	0.0	0.0
FICA (Payroll Taxes)	1.8	2.2	2.1	2.0	2.0	2.1	1.7	1.7
Commuting	1.3	1.4	1.7	1.5	1.7	1.6	1.7	1.6
Childcare	0.2	0.3	0.2	0.2	0.2	0.3	0.1	0.3
MOOP	3.4	3.5	3.9	3.2	3.2	2.8	3.1	3.1

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

Figure II Four illustrates the marginal effect of the non-cash resources in 2012. To put their magnitude in context, the figure includes the effect of cash transfer programs. Given their relative importance, we group these programs into Social Security and all other cash transfers. Social Security (which includes pensions, survivor benefits, and disability insurance) lifts 5.3 percent of the City's population out of poverty. Only the housing adjustment has a larger impact. The combined effect of all the other cash transfer programs (such as public assistance, Supplemental Security Income, Unemployment Insurance, Workers Compensation, etc.) is 4.0 percentage points, not that different from the impact of Food Stamps and income taxes.

FIGURE II FOUR

Marginal Effects Selected Sources of Income on the CEO Poverty Rate, 2012



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

Chapter III: CEO Poverty Rates In Demographic Detail, 2005 - 2012

As noted in Chapter One, CEO employs the American Community Survey as our principal data set because it provides a large annual sample of New York City residents, allowing us to track poverty rates for key population groups. This chapter reports poverty rates by individual demographic characteristic, family composition, work experience, and borough over the 2005 to 2012 period. We also provide poverty rates for 55 City neighborhoods by averaging data for 2008 through 2012.

Where they are statistically significant the text identifies differences between groups, such as the disparity between poverty rates by race and Hispanic ethnicity. The chapter's tables are organized so that readers can readily track changes over time. The first set of columns in the tables provides poverty rates. These are followed by calculations of change (measured in percentage points). Statistically significant changes are identified by bold type in the tables. The final column of each row provides context by giving the sub-group's share of the Citywide population.

By and large the pattern of change for sub-groups of the City's population parallels the broad trends described in Chapter Two. Poverty rates fall from 2005 to 2008 then rise from 2008 to 2012. Further echoing the Citywide pattern, the post-2008 increases in poverty are largely driven by the growth in poverty that occurred from 2008 to 2010. Because fewer of the more recent changes are statistically significant, the text focuses on changes from 2008 to 2012. Table III One provides poverty rates by demographic characteristic. Table III Two reports poverty rates by family composition and work experience. Poverty rates by borough are given in Table III Three. Figure III One maps poverty rates across the City's neighborhoods, and poverty rates by neighborhood are listed in Table III Four. A final section in the chapter provides some insight into a few of the patterns we identify in the tables.

3.1 Poverty Rates by Demographic Characteristic of the Individual

When they are statistically significant, changes in poverty rates from 2005 to 2008 and 2008 to 2012 almost always follow the cyclical pattern evident in the Citywide poverty rate. All of the widespread statistically significant changes in poverty rates between 2008 and 2012 have been increases, as shown previously in Table III One. By and large these were the result of the growth in poverty rates from 2008 to 2010.

Poverty Rates by Gender: Females are more likely to live in poverty than males. In 2012, for example, the poverty rate for female New Yorkers was 22.3 percent; it stood at 20.5 percent for their male counterparts. From 2008 to 2012, both genders' poverty rates rose, by 2.6 percentage points for males and 2.2 percentage points for females.

Poverty Rates by Age: Children are poorer than adults. In 2012, the poverty rate for children under 18 was 25.4 percent, significantly higher than the 20.1 percent rate for working-age adults (18 through 64 years of age) and the 21.4 percent rate for elderly persons (65 and older). From 2008 to 2012, the poverty rate for children and working age adults increased by 2.4 percentage points and 3.2 percentage points, respectively. The rise in poverty among working age adults and the statistical stability of the poverty rate for the elderly has affected their relative standing. In 2008, the poverty rate for New Yorkers 65 and older was 22.7 percent, 5.8 percentage points above the 16.9 percent poverty rate for the 18 through 64-year-old group. By 2012 the poverty rates for these two groups were statistically identical.

Poverty Rates for Children by Presence of Parent: Children in single-parent families are twice as likely to be living in poverty as children living in a two-parent family, 38.0 percent versus 18.6 percent in 2012. Since 2008, the poverty rate for children in two-parent families increased by 3.1 percentage points. The poverty rate for children in single-parent families was statistically unchanged.

Poverty Rates by Race/Ethnicity: In 2012, the poverty rate for Non-Hispanic Whites was 14.0 percent, the lowest rate of any major race/ethnic group in the City. Non-Hispanic Blacks have New York's next lowest poverty rate, 22.5 percent in that same year. The poverty rate for Non-Hispanic Asians, at 29.0 percent, is the highest among these groups, followed by Hispanics, who had a 2012 poverty rate of 25.7 percent. The Non-Hispanic White poverty rate was statistically unchanged from 2008 to 2012. Over the same period, poverty rates rose by 1.7 percentage points for Blacks, by 6.6 percentage points for Asians, and by 2.2 percentage points for Hispanics. The very sharp rise in Asian poverty over the 2008 to 2012 period has affected the group's position relative to Hispanic New Yorkers; in 2008 the Asian and Hispanic poverty rates were statistically identical, at 22.4 percent and 23.5 percent, respectively.

By 2012 the Asian poverty rate was 3.3 percentage points above the poverty rate for Hispanics.[31]

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 includes persons who identify themselves as members of only one racial group. This sorting of the population omits 2.5 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. We omit this residual category from Table III One.

Poverty Rates by Nativity/Citizenship: The 2012 poverty rate for non-citizens was 29.9 percent, which is significantly higher than poverty rates for both citizens by birth (19.2 percent) and naturalized citizens (20.6 percent). From 2008 to 2012, all three nativity/citizenship groups experienced poverty rate increases – of 1.6 percentage points for citizens by birth, 2.4 percentage points for naturalized citizens, and 5.3 percentage points for non-citizens.

Poverty Rates for Persons 18 through 64 by Educational Attainment: For working age adults, the probability of being in poverty is inversely proportional to the individual's educational attainment. Those with less than a high school education are almost four times more likely to be in poverty than those with a bachelor's or more advanced degree (33.9 percent against 8.7 percent). The 2012 poverty rates for those with no more than a high school degree and those with some college (but less than a bachelor's degree) fell between these two extremes, at 25.1 percent and 16.5 percent, respectively. From 2008 to 2012, poverty rates rose for working age adults with less than a high school degree (by 4.1 percentage points), only a high school degree (by 5.9 percentage points), those with some college (by 2.9 percentage points), and those with at least a bachelor's degree (by 1.2 percentage points).

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."

Poverty Rates for Persons 18 through 64 by Work Experience: Poverty rates vary markedly by individuals' work experience over the prior 12 months. In 2012 the poverty rate for non-elderly adults that worked full-time, year-round was 8.0 percent; for those with no work it stood at 39.3 percent. Working age adults with some, but less than full-time, year-round work had a poverty rate of 24.4 percent. All three work experience groups saw statistically significant increases from 2008 to 2012. The poverty rate for working age adults with full-time, year-round work as well as those with some work each rose by 1.8 percentage points; the poverty rate for those with no work climbed by 3.0 percentage points. The increasing poverty among workers raises questions about wage growth, an issue we will return to later in the chapter.

31. Difference is taken from unrounded numbers.

TABLE III ONE

CEO Poverty Rates for Persons by Demographic Characteristic, 2005 - 2012

(Numbers are Percent of the Population)

	Year								Percentage Point Change					Group Share of 2012 Pop.
	2005	2006	2007	2008	2009	2010	2011	2012	2005-08	2008-12	2008-10	2010-12	2011-12	
Total New York City	20.3	19.8	19.8	19.0	19.7	20.9	21.4	21.4	**-1.3**	**2.4**	**1.9**	0.6	0.1	100.0
Gender														
Males	19.0	18.5	18.3	17.9	18.7	19.7	20.1	20.5	**-1.1**	**2.6**	**1.9**	0.8	0.4	47.5
Females	21.5	21.0	21.2	20.1	20.5	21.9	22.6	22.3	**-1.4**	**2.2**	**1.8**	0.4	-0.2	52.5
Age Group														
Under 18	25.0	25.0	25.2	23.1	23.8	25.6	25.1	25.4	**-1.9**	**2.4**	**2.5**	-0.1	0.4	21.8
18 through 64	17.8	17.3	17.4	16.9	17.7	19.3	20.1	20.1	**-0.9**	**3.2**	**2.4**	**0.8**	0.0	66.0
65 and Older	24.1	22.7	22.5	22.7	22.3	21.1	21.8	21.4	**-1.5**	-1.3	**-1.6**	0.3	-0.4	12.2
Children (under 18), by Presence of Parent														
One Parent	36.7	37.7	37.8	35.5	38.7	37.3	35.3	38.0	-1.3	2.5	1.8	0.6	2.7	35.2
Two Parents	17.4	17.0	17.6	15.6	15.7	19.0	19.1	18.6	**-1.8**	**3.1**	**3.5**	-0.4	-0.4	64.8
Race/Ethnicity														
Non-Hispanic White	14.8	14.0	14.2	13.2	13.6	15.4	15.3	14.0	**-1.6**	0.8	**2.2**	**-1.4**	**-1.3**	32.7
Non-Hispanic Black	20.6	21.6	20.5	20.8	21.1	21.5	21.4	22.5	0.1	**1.7**	0.8	0.9	1.1	22.4
Non-Hispanic Asian	23.4	24.0	25.5	22.4	24.6	26.1	26.5	29.0	-1.1	**6.6**	**3.7**	**2.9**	**2.5**	13.2
Hispanic, Any Race	25.5	23.8	24.3	23.5	24.1	24.6	25.8	25.7	**-2.0**	**2.2**	1.1	1.1	-0.2	29.1
Nativity/Citizenship														
Citizen by Birth	19.0	18.4	18.6	17.7	18.2	19.9	20.0	19.2	**-1.3**	**1.6**	**2.2**	**-0.6**	-0.8	61.7
Naturalized Citizen	18.6	18.0	18.2	18.2	18.3	17.8	18.9	20.6	-0.4	**2.4**	-0.4	**2.8**	**1.7**	20.3
Not a Citizen	26.6	26.3	25.5	24.7	26.6	27.5	28.9	29.9	-1.9	**5.3**	**2.8**	**2.4**	1.0	18.0
Working Age Adults (18 through 64), by Educational Attainment[1]														
Less than High School	31.8	29.9	29.8	29.8	30.3	31.2	31.9	33.9	-1.9	**4.1**	1.4	**2.7**	2.0	18.2
High School Degree	20.1	20.7	21.0	19.2	21.1	23.1	24.9	25.1	-0.9	**5.9**	**3.9**	**2.1**	0.3	24.6
Some College	14.1	13.5	14.5	13.6	14.9	15.6	17.2	16.5	-0.5	**2.9**	**2.0**	0.9	-0.7	21.2
Bachelor's Degree or Higher	7.2	6.9	6.9	7.6	7.6	9.2	9.3	8.7	0.3	**1.2**	**1.6**	-0.4	-0.6	36.0
Working Age Adults (18 through 64), by Work Experience in Past 12 Months[1,2]														
Full-Time, Year-Round	6.4	6.5	6.7	6.3	6.7	7.1	7.6	8.0	-0.1	**1.8**	**0.8**	**0.9**	0.5	54.5
Some Work	19.7	19.9	20.4	22.7	22.1	23.5	24.8	24.4	**3.0**	**1.8**	0.9	0.9	-0.3	21.8
No Work	37.5	36.6	36.4	36.3	36.6	38.1	38.9	39.3	-1.2	**3.0**	**1.7**	1.2	0.4	23.6

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.

3.2 Poverty Rates by Family Characteristic

Table III Two provides poverty rates for persons based on the characteristics of the family unit in which they live. As more fully described in Appendix A, "Family," from the perspective of the CEO poverty measure, is a broader concept than that used in the official poverty measure (persons who live together and are related by blood, marriage, or adoption). The CEO "Family" is the "Poverty Unit," persons living together who share costs and resources. This includes related persons, but extends to unmarried partners, their children, and other persons we believe to be economically dependent on other members of the household even if they are not kin. (See Appendix A.)

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.[32] 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.

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 changes in the poverty rates from 2005 to 2008 and 2008 to 2012 in Table III Two are also consistent with the Citywide pattern. 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. All the statistically meaningful changes in the poverty rate from 2008 to 2012 are increases.

Husband-Wife/Unmarried Partner: In 2012, the poverty rate for persons living in husband-wife/unmarried partner families without children under 18 was the lowest of any family type described in Panel A, 13.9 percent. The 2012 poverty rate for husband-wife/unmarried partner families with children was higher, at 17.5 percent. Both husband-wife/unmarried partner family types experienced an increase in poverty between 2008 and 2012, with the former group rising by 2.0 percentage points and the latter by 3.2 percentage points.

Single Head: The poverty rate for single-head households with no child under 18 was 19.1 percent in 2012, well below the 34.3 percent rate for single-head households with children and the 35.9 percent poverty rate for families in which the single parent is female.[33] Each of the single-head household types identified in the table experienced a 3.1 percentage point increase in its poverty rate from 2008 to 2012.

All Families with Children: The 2012 poverty rate for persons living in a family with children (a group that includes nearly half the City's population) was 23.0 percent. From 2008 to 2012, the poverty rate for persons in these family units rose by 2.7 percentage points.

Unrelated Individuals: Individuals in one-person "family" units are another high poverty group. In 2012, well over one quarter of this group was poor (27.5 percent). Unrelated individuals experienced a 1.9 percentage point rise in poverty from 2008 to 2012.

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

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

33. Some 85 percent of single parent families are single mother families.

Poverty rates are steeply graded by levels of work activity, ranging from 5.2 percent for families with the equivalent of two full-time, year-round workers to 52.2 percent for persons in families with no work at all in 2012. However, 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 2012, over 1 in 6 (17.1 percent) of persons in this category were poor.

Work, moreover, did not shield families from increased levels of poverty in the post-2008 period. Echoing the rise in poverty among workers reported in Table III One, poverty rates rose from 2008 to 2012 for persons living in families with the equivalent of two full-time, year-round workers (by 1.3 percentage points); in families with the equivalent of one full-time and one part-time worker (by 2.6 percentage points); and in families with the equivalent of one full-time, year-round worker (by 1.0 percentage points).

TABLE III TWO

CEO Poverty Rates for Persons Living in Various Family Types, 2005 - 2012

(Numbers are Percent of the Population)

	Year								Percentage Point Change					Group Share of 2012 Pop.
	2005	2006	2007	2008	2009	2010	2011	2012	2005-08	2008-12	2008-10	2010-12	2011-12	
Total New York City	20.3	19.8	19.8	19.0	19.7	20.9	21.4	21.4	-1.3	**2.4**	**1.9**	0.6	0.1	100.0
A. Family Composition														
Husband Wife/ Unmarried Partner[1]														
No Children under 18	11.7	11.6	12.1	12.0	12.7	12.8	13.0	13.9	0.2	**2.0**	0.8	**1.2**	0.9	21.5
With Children under 18	16.5	15.6	16.5	14.4	14.6	17.8	18.3	17.5	-2.1	**3.2**	**3.4**	-0.2	-0.7	32.9
Single Head of Household														
No Children under 18	16.8	16.4	15.4	16.1	16.5	17.8	19.0	19.1	-0.7	**3.1**	**1.7**	1.4	0.1	11.3
With Children under 18	33.4	33.2	33.1	31.1	34.0	33.4	31.6	34.3	-2.3	**3.1**	2.3	0.9	**2.6**	16.0
Single Mother Family	35.7	35.0	35.2	32.8	34.8	35.2	33.3	35.9	-2.9	**3.1**	2.4	0.6	2.6	13.8
All Families with Children under 18	22.4	21.9	22.4	20.3	21.0	23.0	22.9	23.0	-2.1	**2.7**	**2.7**	0.0	0.1	48.9
Unrelated Individuals	26.2	25.2	24.0	25.7	26.2	27.2	28.6	27.5	-0.5	**1.9**	**1.5**	0.3	-1.0	18.2
B. Work Experience of the Family[2]														
Two Full-Time, Year-Round Workers	4.0	4.3	5.3	3.9	4.1	5.0	5.1	5.2	-0.1	**1.3**	**1.0**	0.2	0.2	32.2
One Full-Time, Year-Round, One Part-Time Worker	12.8	14.6	13.5	12.2	12.4	13.8	14.1	14.8	-0.6	**2.6**	1.6	1.0	0.7	14.9
One Full-Time, Year-Round Worker	14.8	14.1	16.1	16.1	16.5	16.3	17.3	17.1	1.2	**1.0**	0.2	0.8	-0.2	25.7
Less than One Full-Time, Year-Round Worker	40.5	42.1	40.5	44.6	41.3	45.0	44.3	44.0	4.1	-0.6	0.4	-1.0	-0.3	12.4
No Work	52.9	51.8	49.8	50.8	52.1	51.2	51.5	52.2	-2.1	1.5	0.4	1.1	0.7	14.7

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.

3.3 Poverty Rates by Borough

In 2012, the poverty rate in the Bronx was the highest in the City at 26.6 percent. Brooklyn, with a 2012 poverty rate of 23.3 percent, had the second highest poverty rate. These two boroughs were followed by Queens (21.9 percent), Manhattan (15.4 percent), and Staten Island (14.5 percent). The poverty rates for the latter two boroughs are statistically indistinguishable. Manhattan was the only borough that saw a decline in its poverty rate (of 2.0 percentage points) from 2005 to 2008. From 2008 to 2012, poverty rates rose in Manhattan (by 1.6 percentage points), Queens (by 5.5 percentage points), and Staten Island (by 3.2 percentage points). The poverty rate in the Bronx remained stable over the entire 2005 to 2012 period.

The spike in the Queens poverty rate in the context of the more modest changes in the poverty rates for the other boroughs is notable. The borough's poverty rate has been approaching Brooklyn's. In 2008 the difference between the two boroughs' poverty rates was 6.0 percentage points; by 2012 it had narrowed to 1.4 percentage points.

3.4 Poverty Rates by Neighborhood

Figure III One illustrates and Table III Four lists CEO poverty rates for 55 neighborhoods in New York City. The neighborhoods are the smallest geographical areas identified in the American Community Survey public use micro sample files. Each area contains approximately 100,000 people and their boundaries roughly coincide with New York City's Community Districts. However, the sample for each area is small, making it impossible to generate meaningful one-year estimates of poverty across the City's neighborhoods. Therefore we have combined estimates from the 2008 through 2012 annual Surveys and report the average poverty rate over the five-year period in the figure and table.

The disparities across New York's neighborhoods are striking, ranging from a poverty rate of 6.9 percent on Manhattan's Upper East Side to a 34.1 percent poverty rate in the Bronx neighborhood of University Heights/Fordham. Areas of the City with the lowest poverty rates (no more than 15 percent) are shaded in green in the map. These include Manhattan south of Harlem (except for the Lower East Side); Mid-Island and South Shore Staten Island; and eastern Queens. Poverty rates are also relatively low in "Brownstone Brooklyn" (Brooklyn Heights/Fort Greene and Park Slope/Carroll Gardens) as well as Flatlands/Canarsie.

TABLE III THREE

CEO Poverty Rates by Borough, 2005 - 2012

(Numbers are Percent of the Population)

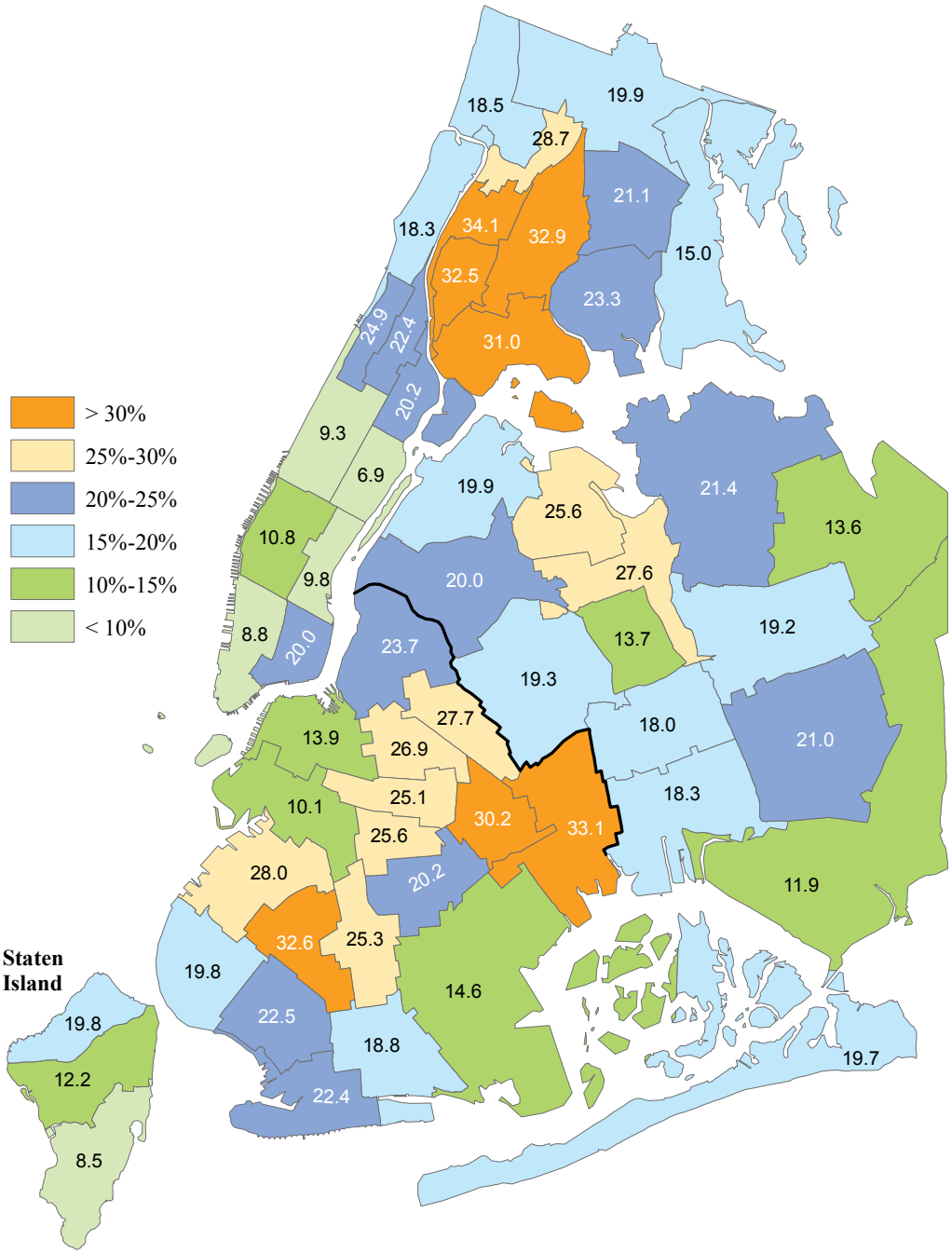
	Year								Percentage Point Change					Borough Share of 2012 Pop.
	2005	2006	2007	2008	2009	2010	2011	2012	2005-08	2008-12	2008-10	2010-12	2011-12	
Total New York City	20.3	19.8	19.8	19.0	19.7	20.9	21.4	21.4	**-1.3**	**2.4**	**1.9**	0.6	0.1	100.0
Bronx	27.2	26.0	24.9	26.2	25.5	25.6	26.4	26.6	-1.0	0.5	-0.5	1.0	0.2	16.7
Brooklyn	23.7	23.6	24.1	22.3	23.1	24.4	24.0	23.3	-1.3	0.9	**2.1**	-1.1	-0.8	31.0
Manhattan	15.8	14.8	14.4	13.8	13.6	14.5	14.8	15.4	**-2.0**	**1.6**	0.7	0.9	0.6	19.1
Queens	17.3	17.0	17.3	16.4	17.6	20.0	21.4	21.9	-1.0	**5.5**	**3.7**	**1.8**	0.5	27.5
Staten Island	12.2	12.3	12.7	11.4	14.7	13.5	14.3	14.5	-0.8	**3.2**	2.2	1.0	0.2	5.7

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.

Neighborhoods with the highest poverty rates (more than 25 percent) are identified in shades of orange. They are clustered together in the South Bronx and across a wide swath of Brooklyn, from Sunset Park and Borough Park to East New York. Queens is home to a third high-poverty cluster composed of Jackson Heights and Elmhurst/ Corona.

FIGURE III ONE

CEO Poverty Rates by Neighborhood, 2008 - 2012



Source: Five year average of 2008 - 2012 American Community Survey Public Use Micro Sample files as augmented by CEO

TABLE III FOUR

CEO Poverty Rates by Community District/Neighborhood, 2008 - 2012

(Numbers are Percent of the Population)

Community District	Neighborhood	5 Year Avg.	Community District	Neighborhood	5 Year Avg.
Bronx			**Manhattan**		
1 & 2	Mott Haven / Hunts Point	31.0	1 & 2	Greenwich Village / Financial District	8.8
3 & 6	Morrisania / East Tremont	32.9	3	Lower East Side / Chinatown	20.0
4	Highbridge / S. Concourse	32.5	4 & 5	Chelsea / Clinton / Midtown	10.8
5	University Heights / Fordham	34.1	6	Stuyvesant Town / Turtle Bay	9.8
7	Kingsbridge Heights / Mosholu	28.7	7	Upper West Side	9.3
8	Riverdale / Kingsbridge	18.5	8	Upper East Side	6.9
9	Soundview / Parkchester	23.3	9	Morningside Heights / Hamilton Heights	24.9
10	Throgs Neck / Co-op City	15.0	10	Central Harlem	22.4
11	Pelham Parkway	21.1	11	East Harlem	20.2
12	Williamsbridge / Baychester	19.9	12	Washington Heights / Inwood	18.3
Brooklyn			**Queens**		
1	Williamsburg / Greenpoint	23.7	1	Astoria	19.9
2	Brooklyn Heights / Fort Greene	13.9	2	Sunnyside / Woodside	20.0
3	Bedford Stuyvesant	26.9	3	Jackson Heights	25.6
4	Bushwick	27.7	4	Elmhurst / Corona	27.6
5	East New York / Starrett City	33.1	5	Middle Village / Ridgewood	19.3
6	Park Slope / Carroll Gardens	10.1	6	Forest Hills / Rego Park	13.7
7	Sunset Park	28.0	7	Flushing / Whitestone	21.4
8	North Crown Heights / Prospect Heights	25.1	8	Hillcrest / Fresh Meadows	19.2
9	South Crown Heights	25.6	9	Kew Gardens / Woodhaven	18.0
10	Bay Ridge	19.8	10	Howard Beach / S. Ozone Park	18.3
11	Bensonhurst	22.5	11	Bayside / Little Neck	13.6
12	Borough Park	32.6	12	Jamaica	21.0
13	Coney Island	22.4	13	Bellerose / Rosedale	11.9
14	Flatbush	25.3	14	Rockaways	19.7
15	Sheepshead Bay / Gravesend	18.8	**Staten Island**		
16	Brownsville / Ocean Hill	30.2	1	North Shore	19.8
17	East Flatbush	20.2	2	Mid-Island	12.2
18	Flatlands / Canarsie	14.6	3	South Shore	8.5

Source: American Community Survey Public Use Micro Sample as augmented by CEO.
Note: Poverty rate is the average over the 2008-2012 period.

3.5 A Closer Look at Some Patterns in the Data

Asians, Non-Citizens, and Residents of Queens: Table III One identified an unusually large increase in the poverty rate for Asian and non-citizen New Yorkers from 2008 to 2012. Table III Three revealed a sharp rise in the poverty rate for Queens over the same time period. The three increases reflect the large overlap between these groups. The first panel in Table III Five provides each borough's share of the City's major race/ethnic groups and indicates that half (50.2 percent) of Asian New Yorkers live in Queens. The second panel in the table reports that Queens is home to nearly a third (32.8 percent) of New York's non-citizen population, more than any other borough. Table III Six illustrates the overlap between Race/Ethnic groups and Citizenship/Nativity groups. Nearly a third (32.9 percent) of the Asian population is non-citizen, well above the roughly one-quarter (24.8 percent) of New York's Hispanic population that is non-citizen.

Rising Poverty among Workers and Working Families: As the report's Introductory chapter outlined, the CEO poverty rate rose as the share of the working age population with steady employment declined from 2008 to 2010. But Table III One and Table III Two also indicate that employment was not a guarantee against increasing poverty. The poverty rate for working age adults who were full-time, year-round workers rose by 0.8 percentage points from 2008 to 2010 and continued to rise from 2010 to 2012 by an additional 0.9 percentage points. (See Table III One.) The poverty rates for persons living in family units with the equivalent of two full-time, year-round workers; one full-time, year-round and one part-time worker; and one full-time, year-round worker all rose from 2008 to 2012. (See Table III Two.) This pattern suggests that declining wage rates were a key player in the rise in poverty among these groups.

Table III Seven provides measures of annual earnings for full-time, year-round workers, defined as adults 18 through 64 years of age who worked at least 50, 35-

TABLE III FIVE

Distribution of Demographic Groups Across New York City's Boroughs

A. Boroughs' Share of the New York City Population, by Race/Ethnicity

	Bronx	Brooklyn	Manhattan	Queens	Staten Island	Total
Non-Hispanic White	5.2	33.8	27.7	22.2	11.1	100.0
Non-Hispanic Black	22.1	43.8	10.6	21.1	2.4	100.0
Non-Hispanic Asian	4.5	25.6	16.4	50.2	3.2	100.0
Hispanic, Any Race	31.7	21.1	17.2	26.5	3.5	100.0
Total City Population	16.7	31.0	19.1	27.5	5.7	100.0

B. Borough's Share of the New York City Population, by Nativity/Citizenship

	Bronx	Brooklyn	Manhattan	Queens	Staten Island	Total
Citizen by Birth	17.3	30.3	21.9	23.2	7.2	100.0
Naturalized Citizen	13.4	33.3	13.2	35.9	4.1	100.0
Not a Citizen	18.4	30.7	15.9	32.8	2.2	100.0
Total City Population	16.7	31.0	19.1	27.5	5.7	100.0

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

hour, weeks over the course of a year. As our interest is in the relationship between earnings and poverty, the table reports earnings for workers in the bottom half of the distribution. In order to make the change in earnings over time more directly relevant to the growth in poverty, nominal earnings have been adjusted for the growth in the CEO poverty threshold.[34] The table points to a considerable decline in wages, from 2008 to 2012, at the 10th, 20th, and 30th deciles of the distribution, that is, for workers who would be most vulnerable to poverty. Wage rates fell broadly during the period of declining employment from 2008 to 2010. Except at the median, wages continued their fall between 2010 and 2011. The decline in earnings is finally arrested in 2012, leaving annual earnings at the 10th, 20th, and 30th percentiles 5.1 percent, 5.5 percent, and 7.9 percent below their respective levels in 2008.

TABLE III SIX

Race/Ethnic Group's Composition, by Nativity/ Citizenship, 2012

	Citizen by Birth	Naturalized Citizen	Not a Citizen	Total
Non-Hispanic White	76.5	15.0	8.4	100.0
Non-Hispanic Black	66.1	20.0	14.0	100.0
Non-Hispanic Asian	27.8	39.3	32.9	100.0
Hispanic, Any Race	57.7	17.5	24.8	100.0
Total City Population	61.7	20.3	18.0	100.0

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

TABLE III SEVEN

Annual Earnings for Full-Time, Year Around Workers

	Year					Percentage Change			
Deciles	2008	2009	2010	2011	2012	2008-2012	2008-2010	2010-2011	2011-2012
10	$18,096	$18,021	$17,690	$16,648	$17,174	-5.1%	-2.2%	-5.9%	3.2%
20	$25,663	$25,442	$24,975	$23,899	$24,245	-5.5%	-2.7%	-4.3%	1.4%
30	$32,902	$31,802	$31,218	$30,640	$30,306	-7.9%	-5.1%	-1.9%	-1.1%
40	$38,385	$39,222	$37,462	$36,768	$38,388	0.0%	-2.4%	-1.9%	4.4%
50	$45,075	$47,703	$44,955	$44,939	$45,459	0.9%	-0.3%	0.0%	1.2%

Source: American Community Survey Public Use Micro Sample as augmented by CEO.
Note: Earnings are stated in 2012 dollars. See text.

34. We use the CEO poverty threshold as a cost of living index to restate pre-2012 earnings in 2012 dollars.

Chapter IV: Alternative Poverty Measures In The U.S. And New York City

As the Introduction noted, the U.S. Bureau of the Census has been issuing a Supplemental Poverty Measure (SPM) since November 2011. Like the CEO measure the SPM is based on recommendations made by the National Academy of Sciences. The creation of the new Federal measure allows us to compare poverty in New York City to the nation using a similar methodology. This chapter compares some of the principal findings from the Census Bureau's SPM reports with our findings for New York City. The Bureau provides comparisons between the SPM and the official poverty rates for the U.S., much as we have done with the CEO and official measure in Chapters I and II. 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 2012 are also alike.

4.1 Poverty Rates by Age Group

Given the focus that policymaking has had on children, differences in poverty rates by age group are a particularly important set of comparisons. Table IV One provides 2012 poverty rates by age using the official and NAS-style measures. Panel A reports these for the U.S.[35] 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 0.9 percentage points while the City's difference is 1.5 percentage points.

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 18.0 percent, 4.3 percentage points below the official rate of 22.3 percent. The New York City CEO poverty rate for children is 25.4 percent, 5.3 percentage points below the official rate of 30.8 percent. The lower poverty rates for children using the NAS-style poverty measures are 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.[36]

Poverty, however, is markedly more prevalent among the elderly using the 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 would yield poverty rates that are lower than those from the official measures. For the U.S. SPM, the 2012 poverty rate for persons 65 and older would fall to 8.4 percent if MOOP was not included in the poverty measure; for the CEO measure, the 2012 elderly poverty rate net of MOOP is 16.6 percent. The U.S. official poverty rate for the elderly in 2012 was 9.1 percent while the official poverty rate in New York City was 18.2 percent.[37]

TABLE IV ONE

Comparison of Poverty Rates by Age Group Using Different Measures, 2012

(Numbers are Percent of the Population.)

A. United States

	Official	SPM	Percentage Point Difference
Total	15.1	16.0	**0.9**
Under 18	22.3	18.0	**-4.3**
18 through 64	13.7	15.5	**1.8**
65 and Older	9.1	14.8	**5.7**

B. New York City

	Official	CEO	Percentage Point Difference
Total	20.0	21.4	**1.5**
Under 18	30.8	25.4	**-5.3**
18 through 64	16.7	20.1	**3.4**
65 and Older	18.2	21.4	**3.2**

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.

35. The U.S.-level poverty rates cited in this chapter are taken from Short, Kathleen. *The Research Supplemental Poverty Measure: 2012.* U.S. Bureau of the Census. November 2013. Available at: http://www.census.gov/prod/2013pubs/p60-247.pdf

36. 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.

37. See Short, Table 5A, and Appendix H in this report for details about our model for estimating MOOP and for the impact of MOOP on the poverty rate.

4.2 Extreme Poverty and Near Poverty

In Chapter Two 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. A smaller fraction of the nation's population is in extreme poverty using the alternative poverty measure. For the U.S. as a whole the difference is 1.5 percentage points. The corresponding difference in the City is 2.7 percentage points. The pattern of differences across the age groups is also alike. For the nation and the City, the largest difference between the official and alternative measures of extreme poverty is for children, 5.6 percentage points and 8.3 percentage points, respectively. Differences between the measures for working age adults are more modest: 0.8 percentage points for the U.S. and 1.5 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 2.0 percentage points above the official rate. For the City, the CEO extreme poverty rate for the elderly is 0.7 percentage points above the official rate.

TABLE IV TWO

Comparison of Extreme Poverty Rates by Age Group Using Different Measures, 2012

(Numbers are Percent of the Population.)

A. United States	Official	SPM	Percentage Point Difference
Total	6.7	5.2	**-1.5**
Under 18	10.3	4.7	**-5.6**
18 through 64	6.2	5.4	**-0.8**
65 and Older	2.7	4.7	**2.0**

B. New York City	Official	CEO	Percentage Point Difference
Total	8.1	5.4	**-2.7**
Under 18	13.6	5.3	**-8.3**
18 through 64	7.1	5.6	**-1.5**
65 and Older	3.8	4.4	**0.7**

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.

Table IV Three reports the share of the U.S. and New York City population that is near poor in the official and NAS-based poverty measures. The near poor poverty rate is defined here as the proportion of the population whose income falls from 100 percent through 149 percent of the respective poverty thresholds. As Chapter Two indicated the CEO measure places a much larger share of the population in near poverty than does the official measure. Likewise, the Census SPM categorizes a larger share of the national in this group than the official measure. For the population as a whole, the SPM near poverty rate is 14.2 percent, 4.6 percentage points above the official rate. The differences between the SPM and official measures for children and working age adults are of similar magnitude, while the near poverty rates for the elderly in the two measures are more alike.

In one respect the pattern of difference between the measures for New York City is similar to that for the total U.S.; differences between the near poverty rates are greatest for children and more modest for the elderly. But the more eye-catching comparison between the City and the nation is how much larger the between-measure differences are in New York. The CEO measure, for example, categorizes 24.1 percent of the City population as near poor while the corresponding proportion from the official measure is 10.8 percent. At the national level, the SPM places 14.2 percent of the population in the near poor group while the official measure categorizes 9.6 percent of the population as near poor.

One reason for the larger between-measure difference in New York City than the nation is simply that – due to the geographic adjustment that accounts for the relatively high cost of housing in New York City – the CEO poverty threshold is higher than the U.S.-wide SPM poverty threshold. In 2012, the U.S.-wide SPM threshold for a two-adult, two-child family in 2012 was $24,959 while the comparable CEO threshold was $31,039.[38] Thus, the near poor in the U.S.-wide SPM measure are defined as persons living in families with the equivalent income of $24,959 through $37,438 (1.5 times the threshold).[39] The near poor for the CEO measure are persons living in families with the equivalent income of $31,039 to $46,558. Thus, one reason why the CEO measure categorizes a much larger share of the population as near poor than does the SPM is simply because the income band that defines the group is larger, $15,519 compared to $12,479.

38. This is the SPM threshold prior to its adjustment for differences in housing tenure. See Chapter One.
39. We use the term "equivalent income" to remind readers that the thresholds are adjusted for family size and composition.

TABLE IV THREE

Comparison of Near Poverty Rates by Age Group, Using Different Measures, 2012

(Numbers are Percent of the Population.)

A. United States	Official	SPM	Percentage Point Difference
Total	9.6	14.2	**4.6**
Under 18	10.4	16.3	**5.9**
18 through 64	8.6	13.4	**4.8**
65 and Older	12.8	14.3	**1.5**

B. New York City	Official	CEO	Percentage Point Difference
Total	10.8	24.1	**13.4**
Under 18	12.9	31.1	**18.2**
18 through 64	9.6	22.0	**12.4**
65 and Older	13.2	23.0	**9.8**

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.

4.3 Changes in the SPM and CEO Poverty Rates, 2009-2012

The Census Bureau has developed SPM poverty rates for 2009 through 2012. Table IV Four reproduces the Bureau's estimates for these years along with comparable data for New York City. From 2009 to 2012, the SPM rose by 0.8 percentage points while the CEO poverty rate climbed by 1.8 percentage points. Poverty rates derived from these measures increased by 0.8 percentage points for children in the U.S. and by 1.6 percentage points for children in New York City. The working age adult poverty rates also increased (1.0 percentage points in the U.S. and 2.4 percentage points in New York City) over this time span. The SPM poverty rate for the elderly was unchanged while the CEO poverty rate for this group fell by 0.9 percentage points from 2009 to 2012. The 2009 to 2012 increases in poverty rates are, to a large degree, the result of increases that occurred between 2009 and 2010. For example, the U.S.-wide SPM poverty rate rose from 15.2 percent in 2009 to 16.0 percent in 2010. That rate has been unchanged since the latter year.

TABLE IV FOUR

Change in Poverty Rates, U.S. SPM and NYC CEO, 2009 - 2012

(Numbers are Percent of the Population)

					Percentage Point Change		
A. United States, SPM	2009	2010	2011	2012	2009-2012	2009-2010	2010-2012
Total	15.2	16.0	16.1	16.0	0.8	0.8	0.0
Under 18	17.2	18.0	18.1	18.0	0.8	0.8	0.0
18 through 64	14.5	15.2	15.5	15.5	1.0	0.7	0.3
65 and Older	14.9	15.8	15.1	14.8	-0.1	0.9	-1.0

					Percentage Point Change		
B. New York City, CEO	2009	2010	2011	2012	2009-2012	2009-2010	2010-2012
Total	19.7	20.9	21.4	21.4	1.8	1.2	0.6
Under 18	23.8	25.6	25.1	25.4	1.6	1.8	-0.1
18 through 64	17.7	19.3	20.1	20.1	2.4	1.6	0.8
65 and Older	22.3	21.1	21.8	21.4	-0.9	-1.2	0.3

Sources: U.S. Bureau of the Census published data for 2010 through 2011, SPM research files for 2009, 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.

Chapter V: Policy Affects Poverty; Additional Data and Future Directions

The de Blasio Administration is committed to meaningfully tracking and measuring its success in reducing inequality and improving the poverty rate through existing and new performance indicators. As mandated by the City Charter, the Mayor's Management Report (MMR) serves as a public report card on City services and is published annually. This year's Poverty Report includes excerpts from the 2013 MMR that track relevant interdisciplinary programs including "Breaking the Cycle of Poverty," the "Young Men's Initiative" and "Age-Friendly NYC." The indicators demonstrate how agencies working together can have a collective impact on a broad array of New Yorkers. The report also includes select agency-specific 2013 MMR data that most closely tracks indicators related to inequality and poverty. All data is reported using activity from fiscal years 2012 and 2013, as it represents the closest data available to the 2012 poverty data presented in this report, noting that the reporting period lags two years behind present day. Additional information, including budget summaries for each targeted agency, is available at: www.nyc.gov/mmr.

The chapter concludes with a discussion of policy in context of the findings. It sets an important foundation for how this administration's progressive polices are rooted in data and performance management. It provides a framework for understanding the relationship between research and practice, and outlines how both boosting jobs and wages and supporting immigrants are two examples of interventions in practice that improve poverty outcomes specifically referenced in the report.

5.1 Multi-Agency Initiatives Advancing Opportunity

Tables V 1-3 are from the latest Preliminary Mayor's Management Report (PMMR), published in February 2014. The MMR presents the performance of City agencies in delivering services through the twelve-month fiscal year period, from July through June. The charts below include activity from fiscal years 2012 and 2013, which are the closest comparison available to the 2012 poverty data presented in this report. For more detailed information on the agencies, initiatives and indicators and their performance over time please see the full MMR report at www.nyc.gov/mmr.

TABLE V ONE

Breaking the Cycle of Poverty Initiative Performance Indicators	FY12	FY13
YOUTH DEVELOPMENT **CUNY ASAP (CUNY) Launched 9/2007**		
Number of Enrollees	462	1,510
Cohort 4 (Fall 2010) Three-Year Graduation Rate	NA	NA
Cohort 5 (Fall 2011) Two-Year Graduation Rate	NA	NA
Young Adult Internship Program (DYCD) - Launched 11/2007, YMI Expansion began 8/2011		
Number of Enrollees	1,740	1,831
Completed Internship	83%	84%
Placed in Employment or Education	49%	53%
JUSTICE **NYC Justice Corps (CUNY) - Launched 9/2008, YMI Expansion began 8/2012**		
Number of Enrollees	217	332
Completed Community Benefit Project	145	202
Number of Job Placements	55	15
Employment Works (SBS)-Launched 8/2008		
Number of Enrollees	1,101	1,278
Number of Job Placements	744	738
Retained at 6 Months	12%	17%
ASSET DEVELOPMENT Earned Income Tax Credit Mailing (DOF) Launched 1/2007		Tax Year 2008
Households Entitled to the Credit	NA	5,645
Average Amount Claimed by Household, Estimated	NA	$818
Financial Empowerment Centers (DCA/OFE)-Launched 6/2008		
Number of Enrollees	5,882	6,117
Counseling Sessions	11,100	10,662
Total Debt Reduced Since Program Inception in 2009 (in millions)	$7.05	$12.41
EMPLOYMENT **Jobs-Plus (HRA/NYCHA/CUNY)-Launched 10/2009, YMI Expansion began 3/2013**		
Number of Enrollees	423	1,270
Placed in Jobs	173	225
Retained in Job at 3 Months	90	73
Sector-Focused Career Centers (SBS)-Launched 6/2008		
New Enrollees	10,619	7,123
Job Placements or Promotions	2,365	3,010
HEALTH **School-Based Health Centers (DOHMH)-Launched 9/2007**		
Program Participants	9,146	7,508
Enrollees Utilizing the Clinics	4,897	5,504
Total Clinic Visits	22,499	26,324
Shop Healthy NYC (DOHMH)-Launched 1/2012		
Number of Retail Food Stores Promoting Healthy Foods (Percentage is of Stores Approached)	146	170
Number of Community Members Who Attended a Training	107	532

Source: Mayor's Management Report, Preliminary Fiscal 2014, City of New York, February 2014.
For more information, including budget data, see www.nyc.gov/mmr.

TABLE V TWO

Young Men's Initiative Selected Performance Indicators	FY12	FY13
EDUCATION		
Expanded Success Initiative (DOE) - Launched Summer 2012		
Black and Latino male students enrolled	NA	2,626
Total number of students in cohort enrolled	NA	5,130
Schools participating in initiative	NA	40
IMPACT Peer Mentoring for Young Adult Literacy (CUNY) - Launched 1/2012		
New Enrollees	260	603
Took the GED	83	208
Passed the GED	58	140
Enrolled in college (of those who passed the GED)	16	46
Young Adult Literacy Program/CEPS (DYCD/Public Libraries/DOP) - Launched 7/2008, YMI Expansion began 10/2011		
Program participants	750	848
Percent of participants who gained one or more grade levels in literacy	55%	54%
Percent of participants who gained one or more grade levels in numeracy	46%	47%
EMPLOYMENT		
Jobs-Plus (HRA/NYCHA/CUNY) - Launched 10/2009, YMI Expansion began 3/2013		
Program participants	423	1,270
Placed in jobs	173	225
Retained in job at 3 months	90	73
Young Adult Internship Program (DYCD) - Launched 11/2007, YMI Expansion began 8/2011		
Program participants	1,740	1,831
Percent of participants who completed internship	83%	84%
Percent of participants placed in employment or education	49%	53%
HEALTH		
Fatherhood Academy (CUNY) - Launched 3/2012		
New Enrollees	36	77
Percent of participants who received job placements	44%	39%
Percent of participants who earned a GED	28%	30%
Number receiving a college acceptance	9	7
JUSTICE		
Arches (DOP) - Launched 7/2012		
New Enrollees	NA	589
New participants receiving one-on-one mentoring	NA	219
Percent of participants who completed program	NA	11%
Justice Community (DOP) - Launched 1/2012		
New Enrollees	153	228
Percent of participants placed in employment	8%	26%
NYC Justice Corps (CUNY) - Launched 9/2008, YMI Expansion began 2012		
New Enrollees	217	332
Completed community benefit project	145	202
Placed in jobs	55	15
Justice Scholars (DOP) - Launched 1/2012		
New Enrollees	142	243
Percent of participants who gained one or more grade levels in literacy	16%	14%
Earned GED or diploma	9	33

Source: Mayor's Management Report, Preliminary Fiscal 2014, City of New York, February 2014.
For more information, including budget data, see www.nyc.gov/mmr.

TABLE V THREE

Age-Friendly NYC Selected Performance Measures

	FY13
COMMUNITY AND CIVIC PARTICIPATION	
TimeBanksNYC	
Number of Hours of Exchanges	38,000
Members	595
Number of Service Exchanges	3,560
Support of NORCs	
Annual number of NORC residents benefitting from NORC services	9,510
PUBLIC SPACES AND TRANSPORTATION	
Safe Streets for Seniors	
Number of Age-friendly Benches	536
Number of New Bus Shelters with Benches	173
HEALTH AND SOCIAL SERVICES	
Innovative Senior Centers	
Attendance	NA
Number of Meals Served	430,766
Silver Alert	
Missing Senior Alerts	49
Silver Alerts	41
Market Ride	
Number of Seniors Participating	1,336

Source: Mayor's Management Report, Fiscal 2013, City of New York, September 2013.
For more information, including budget data, see www.nyc.gov/mmr.

5.2 Selected Agency Indicators

Table V Four is comprised of data from latest Preliminary Mayor's Management Report (PMMR), published in February 2014. The MMR presents the performance of City agencies in delivering services through the twelve-month fiscal year period, from July through June. The charts below include activity from fiscal years 2012 and 2013, which are the closest comparison available to the 2012 poverty data presented in this report. For more detailed information on the agencies, initiatives and indicators and their performance over time please see the full MMR report at www.nyc.gov/mmr.

TABLE V FOUR

Selected Agency Performance Indicators

Agency/Program Area	Indicator Name	FY12	FY13
ACS			
Early Child Care and Education	Average EarlyLearn contract enrollment	45,310	30,096
	EarlyLearn - Average center-based enrollment	N/A	25,548
	EarlyLearn - Average family child care enrollment	N/A	4,549
	Average EarlyLearn Utilization (%)	N/A	71.40%
	Average EarlyLearn Utilization - Center-based (%)	N/A	76.20%
	Average EarlyLearn Utilization - Family child care (%)	N/A	52.90%
	Average mandated children voucher enrollment	N/A	56,649
	Average other eligible children voucher enrollment	N/A	15,107
	Average center-based child care voucher enrollment	N/A	27,552
	Average family child care voucher enrollment	N/A	21,503
	Average legally exempt (informal child care) voucher enrollment	N/A	22,700
CUNY			
Academic Success	One-year (fall to fall) retention rate of full-time, first-time freshmen enrolled in CUNY Associate's degree programs	67.10%	66.60%
	One-year (fall to fall) retention rate of full-time, first-time freshmen enrolled in CUNY baccalaureate degree programs	86.30%	86.50%
	Six-year systemwide graduation rate (%) - CUNY Associate's degree students	29.40%	30.10%
	Six-year systemwide graduation rate (%) - CUNY baccalaureate students	49.80%	51.00%
	CUNY Associate's degree recipients who transfer to a CUNY baccalaureate program within one year (%)	51.30%	52.30%
DFTA			
Administer in-home services	Hours of home care services provided	823,831	890,232
	Total annual recipients of home care services	2,861	2,835
	Total meals served (in $1,000s)	11,276	11,521
Administer senior centers	Senior center utilization rate (%)	93.00%	86.00%
Administer the caregiver program	Caregivers who received casework services or training through DFTA's In-house Alzheimer's and Long-Term Care Unit and Grandparent Resource Center	N/A	3,692
DHS			
Adult Services	Adults receiving preventive services who did not enter the shelter system (%)	91.40%	96.70%
	Single adults entering the DHS shelter services system	17,872	16,448
	Average number of single adults in shelters per day	8,622	9,536
	Average length of stay for single adults in shelter (days)	275	293
	Single adults who exited to permanent housing and returned to the DHS shelter services system within one year (%)	3.90%	4.50%
Adult Services (Street Homelessness Reduction)	Unsheltered individuals who are estimated to be living on the streets, in parks, under highways, on subways, and in the public transportation stations in New York City (HOPE)	3,262	3,180

Agency/Program Area	Indicator Name	FY12	FY13
Family Services (Adult Families)	Adult families receiving preventive services who did not enter the shelter system (%)	97.00%	95.50%
	Adult families entering the DHS shelter services system	1,109	1,156
	Average number of adult families in shelters per day	1,450	1,723
	Average length of stay for adult families in shelters (days)	416	469
	Adult families who exited to permanent housing and returned to the DHS shelter services system within one year (%)	5.60%	15.00%
Family Services (Families with Children)	Families with children receiving preventive services who did not enter the shelter system (%)	93.90%	93.00%
	Families with children entering the DHS shelter services system	10,878	12,306
	Average number of families with children in shelters per day	8,445	9,840
	Families with children who exited to permanent housing and returned to the DHS shelter services system within one year (%)	4.40%	9.50%
DOE			
General Education Teaching and Learning	Students in grades 3 to 8 meeting or exceeding standards - English Language Arts (%)	46.90%	26.40%
	Students in grades 3 to 8 meeting or exceeding standards - Math (%)	60.00%	29.60%
Graduation and Dropout Prevention	Students in cohort graduating from high school in 4 years (%) (NYSED)	64.70%	N/A
	Students in cohort graduating from high school in 6 years (%) (NYSED)	N/A	N/A
	Students with disabilities in cohort graduating from high school in 4 years (%) (NYSED)	30.50%	N/A
	Students with disabilities in cohort graduating from high school in 6 years (%) (NYSED)	N/A	N/A
	Students in cohort dropping out of high school in 4 years (%) (NYSED)	11.40%	N/A
	Students with disabilities in cohort dropping out of high school in 4 years (%) (NYSED)	19.90%	N/A
DYCD			
Community Development Programs	Community anti-poverty program participants achieving target outcomes designated for clients in each program area (%)	59%	60%
Literacy Programs	Participants in DYCD-funded English literacy programs meeting federal standards of improvement in their ability to read, write and speak English (%)	56%	59%
Out-of-School Time Programs (OST)	OST programs meeting minimum attendance rate goal - elementary (school year) (%)	87%	84%
	OST programs meeting target enrollment (school year) (%)	98%	96%
	OST programs meeting target enrollment (summer) (%)	97%	93%
Runaway and Homeless Youth (RHY) Services	Utilization rate for crisis beds (%)	98%	98%
	Utilization rate for transitional independent living (TIL) beds (%)	86%	91%
	Youth reunited with family or placed in a suitable environment from crisis shelters (%)	80%	86%
	Youth reunited with family or placed in a suitable environment from Transitional Independent Living (TIL) centers (%)	93%	91%
Youth Employment programs (OSY and ISY)	Youth who are out-of-school, attend a DYCD-funded training or employment program, and are placed in post-secondary education, employment, or advanced training in the first quarter after exiting the program	68%	70%
	Youth who attend a training program while in school and are placed in post-secondary education, employment or advanced training during the first quarter after exiting the program (%)	78%	77%

Agency/Program Area	Indicator Name	FY12	FY13
HHC			
Health Insurance Access	Uninsured patients served	478,731	475,627
HPD			
Tenant Resources	Section 8 utilization rate	97.10%	98.20%
HRA			
Cash Assistance Administration	Cash assistance caseload (in $1,000s)	190.3	193.1
	Individuals and families at imminent risk diverted from becoming homeless (%)	92.00%	93.90%
Child Support Enforcement	Current obligations collected (%)	69.80%	70.90%
	Child support cases with orders of support (%)	70.10%	70.10%
Employment Programs	Cash assistance family cases participating in work or work-related activities per federal guidelines (official federal fiscal year-to-date average) (%)	34.20%	34.10%
	Clients whom HRA helped to obtain employment (in $1,000s)	91.5	87.2
	Percent of HRA clients whom HRA helped to obtain employment compared to monthly goal (calendar year-to-date) (%)	101.00%	98.20%
	Current and former cash assistance cases that retained employment income 180 days after being placed in a job (calendar year-to-date average) (%)	80.80%	81.40%
	Safety Net Assistance (SNA) cases engaged in training or education in accordance with New York City guidelines (%)	N/A	16.20%
	Family cases engaged in training or education in accordance with New York City guidelines (%)	N/A	23.70%
Public Health Insurance	Public health Insurance application timeliness rate (%)	99.40%	98.30%
	Public health insurance fair hearing win rate (%)	91.30%	86.10%
Supplemental Nutrition Assistance	SNAP application timeliness rate (%)	95.70%	94.60%
NYCHA			
Public Housing Access	Occupancy rate (%)	99.20%	98.80%
Resident/Social Services	Resident job placements	1,593	1,567
	Emergency Transfer Program disposition time	44.18	54.25
	Average daily attendance in community centers ages 6-12	2,447	1,980
	Average daily attendance in community centers ages 13-19	1,618	1,437
Section 8 Program	Section 8 Occupied Units (certificates and vouchers)	93,789	91,892
	Utilization rate for Section 8 vouchers (%)	95.30%	93.90%
SBS			
NYC Business Solutions	Recruit-to-hire ratio for job placements made through accounts managed by NYC Business Solutions Hiring	3:01	3:01
Workforce1 Career Centers	Workforce1 systemwide job placements	30,900	28,166

Source: Citywide Performance Reporting System, 2013.
For more information, including budget data, see www.nyc.gov/mmr.

5.3 Future Directions

The 2005-2012 data and trends described in this report represent a stark challenge for the City of New York. Long after the official end of the Great Recession, nearly half of New Yorkers are classified as either poor or near poor according to the City's poverty measure. Poverty rates for the City as a whole, and for important subsets of the population, are significantly above national averages.

Strategies to reduce poverty and inequality are central to the agenda of Mayor Bill de Blasio and his Administration. Clearly, some of the factors that drive poverty in New York City are part of national or even international trends that are difficult to address at the City level. But City policies can make a substantial difference, and the de Blasio Administration is determined to take on poverty and inequality using a systematic, cost-effective and evidence-driven process.

Framework for an Evidence- and Data-Driven Progressive Agenda

The first step in this process is to understand the nature of the problem, using information like that presented in this report. The second step is to implement potential solutions, drawing on the growing body of evidence about what works in the social policy arena. In recent years, agencies at all levels of government, and in philanthropy, have increasingly insisted that social programs show evidence of success based on rigorous evaluation methods. In some areas, the highest level of evidence – data from a randomized control trial – does not currently exist to inform New York City policies. However, other types of evidence can be highly informative; for example, some programs or policies have been evaluated using research designs that are imperfect but still highly suggestive. In other cases, programs or policies may have operated on a smaller scale in New York City or elsewhere yet the operational lessons from these efforts can inform the City's planning process.

The Mayor's platform lays out a number of policies and programs intended to reduce poverty rates seen in the City. Once these policies and programs are in place, the City will carefully monitor both their execution and their effectiveness. Designing a program or policy is only the first step; making it work on the ground is the key to its success. And it is not enough to ensure that programs are rolled out as planned; it is crucial to assess whether they are making a difference and achieving their desired effects. A robust performance management infrastructure, starting with a clear baseline and incorporating both interim indicators and longer-term outcomes, will undergird each major initiative. This will allow the Administration to make mid-course corrections as needed, including eliminating programs that are not working, since ineffective programs are a drain on public resources and breed disappointment and cynicism among the people they are designed to help.

Finally, it is crucial to note that the de Blasio Administration's conception of inequality goes beyond the traditional focus on income. It is also about equal access to critical services such as quality early childhood programs that help alleviate poverty by supporting educational achievement, after school programming, nutritious food programs and primary health care. It is about equitable distribution of City services – from clean streets to critical response times to conditions of neighborhood infrastructure. The accessibility and quality of City services and the nature of New Yorkers' interactions with the City government should not depend on a person's neighborhood of residence, the color of their skin or how much they earn. Disparities in health, public safety, and access to basic goods and services also need to be addressed. The Mayor's platform was designed with this broad lens in mind.

An Early Look at the Framework in Practice

Two key findings from this poverty report – rising poverty among working families, and a high and growing poverty rate among non-citizens, particularly Asians – present an opportunity to put the framework into action.

Boosting Jobs and Wages

As described in this report, by 2012, employment finally started to recover in the City and the percentage of adult New Yorkers with jobs grew for two consecutive years (2011 and 2012). But the "employment to population ratio" has still not reached the level it stood at before the Recession began in 2008. Moreover, while employment has begun to grow wages are lagging, in part because the fastest growing employment sectors (including leisure/hospitality and retail trade) pay relatively low wages. Thus, poverty rates have stagnated or risen for several categories of working families. In 2012, 17 percent of families with a full-time, year-round worker lived in poverty.

This data suggests that the City's policy response must be multi-faceted. Efforts to raise the floor on wages, from gaining local control over setting the minimum wage in New York City to raising the wages paid by companies doing business with or receiving subsidies from the City are critical steps that can quickly enhance earnings for some workers.

In the long run, however, increased wages are most effective when coupled with increased participation in the labor market. The de Blasio platform takes a comprehensive approach to workforce development with policies that will increase wages as well as develop multiple pathways to improve the skills of the City's workforce. The Administration's skills strategy spans the continuum from pre-K to advanced training, and builds on proven approaches such as Career and Technical Education (CTE) at the high school level and occupational training programs for adults that are geared towards the needs of high-growth, high-wage industry sectors. The most rigorous levels of evidence inform many of these strategies. For example, a recent randomized control trial of three sector-focused training programs (including one in New York City) found that those who participated in the programs earned 18 percent more, on average, than those in a control group that did not have access to the training. This sector-focused model will need to be scaled up with quality to benefit more New Yorkers.

While efforts to raise wages immediately and build skills for the future are critical, this report notes that more than one-fourth of working-age adults in New York City did not work at all in 2012. Some of these individuals are unable to work or prefer not to, but many others are frozen out of the labor market. Thus, economic development initiatives to create more private sector jobs in the City are a necessary complement to wage and skill-focused strategies. For example, the Mayor's platform includes rezoning initiatives and incentives to attract more industrial jobs to the City. Similarly, jobs created through the City's infrastructure projects – such as repairs to public housing developments – can be better targeted to local residents.

As these initiatives are launched, the Administration will establish a baseline and then set specific goals for both service receipt and short- and long-term outcomes. It is difficult to move the needle quickly on the Citywide statistics discussed in this report, but there are important interim measures that can provide indicators of progress. For example, training programs will be expected to recruit and serve a certain number of people and meet pre-established completion and job placement rates that are calibrated to account for harder-to-serve populations.

Integrating and Supporting Immigrants

Another example of the Administration's approach can be seen in its initiatives to improve the lives of New York City's immigrants. This report shows that poverty has grown fastest for the City's Asian population and for non-citizens, two overlapping groups who are heavily represented in Queens. Of the City's 3.1 million immigrants, 1.5 million are non-citizens and, of those, approximately one-third are unauthorized immigrants. Unauthorized immigrants are ineligible to receive most government benefits but many have native-born children who are eligible for such benefits.

The Administration is pursuing a comprehensive strategy to integrate immigrants, increasing access to services and removing barriers to success. The available research for this specific domain is somewhat less rigorous than the research on employment strategies, though the City can draw on related studies as well as best practices. It will also afford the City the opportunity to add to the existing body of research as it implements and tests its ongoing efforts in this area.

A central focus of the integration strategy is the Mayor's initiative to establish a municipal identification card that would be available to New Yorkers regardless of their immigration status. The card would allow unauthorized immigrants greater access to basic services like bank accounts, leases and access to City buildings. Drawing operational lessons from other cities that have launched municipal ID card programs will be part of the planning process for New York City. The Mayor will also advocate for allowing unauthorized immigrants to obtain New York State driver's licenses, a step that should improve traffic safety.

Other steps include expanding access to translation services and adult language education. The Administration will pursue numerous avenues to improve language access across multiple domains, including social benefits, small business services, housing and school programming.

This same careful, evidence-informed approach will characterize all of the Administration's policies and programs to address poverty and inequality.

5.4 In Conclusion

The 2012 data presented in this report finds the City continuing its slow ascent out of the recent recession. While the labor market indicators are positive, progress on the jobs front has been uneven and insufficient to nudge poverty lower. The CEO poverty rate remains unchanged.

Last year's report noted the reduction in the safety net due to the federal budget sequester. In the absence of the sequester, we still see continuing threats to the safety net. The reduction in payroll taxes expired at the beginning of 2013, SNAP benefits were reduced in October 2013, and the expansion of Unemployment Insurance was allowed to expire at the end of December 2013. In the context of political stalemate in Washington and a policy environment that is focused on reducing the Federal budget deficit, progress in reducing poverty will depend to a large degree on a rising economic tide lifting enough boats.

Progress will also rest on the efforts of the de Blasio administration to build "on-ramps" to the job market and better wages for those groups of New Yorkers that prosperity so often leaves behind. This point underscores the importance of the policy vision outlined in this chapter. By balancing innovation and accountability, we can create a better, more equitable city for all New Yorkers.

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 When Measuring Poverty?

Not everyone can be counted when 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.

1. For a definition of group quarters, see: http://www.census.gov/acs/www/Downloads/data_documentation/SubjectDefinitions/2012_ACSSubjectDefinitions.pdf

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 8.160 million out of the 8.337 million City residents in 2012. All of the excluded, close to 178,000 people or 2.1 percent of the population, are living in group quarters.

TABLE A ONE
The CEO Poverty Universe, 2012

	Number	Percent
Household Population	8,159,653	97.9%
Group Quarters Population	177,578	2.1%
Total Population	8,337,231	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.

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) whom 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 cannot connect an unrelated child to a tax unit (see Appendix D describing the CEO tax model), the child joins the poverty unit of the household's reference person.[5]

Together, these three modifications bring over 440,000 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 82.9 percent of the total poverty universe. Persons living in families that include an unmarried partner, a subgroup within the expanded family category, comprise 5.9 percent of the poverty universe.
2. Unrelated subfamilies. This subgroup accounts for only 0.4 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 (12.6 percent of the universe) or are living in a household with others, but with whom they have no familial or obvious economic relationship (4.5 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.

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 appropriate threshold to determine whether the members of the unit are poor.

TABLE A TWO

The Unit of Analysis for Poverty Measurement, 2012

	Number of Persons	Share of Poverty Universe
People in CEO Expanded Families	6,767,367	82.9%
People in Unmarried Partner Families	480,898	5.9%
People in Unrelated Subfamilies	29,253	0.4%
Unrelated Individuals Living with Others	366,651	4.5%
Unrelated Individuals Living Alone	1,025,635	12.6%
Total Poverty Universe	8,159,653	100%

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

2. The ACS does not identify unrelated subfamilies. See below for a definition of this group.
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 and Michael, p. 306.
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

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 first three 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.[6] These recommendations are reflected in the Supplemental Poverty Measure (SPM) that the Census Bureau first released in November 2011.[7]

CEO revised the method we use to construct a New York City-specific threshold in light of the ITWG 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 describes the SPM threshold and the ways in which CEO has followed or diverged from the SPM method. It then provides the steps we take to create our New York City-specific threshold. Because year-to-year changes in the threshold are important to understanding changes in poverty rates over time, it also compares growth in CEO's New York City threshold with the U.S.-wide SPM and the official thresholds.

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.[8] Expenditures are measured using a three-year moving average of data available in the Bureau of Labor Statistics' Consumer Expenditure Survey (CE). An additional factor is included to the base threshold to account for miscellaneous expenses, such as non-work-related travel, household supplies, and personal care products.

The NAS did not recommend a specific poverty line; instead it suggested that the threshold fall between the 30th and 35th percentile of the distribution of what families spend on the items in the threshold. 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.[9]

The 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 33rd 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 renters. The NAS-based research had used a common threshold for these groups.[10]

Accounting for Housing Status

CEO has adopted the first three of the changes listed above. However, we have not followed the ITWG guidelines that call for the creation of separate thresholds by housing status. Instead, CEO accounts for all 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.

6. *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
7. 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
8. 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.
9. Citro and Michael, p. 106.
10. The NAS report was aware of the limitations of its 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.

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, which are derived from the housing expenditure data available in the CE.

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.[11] The unique-to-New York City Housing and Vacancy Survey (HVS) 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 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 ratio of area-specific to U.S.-wide Fair Market Rents (FMR) developed by the U.S. Department of Housing and Urban Development (HUD) could be used as the adjustment factor.[12]

Following the ITWG Guidelines, the SPM uses the ratio of median rents for two-bedroom units for its adjustment factor, but computes these from the ACS. CEO continues to use HUD's Fair Market Rents for two-bedroom units. The FMR ratio for New York City differs from the ACS ratio (1.50022 vs. 1.38568 in 2012) because they measure different things.[13] FMRs 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 distribution are not an accurate reflection of the market rate rental housing market. This creates two inconsistencies. First, 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 impact of rent regulation on the ACS-based rents for New York City creates a second inconsistency in that CEO is already accounting for the effect of housing affordability programs on the income side of the poverty measure. CEO, therefore, continues to use the FMRs to create the adjustment factor.

Table B One provides the steps taken in creating the CEO threshold for 2012. The 2012 U.S.-wide SPM threshold (before the housing adjustment) is $24,959.[14] Housing (shelter and utilities) makes up nearly half (48.7 percent) of this threshold. The housing portion is multiplied by the ratio of U.S. to New York City Fair Market Rents (1.50022) and comes to $18,235. This is added together with the (unadjusted) non-housing portion of the threshold, yielding a New York City-specific threshold of $31,039. This CEO threshold is 24.4 percent higher than the U.S.-wide SPM threshold. The geographic adjustment implies that a New York City resident needs $1.24 to obtain a standard of living equivalent to what $1.00 would obtain, on average, across the United States.

11. 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.

12. Citro and Michael, pp. 182-201. The NAS Panel regarded this approach as provisional, pending further research.

13. Both ratios are computed using a five-year moving average from their respective data sources.

14. For 2012, the Bureau of Labor Statistics did not report a pre-housing status adjustment SPM threshold. CEO calculated it from the data provided at: http://www.bls.gov/pir/spmhome.htm#threshold

TABLE B ONE

Creation of CEO Threshold, 2012

U.S.-wide SPM Threshold	$24,959
Housing Portion of Threshold	48.7%
Geographic Adjustment Factor	1.50022
Adjusted Housing Portion of Threshold	$18,235
CEO Threshold	$31,039

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

Adjustment for Poverty Unit Size

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.[15] The scale has been used in the Census Bureau's NAS-based poverty reports and in the new SPM.

Table B Two 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 $31,039 would have to be multiplied by 0.88, which would yield a threshold of $27,314.

TABLE B TWO

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

	Number of Children Under 18			
Number of Adults	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.

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

Table B Three 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 $11,945 if he or she is under 65, but $11,011 if that person is older. The CEO threshold makes no distinction by age. While the CEO threshold for a single, non-elderly person is 1.203 times the official threshold, it is 1.305 times the official threshold for a single, elderly person.

TABLE B THREE

Comparison of Poverty Thresholds, 2012

Poverty Unit Composition	CEO	Official	CEO/ Official
One Adult*, No Child	$14,371	$11,945	1.203
Two Adults*, No Child	$20,269	$15,374	1.318
One Adult*, One Child	$21,696	$15,825	1.371
One Adult, Two Children	$25,763	$18,498	1.393
One Adult, Three Children	$29,580	$23,364	1.266
Two Adults, One Child	$27,314	$18,480	1.478
Two Adults, Two Children	$31,039	$23,283	1.333
Two Adults, Three Children	$34,578	$27,400	1.262

*Adult is non-elderly in official threshold.
Sources: U.S. Bureau of the Census and CEO calculations from Tables B One and B Two.

Changes in the Poverty Thresholds Over Time

Measuring poverty is an exercise in comparing incomes to thresholds. Thus, part of understanding changes in poverty rates over time is tracking how the thresholds are changing from one year to the next. Table B Four provides reference family thresholds for the official, U.S.-wide SPM, and CEO measures for 2005 through 2012. It also reports the percentage change in the thresholds from the prior year as well as the ratio of the SPM to official, CEO to official, and CEO to SPM thresholds.

TABLE B FOUR

Poverty Thresholds, 2005 - 2012

Reference Family Thresholds

Year	Official	US-Wide SPM	CEO
2005	$19,806	$20,492	$24,532
2006	$20,444	$21,320	$25,615
2007	$21,027	$22,317	$26,979
2008	$21,834	$23,608	$28,822
2009	$21,756	$23,854	$29,265
2010	$22,113	$24,343	$30,055
2011	$22,811	$24,999	$30,945
2012	$23,283	$24,959	$31,039

Percentage Change from Prior Year

Year	Official	US-Wide SPM	CEO
2006	3.2%	4.0%	4.4%
2007	2.9%	4.7%	5.3%
2008	3.8%	5.8%	6.8%
2009	-0.4%	1.0%	1.5%
2010	1.6%	2.0%	2.7%
2011	3.2%	2.7%	3.0%
2012	2.1%	-0.2%	0.3%

Ratio of Thresholds

Year	SPM/Official	CEO/Official	CEO/SPM
2005	103.5%	123.9%	119.7%
2006	104.3%	125.3%	120.1%
2007	106.1%	128.3%	120.9%
2008	108.1%	132.0%	122.1%
2009	109.6%	134.5%	122.7%
2010	110.1%	135.9%	123.5%
2011	109.6%	135.7%	123.8%
2012	107.2%	133.3%	124.4%

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

From 2005 to 2010, the SPM and CEO thresholds grew at a faster rate than the official threshold. From 2010 to 2011, the percentage increases in the three thresholds are quite similar. But from 2011 to 2012, the official threshold rose by 2.1 percent, while the SPM threshold edged down by 0.2 percent, and the CEO threshold grew by only 0.3 percent. What accounts for this unusual pattern?

Year-to-year changes in the official threshold are determined by the year-to-year growth in the U.S.-wide Consumer Price Index for All Urban Consumers. Annual changes in the SPM and CEO thresholds, however, reflect changes in five-year moving averages in consumer expenditures. Thus, the two NAS-style thresholds for 2012 are determined by households' spending during the 2008 to 2012 period, a period which encompasses the fall in income due to the Great Recession and the bursting of the housing bubble. Both of these factors would be expected to reduce housing expenditures, the largest component of the U.S.-wide SPM threshold. From 2011 to 2012, the housing share of the U.S.-wide SPM declined by $170, from $12,325 to $12,155. The total U.S.-wide SPM did not fall as dramatically as its housing component because expenditures on other necessities grew, leading to a modest increase (of $130) in the non-housing proportion of the threshold, from $12,674 to $12,804. The net decline in this threshold, therefore, was $40, or 0.2 percent. (See Table B Five).

The uptick in the CEO threshold in 2012 from the prior year was created by a small increase in the geographic adjustment factor that offset much of the effect of the fall in the U.S.-level housing portion of the threshold. The adjustment factor rose from 1.48 in 2011 to 1.50 in 2012. As a result, the decline in the housing portion of the CEO threshold was only $35. When the housing proportion of the CEO threshold was added to the non-housing portion, the result was a $94, or 0.3 percent, increase in the total CEO threshold.

TABLE B FIVE

Change in SPM and CEO Poverty Thresholds, 2011 - 2012

U.S.-wide SPM	Portion		
	Housing	Non-Housing	Total
2011	$12,325	$12,674	$24,999
2012	$12,155	$12,804	$24,959
Change	-$170	$130	-$40

New York City CEO	Portion		
	Housing	Non-Housing	Total
2011	$18,270	$12,674	$30,945
2012	$18,235	$12,804	$31,039
Change	-$35	$130	$94

Sources: U.S. Bureau of Labor Statistics and U.S. Department of Housing and Urban Development.
Note: Totals are computed from unrounded numbers.

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.[16] A second issue is how to value means-tested housing assistance, such as residence in public housing or participation in tenant-based subsidy programs.[17]

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.[18]

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. After describing our approach, the appendix details the steps we take to create the estimates needed to implement it.

16. 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
17. 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
18. 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

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.[19]

The housing adjustment for non-market rate renters is calculated as the lesser of:

Either,

(1) Adjustment = The estimated market rate gross rent of their housing unit minus their actual out-of-pocket housing expenditures

Or,

(2) Adjustment = The housing portion of the threshold minus their actual out-of-pocket housing expenditures

The estimated market rate gross rent 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.

The housing adjustment for homeowners who are free and clear of a mortgage is always calculated using the second alternative. (The reason why we take a somewhat different approach for this group is discussed below.)

This approach rests on several judgments. The first is that the quality of non-market housing units is not inferior to market rate units of similar size and quality. 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. As we demonstrate below, our modeling of market rate rents indicates that many non-market rate renters, particularly those that are participants in means-tested housing programs, are able to secure housing whose market value is well in excess of what they actually spend to meet their housing needs.

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

A second judgment 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. Thus a family will be counted as poor if its income, after meeting its housing needs, is not sufficient to meet its non-housing needs.

Finally, 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 discretionary and do not belong in a measure of poverty.

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. We begin with a description of how we make use of the New York City Housing and Vacancy Survey (HVS) to create the necessary data.[20]

Identifying Housing Status and Out-of-Pocket Rents

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 a housing adjustment 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.[21]

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.)
6. Number of bedrooms in the household (studio, 1 through 4+).

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

21. Although ACS respondents are instructed to provide the rent received by the landlord, it is unclear whether subsidy recipients include the portion of the rent they do not pay in their answers. See Parker, Julie. "Rent: A Story of Misreporting?" NAWRS 2010. Available at: http://www.nawrs.org/LA2010/Papers/t1c3.pdf

7. Household composition (husband and wife with and without children, single male and female-headed 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 do 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, to 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 categorical scheme is derived from variables that are unique to the HVS[22] 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. We use housing expenditures reported in the ACS for all housing statuses except subsidy recipients whose out-of-pocket rent is derived from variables in the HVS. A more detailed description of our ACS-HVS match can be found in the housing appendix of our 2011 report.[23]

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 stabilization or rent control 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.

Sources: 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.

22. The variables used were Control Status, which indicates what type of housing development the unit is in, and a set of variables that identify whether or not that household participated in at least one of the several tenant-based subsidy programs that are available to low-income renters.
23. Available at: www.nyc.gov/html/ceo/downloads/pdf/poverty_measure_2011.pdf

Table C Two provides the results of the match between the 2011 HVS and 2012 ACS. The percentage 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 1.6 percentage points.

TABLE C TWO
Comparison of Housing Status Between 2011 HVS and 2012 ACS

	2011 HVS		2012 ACS		Percentage Point
Housing Status	Frequency	Percent	Frequency	Percent	Difference
Renter					
Public Housing	161,519	5.2%	171,622	5.6%	-0.3
Mitchell-Lama Rental	30,925	1.0%	31,328	1.0%	0.0
Tenant-Based Subsidy	267,374	8.7%	230,619	7.5%	1.2
Stabilized/Controlled	840,077	27.2%	822,575	26.7%	0.5
Other Regulated	35,069	1.1%	83,949	2.7%	-1.6
Market Rate	723,664	23.4%	711,426	23.1%	0.4
No Cash Rent	46,188	1.5%	53,082	1.7%	-0.2
Owner					
Owned Free and Clear	351,095	11.4%	369,488	12.0%	-0.6
Paying Mortgage	632,970	20.5%	611,722	19.8%	0.7
Total	3,088,881	100.0%	3,085,811	100.0%	

Sources: 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.[24] 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, a clarification should be made. 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.

To estimate market rate rents, we rely on the 2005, 2008, and 2011 New York City Housing and Vacancy Surveys, which contain detailed information on the location and physical condition of rental units. For these years, we estimate a regression model on the subset of observations that are in market rate rental units. We employ variables that measure housing quality at three levels: the unit/tenant, the building, and the neighborhood. The unit/tenant-specific indicators are the number of rooms 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 lives in the building. To capture neighborhood effects, we include a subjective "neighborhood quality" measure as reported by the tenant, as well as median PUMA income and dummy variables for the super-PUMA in which the building is located.[25] We use super-PUMA dummies rather than PUMA dummies due to the limited number of market-rate units in some of the PUMAs. By including median PUMA income in the model, however, we are able to capture some of the variation in neighborhood effects at the PUMA level.

24. 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.

25. 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 relationship between gross rent and many of its predictor variables is complex and non-linear. In order to achieve the best possible fit to the data, we employ non-parametric techniques via a Generalized Additive Regression Model (GAM). A GAM is a regression model that allows different functional forms for each independent variable. Some of the variables used in the regression are included as dummy variables, while others are fit non-parametrically, using smoothing spline functions.[26] The regression variables are defined in Table C Three.[27]

The results of the regression for 2011 are shown in Table C Four. The models for 2005 and 2008 (not shown) have a similar fit. The widest divergence in the coefficients across the years is in variables that are not statistically significant. In particular, the relationship between gross rent and median PUMA income in all three years' models is quite close and highly significant.

TABLE C THREE
Regression Variables

Variable	Description
Tenant Tenure	Years in Apartment
Rooms	Number of Rooms
4+ Stories, No Elevator	Dummy (1= Four or More Stories and No Elevator)
Median PUMA Income	Median Income within PUMA, in Thousands of Dollars
Tenant Rating Indicators	Rated Fair Omitted
Rated Excellent	Buildings in Neighborhood Rated by Tenant
Rated Poor	Buildings in Neighborhood Rated by Tenant
Year Built Indicators	Built before 1947 Omitted
	Built 2000+
	Built 1990-1999
	Built 1980-1989
	Built 1970-1979
	Built 1960-1969
	Built 1947-1959
	Built 1930-1946
	Built 1920-1929
	Built 1901-1919
	Built 1900 and earlier

Variable	Description
Number of Units	
Super-PUMA Indicators	Northern Bronx Omitted
	Southern Bronx
	Northern Kings
	Western Kings
	Central Kings
	Eastern Kings
	South Kings
	Eastern Manhattan
	Northern Manhattan
	Western Manhattan
	Richmond
	Northern Queens
	Eastern Queens
	South Eastern Queens
	Southern Queens

26. Smoothing splines are a particular type of non-parametric smoothing technique. For an overview of smoothing spline functions and GAM, see Keele, Luke John. *Semiparametric Regression for the Social Sciences*. West Sussex, England: John Wiley and Sons, Ltd. 2008.
27. Non-parametric variables do not have reported coefficients, but rather have smoothed bivariate plots. These plots are available from the authors upon request.

TABLE C FOUR
Regression Models of Market Rate Rents, 2011

Dummy Variables	Estimate	t-Statistic
Intercept	1441.14	25.81
4+ Stories, No Elevator	-241.95	-3.81
Rated Excellent	127.94	4.08
Rated Poor	143.18	1.63
Southern Bronx	77.98	0.55
Northern Kings	162.91	2.25
Western Kings	410.57	5.73
Central Kings	84.42	1.10
Eastern Kings	-31.48	-0.45
South Kings	73.80	1.03
Northern Manhattan	745.58	7.92
Eastern Manhattan	1299.22	13.92
Western Manhattan	1501.90	15.40
Richmond	-331.98	-3.77
Northern Queens	145.70	2.15
Eastern Queens	-68.88	-0.89
South Eastern Queens	-262.35	-3.25
Southern Queens	-130.51	-1.73

Non-Parametric Variables	EDF	F-Statistic
Log of Median PUMA Income	6.78	7.15
Tenant Tenure	2.06	59.23
Year Built	8.32	8.40
Number of Rooms	6.69	126.55
Number of Units	11.56	11.88
N		3,715
R^2		0.574

Source: 2011 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.

We then use the regression 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 the 2011 HVS. 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 market rate units highlights the quality of the model's fit. By contrast, there are large per-bedroom 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 $461 in 2011. 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 FIVE
Mean Reported Gross Out-of-Pocket Rent and Estimated Market Rate Rent, Per Bedroom

Housing Status	Gross Out-of-Pocket Rent	Estimated Market Rent	Difference
Market Rate	$756	$765	-$8
Public Housing	$177	$638	-$461
Mitchell-Lama Housing	$472	$837	-$365
Tenant-Based Subsidy	$490	$587	-$97
Stabilized/Controlled	$600	$752	-$152
Other Regulated	$442	$920	-$478
No Cash Rent	$0	$583	-$583

Source: 2011 New York City Housing and Vacancy Survey.

Table C Six 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 two differences correspond to the two income adjustment equations described previously. The differences that are based on the estimated market rate rents are uniformly higher (on average) than those using the housing portion of the threshold for all groups.[28] When we apply the rule of taking the smaller of the two differences to compute the housing adjustment to income, Equation (1) is used in the majority of cases, ranging from 65.0 percent of the time for renters in stabilized/controlled units to 83.7 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.

28. 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, 2012

	Adjustment using Housing Portion of the Threshold		Adjustment using Estimated Market Rate		
Housing Status	Mean	Median	Mean	Median	Share using Housing Portion of the Threshold
Public Housing	$6,572	$5,811	$14,444	$12,918	80.1%
Mitchell-Lama Housing	$1,150	$1,833	$11,205	$9,579	83.7%
Tenant-Based Subsidy	$7,758	$6,561	$11,073	$10,445	66.2%
Rent-Stabilized/Controlled	-$2,006	-$1,300	$4,112	$2,662	65.0%
Other Regulated	$3,827	$4,611	$11,962	$12,347	80.1%
No Cash Rent	$11,481	$10,596	$19,291	$17,596	80.7%

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

The housing adjustment continues to have the largest impact on the CEO poverty rate of all the non-cash resource components. In 2012, it reduced the Citywide poverty rate by 6.3 percentage points. As Table C Seven 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 27.5 and 25.8 percentage points, respectively.

TABLE C SEVEN
Effect of Housing Adjustment on the Poverty Rate, 2012

	Poverty Rate Based on Total CEO Income	Poverty Rate without Housing Adjustment	Percentage Point Difference
Total Population	21.4%	27.7%	-6.3
Renter			
Public Housing	31.6%	59.1%	-27.5
Mitchell-Lama Rental	29.4%	38.5%	-9.1
Tenant-Based Subsidy	37.4%	63.2%	-25.8
Stabilized/Controlled	23.9%	28.9%	-5.0
Other Regulated	28.1%	49.2%	-21.1
Market Rate	25.0%	25.0%	0.0
No Cash Rent	15.8%	35.9%	-20.1
Owner			
Owned Free and Clear	11.3%	17.7%	-6.4
Paying Mortgage	11.8%	11.8%	0.0

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

As we noted in Chapter One, the effect of our housing status adjustment on the Citywide poverty rate grew markedly from 5.5 percentage points in 2010 to 6.4 percentage points in 2011 and 6.3 percentage points in 2012. What would have accounted for such a large increase in the impact of the housing adjustment? One possible explanation for the rise is that there was an unusual jump in the housing portion of the CEO threshold between the two years. Since the threshold caps the value of the housing adjustment, an unusually large rise in this part of the poverty threshold might explain a rise in the value of the housing adjustment and its effect on the poverty rate. However, no such jump occurred. From 2010 to 2011 the housing portion of the threshold for the reference family increased by 2.7 percent. This is smaller than the 3.4 percent increase from 2009 to 2010, and in fact, the housing portion of the threshold actually decreased by 0.2 percent from 2011 to 2012.

A second explanation might be found in our use of the 2011 HVS for our 2011 estimates. The HVS is conducted every three years by the Census Bureau. We use the 2008 HVS for imputing housing status for the 2008, 2009, and 2010 ACS. The 2011 HVS is matched with the 2011 ACS. This creates the risk that a new survey would create an abrupt shift in the distribution of housing statuses and generate a marked change in the influence of the housing status adjustment on the poverty rate. To investigate this possibility, we matched the 2008 HVS to the 2011 ACS and computed the before and after housing status adjustment poverty rates. We found that there was only a 0.1 percentage point difference (6.1 percentage points compared to 6.2 percentage points) in the effect of the adjustment on the New York City poverty rate.

This suggests that the jump in the housing status adjustment effect is the result of something intrinsic to our method for valuing housing status, that there was a growing gap between the market-equivalent value of the non-market rate rental units and what these renters are paying out-of-pocket for their housing. We see evidence of this in Table C Eight. Across nearly all of the renter groups that receive a housing status adjustment, the growth in the market value of their housing exceeds any increase in what they are paying out of pocket for their housing.

TABLE C EIGHT

Mean Actual Gross Out-of-Pocket Rent and Estimated Market Rate Rent

	2010			2011			Percentage Change from 2010		
Housing Status	Actual Out-of-Pocket Gross Rent	Estimated Market Rent	Difference	Actual Out-of-Pocket Gross Rent	Estimated Market Rent	Difference	Actual Out-of-Pocket Gross Rent	Estimated Market Rent	Difference
Public Housing	$513	$1,607	$1,094	$537	$1,766	$1,229	4.6%	9.9%	12.4%
Mitchell-Lama Housing	$944	$1,840	$896	$995	$1,957	$962	5.4%	6.4%	7.4%
Tenant-Based Subsidy	$444	$1,430	$986	$464	$1,443	$979	4.5%	0.9%	-0.7%
Stabilized/ Controlled	$1,201	$1,578	$376	$1,223	$1,630	$407	1.8%	3.3%	8.2%
Other Regulated	$642	$1,513	$871	$714	$1,668	$954	11.3%	10.2%	9.5%
No Cash Rent	$144	$1,668	$1,524	$116	$1,673	$1,558	-19.6%	0.3%	2.2%

Sources: 2011 and 2010 American Community Survey as augmented by CEO.

Appendix D: The CEO Tax Model

Low-income families, especially those with children, often find their refundable tax credits are greater than the taxes they 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. The expansion of tax credits to low-income families as well as to those more well off has been a key component of Federal economic stimulus programs since 2008. As a result, tax programs have become an increasingly important component of the resources available to families to meet their needs. At the same time, all working families are also subject to payroll taxes under the Federal Insurance Contribution Act (FICA). FICA payments offset some of the gains derived from 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 negative effect of FICA on after-tax income was reduced in 2012, the most recent year of our analysis, due to continuation of a 2.0 percentage point payroll tax cut.

The Tax Model

The American Community Survey (ACS), our primary source of data, does not include information about taxes. CEO, therefore, has created a tax model. The model's first task is to create tax filing units within ACS households. It then 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 reference person 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; families unrelated to the respondent; and one or more unrelated individuals, including roomers and boarders. Because residents are only identified in relation to the reference person, we cannot always see how they may be related to each other.

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 each 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 boarders individually listed as married 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.[29]

The tax model then identifies MHU members who are tax filers, along with their spouse or dependent(s). Additional decisions are made about allocating children and indigent household members to filers as dependents.[30] Based on these decisions, each tax filer is then given a status of Married Filing Joint, Head of Household, Single, or Married Filing Separate.[31]

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.[32] 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

29. The MHU methodology is derived from Jeffery Passel. "Editing Family Data in Census 2000 Public-Use Microdata Samples: *Creating Minimal Household Units (MHUs).*" 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

30. 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.

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

32. 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 estimate 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.

from the Federal return. The IT-201 generates New York State and City tax liabilities and credits. In a final step, FICA payroll taxes are applied to all wage and salary income, and self-employment taxes are deducted from self-employment earnings.

Tax Policy

Estimates for the years 2008 to 2012 contain deductions, credits, or expansion of existing credits that were a key feature of the Bush and Obama Administrations' economic stimulus programs. We describe these policy initiatives in detail below. Table D One lists these tax programs and notes the years they were in effect.

- **Recovery Rebate Tax Credit for Individuals**: A one-time tax rebate included in the Economic Stimulus Act of 2008. The credit was 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.[33]
- **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 took the standard deduction (all filers in the CEO tax model) and were homeowners could 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 required a minimum earned income of over $12,050 in 2008 and $12,550 in 2009. The Act lowered the income threshold to $8,500 for 2008 and reduced it again to $3,000 in 2009. The result is that more filers with lower incomes receive a refundable credit.
- **Making Work Pay Tax Credit (MWP)**: A credit of up to $400 ($800 for married filers). The CEO model added it as a refundable tax credit in 2009 and 2010. In 2009, the Economic Recovery Payment was deducted from the MWP for eligible recipients (see below).
- **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 included 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 already 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 2012, the maximum credit for this family rose to $5,891.
- **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 percent refundable.
- **Payroll Tax Cut**: The Making Work Pay Tax Credit expired and was replaced by a two percentage point cut in the payroll (FICA) tax in 2011 and 2012. For most filers in the CEO model, this represented a cut in the tax rate for the Social Security portion of FICA from 6.2 to 4.2 percent of earned income.[34]

The American Tax Reform Act of 2012 extended some of the changes described above to 2017. The expanded Additional Child Tax Credit, third child tier in the EITC, and the American Opportunity Credit were all extended. The elimination of the marriage penalty from EITC rates was made permanent.

Other changes occurred at the State and City level.

- **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.

33. The Stimulus Act became law in early 2008, just as returns were being filed for 2007 taxes. It was paid as a tax refund, using 2007 income as an estimate for 2008 income. Filers who had already sent in a tax return could claim the rebate retroactively, carrying it into calendar year 2009. Filers whose 2008 income generated a different credit than that based on their 2007 return had to reconcile the difference in their 2008 return, filed in early 2009. We assume that all filers received the credit in calendar year 2008, at an amount based on the model's 2008 returns. We include no rebate credit in 2009. We assume this overestimates the amount of credit that was actually awarded in 2008 and underestimates it for 2009.

34. The replacement of the MWP Credit with the Payroll Tax Cut was less effective for filers close to, or just below, the poverty line. See: *The CEO Poverty Measure, 2005-2011*, New York, NY: Center for Economic Opportunity, 2013, pp. 61-62, for an explanation.

TABLE D ONE
Timing of Stimulus Tax Credits, 2008 - 2012

	Years in Effect				
Tax/Credit	2008	2009	2010	2011	2012
Recovery Rebate Credit	X				
Additional Standard Deduction for Real Estate	X	X			
Additional Child Tax Credit Expansion (Refundable Part of Child Tax Credit)	X	X	X	X	X
Making Work Pay Credit		X	X		
Economic Recovery Payment		X			
EITC Marriage Penalty Elimination		X	X	X	X
EITC Third Child Tier		X	X	X	X
American Opportunity Credit (Refundable Tuition Credit)		X	X	X	X
Payroll Tax Cut				X	X

- **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.

Taxes in Detail

This section compares tax liabilities and tax credits from 2007 to 2012. Table D Two and Table 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 divides filers into those who are most likely to be poor, with incomes close to or below the poverty threshold, and those filers with incomes close to or somewhat above the poverty line. The division roughly illustrates the impact of tax programs as income rises.

Major Tax Components

Table D Two shows the major components of the tax model. Taxable Income is Adjusted Gross Income after standard 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 Net Income Tax Effect is the total effect of the income tax system on resources. *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.*

Table D Two shows a decline in AGI from 2008 to 2012 in both panels. This in turn generates a lower Taxable Income and a lower Pre-Credit Liability.[35] The table also shows a rise in tax credits for both groups starting in 2008 when fiscal stimulus programs began.

Panel A of Table D Two shows that filers with AGI up to $25,000 have a positive value for their Net Income Tax Effect for each of the years shown, representing a net gain to CEO income after taxes. Prior to the expansion of tax credits in 2008, most filers in our lower income bracket had a relatively slight gain from total taxes. The Net Income Tax effect peaks in 2010.

Filers with AGI over $25,000 and up to $50,000, shown in Panel B, have an annual net loss to their household resources in all years after income taxes. This loss was greatest, over $4 billion, in 2007. The losses shrink over time as tax credits expand and taxable income falls.

In addition to income taxes, FICA (payroll taxes for Social Security and Medicare) is another piece of the total tax picture. The combined rate for both is 7.65 percent of wages, with the exception of 2011 and 2012 when the combined rate was 5.65 percent.

The final line of each panel, Net Income Tax + Net FICA Effect, shows the combined effect of income and payroll

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

taxes, including tax credits. Again, a positive number represents a net gain to the taxpayer and a negative number a net loss to the taxpayer. The greatest net gain for lower income tax payers occurred in 2012. Taxpayers in the higher income panel sustained the greatest loss of income in 2009.

TABLE D TWO

Components of Net Income Tax Effect, 2007 - 2012

Total Dollar Value (in $1,000s)

A. Adjusted Gross Income, $1 -$25,000

	2007	2008	2009	2010	2011	2012	Percentage Change 2007-2012
Adjusted Gross Income	16,036,286	15,731,659	16,865,640	15,636,576	15,620,526	15,259,706	-4.8%
Taxable Income	4,527,177	4,227,371	4,518,635	3,976,937	3,826,554	3,538,516	-21.8%
Pre-Credit Liability	904,764	855,792	941,983	821,874	807,557	758,755	-16.1%
Federal Credits	1,310,765	1,978,182	2,132,280	2,035,463	1,764,221	1,803,346	37.6%
State Credits	456,777	467,787	491,844	489,109	510,781	523,769	14.7%
City Credits	257,107	253,949	155,999	151,107	154,534	154,517	-39.9%
Net Income Tax Effect**	1,119,886	1,844,126	1,838,141	1,853,805	1,621,979	1,722,876	53.8%
Payroll Tax (FICA)	1,079,970	1,049,073	1,129,458	1,039,471	1,050,292†	1,041,060†	-3.6%
FICA Tax Cut	N.A.	N.A.	N.A.	N.A.	228,535	225,834	N.A.
Net Income Tax + Net FICA Effect	**39,916**	**795,053**	**708,683**	**814,335**	**800,222**	**907,651**	**2173.9%**

B. Adjusted Gross Income, $25,001 - $50,000

	2007	2008	2009	2010	2011	2012	Percentage Change 2007-2012
Adjusted Gross Income	37,918,283	38,328,575	39,634,232	36,384,290	34,888,967	34,031,744	-10.2%
Taxable Income	23,812,653	23,988,192	24,546,518	21,994,918	20,670,389	19,964,556	-16.2%
Pre-Credit Liability	5,260,524	5,319,350	5,517,927	4,883,460	4,599,268	2,458,788	-53.3%
Federal Credits*	785,936	1,687,474	1,507,986	1,492,909	1,078,601	1,049,293	33.5%
State Credits	235,914	246,881	281,678	286,232	297,151	298,480	26.5%
City Credits	201,610	201,101	100,932	98,177	97,800	96,992	-51.9%
Net Income Tax Effect**	-4,037,063	-3,183,894	-3,627,330	-3,006,141	-3,125,716	-2,957,678	-26.7%
Payroll Tax (FICA)	2,767,443	2,783,842	2,880,777	2,629,931	2,540,607†	2,458,788†	-11.2%
FICA Tax Cut	N.A.	N.A.	N.A.	N.A.	597,094	577,033	N.A.
Net Income Tax + Net FICA Effect	**-6,804,507**	**-5,967,736**	**-6,508,107**	**-5,636,072**	**-5,069,129**	**-4,839,434**	**-28.9%**

Source: American Community Survey Public Use Micro Sample as augmented by CEO.
* Includes Economic Recovery Payment to Social Security Recipients in 2009.
**Net Income Tax differs slightly from pre-credit liability net of credits due to rounding and limits on some non-refundable credits by tax liability.
†Payroll Tax in 2011 and 2012 is estimated as if there were no tax cut; the tax cut is then estimated separately and included in the Net Income Tax + Net FICA Effect.
The sign of Net Income Tax Effect indicates effect of taxes on household income. A negative tax is the same as a positive effect on household income.

Changes in each of the individual tax credits from 2008 to 2012 are detailed in Table D Three. Total Tax Relief is the sum of all credits. Table D Three also illustrates the timing of each of the Federal stimulus tax credits. The Recovery Rebate Credit, Economic Recovery Payment, Making Work Pay Credit, and Real Estate Standard Deduction all expired by 2011. In 2011 and 2012 what remained of the stimulus was the expanded and partly refundable Education Credit, Earned Income Tax Credit, and Additional Child Tax Credit – in addition to the FICA tax cut. At the City level, the School Tax Credit (STAR) was cut nearly in half in 2009. Only New York State tax credits continued to rise. There were no changes in State tax policy, but the State (and City) EITC grew as a function of the rise in the Federal EITC.

For lower income taxpayers in Panel A, the greatest assistance from tax credits occurred in 2009 at nearly $3 billion in total credits from Federal, State, and City sources. For the higher income group in Panel B, tax relief peaked in 2008 at over $2 billion. The most notable increases in tax credits were the changes in the Federal EITC described above and the tuition credit, which was no longer capped by tax liability and instead was made partially refundable.[36]

36. 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 THREE

Selected Tax Credits, 2007 - 2012

Total Dollar Value (in $1,000s)

	A. Adjusted Gross Income $1 - $25,000						Percentage Change	B. Adjusted Gross Income $25,001 - $50,000						Percentage Change
Federal	2007	2008	2009	2010	2011	2012	2007-2012	2007	2008	2009	2010	2011	2012	2007-2012
Child and Dependent Care Credit	2,767	1,984	2,305	1,248	2,245	1,549	-44.0%	16,237	15,119	17,796	13,460	14,701	14,007	-13.7%
Child Tax Credit (+ACTC)*	157,010	216,132	332,651	319,396	337,169	335,265	113.5%	398,617	394,021	407,915	390,837	397,920	356,666	-10.5%
Elderly and Dependent Credit	1,150	816	918	1,025	1,096	913	-20.6%	0	0	0	0	0	0	0.0%
Education Credit**	32,407	34,284	114,527	115,118	115,687	117,454	262.4%	132,295	149,021	217,178	217,692	213,838	213,364	61.3%
Earned Income Credit Federal	1,117,430	1,146,788	1,256,403	1,244,591	1,309,275	1,349,401	20.8%	238,788	275,084	374,439	415,528	452,141	465,255	94.8%
Real Estate Standard Deduction	N.A.	92,361	94,848	N.A.	N.A.	N.A.	N.A.	N.A.	89,740	96,180	N.A.	N.A.	N.A.	N.A.
Recovery Rebate Credit	N.A.	619,728	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	854,228	N.A.	N.A.	N.A.	N.A.	N.A.
Economic Recovery Payment	N.A.	N.A.	98,267	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	21,292	N.A.	N.A.	N.A.	N.A.
Making Work Pay Credit	N.A.	N.A.	363,561	356,024	N.A.	N.A.	N.A.	N.A.	N.A.	469,366	455,391	N.A.	N.A.	N.A.
Payroll Tax Cut	N.A.	N.A.	N.A.	N.A.	251,411	248,833	N.A.	N.A.	N.A.	N.A.	N.A.	597,094	577,033	N.A.
New York State														
Household Credit	38,036	37,349	41,217	38,111	38,009	37,873	-0.4%	7,481	7,332	6,515	7,029	6,830	6,638	-11.3%
Child and Dependent Care Credit	3,044	2,182	2,535	1,372	2,470	1,704	-44.0%	16,787	15,632	18,310	13,914	15,195	14,467	-13.8%
Child Tax Credit	40,690	33,858	23,853	20,581	20,797	19,874	-51.2%	89,461	88,979	43,234	40,690	79,048	73,248	-18.1%
Tuition Credit	70,850	84,267	87,184	94,795	101,881	104,176	47.0%	55,439	57,173	60,357	67,642	64,949	68,796	24.1%
Real Property Tax Credit	1,685	1,819	1,983	1,786	2,136	2,179	29.4%	0	0	0	0	0	0	0.0%
Earned Income Credit NYS	318,111	326,824	357,794	356,116	375,108	386,364	21.5%	66,746	77,764	108,175	120,020	131,129	135,331	102.8%
New York City														
Household Credit	9,733	9,613	9,919	9,513	9,829	9,961	2.3%	0	0	0	0	0	0	0.0%
School Tax Credit (STAR)	234,559	231,392	103,792	101,782	104,232	101,444	-56.8%	189,032	186,488	81,447	77,137	74,567	72,889	-61.4%
Child and Dependent Care Credit**	1,108	713	989	259	1,038	548	-50.6%	639	859	763	264	626	840	31.4%
Earned Income Credit NYC	55,871	57,339	62,820	62,230	65,464	67,470	20.8%	11,939	13,754	18,722	20,776	22,607	23,263	94.8%
Total Tax Relief	2,084,453	2,897,450	2,955,566	2,723,947	2,737,847	2,785,008	33.6%	1,223,461	2,225,196	1,941,690	1,840,381	2,070,646	2,021,797	65.3%

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.

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 taxes are offset by tax credits large enough so that the tax system creates an addition to their total resources. Table D Four illustrates the impact of taxation on the poverty rate. The table compares poverty rates that are calculated net of the tax effect against poverty rates calculated with total CEO income including a tax effect. The benefit of stimulus programs is apparent. The effect of income tax credits was consistent during the years of peak stimulus credits, 2008-2010, generating a 4.3 percentage point effect on the poverty rate in each year. This fell to a 3.7 percentage point effect by 2012. 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 2.9 percentage points.

Some of the income tax benefit is offset by mandatory payroll taxes. The marginal effect of FICA reduces the poverty rate on average by 1.9 percentage points from 2005 to 2012, yet taxes still have an overall positive effect on household resources. The FICA tax cut in 2011 and 2012 provided some relief from the payroll tax, as shown in Tables D Two and D Three. Thus the effect of FICA on the poverty rate declines from 2.1 percentage points in 2010 to 1.7 percentage points in 2012. The net effect on the poverty rate was minimal. Measuring the combined effect of payroll and income taxes we find that taxes account for a 2.0 percent decline in the CEO poverty rate in 2012. In the absence of payroll and income taxes, the CEO poverty rate of 21.4 percent in 2012 would have been 23.5 percent.

TABLE D FOUR

Impact of Net Taxes on Poverty Rates, 2005 - 2012

(Numbers are Percent of the Population)

	2005	2006	2007	2008	2009	2010	2011	2012
A. Poverty Rates								
Total CEO Income	20.3	19.8	19.8	19.0	19.7	20.9	21.4	21.4
Net of:								
Income Taxes	23.3	22.7	22.7	23.3	24.0	25.2	25.1	25.2
FICA (Payroll Taxes)	18.5	17.6	17.7	17.0	17.6	18.8	19.7	19.8
Income Taxes and FICA	21.5	20.7	20.5	21.2	21.9	22.9	23.5	23.5
B. Marginal Effects								
Income Taxes	-3.0	-2.9	-2.9	-4.3	-4.3	-4.3	-3.7	-3.7
FICA (Payroll Taxes)	1.8	2.2	2.1	2.0	2.0	2.1	1.7	1.7
Income Taxes and FICA	-1.2	-0.9	-0.7	-2.2	-2.2	-2.0	-2.1	-2.0

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

Appendix E: Estimating the Value of Nutritional Assistance

Food Stamps

Data in the American Community Survey (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.[37] 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 2012, for example, the average New York City Food Stamp case had 1.84 members, while the average ACS household reporting Food Stamp receipt had 2.98 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 familial 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.[38] The program loops through the data, linking individuals within the household by kinship and marriage. This work creates Food Stamp 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 reproduce the number of cases reported in the administrative data. In 2012, for example, the proportion of single-person Food Stamp cases created in the ACS (56.8 percent) is quite close to the proportion of single-person cases in the administrative data (57.1 percent). Using the Food Stamp unit rather than the ACS household also increases the estimated number of Food Stamp cases in the 2012 ACS from 642,286 (56 percent of the administrative total) to 978,080 (85 percent of the administrative total).

37. 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

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

TABLE E ONE

Percentage Distribution of Food Stamp Cases by Size, 2012

	ACS Households		CEO Food Stamp Units		Administrative Cases	
Size	Frequency	Percent	Frequency	Percent	Frequency	Percent
1	172,982	26.9	555,996	56.8	658,590	57.1
2	133,983	20.9	166,436	17.0	236,345	20.5
3	116,547	18.1	109,041	11.1	136,775	11.9
4	93,091	14.5	81,016	8.3	71,448	6.2
5	63,924	10.0	39,128	4.0	29,377	2.5
6	31,504	4.9	15,413	1.6	11,331	1.0
7	15,596	2.4	5,761	0.6	4,801	0.4
8	5,753	0.9	2,464	0.3	2,503	0.2
9	3,878	0.6	1,070	0.1	1,366	0.1
10 or More	5,028	0.7	1,755	0.1	1,534	0.1
Total	642,286	99.9	978,080	100.0	1,154,070	100.0

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

Once commensurable units are created, we begin 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 timeframe for the administrative data is comparable to the ACS data. To preserve comparability with our poverty universe, individuals in group quarters are 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 sum the total amount of Food Stamp payments over the previous year. Using these data, we developed a regression model using 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 focus on variables that are strongly predictive of Food Stamp benefits and for which high quality data exists in both the ACS and administrative data sets. Case size is, 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 are 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 is included as a proxy for factors such as work status.[39] 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.

The ACS and administrative data are constructed differently and are utilized for very different purposes, a fact that complicates the development of a regression model. This is a particular issue with regard to measuring income, an important determinant of benefit levels. While the ACS reports yearly cash income from all sources, the administrative data only contain 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 gross income to qualify for the program, further complicating comparisons of the two variables.

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

In order to address this comparability issue, we construct a net income measure in the ACS that represents an estimate of what a Food Stamp unit would report on a Food Stamp application. We aggregate personal income to the Food Stamp unit and divide it by 12 to get a monthly estimate. We then apply the various income deductions allowed on the Food Stamp application, including a standard deduction and deductions for childcare expenses and medical expenses for elderly applicants.

This constructed net income measure has a similar distribution to that of the income reported in the administrative data, with positive values beginning at the 75th percentile. Given the highly skewed nature of this distribution, where most observations have a value of zero, we feel that a linear model would produce incoherent results. Instead, we convert the income data into a categorical variable with three categories: 1) income between zero and the 74th percentile; 2) income between the 75th and 89th percentile; and 3) income at or above the 90th percentile. We tested numerous regression specifications, evaluating them on the basis of fit. The final model is generally consistent over the years 2005-2012.

As noted above, 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, 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 cannot include a months-of-receipt variable is justified for two reasons. First, the variables included in regression correlate with the months-of-receipt variable in the administrative sample. 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 omitted variable bias in the individual coefficients.

We then match the administrative data into the ACS

TABLE E TWO

Regression Model of Yearly Food Stamp Value, 2005 - 2012

Variable	2005	2006	2007	2008	2009	2010	2011	2012
Intercept	-352.64 [-6.93]	-473.88 [-9.15]	-538.12 [-10.94]	-498.71 [-10.16]	-514.70 [-11.41]	-483.60 [-8.80]	-779.10 [-16.00]	-949.30 [-20.47]
Income between 75-89th Percentile	-179.44 [-10.12]	-117.88 [-6.35]	-166.38 [-8.93]	-162.43 [-8.19]	-478.60 [-27.41]	-120.73 [-6.05]	-176.30 [-11.53]	-474.20 [-27.34]
Income at or above 90th Percentile	-950.89 [-46.10]	-899.14 [-43.01]	-784.82 [-39.51]	-842.82 [-39.76]	-1342.00 [-61.51]	-874.46 [-35.36]	-1222.00 [-55.82]	-1369.00 [-64.48]
Household Size	860.69 [103.83]	874.84 [102.70]	834.70 [100.75]	846.46 [53.45]	1010.00 [67.35]	1051.50 [64.28]	1239.00 [85.37]	1297.00 [89.44]
Number of Children	108.16 [14.86]	120.69 [16.00]	162.44 [21.69]	144.07 [11.23]	170.00 [14.21]	137.54 [10.49]	130.80 [11.43]	120.80 [10.63]
Elderly Household Head	70.34 [2.51]	101.11 [3.47]	98.76 [3.55]	120.36 [3.93]	118.90 [3.75]	140.63 [4.10]	43.44 [1.45]	69.52 [2.38]
Elderly or Disabled Person in Unit	101.34 [6.04]	91.31 [5.27]	189.05 [11.14]	194.13 [10.91]	372.00 [21.67]	312.45 [16.23]	509.70 [29.40]	451.40 [27.12]
Age of Household Head	15.61 [7.61]	22.47 [10.53]	23.36 [11.59]	24.60 [11.51]	27.46 [13.30]	35.23 [14.82]	35.18 [16.88]	40.88 [20.22]
Age of Household Head Squared	-0.10 [-4.57]	-0.16 [-7.16]	-0.16 [-7.57]	-0.17 [-7.59]	-0.22 [-9.49]	-0.27 [-10.63]	-0.25 [-11.55]	-0.31 [-14.12]
R^2	0.588	0.583	0.562	0.553	0.594	0.530	0.593	0.600

Source: New York City Human Resources Administration.
Notes: The dependent variable is the annual value of Food Stamps. "Income" is net of deductions allowable by Food Stamp program rules. t-statistics in brackets.

through a predictive mean match (PMM).[40] First, we use the regression coefficients to estimate Food Stamp values for observations in the ACS and in the administrative data. These ACS and administrative values are then matched using a nearest neighbor algorithm, whereby an ACS case would be matched with the administrative case that has the closest estimated value, with the added constraint of both host and donor cases being in the same Community District.[41] This additional match criterion is designed to capture neighborhood effects that were not explicit in the model. The ACS case was then given the actual Food Stamp value from the administrative case. Once an administrative case donates its value to an ACS case, it is 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. 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.

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 nearly all participants in means-tested cash benefit programs also receive Food Stamps. We assign Food Stamp values to individuals who were eligible for Food Stamps and reported PA or SSI receipt, but did not report Food Stamp receipt.[42] Adding these cases increased the number of Food Stamp units from 978,080 to 1,074,627 in 2012.

TABLE E THREE
Comparison of Self-Reported and Estimated Food Stamp Values, 2012

	Cases		Individuals		Aggregate Value	
	Number	Ratio	Number	Ratio	Number	Ratio
ACS Households, Self-Reported Participation	642,286	0.56	1,916,726	0.90	N.A.	N.A.
CEO Food Stamp Units, Self-Reported Participation, Estimated Value	978,080	0.85	1,916,726	0.90	$2,791,629,002	0.94
CEO Food Stamp Units, Estimated Value, Case Adjusted	1,074,627	0.93	2,054,045	0.97	$2,927,692,556	0.99
Administrative	1,154,070	1.00	2,124,642	1.00	$2,967,219,691	1.00

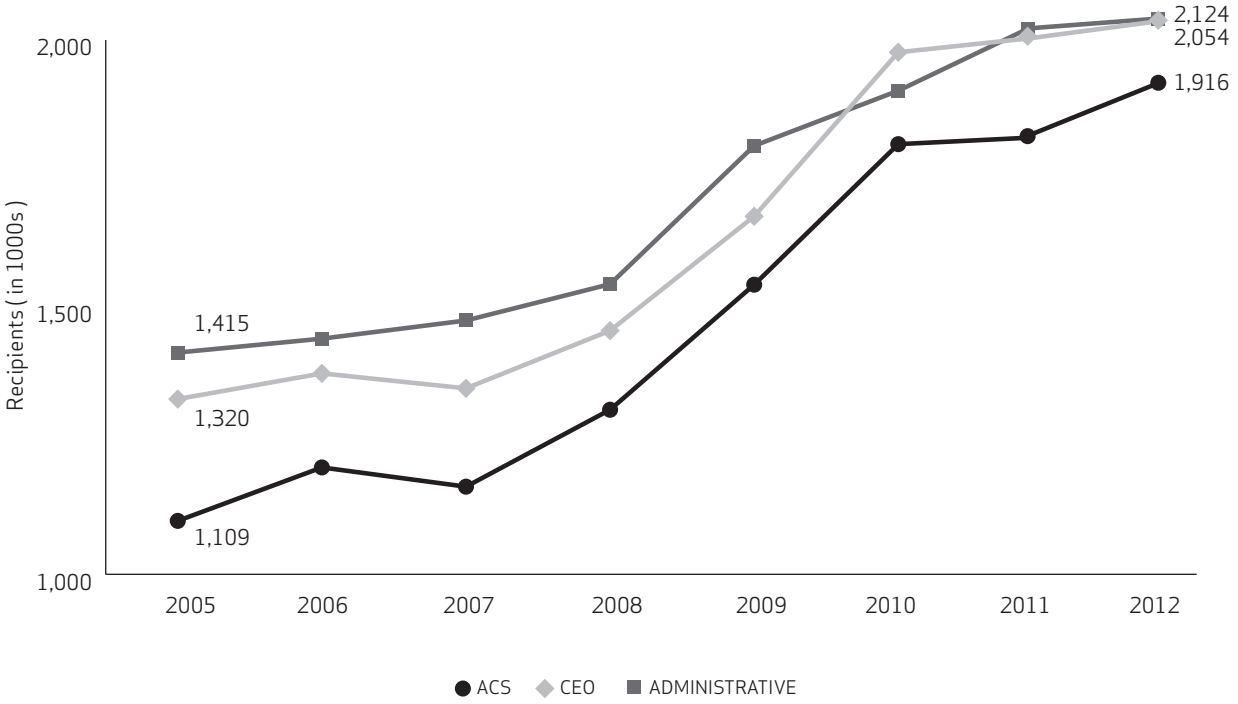
Sources: American Community Survey Public Use Micro Sample as augmented by CEO and New York City Human Resources Administration.
Note: "Ratio" compares the estimated value to administrative data.
N.A. - Not applicable due to the fact that the unadjusted ACS does not contain data on the value of the Food Stamp benefit.

Trends in the receipt of CEO Food Stamp estimates from 2005 to 2012 are reported in Figure E One. 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 these years, the CEO estimates show a decrease in cases and aggregate value from 2006 to 2007, which interrupts the overall pattern 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

40. See O'Donnell, Sharon and Rodney Beard, "Imputing Medical Out-of-Pocket (MOOP) Expenditures using SIPP and MEPS," 2009, for an application of this method in a similar context.
41. The ACS's public use micro sample areas are constructed to match New York City's Community Districts.
42. "Eligible" is defined using the SNAP program rules, requiring 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.

between 2009 and 2010 is higher than reflected in the administrative data, but the trends in all three series converge in 2011-2012.

FIGURE E ONE
Food Stamp Recipients, 2005 - 2012



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.

Subsidized School Meals

The National School Lunch Program (NSLP) and the School Breakfast Program (SBP) offer free and reduced-price meals to low-income students. Free meals 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. All school breakfasts in New York City are served free of charge.

The ACS does not contain information on whether children receive free or reduced-price school meals; therefore we model participation in these programs in our augmented ACS data set. Although participation in the subsidized school meals programs is widespread, it is not universal among eligible families.[43] Table E Four indicates, for example, that out of over 715,000 eligible school children, only about 501,000 free or reduced price meals were served, on average, per school day.

TABLE E FOUR
Comparison of Eligibility to Participation in the National School Lunch Program, 2012

Grade Level	Eligible for Free or Reduced-Price School Lunch	Receiving Free or Reduced-Price Lunch
Elementary	332,651	323,054
Middle	164,535	95,546
High	218,116	82,279
Total	715,302	500,879

Sources: American Community Survey as augmented by CEO and New York City Department of Education.
Note: Receiving is measured as the average number of meals served per day in the 2011-2012 school year.

43. Research (much of it sponsored by the U.S. Department of Agriculture) suggests that only about 75 percent of eligible students participate in the NSLP and as children get older they are less likely to participate.

Given this difference we must estimate which families would be participating in the programs. We do so via a statistical model that assigns a probability that an eligible family would participate in either the NSLP or SBP program, given a set of characteristics that can be measured by variables that are available in the ACS. The model is estimated using New York City families that are included in the Census Bureau's Annual Social and Economic Supplement (ASEC) of the Current Population Survey (CPS). The CPS is a survey at the national level with a very limited sample for local areas. To muster a sufficiently large number of observations, we pool six years of data. For this report's analysis we use the 2008 through 2013 ASEC, which provides information on participation from 2007 through 2012. The model's householder characteristics and household variables, as well as their coefficient values and their statistical significance, are provided in Table E Five.

TABLE E FIVE

Logit Regression Model of School Meals Participation, Coefficient Definitions and Values, 2008 - 2013

		Estimate		
Household Head Characteristics		B	S.E.	Exp(B)
Race/Ethnicity	Non-Hispanic White	-.047	.006	.954
	Non-Hispanic Black	.266	.005	1.304
	Hispanic	.557	.005	1.746
	Other Race/Ethnicity (Omitted Variable)			
Education	High School Graduate through College Graduate	-.114	.003	.892
	Master's Degree or Higher	-.108	.008	.898
	Less Than High School (Omitted Variable)			
Citizenship	Foreign Born, Citizen by Naturalization	.168	.004	1.183
	Foreign Born, Not a Citizen	.224	.004	1.251
	Citizen by Birth (Omitted Variable)			
Work Experience	Works Less Than Full-Time, Year Round	-.216	.004	.805
	Does Not Work	-.249	.004	.779
	Works Full-Time, Year Round (Omitted Variable)			
Household Characteristics				
	Female Householder	.061	.004	1.063
	Age of Householder	-.009	.000	.991
	Age of Youngest School-aged Child	-.074	.000	.929
	Single Householder	.448	.003	1.566
	Number of Persons in Household	-.075	.001	.928
	Household Receives Food Stamps	1.253	.003	3.501
	Household Income/Poverty Guideline Ratio	-.381	.002	.683
	Constant	1.515	.010	4.548

Source: Current Population Survey Annual Social and Economic Supplement, New York City Sample, 2007-2012.
Notes: All coefficients significant at the $p < 0.01$. Analysis used the household weight. Dependent Variable, HFLUNCH, recoded to a binary. N = 1431.

In the ACS, we flag as eligible for free or reduced-price meals poverty units with school-age children[44] 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 apply the model's coefficients 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 use New York City Department of Education (DOE) administrative data as our target number for assigning participation.

Our estimates account for those students that participated in Provision 2 of the NSLP, which 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. Provision 2 required us to assign free meal values to some students who – given their families' income – would be receiving reduced-price school 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. Because of the Provision, the number of ACS-eligible for free lunch elementary school students is considerably smaller than the average daily number of free lunches served. Therefore, all elementary-aged children who were eligible for free lunch were assigned participation in the program. Table E Six compares the CEO-modeled estimates of participation in the two school meal programs with the administrative data.

TABLE E SIX

Comparison of Administrative to Estimated Data on Participation in Subsidized School Meal Programs, 2012

DOE Data

	Receiving Free or Reduced-Price Meals	
Grade Level	School Lunch	School Breakfast
Elementary	345,709	131,968
Middle	101,018	26,603
High	87,443	29,408
Total	534,170	187,979

CEO Modeled Data

	Receiving Free or Reduced-Price Meals	
Grade Level	School Lunch	School Breakfast
Elementary	341,357	132,348
Middle	101,757	26,650
High	88,101	29,017
Total	531,215	188,015

Sources: American Community Survey as augmented by CEO and New York City Department of Education.
Note: Receiving in the DOE data is measured as the average number of meals served per day in the 2010-2011 school year.

The final step in our modeling is to assign a dollar value to each free and reduced-price meal received in a year. The Census Bureau provides school lunch values. For 2012, the free lunch was valued at $3.036 and the reduced-price lunch was valued at $2.636. For a free breakfast value we use $1.51; this is the "Non-severe Need" value of a free school breakfast for the school year 2011-2012 provided by the Food and Nutrition Service, USDA.[45] We assumed that students receive 175 school meals per year.[46] Table E Seven provides the estimated number of families receiving a free or reduced-price school meal and the mean, median, and sum of the school meal value for 2012.

44. Children were defined as school age if they were 5 or older and less than 18.

45. See: www.fns.usda.gov/cnd/Governance/notices/naps/NAPs.htm
46. The school year is required to be no less than 180 days; we used 175 days to account for occasional absences.

TABLE E SEVEN

Participation and Value of Free and Reduced-Price School Meals, 2012

	School Lunch	School Breakfast
Number of Families	314,207	116,935
Mean Value	$900	$436
Median Value	$531	$264
Aggregate Value	$282,632,850	$51,006,592

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

The addition of school meals to a families' resources decreases the Citywide poverty rate by 0.5 percentage points, as Table E Eight illustrates. The effect is much larger for persons in families receiving school meals, a 2.3 percentage point decrease.

TABLE E EIGHT

Impact of School Meals on CEO Poverty Rate, 2012

(Numbers are Percent of the Population)

	Total Population	Persons in Participating Families
A. Poverty Rates		
Total CEO Income	21.4	40.3
Net of School Meals	21.9	42.6
B. Marginal Effect		
School Meals	-0.5	-2.3

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

Special Supplemental Nutrition Program for Women, Infants, and Children

The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) provides support for low-income pregnant and breastfeeding women, infants, and children who are at nutritional risk. To account for this additional income we include the value of WIC benefits in our measure of family income. As with the school meals programs, however, not every eligible family participates in the WIC program. New York State Department of Health (NYS DOH) administrative data indicates that for 2008 only 53 percent of eligible infants, 31 percent of eligible children, and 32 percent of eligible women participated.[47] To account for this, we model participation with a similar statistical match to the one used to model school meal participation.

The model is based on characteristics of WIC-eligible households which are common and consistently defined in the ASEC; the ACS assigns a probability that a given eligible family will participate in WIC. The model is estimated using New York City families that are included in the ASEC of the CPS. To muster a sufficiently large number of observations, we pool six years of data. For this report's analysis we use the 2008 through 2013 ASEC, which provides information on WIC participation from 2007 through 2012. The model's householder characteristics and household variables as well as their coefficient values and their statistical significance are provided in Table E Nine. For more detailed information about our methodology, please refer to Appendix E of the report issued in 2012.[48]

47. NYS DOH data shows a higher number of absolute infant and women participants than can even be identified as eligible in ACS. Knowing that not all eligible persons will participate, we decided to use the NYS DOH participation rate as our benchmark and not absolute participant numbers. Please see our last report for reasons why the ACS can not identify all eligible persons.
48. See: http://www.nyc.gov/html/ceo/downloads/pdf/CEO_Poverty_Measure_April_16.pdf

TABLE E NINE

Logit Regression Model of WIC Participation, Coeffecient Definitions and Values, 2008 - 2013

	Variable	Estimate		
Household Head Characteristics		B	S.E.	Exp(B)
Race/Ethnicity	Non-Hispanic White	-.253	.009	.776
	Non-Hispanic Black	.460	.008	1.584
	Hispanic	.736	.008	2.087
	Other Race/Ethnicity (Omitted Variable)			
Education	High School Graduate through College Graduate	-.151	.005	.860
	Master's Degree or Higher	-1.146	.017	.318
	Less Than High School (Omitted Variable)			
Citizenship	Foreign Born, Citizen by Naturalization	.348	.006	1.416
	Foreign Born, Not a Citizen	.337	.005	1.401
	Citizen by Birth (Omitted Variable)			
Work Experience	Works Less Than Full-Time, Year Round	.529	.006	1.697
	Does Not Work	.487	.005	1.628
	Works Full-Time, Year Round (Omitted Variable)			
Household Variables				
	Single Female Household Head	.025	.005	1.026
	Infant Present in Household	1.237	.005	3.447
	Number of Persons in Household	.032	.001	1.033
	Household Receives Food Stamps	.793	.004	2.210
	Household Income/Poverty Guideline Ratio	.275	.003	1.317
	Constant	-2.542	.012	.079

Source: Current Population Survey Annual Social and Economic Supplement, New York City Sample, 2007-2012.
Notes: All coefficients significant at the p< 0.01 level. Analysis used the household weight. Dependent Variable was HRWICYN, "Does anyone in household participate in WIC program." N = 690.

After identifying WIC participants, we assign an annual benefit value of $660.24, which is the annualized USDA Food and Nutrition Services average monthly WIC benefit for New York State residents.[49] We then aggregate all individual WIC benefits to arrive at a family benefit value. Table E Ten shows that $660 is also the median benefit per family, indicating that the majority of poverty units contain only one WIC recipient.

TABLE E TEN

Participation and Value of WIC, 2012

Number of Families	72,521
Mean Value	$984
Median Value	$660
Aggregate Value	$71,347,515

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

49. The average monthly benefit for New York State residents is $55.02. See USDA Food and Nutrition Service data at: www.fns.usda.gov/pd/25wifyavgfd$.htm. 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, a 0.1 percentage point fall as Table E Eleven below indicates.[50] The effect is larger, however, among those persons in families receiving WIC benefits, coming to 1.4 percentage points.

TABLE E ELEVEN

Impact of WIC Benefits on CEO Poverty Rate, 2012

(Numbers are Percent of the Population)

	Total Population	Persons in Participating Families
A. Poverty Rates		
Total CEO Income	21.4	30.7
Net of WIC	21.5	32.2
B. Marginal Effect		
WIC	-0.1	-1.4

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

Impact of Nutritional Assistance on the CEO Poverty Rate

Nutritional assistance is an important component of CEO income and has a considerable impact on the poverty rate. Table E Twelve 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 2008-2012. As was discussed earlier, this is the result of the rapid expansion of the program during this period.

TABLE E TWELVE

Impact of Nutritional Assistance on the Poverty Rate, 2005 - 2012

(Numbers are Percent of the Population)

	2005	2006	2007	2008	2009	2010	2011	2012
A. Poverty Rates								
Total CEO Income	20.3	19.8	19.8	19.0	19.6	20.9	21.4	21.4
Net of:								
Food Stamps	22.3	21.8	21.6	21.2	22.3	24.4	24.9	25.1
School Meals	20.9	20.4	20.3	19.6	20.1	21.4	21.8	21.9
WIC	20.4	19.9	19.9	19.1	19.7	21.0	21.5	21.5
Total Nutritional Assistance	22.8	22.4	22.1	21.7	22.8	24.9	25.7	25.9
B. Marginal Effects								
Food Stamps	-2.0	-2.0	-1.8	-2.1	-2.7	-3.5	-3.5	-3.7
School Meals	-0.6	-0.6	-0.5	-0.6	-0.5	-0.5	-0.5	-0.5
WIC	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Total Nutritional Assistance	-2.5	-2.6	-2.3	-2.7	-3.2	-4.0	-4.3	-4.4

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

50. This echoes the effect of WIC benefits for the nation in the new Federal Supplemental Poverty Measure. See: Short, Kathleen. "The Research Supplemental Poverty Measure, 2010." U.S. Census Bureau, Current Population Reports, Consumer Income, pp. 60-241. U.S. Government Printing Office, Washington, DC. November 2011.

Appendix F: Estimating the Value of Heap Benefits

The Home Energy Assistance Program (HEAP) is a federally funded subsidy that offsets the energy costs of low-income households. Unless a household faces a heating emergency, HEAP takes the form of a one-time annual payment. If the household's heating expenses are included in its rent or mortgage payments, it receives its HEAP benefit directly.[51] If the household pays a utility company for its heating fuel, the HEAP payment is sent to the provider, who then reduces the household's heating bill.

HEAP benefits are available to households whose income falls below the HEAP Benefit Income Guidelines.[52] In New York City, households are automatically enrolled in the program if they receive cash assistance, Food Stamps, or are composed of a single person receiving Supplemental Security Income (SSI) benefits. 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.[53]

HEAP benefits are very modest. As of 2008, if the eligible household resides in public housing or receives a Section 8 subsidy it only receives 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 $20 or $25 payment depending on whether its income is above or below 130 percent of the Federal Poverty Guidelines, or if the household contains a "vulnerable" individual: someone under age six, over age 59, or under age 65 and receiving SSI benefits.[54]

There was no reliable survey data that collected information on HEAP benefits in New York City until the 2011 New York City Housing and Vacancy Survey, to which CEO was able to add a question about HEAP recipiency. This question unfortunately had a very low response rate, which is not surprising since HEAP benefits are one-time payments and are usually put on a recipient's Electronic Benefit Transfer card so are easy to overlook.

CEO, therefore, continues to take advantage of the large degree to which beneficiaries are automatically enrolled and the simplicity of the program's benefit structure to estimate the value of HEAP payments for households in the American Community Survey (ACS). A poverty unit in which any member receives Food Stamps or public assistance, or is a single-person household with SSI benefits, is assumed to be receiving a HEAP benefit. One new criterion has been added to our measure: if, as part of the housing imputation process, an ACS household has been matched to an HVS household that reported receiving HEAP payments, it is also assumed to be receiving a HEAP benefit.[55] HEAP benefits may be $1, $20 or $25, but because administrative data show that very few households received a $20 HEAP payment, only $1 and $25 dollar values are distributed to eligible poverty units.

Once it has been estimated, 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 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 2012. CEO estimates come to 113.4 percent of the administrative

51. Households with a Common Benefit Identification Card receive a HEAP benefit as an electronic benefit transfer.
52. These guidelines are based on household size and are available at: www.otda.ny.gov/programs/heap/program.asp#income
53. These figures do not include the small number of HEAP participants who pay their home heating bills directly.
54. OTDA (Office of Temporary and Disability Assistance): www.otda.ny.gov/programs/heap/program.asp#regular

55. See Appendix C.

data for the number of HEAP households, 100.7 percent of the administrative data for total benefits, and 88.8 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 Chapter Two.

TABLE F ONE

Comparison of CEO Estimates to Administrative Data for HEAP Program, 2012

A. Recipient Households	
CEO Estimate	649,991
HRA Administrative Data	572,938
CEO as a Percentage of HRA	113.4%
B. Total Benefits	
CEO Estimate	$10,247,159
HRA Administrative Data	$10,173,632
CEO as a Percentage of HRA	100.7%
C. Mean Benefit per Household	
CEO Estimate	$16
HRA Administrative Data	$18
CEO as a Percentage of HRA	88.8%

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 jobholder. 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.[56] 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 relies on 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.

Creation of the SIPP Data Set

In order to generate a sufficiently large sample, we pool 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 these newer data. This way, the SIPP data used for imputation more closely reflects the 2005-2012 period covered by this report.

Setting up the pooled SIPP data involves several steps. First, we remove foster children from this sample, given that their childcare costs are subsidized by government programs. Next, we take several steps to ensure that the unit of analysis within the SIPP is 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 unmarried partners, roommates, or foster children. 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 concatenate 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 include panel year as part of the constructed household ID. This yields 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.)[57] 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 yields 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 place 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 variable (ERRP). All unmarried partners of the reference person (ERRP = 10) are placed in the same family as the reference person. Additionally, all children of the

56. Citro and Michael, pp. 70-71.

57. For a more detailed explanation of CEO's "poverty unit of analysis," see Appendix A in this report.

unmarried partner (including non-biological children) are placed in the reference person's family.

Finally, we have to address the issue of minors classified as "other non-relatives of the reference person" (ERRP = 13). For this group, we use the following rule: if there is no other parent or guardian in the household, the individual is placed in the reference person's family; otherwise, they are placed in their parent/guardian's family.

Placing unmarried partners and unrelated minors in the reference person's family reduces the number of unique families to 77,220. Out of this number, 20.9 percent of the families (16,160) have all parents working at least part of the year,[58] at least one child 12 years of age or younger,[59] and live in an urban area. This number represents the sample of SIPP families that is 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) are annualized and adjusted using the Betson equivalency scales,[60] 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.[61] This data is 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 daycare; daycare; 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 are measured as the sum of all such childcare payment variables in the SIPP topical module. These values are inflated using the CPI childcare cost index.

This SIPP data set is then used to develop a regression model to predict childcare costs for families. Following work by John Iceland and David Ribar,[62] we estimate separate regressions for the two-parent and single-parent sub-samples in the SIPP.

The relationship between childcare spending and many of its predictor variables is complex and non-linear. In order to achieve the best possible fit to the data, we employ non-parametric techniques via a Generalized Additive Regression Model (GAM). A GAM is a regression model that allows different functional forms for each independent variable. Some of the variables used in the regression are included as dummy variables, while others are fit non-parametrically using smoothing spline functions.[63] The regression output is summarized in Table G One.[64]

58. 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.
59. The age range is consistent with the tax code, which provides childcare tax credits for children 12 and under.
60. See Appendix B for a description.
61. 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.
62. 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.
63. Smoothing splines are a particular type of non-parametric smoothing technique. For an overview of smoothing spline functions and GAM, see: Keele, Luke John. *Semiparametric Regression for the Social Sciences*. West Sussex, England: John Wiley and Sons, Ltd. 2008.
64. Non-parametric variables do not have reported coefficients, but rather have smoothed bivariate plots. These plots are available from the authors upon request.

TABLE G ONE

Regression Model of Weekly Childcare Costs, 2012

Married-Parent Sample

Dummy Variables	Coefficient	t-Statistic
Intercept	73.61	37.05
Food Stamps	-21.552	-4.35
High School	-25.879	-7.37
Some College	-18.962	-7.23
College	-16.092	-6.26
Non-Parametric Variables	**EDF**	**F-Statistic**
Earned	8.70	78.52
Child 0-5	2.00	629.73
Child 13-17	1.85	7.33
Adults	3.94	12.40
Female Income Proportion	7.32	37.06
N		12,319
R^2		0.240

Single-Parent Sample

Dummy Variables	Coefficient	t-Statistic
Intercept	38.47	10.76
Food Stamps	-17.04	-5.52
High School	-3.62	-0.86
Some College	0.80	0.21
College	16.38	3.40
Non-Parametric Variables	**EDF**	**F-Statistic**
Earned	7.82	16.37
Child 0-5	1.86	107.05
Child 13-17	1.51	3.35
Adults	2.38	18.82
Female Income Proportion	1.94	10.78
N		3,841
R^2		0.158

Sources: 2004 and 2008 Survey of Income and Program Participation (SIPP).
Notes: Dependent variable is weekly childcare expenditures in 2012 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. "EDF" is the "equivalent degrees of freedom."

These regression models are used to compute predicted means for childcare expenditures in both the SIPP and ACS files. ACS observations are then matched with SIPP observations based on their predicted means, and the actual weekly childcare cost value from the SIPP observation is donated to the ACS observation. We constrain the match so that SIPP observations can 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 2012 ACS. The matched values closely reproduce the distribution of childcare costs in the SIPP and the percentage of observations with zero childcare costs.

TABLE G TWO

Comparison of Weekly Childcare Payments, ACS and SIPP, 2012

Working Parents

	ACS	SIPP
Mean	$51	$53
Percent Zero	64.4%	62.7%
Percentile		
5	$0	$0
10	$0	$0
25	$0	$0
50	$0	$0
75	$53	$66
90	$178	$182
95	$264	$266

Working Parents with Non-Zero Expenditures

	ACS	SIPP
Mean	$142	$142
Percentile		
5	$11	$11
10	$20	$21
25	$44	$53
50	$100	$106
75	$198	$192
90	$318	$315
95	$425	$403

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 2012 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 are then adjusted to reflect annual costs. In order to calculate childcare expenditures that are non-discretionary, we multiply the weekly value by the lowest reported number of weeks worked among the parents and cap the childcare costs for the family by the wages of the lower-earning parent. Table G Three below shows the distributions for the annualized values using the PMM procedure.

TABLE G THREE

Annual Non-Discretionary Childcare Expenditures, 2012

	All Working Parents	Working Parents with Non-Zero Expenditures
Mean	$1,980	$6,142
Percent Zero	67.8%	N.A.
Percentile		
5	$0	$238
10	$0	$534
25	$0	$1,652
50	$0	$4,096
75	$1,387	$8,754
90	$7,049	$13,770
95	$11,297	$19,159

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

To estimate commuting costs we employ the ACS variables that provide information about means of transportation, travel time, usual weekly hours, vehicle occupancy, work location, and weeks worked in the past 12 months. We rely on administrative data to calculate the cost per trip of various modes of transportation. Listed below are the means of transportation and the cost per trip:

- Drove: $0.555 per vehicle mile – the average of the two IRS standard mileage rates[65] released in 2011, plus bridge and tunnel tolls.
- Drove with Others: Divide all driving costs by number of carpoolers.
- Motorcycle: IRS standard mileage rate with motorcycle rates for tolls.
- Bus, Subway, or Ferry: $2.12 per trip.[66]

65. See: http://www.irs.gov/publications/p463/ch04.html#en_US_2012_publink100033935
66. Metropolitan Transportation Association (MTA) increased fares on December 30, 2010. We use $2.12 as the cost of a subway or bus trip, which is the average cost per ride of pay-per-ride, 7-day and 30-day MetroCards, weighted by their usage. We assume that ferry riders take the free-of-charge Staten Island Ferry and then use an additional form of public transit.

- Railroad: $72 per week for out-of-city work locations and $51 per week for in-city work locations.[67]
- Taxi: We estimate each commute at $8.[68]
- Walk, Bike, or Work from Home: No cost per trip.
- Other Methods[69]: We assume a bus or subway fare of $2.12 per trip.

Once we have established a cost per trip for each means of transportation (other than railroad which is already a weekly cost), we use the formula below to calculate the weekly commuting cost:

Weekly Commuting Cost =
(Cost/Trip x Min((WKHP/8 x 2),14))

We assume an eight-hour work day and use the ACS variable "WKHP – Usual hours worked per week in the past 12 months" to calculate the number of days worked per week.[70] To account for a trip to and from work, we then multiply the number of work days by two and cap the number of possible weekly trips at 14. The cost per trip is then multiplied by the number of commuting trips per week to establish a weekly commuting cost. This is then multiplied by the "WKW – Weeks worked in the last 12 months"[71] to establish the annual commuting cost.

TABLE G FOUR
Transportation Mode and Costs, 2012

			Weekly Cost		Annual Cost	
Mode of Transport	Number of Commuters	Percent	Median	Mean	Median	Mean
Drove Alone	835,522	20.0%	$46	$57	$2,276	$2,769
Drove with Others	177,120	4.2%	$21	$26	$992	$1,225
Bus	432,240	10.4%	$21	$20	$1,060	$921
Subway	1,607,129	38.5%	$21	$21	$1,060	$988
Railroad	64,120	1.5%	$51	$57	$2,550	$2,690
Ferry	9,619	0.2%	$21	$21	$1,060	$997
Taxi	35,220	0.8%	$96	$86	$4,800	$4,196
Motorcycle	2,940	0.1%	$42	$41	$1,896	$1,960
Bike	33,652	0.8%	$0	$0	$0	$0
Walked	374,858	9.0%	$0	$0	$0	$0
Worked at Home	148,341	3.6%	$0	$0	$0	$0
Other Method	23,376	0.6%	$21	$21	$1,060	$999
No Mode Reported	428,362	10.3%	$17	$17	$424	$499
All Modes	4,172,499	100.0%	$21	$26	$1,060	$1,220
Percent Using Subway or Bus		48.9%				
Cost per Subway or Bus Trip		$2.12				

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 Publication 463 (2012), Travel, Entertainment, Gift, and Car Expenses 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.

67. A Long Island Railroad (LIRR) Zone 1 to Zone 1 weekly pass costs $52.25; a Zone 1 to Zone 4 pass costs $71.25. A weekly pass from Grand Central Station (GCT) to Harlem on Metro-North costs $49.75. A weekly pass from GCT to White Plains costs $73.25.
68. We use a slightly lower cost than the $9.61 per trip cost in *The New York City Taxicab Fact Book* to account for outer-borough trips, which are more likely to be with a non-medallion taxi. See: http://www.schallerconsult.com/taxi/taxifb.pdf
69. The ACS only asks for means of transportation to work if the respondent worked last week. Therefore, for respondents that have worked in the past 12 months but not last week we assume a subway or bus fare.
70. We round to the nearest whole number for the number of work days.
71. In 2008, the WKW variable was changed from the actual number of weeks to a range format. For our 2008 through 2011 calculations, we used the midpoint of each range in our calculations. We cap the number of weeks worked at 50 to account for sickness or vacation.

Table G Four shows that almost half (48.9 percent) of all New York City commuters used either the subway or bus. This results in a median annual commuting cost of $1,060. The highest commuting costs were incurred by those taking a taxi, driving alone, or using the railroad.

The top panel of Table G Five illustrates the impact of work-related expenses on the poverty status of total population. It shows the combined impact, as well as the individual impact, of commuting costs and childcare expenditures. As expected, poverty rates are lower after subtracting work-related expenses from income. The effect of commuting costs is fairly consistent since reaching 1.7 percentage points in 2007. The impact of childcare expenses is stable, at either 0.2 or 0.3 percentage points from 2005 through 2012.

The second panel of Table G Five shows the impact of work-related expenses for persons living in working families with children. This is the population that would be most affected by work-related expenses. Interestingly, while the impact of commuting costs for this group is notably larger than for the population as whole, this is not true for childcare costs, which continue to have a relatively small effect on the poverty rate.

TABLE G FIVE

Impact of Work-Related Expenses on Poverty Rates, 2005 - 2012

(Numbers are Percent of the Population)

	2005	2006	2007	2008	2009	2010	2011	2012
A. Total Population								
Total CEO Income	20.3	19.8	19.8	19.0	19.6	20.9	21.3	21.4
Net of:								
Commuting Cost	19.0	18.4	18.1	17.5	18.0	19.2	19.5	19.8
Childcare Expenses	20.1	19.5	19.6	18.8	19.4	20.6	21.1	21.2
Total Work-Related Expenses	18.8	18.1	17.9	17.3	17.8	19.0	19.4	19.6
Marginal Effects								
Commuting Costs	1.3	1.4	1.7	1.5	1.7	1.6	1.7	1.6
Childcare Expenses	0.2	0.3	0.2	0.2	0.2	0.3	0.2	0.3
Total Work-Related Expenses	1.5	1.7	1.9	1.7	1.9	1.9	1.9	1.8
B. Persons Living in Working Families with Children								
Total CEO Income	12.5	12.6	13.3	11.8	12.1	13.1	13.7	13.4
Net of:								
Commuting Cost	10.2	10.5	10.7	10.0	9.9	10.9	11.2	11.1
Childcare Expenses	12.1	11.9	12.9	11.3	11.7	12.5	13.4	12.8
Total Work-Related Expenses	9.8	10.0	10.4	9.5	9.5	10.4	10.9	10.6
Marginal Effects								
Commuting Costs	2.2	2.1	2.6	1.9	2.2	2.2	2.5	2.4
Childcare Expenses	0.4	0.6	0.5	0.5	0.4	0.6	0.3	0.6
Total Work-Related Expenses	2.7	2.5	2.9	2.3	2.6	2.8	2.7	2.8

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

Appendix H: Medical Out-of-Pocket Expenditures

Following the National Academy of Sciences' (NAS) recommendation, CEO's measure of income is net of what families spend for their medical care. Medical out-of-pocket expenditures (MOOP) include health insurance premiums, co-pays, deductibles, and the cost of 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 use the Medical Expenditures Panel Survey (MEPS) to impute MOOP into the ACS. MEPS files have a slightly longer processing lag time than the ACS, so for the 2012 CEO Poverty Measure we use the 2011 MEPS data adjusted by the medical care component of the Consumer Price Index for All Urban Consumers (CPI-U).[72]

The MEPS contains two files that we use for our MOOP calculations. The Full Year (FY) file contains all the information pertaining to medical expenses except for health insurance premiums. Premiums for persons that are privately insured are contained in the Person Round Plan Public Use (PRPL) file. To calculate MOOP for those on private insurance, we add the PRPL file's premium values to the FY file's medical expenses. For those on public insurance, we create premium values based on program rules and add them to the FY file's medical expenses.

Private Insurance Premiums

There are five different categories of private insurance in the FY file. They specify whether a policyholder has employer/union group insurance, private insurance with the source unknown, a non-group private policy, an "other group" insurance policy, or a self-employed (firm size of one) policy. All FY private insurance policyholders should have a corresponding private insurance premium in the PRPL file. However, there are a number of private insurance holder records in the FY file without corresponding records in the PRPL file. This occurs because health insurance premium values are only collected at the beginning of the year. Therefore, if a person began private insurance coverage in the middle of the year, a premium value would not be recorded in the PRPL file.

For records with missing premiums, we impute values via a hot-deck methodology. To insure that we are assigning an appropriate premium, we identify the policyholders as belonging to either an individual or a multi-person plan based on the number of persons in the FY health insurance unit (HIDUDX). The health insurance unit variable is a MEPS-constructed variable which links adults, their spouses, and any unmarried children age 18 and under who would most likely be covered under one health insurance plan.[73] We then randomly assign non-missing premium values to records with missing premiums within their specified categories.

Public Insurance Premiums

We use program rules to assign appropriate premiums for those on public insurance. We assume all persons identified in the MEPS as Medicare recipients have Medicare Part B. All Medicare recipients with incomes above 135% of the Federal Poverty Guidelines (FPG) are required to pay a monthly premium for Medicare Part B. If the Medicare participant is not married, we use only personal income when calculating their percentage of FPG. For married participants we aggregate the income of both partners.

All persons enrolled in Medicare Part B also have the option of enrolling in Medicare Part C, Medicare Advantage. Medicare Advantage is a type of Medicare administered by a private health insurance company, which usually offers greater benefits and services for an additional premium. For those identified in the MEPS as enrolled in Medicare Part C, we assign an additional annual premium of $472 for 2011.[74]

Persons also have the option to enroll in Medicare Part D, prescription drug coverage, which also requires a supplemental monthly premium.[75] Many Medicare Advantage plans roll prescription drug coverage into their services and, therefore, for persons identified as

72. For further information about the MEPS, please visit the Agency for Healthcare Research and Quality website at: http://meps.ahrq.gov/mepsweb/

73. For the employer/union group, we also include whether or not the policyholder was in a union.

74. "Medicare Advantage," The Henry J. Kaiser Family Foundation. November 2011. See: http://www.kff.org/medicare/upload/2052-15.pdf

75. For 2010 we assign an annual premium of $424, which is the weighted average by enrollment of Part D premiums for New York State. "Medicare Part D Spotlight: Part D Plan Availability in 2010 and Key Changes Since 2006." The Henry J. Kaiser Family Foundation. November 2009. See: http://www.kff.org/medicare/upload/7986.pdf

enrolled in both Medicare Part C and Part D, we assign only the additional Medicare Part C premium.

To assign Child Health Plus premiums, we look at all children identified as public insurance recipients. We aggregate incomes for everyone in the same health insurance unit and compare that against the FPG. Families are required to pay a monthly per-child premium based on their income's percentage of the FPG. For all categories of participants, there is also a family cap. For example, families with incomes between 160 percent and 222 percent of the FPG are required to pay a premium of $9 per child per month. The premium is capped at the payment for three children ($27 per family per month).[76]

New York State's Family Health Plus program does not have a premium but does require co-payments based on different types of procedures. These co-payments are captured in the MEPS Full Year file.[77] Medicaid participants have no premiums or co-pays.

Once the premium data is calculated, we aggregate all premiums within the identified family variable and add that to other medical expenses[78] to arrive at total medical out-of-pocket expenditures.

Developing a PMM Model for MOOP Imputation

We developed a regression model to predict MOOP values in the MEPS. All variables are measured for the head of the poverty unit.[79] Income, age of the household head, poverty unit size, and number of children are measured as continuous variables, while the race, education, insurance status, and working status categories are included as binary variables.

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.[80] This proxy method is imperfect, however, and may impact the quality of the statistical match.

The relationship between MOOP and many of its predictor variables is complex and non-linear. In order to achieve the best possible fit to the data, we employ non-parametric techniques via a Generalized Additive Regression Model (GAM). A GAM is a regression model that allows different functional forms for each independent variable. Binary variables used in the regression are included as dummy variables, while continuous ones are fit non-parametrically using smoothing spline functions.[81] The regression output is summarized in Table H One below.[82]

76. We used the health insurance unit as opposed to the family unit when capping the premium.
77. The TOTSLF variable identifies total out-of-pocket expenditures by patient or patient's family (other than premiums).
78. We aggregate each individual TOTSLF variable to the family to arrive at a total medical expenses value for the family.
79. See Appendix A for a description of the CEO poverty unit of analysis.
80. Additional information on the comparison of imputation models with and without insurance status is available upon request.
81. Smoothing splines are a particular type of non-parametric smoothing technique. For an overview of smoothing spline functions and GAM, see: Keele, Luke John. Semiparametric Regression for the Social Sciences. West Sussex, England: John Wiley and Sons, Ltd. 2008.
82. Non-parametric variables do not have reported coefficients, but rather have smoothed bivariate plots. These plots are available from the authors upon request.

TABLE H ONE

Regression Model of Medical Out-of-Pocket Spending, 2012

Dummy Variables	Estimate	t-Statistic
Intercept	7.62	181.92
Public Insurance	-2.07	-34.18
No Insurance	-2.38	-47.02
Work Full-Time	-0.18	-4.79
Black	-0.54	-11.08
Hispanic	-0.58	-11.63
Asian	-0.28	-3.71
Other Race/Ethnicity	-0.33	-3.01
Bachelor's Degree or Greater	0.20	5.56
Less than High School	-0.32	-6.22
Elderly Head	-0.40	-2.75
Elderly Present	0.16	1.79
Public Insurance × Elderly	1.68	19.02
No Insurance × Elderly	0.72	1.17
Non-Parametric Variables	**EDF**	**F-Statistic**
Income	6.92	49.50
Family Size	7.41	49.70
Age	6.85	75.42
Children	2.26	9.17
N		14,401
R^2		0.901

Source: 2011 Medical Expenditure Panel Survey inflated to 2012 prices using the CPI Medical Index.
Notes: Dependent variable is the natural log of family-level MOOP. Income measured as household income divided by 10,000. "EDF" is the "equivalent degrees of freedom."

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 allow MEPS observations to donate their value to multiple ACS observations. We also apply a rule that a single MEPS case cannot donate more than three times. This ensures that all ACS cases can be matched and helps 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 can only be paired if they match 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 overcomes this problem.

The following table, H Two, shows the distribution of MOOP values in the MEPS and the PMM values for 2012.

TABLE H TWO

Comparison of MOOP Distributions, MEPS and ACS, 2012

	MEPS	ACS
Mean	$3,374	$2,840
Aggregate (in $1,000s)	N.A.	$9,503,540
Percentile		
5	$0	$0
10	$27	$8
25	$465	$269
50	$2,103	$1,579
75	$4,785	$4,023
90	$8,106	$7,175
95	$11,093	$9,747
Proportion of families with Zero MOOP Values	6.9%	8.4%

Sources: American Community Survey Public Use Micro Sample as augmented by CEO, and 2011 Medical Expenditure Panel Survey (MEPS) inflated to 2012 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 Values by Age and Insurance Status, 2012

MEPS

	Non-Elderly			Elderly	
	Private	Public	Uninsured	Private	Public and Uninsured
Mean	$4,204	$701	$1,079	$4,841	$2,947
Median	$3,038	$169	$207	$3,611	$2,187

ACS

	Non-Elderly			Elderly	
	Private	Public	Uninsured	Private	Public and Uninsured
Mean	$3,616	$836	$963	$3,982	$2,181
Median	$2,535	$167	$210	$2,966	$1,410

Sources: American Community Survey Public Use Micro Sample as augmented by CEO, and 2011 Medical Expenditure Panel Survey (MEPS) inflated to 2012 prices using the CPI Medical Index.

The mean and median values by subgroups are much closer to the MEPS data than the Citywide mean. However, this table only conditions on two variables: elderly status and insurance status. Much of the difference between medical spending in New York and the U.S. is driven by New York's vastly different demographic profile. Re-computing Table H Three for the non-Hispanic White population in the MEPS and the ACS, for example, yields even closer spending estimates.[83]

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 2.8 and 3.9 percentage points. The impact of MOOP on the poverty rate is larger in 2005-2007 than in 2008-2012. 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 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 4.6 percentage points to 6.7 percentage points. The impact of MOOP on the elderly leads to a considerable change in the way we understand their poverty. The elderly have a higher overall poverty rate than the City as a whole for every year from 2005 through 2011 and have the same rate for 2012. However, the elderly have a net-of-MOOP poverty rate that is close to the Citywide poverty rate net-of-MOOP from 2005-2009, and a lower net-of-MOOP poverty rate than the Citywide average in 2010 and after. The pattern after 2009 differs from 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 2005-2012 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.

TABLE H FOUR

Impact of MOOP on Poverty Rates, 2005 - 2012

(Numbers are Percent of the Population)

	2005	2006	2007	2008	2009	2010	2011	2012
A. All Persons								
Total CEO Income	20.3	19.8	19.8	19.0	19.6	20.9	21.4	21.4
Net of MOOP	16.9	16.3	15.9	15.8	16.4	18.1	18.3	18.4
Marginal Effect of MOOP	3.4	3.5	3.9	3.2	3.2	2.8	3.1	3.1
B. Elderly Individuals								
Total CEO Income	24.1	22.7	22.5	22.7	22.1	21.1	21.8	21.4
Net of MOOP	17.4	16.5	16.0	17.0	16.8	16.5	17.0	16.6
Marginal Effect of MOOP	6.7	6.3	6.5	5.7	5.3	4.6	4.8	4.8

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

83. This data is available from the authors upon request.

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.[84]

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.[85] 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.

84. 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

85. U.S. Bureau of the Census. PUMS Accuracy of the Data (2012). Available at: http://www.census.gov/acs/www/Downloads/data_documentation/pums/Accuracy/2012AccuracyPUMS.pdf

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