

New York City Government Poverty Measure 2005–2016

An Annual Report from
the Office of the Mayor

Appendix A: The Poverty Universe and Unit of Analysis



Mayor's Office of Operations
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NYC
Opportunity

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 their needs. Once these parameters are in place, a method for measuring poverty must assess to which groups in the population it can meaningfully be applied. 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 reasons relevant to poverty measurement are that they pool economic resources and they satisfy their material needs as a unit. As described below, NYC Opportunity expands the definition of the unit of analysis beyond the family-based unit that is employed by the U.S. official poverty measure.

Who Is Counted When Measuring Poverty?

When measuring poverty, not everyone can be counted. For example, the poverty universe used by the U.S. Bureau of the Census 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 in which they reside. 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 basic material needs of these individuals 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.

¹ For a definition of group quarters, see: <https://www.census.gov/topics/income-poverty/poverty/guidance/group-quarters.html>

An additional challenge when 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 parents. That information is not available in the survey. All of these reasons make it very difficult to determine the poverty status of group quarters residents. NYC Opportunity, therefore, excludes the entire group quarters population from our measure, which we call the NYCgov poverty rate.

Another group that is excluded from the U.S. official poverty measure is unrelated individuals 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 people under 15 years of age. NYC Opportunity, 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 in which they reside and their poverty status is determined by the income of the unit as a whole.

In sum, the NYCgov 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.1 illustrates, the poverty universe for this study includes 8.361 million out of the city's 8.538 million residents in 2016. All of those excluded, close to 177,000 people, or 2.1 percent of the population, are living in group quarters.

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

From the perspective of the current U.S. official methodology, individuals are considered poor if the total income of the family in which they live fails to reach the appropriate poverty threshold for their family 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 jointly decide 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 U.S. official poverty measure are composed of people who are related to the household head by blood, marriage, or adoption.² NYC Opportunity 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

² The ACS does not identify unrelated subfamilies.

³ The ACS Subject Definitions defines an unmarried partner as "a person age 15 years and over, who is not related to the householder, who shares living quarters, and who has a close personal relationship with the householder." Beginning in 2013, the ACS allows same-sex married couples to identify themselves as such. NYC Opportunity makes no gender distinction in our analysis of married couples or unmarried couples.

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. NYC Opportunity 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 people 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 people 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) upon whom they are dependent. The exception is for young adults who may be claimed as a tax dependent (and supported by) someone other than their parents in the household. They are still assigned to their parents’ poverty unit because this is where their health insurance coverage and costs are assigned.⁵ Non-relative indigent adults and nearly all the unrelated children in private households are assigned to a poverty unit. In the few instances where the tax program cannot connect an unrelated child to a tax unit or a health insurance unit, the child joins the poverty unit of the household’s reference person.⁶

Together, these three modifications bring over 355,000 individuals who would have been treated as single-person poverty units or excluded from the poverty universe in the U.S. official measure in 2016 into multi-person poverty units in the NYCgov measure.

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

1. Expanded families: all people 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.2 reports, this group accounts for 82.7 percent of the total poverty universe.

⁴ Citro, Constance F. and Robert T. Michael (eds). *Measuring Poverty: A New Approach*. Washington, D.C.: National Academy Press. 1995. Pg. 306.

⁵ See Appendix D for creation of tax units. Appendix H describes health care units.

⁶ For a detailed description of how these units are created and an evaluation of the accuracy of NYCgov’s methods, see Virgin, Vicky, “Creating the CEO Poverty Unit: An Evaluation Using the CPS ASEC.” June 2011. Available at: https://irp.wisc.edu/research/povmeas/Poverty_unit_analysis_CEO_2011.pdf

People living in families that include an unmarried partner, a subgroup within the expanded family category, comprise 5.5 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 (12.1 percent of the poverty universe) or are living in a household with others with whom they have no familial or obvious economic relationship (5.2 percent of the poverty universe). Both groups of unrelated individuals are treated as “single-person families” and their poverty status is determined using their individual NYCgov 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.

A Note on Comparisons to the U.S. Official Poverty Measure

In September 2017, the U.S. Census Bureau released a poverty rate for New York City of 18.9 percent, a significant drop from the 2015 rate of 20.0 percent.⁷ This rate is not the same as the NYCgov estimate of the U.S. official poverty rate used in this report (18.4 percent falling to 17.6 percent, and statistically significant). The NYCgov estimate is based on the same data file used to generate our alternative poverty measure. This file differs from the official measure in two important ways:

- **Population Size.** The inclusion of unrelated children under 15 gives us a slightly larger population.
- **Unit of Analysis and Unit Size.** Poverty is determined at the family unit; the threshold is a function of family size and income is the sum of all family members’ income. The inclusion of unmarried partners, their children, and unrelated children under 15 results in a different alignment of people within poverty units than found in the official unit of analysis.

The result is the reassignment of 355,000 individuals who are either counted as single-person poverty units or not counted at all in the Census estimate. In the NYCgov estimate they are assigned to poverty units with other individuals. The NYCgov data file contains fewer units of analysis but, on average, more members in those units. In particular, because of the linking of unmarried partners, the NYCgov units contain more children who are supported by adult resources.

7 U.S. Bureau of the Census. American Fact Finder: “Poverty Status in the Past 12 Months.” 2016 American Community Survey 1-Year (2016) Estimates for New York City.

Table A.1
The NYCgov Poverty Universe, 2016

	Number	Percent
Household Population	8,360,751	97.9
Group Quarters Population	177,312	2.1
Total Population	8,538,063	100

Source: American Community Survey Public Use Micro Sample 2016.

Table A.2
The Unit of Analysis for Poverty Measurement, 2016

	Number of Persons	Share of Poverty Universe
People in NYCgov Expanded Families	6,914,095	82.7%
People in Unmarried Partner Families	459,271	5.5%
People in Unrelated Subfamilies	34,624	0.4%
Unrelated Individuals Living with Others	435,061	5.2%
Unrelated Individuals Living Alone	1,011,595	12.1%
Total Poverty Universe	8,360,751	100%

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