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The Status of Women in Poverty Using Alternative Poverty Measures:
New York City's Local Area Estimate

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Abstract: The current U.S. poverty measure is flawed in that it simply compares a family's pre-tax income against a threshold originally derived from the cost of a family's minimal food needs. An alternative measure has been developed based on recommendations issued by the National Academy of Sciences. This alternative methodology better accounts for family resources including in-kind transfers and tax credits, and expenditures such as housing and medical costs. National estimates of this new, supplemental, measure were released by the Census Bureau in late 2011. The Center for Economic Opportunity (CEO) of the City of New York has recently generated a similar measure for New York City for the years 2005-2010 using local area Census data. The results show a different distribution of poverty among women than is seen in the official poverty rate, with more poverty existing among elderly women, and social programs keeping a larger share of younger women with children above the poverty line. An additional benefit of the new methodology is that it requires the household (defined as all co-residents residing in a dwelling) to be broken down into smaller units of analysis that provide information on the within-household distribution of resources and responsibilities. This provides new insights into how poverty and access to resources is a function of the composition of households and the status of women within that composition. This paper examines the poverty status of women using different income measures to show the effects of wage differentials and transfer payments, including in-kind and tax-based transfers on the poverty rate. In addition, women within the census household are differentiated by their relationship, if any, to others in the household. These relationships in turn affect access to resources and transfers. By creating a revised definition of poverty and an alternative schematic for looking at women within the household, we gain a new understanding of the sources and magnitude of poverty.

1. Introduction

The development of an alternative poverty measure in the U.S. and New York City is providing useful information about the rate of poverty among women and the relationship between poverty, household composition and public policy. This new measure requires the construction of resource sharing units, based on census data, that provide new insight into the distribution of resources within the household. Additionally, the poverty measure provides a metric by which we can estimate the effectiveness of anti-poverty policies such as nutritional and housing supports.

2. An Alternative Poverty Measure

The official US poverty measure has long been criticized for an inability to define a realistic level of poverty.[1] In general, a poverty measure needs to set a threshold based on a socially recognized set of minimal needs. Family resources are then measured against this threshold (or poverty line). When available resources are less than the threshold, a family is counted as being in poverty.

The U.S. method for measuring poverty was developed in the 1960s. The threshold was based on the then current U.S. Department of Agriculture's Economy Food Plan – a bare minimum nutritional standard. Because food represented one third of the average family budget at that time, the cost of this food package was tripled and the resulting threshold has been adjusted annually ever since for inflation. On the resource side, only pre-tax cash income is counted towards the means available to meet the threshold.

To understand the benefits of an improved poverty measure, we need to see the failings of the official measure. In 1964 the threshold was roughly equivalent to one half the U.S. median family income. Since that time the gap between the threshold and the actual cost of living has widened considerably. The increased share of the family budget taken up by housing costs, the diminishing share of food costs, and wide geographic differences in the price of housing are all missing. The threshold does not reflect changing standards of living over time or evolving social norms such as the need for child care in the absence of a full time stay at home parent.[2] On the resource side, this method only counts pre-tax cash income, whether it be from earnings or transfer payments.

Since the 1960s, the bulk of income support programs in the U.S. have shifted from cash transfers to payments in kind such as housing subsidies and food stamps. Work incentive and family support programs tied to childbirth, child care and work are administered through the tax code. None of these are

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[1] See, for example, Citro, Constance F. and Robert T. Michael (eds.) <u>Measuring Poverty: A New Approach</u>. Washington, DC: National Academy Press. 1995.

[2] Child Care is included in most alternative poverty measures as a nondiscretionary expenditure on the resource side. See below.

counted as household resources in the official poverty measure. In sum, an inadequate measure of income is held up against an unrealistic poverty threshold. The resulting poverty measure is incapable of measuring the effectiveness of anti-poverty policy and is unresponsive to changes in modern living standards.

An alternative poverty measure was proposed by the National Academy of Sciences (NAS) in 1995 and the U.S. Census Bureau has released an experimental set of poverty measures based on the NAS recommendations since 1999.[3] In 2011, a Research Supplemental Poverty Measure was released by Census for 2009 and 2010.[4]

The Center for Economic Opportunity (CEO), an organization within the Office of the Mayor of the City of New York, has released local poverty estimates for the years 2005-2010 using the NAS recommendations as a conceptual framework and using local area census data from the American Community Survey.[5] The impetus for this measure was a desire to measure the impact of anti-poverty programs on the poverty rate in New York City.   This poverty measure is used throughout this paper when looking at the status of women in poverty in New York City.

The CEO threshold, or poverty line, is based on national level data for the distribution of expenditures by two child families on food, clothing, shelter and utilities. The housing portion of the threshold is then adjusted for the higher cost of housing in New York City, making housing costs a larger share of household expenditures. The threshold is then adjusted for family size.[6]   The thresholds are revised

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[3] Citro and Michael, 1995. Research related to the NAS recommendations can be found at :
www.census.gov/hhes/povmeas/methodology/nas/index.html

[4] Short, Kathleen. *The Research Supplemental Poverty Measure: 2010.* Washington, D.C.: U.S. Bureau of the Census, November 2011. These measures are estimated at the national and regional level.

[5] New York City Center for Economic Opportunity. *The CEO Poverty Measure: 2005-2010, A Working Paper by the New York City Center for Economic Opportunity*, April 2012. Available at:
http://www.nyc.gov/html/ceo/downloads/pdf/CEO_Poverty_Measure_April_16.pdf. Earlier CEO working papers on an alternative poverty measure for New York City can be found at:
http://www.nyc.gov/html/ceo/html/poverty_research/poverty_research.shtml.

[6] This follows the methodology used in the Supplemental Poverty measure. The SPM sets expenditures at the thirty-third percentile of the distribution on food, clothing, shelter and utilities for two child families. CEO differs from the

annually to reflect changes in expenditures on necessities. In 2010, the official U.S. poverty threshold for a two adult, two child family was $22,113. The CEO threshold for the same family, driven primarily by the geographic housing adjustment, was $30,055.

On the resource side, a broad range of household income sources is included. Earnings net of taxes (including tax credits) and transfer payments are counted as well as near cash in-kind benefits such as Food Stamps and means-tested school lunches. A housing adjustment is also included. Many lower income New Yorkers live in subsidized housing or rent regulated apartments and are actually paying less than the market rate used in the threshold estimate. These households receive an upward adjustment to income.   Work related expenses – transportation and childcare – are deducted from resources. Out of pocket medical expenditures are also deducted.   These additions and subtractions create a measure of disposable income that is far different than pre-tax cash. At the 20th percentile (near the poverty line) pre-tax cash income (used in the official poverty measure) was $22,873 in 2010. The 20th percentile for CEO income in that year, because it is more inclusive, was considerably higher at $29,295.

The result is a CEO poverty rate higher than the official rate for the population as a whole. The higher CEO threshold outweighs the effect of CEO's more complete definition of resources. Table 1 compares official and CEO poverty rates and breaks down the rates by gender.

The CEO poverty rate also provides a different picture of the depth and composition of poverty. The depth of poverty defines how far above or below the poverty line a population is distributed. Using the official measure, 7.7 percent of the population is in deep poverty, defined as living at less than 50 percent of the poverty threshold. The CEO poverty rate finds more families in poverty overall. However, because the CEO poverty measure is more inclusive in counting resources, there are fewer families in deep poverty, 5.5 percent. The inclusion of a greater number of safety net programs in CEO resources shows that these programs are keeping many people out of the most abject poverty.

The influence of safety net programs is also seen in comparing poverty rate estimates for single mother families and for the elderly. Table 2 shows a CEO poverty estimate for individuals in families headed by single mothers that is 6.7 percentage points lower than the official estimate. Most income support programs are designed to be maximally beneficial to this type of family structure. At the same time, the alternative rate is higher for the elderly. They are less likely to qualify for supports that are tied to earned income and the presence of children. They are more likely to have greater out of pocket medical expenditures.[7]

For women with children at least, anti-poverty programs have more of an impact than is apparent from the official poverty measure. This makes the CEO poverty unit a useful tool in looking at how much women depend on household relations for economic well-being. The next section describes how census households are broken down into resource sharing units.

3. The Unit of Analysis for Measuring Poverty

Control over scarce resources within the household is an important factor in defining well-being. The connection between a poverty measure and intra-household sharing of resources is a direct one. Gender inequity based on resource distribution within the household is one way of understanding gender differences in economic outcomes. Intra-household distribution is difficult to quantify, but is a key point in developing a metric of gender inequality. Household level data, such as Census reports, are blind to distribution within the household, yet there is a need for a deeper look into household relations based on this available information.[8]

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[7] The official poverty measure also assumes a slightly lower amount of expenditures for the elderly in their poverty threshold. CEO assumes equal expenditures are required regardless of age.

[8] Crawford, Jo. "*Signposts & indicators of progress in gender equality*," and Pogge, Thomas. *"Problems with Current Approaches to Measuring Poverty and Gender Disparities*", Center for Applied Philosophy and Public Ethics. Presentations at the 63rd Annual UN DPI/NGO Conference, International Women's Development Agency, September 2010; Both papers can be found at: http://www.genderpovertymeasure.org/publications; Agarwal, Bina. *"Bargaining and Gender Relations: Within and Beyond the Household,"* Feminist Economics*, Vol3 , #1, 1997.* See also Citro and Michael, 1995, pg 301, on the alternative poverty measure and need for more research on distribution within the household.

The CEO model offers one way of thinking about what goes on within the household, especially when the household is made up of more than the nuclear family, and includes other kin as well as non-related individuals in the household. The model recognizes that household members pool economic resources and meet their material needs as units within the household. They may even decide to cohabitate based on the advantages of resource sharing. Recent data shows that the number of shared households in the U.S. increased by 11.4 percent between 2007 and 2010. As the economy fell into recession, shared households had relatively lower official poverty rates than other households. The individuals in these households would have been in poverty if they were on their own without the pooled resources of a shared household.[9]   Reciprocity in resource sharing is present over the course of the life cycle, from child care to elder care, may involve time as well as money resources, and is particularly prominent in intergenerational households.[10]   Moreover, American family structures have changed over time from the nuclear family model assumed in the official poverty measure.

A more realistic measure of poverty needs a more realistic picture of household and family use of resources.[11] The National Academy of Sciences recommended just such a broadening of the basic unit of analysis in their 1995 report on improving the poverty measure. Specifically, cohabiting adults and their children should be recognized as a family unit with similar patterns of resource use as "traditional" families. Similar assumptions have been incorporated into alternative poverty measures developed by the Census Bureau, most recently in the Supplemental Poverty Measure.

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[9] Mykyta, Laryssa, and Suzanne Macartney, *"Sharing a Household: Household Composition and Economic Well-Being: 2007-2010,"* Current Population Report, U.S. Census Bureau, June, 2012.   A shared household is defined as a household containing at least one resident adult who is not a student or a spouse or partner of the householder. Shared households in 2010 accounted for 18.7 percent of all U.S. households. The additional adults in these households accounted for 51 percent of all adults in 2010.

[10] See, for example, Folbre, Nancy. The Invisible Heart: Economics and Family Values, New York: The New Press, 2001, pp. 25-28.   Swartz, Teresa Toguchi . *"Intergenerational Family Relations in Adulthood: Patterns, Variations and Implications in the Contemporary United States*." Annual Review of Sociology, Vol. 35212. August 2009; Leopold, Thomas and Marcel Raab, *"Short Term Reciprocity in Late Parent-Child Relationships,"* Journal of Marriage and Family, Vol. 73, Issue 1, Jan, 2011.

[11] Provencher, Ashley J. *"Unit of Analysis for Poverty Measurement: A Comparison of the Supplemental Poverty Measure and the Official Poverty Measure,"* SEHSD Working Paper #2011-22. Washington, D.C.: U.S. Census Bureau, August, 2011. Available at:
http://www.census.gov/hhes/povmeas/methodology/supplemental/research/Provencher_JSM.pdf

Based on the assumption of reciprocity among extended family members, and using data on relationships within the household, the CEO model cannot identify the details of distribution between individuals, but it can reframe the household so that we see who shares which pools of resources. The poverty measure groups people into likely resource sharing units using a methodology based primarily on kin relations and explained in detail below. These units in turn will affect the poverty rate. The resources of a sharing unit determine the amount of public assistance, tax credits and other income supplements available to meet the poverty threshold.

The principal data set for the CEO poverty measure is the Public Use Micro Sample from the Census Bureau's American Community Survey (ACS). The ACS offers a robust sample for New York City and provides information about household composition and family relationships as well as economic resources. The Census data available to us in the ACS is at the household level – all residents within a dwelling unit. But the household is a complicated place. The data shows a confounding number of possible combinations of residents within the household. Simple, nuclear family units are plentiful. But so are multigenerational households, households with more than one nuclear family unit of the same generation, households made up of unmarried partners, of combinations of related and unrelated individuals, and a variety of roommates, boarders and seemingly unrelated children. How then to account for how various configurations of individuals living under one roof share economic resources? Who provides the resources, and from what sources? Who consumes them? When are these resources not enough?

The ACS codes all people in the same dwelling unit based on their relation to the primary householder. CEO, using this information, groups residents into primary families and subfamilies, and determines whether the family groups are related or unrelated to each other. These groupings are in turn regrouped into multiple units of analysis that define how income, tax credits, and nutritional and housing transfers are shared.[12]

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[12] For details on how CEO builds the MHU from ACS relationship codes, see Virgin, Vicky. *"Creating the CEO Poverty Unit: An Evaluation Using the CPS ASEC,"* June, 2011. Available at : http://www.irp.wisc.edu/research/povmeas/Poverty_unit_analysis_CEO_2011.pdf See also Passel, Jeffrey. "*Editing Family Data in Census 2000 Public-Use Microdata Sample: Creating Minimal Household Units (MHUs)*,"

Figure 1 shows a representative census household. Household members consist of a 51 year old female

householder with a 16 year old son and 22 year old adult daughter who is employed and not a student;

the reference person's sister and another teenage male.   Figure 2 shows the same household broken

down into Minimal Household Units (MHUs), the smallest identifiable units. The MHU program divides this

household into three minimal units: the reference person and son; the adult daughter; and the sister, who

is assumed to be responsible for the 15 year old male since he is not related to the reference person,

appears in the census roster after the person classified as sister, and there is an age difference between

the sister and this youth that makes it plausible that the two have a caretaker/dependent relationship.

Refundable tax credits represent a significant cash resource for poor households. The size of many U.S.

tax credits are tied to the presence of children in the tax unit and marital status of the filer. The MHU

allocates dependents and assigns marital status, in effect determining the value of tax credits. Based on

relationships established in the MHU, our sample household is divided into three tax units. A tax unit

represents one tax return. The reference person claims her son as a dependent. The daughter files her

own tax return based on her earnings. The sister also files a return, claiming the remaining teen as a

dependent. Figure 3 diagrams the tax units and notes that the dependent teenagers also qualify as

dependents in order to claim the Earned Income Tax Credit, the largest refundable credit for the working

poor and a credit tied to family size.

A second important resource is nutritional assistance, primarily from the Federal Supplemental Nutrition

Assistance Program (SNAP), aka the Food Stamp program. We impute Food Stamp values to people

who report receiving Food Stamps, public assistance or disability (SSI) assistance in the ACS. Food

stamp units are then created based on the recipient's MHU relationships.[13] We assume that Food Stamp

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Unpublished, Pew Hispanic Center, August 23, 2002; Ermisch, F. and Elizabeth Overton, "*Minimal Household Units: A New Approach to the Analysis of Household Formation,*" Population Studies No.39, pp 33-54, 1985; and Iceland, John. "T*he 'family/couple/household' unit of measurement in poverty estimation,*" Journal of Economic and Social Measurement : Volume 26, Numbers 3-4, 2000.

[13] Details on CEO's creation of tax and food stamp units are available in CEO, 2012, Appendices D and E respectively.

recipients share their benefits with other household members in the same poverty unit. Figure 4 shows our sample ACS household divided into food stamp units. Only the sister is income eligible for the program and the dollar amount of her Food Stamp allotment is based on herself and one teenage dependent.

Finally, a set of resource sharing units are formed based on our estimates of modified family units. These units are called poverty units. Extended families within a household comprise a poverty unit. Unrelated individuals or paying boarders become separate poverty units. The resources of all members of the unit are summed and compared to a poverty threshold to ascertain whether or not they are in poverty.[14] Figure 5 shows our sample ACS household divided into poverty units. In this case, because all household members are related, they are grouped into a single poverty unit. The assumption is that they will all contribute to the household's resources and share expenses to some degree. If unrelated adults were also living in the home, they would be their own poverty unit. For example, if the sister and her son were an unrelated subfamily, they would be a separate poverty unit and we would assume, for example, that their Food Stamp benefits would not be shared with other household members. In Table 5, because they are related, we assume their Food Stamps are contributed to food expenditures for the household.

The combination of poverty unit, tax unit and food stamp unit is a way of looking deeper into household assets and resource sharing. The poverty unit is used to sum up members' earned income, housing and utility costs, medical expenditures and some incidental spending. The tax unit explains taxation and tax credits, and the food stamp unit provides important information on food sharing. With these reconfigurations of the household using both kin and economic relationships we can get a better sense of why women are in poverty. The next section compares relationships within the poverty unit for women in poverty and not in poverty.

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[14] *See* CEO, 2012 appendix A. The threshold is adjusted for the number of people in the poverty unit. The name "poverty unit" implies the potential to be in poverty and the unit by which we measure poverty. The entire population has been assigned to poverty units in order to measure whether or not they are in poverty.

4. Population Characteristics and Household Relations of Women in Poverty

a. Individual Demographics

Panel 1 of Table 3 compares some individual demographic characteristics of women in poverty (InPov) and not in poverty (NotInPov) in New York City in 2010. The table shows that 21% of all women over age 18 in New York City in 2010 are in poverty, a number only slightly lower than the CEO poverty rate for the city as a whole.[15]

Differences in marital status constitute the most important difference between women in poverty and not in poverty. Women in poverty are more likely to be widowed, separated or never married. Nearly fourteen percent more women who are not in poverty live with a spouse. The most common marital status for women in poverty is "never married", a factor that will explain some of the differences noted below for older women. Women in poverty are also slightly older and only slightly more likely (4.4 percentage points) to have children.

Table 4 looks at ethnicity and citizenship. Just under 26 percent of women InPov are white, compared to nearly 37 percent NotInPov, and a slightly greater number of Hispanics and Non-Hispanic Asians are poor. There is no significant difference in the share of Non-Hispanic Black women in either group. Women who are immigrants to the U.S. and have obtained citizenship are less likely to be poor than immigrants who are non-citizens.[16]

Table 5 looks at human capital related characteristics and labor market outcomes. Education and work experience are significantly different between the InPov and NotInPov groups. Poor women are 5.6 percentage points less likely to have a high school degree, but only half as likely to have completed a four year college degree. As expected, income is an important predictor of whether or not a woman is in poverty and the difference in income between women in and out of poverty is stark. For women of

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[15] The citywide poverty rate shown in Table 1 contains children.

[16] Women who became citizens have no significant differences in poverty status based on the date of naturalization, except for women who arrived in the 1950s.Those coded as non-citizens in the ACS are more likely to include non-legal residents who do not qualify for many poverty alleviating programs, from food stamps to Social Security enrollment.

working age, mean earnings are over four times greater for women not in poverty. For older women who continue to work past retirement age, earnings are over three times greater for women not in poverty. Because Social Security is partly a function of wage gains accrued over working years, by age 65 poor women earn a third less in Social Security payments.

 It should be noted that ACS data, the source of wage information here, is based on a rolling 12 month survey. The 2010 data set is the first full year to show the full extent of the current economic downturn in New York City, where job loss began somewhat later than in most U.S. labor markets. Panel C of Table 5 shows work hours in 2010. The differences in full time employment and unemployment are as stark as the wage differential.[17]

Health, and the lack of health insurance, is tied to the lack of employment. Women who are disabled to the extent that they report independent living as difficult are a small portion of both poor and non-poor women, but 5.6 percent of women NotInPov report this level of disability, while just over nine percent of women InPov report the same status. Access to health Insurance is an important factor in explaining economic well-being across the U.S., and New York City is no different. Poor women are nearly ten percent less likely to have health insurance and those who are insured are more likely to have public insurance.

In sum, when using the CEO poverty measure, women in poverty are, as anticipated, more likely to be unmarried, less educated, have less work and less health care coverage.

b. Family Status

There are distinct differences in the configurations of household membership between women in poverty and not in poverty. Because the CEO poverty measure assumes resource sharing within the poverty unit, the number and economic well being of household members is an explanatory factor in why any one

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[17] Not included in the table is military service. There is no significant difference in military service for women InPov and NotInPov, regardless of whether service was in the First Gulf War, or in post-9/11 conflicts.

individual is in poverty. As noted above, the most distinct difference between InPov and NotInPov is the

presence of a spouse or partner. Nearly 17 percent of women in poverty are married or a domestic

partner of the reference person, compared to nearly 25 percent of women not in poverty. Given that a

spouse is the most likely adult relative an adult women would share resources with, and that men's

wages, on average, are higher than women's wages, it is not surprising that the presence of a spouse or

partner adds to the ability of the poverty unit to stay above the poverty threshold.[18] But what about other

persons in the poverty unit? The presence of children means adult salaries have to stretch further.

Alternatively, women in poverty may choose to cohabitate with relatives or friends and share resources in

extended family units. The expense of caring for children or elderly relatives can be distributed across

income earning adults in the household.

 Looking into the poverty unit, these relationships become a proxy for resource sharing. This view into

poverty unit relationships is an indirect one. All persons in the ACS are coded as to their relationship to

the reference person, equivalent to the head of household. Other relationships between household

members, are inferred in the CEO model as described above, but not all relationships are identifiable. To

further complicate matters, a woman may be related to others in her poverty unit in several ways – a

mother, a daughter, sister, spouse, etc. How best to categorize relationships?

 Table 6 below does this in two different ways. The first, shown in 6.A, describes how women are related

to the reference person in the household. Women InPov are more often the household head, and have

less direct kin relationships in the household. For example, they are less likely to be a daughter, sibling,

in-law or parent of the household head. They are also less likely to be an unmarried partner or

roommate. But they are more likely to be a paying roomer, boarder or a nonrelative of the householder.

Women who are NotInPov are more likely to be living with immediate family relations or a partner.

Table 6.B reframes household relationships in a different manner. Instead of focusing on relations of

women to the reference person, this panel looks at the accumulated relationships in the poverty unit. How

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[18] This is shown more dramatically in Table 3 above, which looks at the marital status of all women, not just those married or partnered to the reference person.

many siblings, parents, or grandparents, for example, are found in poverty units of InPov vs. NotInPov women?[19] The results confirm what is seen in Table 6.A. The InPov group is less likely to live in a poverty unit with offspring, siblings or a parent of the householder. They are more likely to be in poverty units with grandchildren present and where there are roommates or boarders.

Table 6.C asks one final question about the poverty unit: What role does household size play? How many InPov women are living alone? How many are living in very large units? A larger poverty unit may mean there are more resources to be shared. But given the lack of kin relationships, and especially the lack of related adults, for women in poverty, a large poverty unit may simply represent an overstretched paycheck or benefit allowance.

Part 1 of Table 6.C looks at all women, and finds 30 percent of women InPov live alone, compared to 20 percent of women NotInPov. They are significantly less likely to be in poverty units containing from two to five people, and, slightly more likely to be in poverty units with six or more people. For poor women, it is sometimes a matter of trying to support too many people, but more often it is a problem of not having enough support for themselves.

Parts 2 and 3 of Table 6.C break down this group of women into working age and elderly. The plight of older women is clear immediately. Nearly sixty percent of elderly women in poverty live in one person poverty units, compared to 35 percent of their peers not in poverty. They are less likely to be in larger family units of any size. The percentage of poor women living alone more than doubles as women age.

5. Resources And Poverty

The CEO poverty measure allows us to see more clearly the reasons why some women fall into poverty and others don't. As noted above, women who do not have a spouse or partner residing in the home, who live alone, earn low wages, or work less than full time are more likely to be poor. However, not all women with these characteristics are poor when all other resources are taken into consideration. The

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[19] Again, relationships defined relative to the reference person in the household.

CEO poverty rate shows how a system of social supports can keep women above the poverty line. Table 7 uses the CEO income calculation used to measure the poverty rate as described in Section 2 above. Resources and necessary expenses are summed, and their net value is labeled "Total CEO Income."

 Columns 1 of Table 7 reports poverty rates for all women over 18. Each component of income is then eliminated individually and the poverty rate recalculated. Panel B shows the marginal effects on the poverty rate of removing each income component. For example, the housing adjustment to the CEO income measure includes the effect of below market or subsidized housing. Removing the housing adjustment would raise the poverty rate by 5.9 percentage points to 26.8 percent. Similarly, income taxes are the tax after credits. The marginal effect of taxes is to lower the poverty rate by three percentage points. The poverty rate is also lowered by Food Stamps, free meals served at schools, nutritional assistance for women with young children (WIC), and home heating assistance (HEAP).

Conversely, there are nondiscretionary expenses in the CEO income measure that can pull people into poverty. Payroll taxes, when subtracted from resources, raise the poverty rate by 1.4 percent. If they were eliminated, the poverty rate would fall by that amount. Costs of childcare, commuting to work, and medical out of pocket expenditures also pull people into poverty. For the adult women in Table 7, medical expenses are the biggest factor in pulling their household below the poverty line.

The previous sections showed how the absence of a spouse and living in small households were tied to higher poverty rates. Columns 2, 3, and 4 of Table 7 look at CEO incomes for unmarried women. The importance of each income component changes with age and the presence of dependent children.

For working age, childless, unmarried women (Column 2) housing assistance reduces poverty by six percentage points. Income tax credits and food stamps each eliminate over 3 percentage points of the poverty rate. The elimination of out of pocket medical expenses would lower the poverty rate for this group by three percentage points.

Column 3 looks at single women with children, a group that receives larger income supports due to the size of their household and because many programs are designed specifically to fund children. For

example, the Earned Income Tax Credit is almost nonexistent for low income single adults, but could be as high as $3,000 for a single woman with more than two children in 2010.   Because of this, housing, taxes and food stamps are all important in lowering the poverty rate. On the other hand, work-related costs (FICA, commuting and child care) add 4.9 percentage points to the poverty rate for this group. Medical costs add to the poverty rate, more so than for childless women of working age, but less than for elderly women.[20]

For older unmarried women (Column 4), housing supports are twice as important as for younger, childless women. Because many tax credits are not only child dependent but also rise with earned income, many older women have aged out of the benefits offered by tax credits, and get less than a one percentage point lift out of poverty after taxes. Medical costs raise the poverty rate by five percentage points. Medicare coverage is tied to eligibility for Social Security benefits and to legal residency status, possibly excluding many older women. Moreover, even for those with health coverage, out of pocket expenses can be substantial as health declines in later years.

6. Conclusions

The development of an alternative poverty rate has several benefits: It is a better measure of poverty, and allows us to measure the results of anti-poverty programs. It also creates a unit of analysis that considers the importance of resource sharing within the household.

The poverty measure shows that women residing in extended families may be somewhat better off: benefits and work incentives scale up with the number of children; additional adults bring in more resources to be shared. Extended families are important - women living in households with related adults are less likely to be poor - but the presence of a spouse or partner is even more important.[21] Because

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[20] It should be noted that the absence of MOOP can be indicative of deferred health care. This number only reflects the health care that is actually purchased.

[21] The poverty threshold is adjusted for family size, so the addition of a second person is only helpful when their wage is greater than the additional resources needed as the household grows.

benefits such as the Earned Income Tax Credit expand with the number of children, larger families will benefit the most from them, even when wages are low. This is one reason why women living alone are more likely to be poor, especially as they age. Finally, because this is a local analysis, we see that for women in New York City, housing supports are the single most important social program lifting them out of poverty, a direct result of including geographic differences in housing costs in the poverty measure.

This paper suggests some areas for additional research. First, the influence of marriage and shared incomes on the poverty rate raise questions about gender based wage differentials and the influence of the wage gap on poverty rates. Second, the alternative poverty measure, like the traditional measure, shows how population characteristics such as age and education are tied to poverty. The alternative measure also adds two key components to our understanding of the sources and remedies for poverty -- the breakdown of CEO income components into their contributing factors as in Table 7, and the dividing of the census household into poverty units. Further statistical testing can measure the influence of each, compared to more traditional demographic factors.

Many of the factors that alleviated poverty for women in 2010 -- tax credits, food stamps, housing supports -- are also important when considering the well-being of the population in general. Their importance extends beyond urban areas such as New York City.[22]   In the past five years fiscal stimulus programs and greater economic need have expanded the scope of these programs. Their importance in alleviating poverty has been measured each year by CEO and others. Many of these programs are slated to expire or shrink in the near future. Whether or not they will be extended is, at the moment, a central issue in discussions about economic recovery and economic fairness.

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[22] CEO has developed a model that eliminates the most recent round of tax credits and food stamp expansion from household income in order to demonstrate how high the poverty rate would be in their absence. For example, in 2010 the CEO poverty rate for families with children would be 4.5 percent age points higher in the absence of expanded tax credits and food stamps. (CEO, 2012, pg. 45) See also New York City Center for Economic Opportunity. "*Policy Affects Poverty: The CEO Poverty Measure: 2005-2009, A Working Paper by the New York City Center for Economic Opportunity*," March, 2011. Available at: http://www.nyc.gov/html/ceo/downloads/pdf/poverty_measure_2011.pdf.

Figure 1. Relationships in the ACS household

ACS Households

ACS Relations	Age	Sex
householder	51	F
son	16	M
daughter	22	F
sister	53	F
other relative	15	M

Figure 2. The ACS household reorganized into MHUs.

Minimal Household Units

ACS Relation	Age	Sex	MHU Number	MHU Relation
Householder	51	F	1	Head
son	16	M	1	child
daughter	22	F	2	Head
sister	53	F	3	Head
other relative	15	M	3	child

Figure 3. Sample ACS household divided into tax units

Tax Units

ACS Relation	Age	Sex	MHU Number	MHU Relation	Tax Unit	Tax Unit Relation	Filer Status
Ref Person	51	F	1	Head	1	Filer	Head of Household
son	16	M	1	child	1	Dependent/EIC	
daughter	22	F	2	Head	2	Filer	Single
sister	53	F	3	Head	3	Filer	Head of Household
other relative	15	M	3	child	3	Dependent/EIC	

Figure 4. Sample ACS household divided into Food Stamp units

Food Stamp Units

ACS Relation	AGE	SEX	MHU Number	MHU Relation	Food Stamp unit	
Ref Person	51	F	1	Head	0	
son	16	M	1	child	0	
daughter	22	F	2	Head	0	
sister	53	F	3	Head	1	
other relative	15	M	3	child	1	

Figure 5. Sample ACS household becomes one poverty unit.

Poverty Units

ACS Relation	AGE	SEX	MHU Number	MHU Relation	Poverty Unit	Poverty Unit Relation
Ref Person	51	F	1	Head	1	Head
son	16	M	1	child	1	child
daughter	22	F	2	Head	1	other
sister	53	F	3	Head	1	other
other relative	15	M	3	child	1	child

Table 1. Poverty Rate Comparison

Official and CEO, 2010

	OFFICIAL	CEO	DIFFERENCE*
TOTAL	18.8%	21.0%	**-2.2**
WOMEN	20.2%	22.0%	**-1.7**
MEN	17.2%	19.9%	**-2.6**

*Bold type indicates significant at the 90% level. Differences are from rounded numbers.

Source: American Community Survey Public Use Micro Sample for New York City, 2010 as augmented by CEO.
Official poverty rates are based on CEO universe and unit of analysis.

Table 2. Poverty in Single Mother Families and Elder Poverty

Official and CEO, 2010

	OFFICIAL	CEO	DIFFERENCE*
Individuals in Single Mother Headed Families	41.5%	34.8%	**-6.7**
Elderly Individuals (age 65 +)	16.0%	21.2%	**5.2**
Elderly Women	18.8%	23.4%	**4.6**

*Bold type indicates significant at the 90% level

Source: American Community Survey Public Use Micro Sample for New York City, 2010 as augmented by CEO.
Official poverty rates are based on CEO universe and unit of analysis.

Table 3. Demographic Characteristics

	IN POV	NOT IN POV	DIFFERENCE*
WOMEN OVER AGE 18	20.95%	79.05%	**-58.1**
Population	704,728	2,659,327	-1,954,599
MARITAL STATUS	%	%	
Married, Spouse present	23.9	37.6	**-13.7**
Married, Spouse absent	4.9	3.5	**1.4**
Widowed	12.1	8.2	**3.8**
Divorced	10.4	9.6	**0.9**
Separated	5.9	3.7	**2.2**
Never Married	42.8	37.4	**5.4**
AGE	%	%	
18-64	80.9	83.4	**-2.6**
65 +	19.1	16.6	**2.6**
CHILDBEARING (18-64)	%	%	
Has Children	35.7	31.3	**4.4**
Had child in past 12 months	6.1	5.3	**0.8**
Has Children Under 4	11.7	9.2	**2.5**
Has Children 4-12	21.4	17.3	**4.2**

*Bold type indicates significant at the 90% level

Source: American Community Survey Public Use Micro Sample for New York City, 2010 as augmented by CEO.

Table 4. Race, Ethnicity and Citizenship

	IN POV	NOT IN POV	DIFFERENCE*
RACE/ETHNICITY	%	%	
Non-Hispanic White	26.0	36.8	**-10.8**
Non-Hispanic Black	24.4	23.4	1.0
Non-Hispanic Asian	15.7	12.4	**3.3**
Hispanic, Any Race	32.1	25.0	**7.0**
Other Race/Ethnic Group	1.9	2.4	**-0.5**
NATIVITY			
Native Born**	48.6	55.9	**-7.2**
US citizen by naturalization	21.9	26.2	**-4.2**
Not a citizen of the US	29.4	18.0	**11.5**

*Bold type indicates statistically significant

**Includes Puerto Rico and territories and those born abroad of American parents

Source: American Community Survey Public Use Micro Sample for New York City, 2010 as augmented by CEO.

Table 5. Labor Market Outcomes

5.A. EDUCATION	IN POV	NOT IN POV	DIFFERENCE*
	%	%	
Less Than High School	32.3	16.4	**15.9**
High School Degree	29.0	23.4	**5.6**
Some College	22.0	24.0	**-2.0**
Bachelor's Degree or Higher	16.7	36.0	**-19.3**

5.B. INCOME AND EARNINGS	IN POV	NOT IN POV	DIFFERENCE*
	MEAN VALUES**		
Total Income*	9,648	43,802	**-34,154**
Age 18-64	9,803	46,991	**-37,188**
64+	9,193	29,493	**-20,300**
Earned Income	10,894	48,232	**-37,339**
Age 18-64	10,929	48,783	**-37,854**
64+	9,852	36,288	**-26,437**
Social Security	7,914	11,963	**-4,049**
Age 18-64	6,672	10,467	**-3,796**
64+	8,241	12,257	**-4,016**
Supplemental Security Income	7,120	7,674	**-554**
Age 18-64	7,651	8,410	**-758**
64+	6,404	6,875	**-471**

5.C. WORK EXPERIENCE	IN POV	NOT IN POV	DIFFERENCE*
	%	%	
Full Time Year Round	10.4	44.1	**-33.7**
Less than Full Time Year Round	23.1	21.3	**1.9**
No Work	66.5	34.6	**31.9**

5.D. HEALTH	IN POV	NOT IN POV	DIFFERENCE*
	%	%	
Difficulty with Independent Living	9.0	5.6	**3.4**
Has Insurance Coverage	78.3	87.8	**-9.5**
Type of Coverage			
Private (Employer or Self)	30.9	67.5	**-36.6**
Public (Medicare or Medicaid)	68.1	38.0	**30.0**

*Bold type indicates statistically significant
**Means only include women with each income source, no zero values included
***Includes all sources of pre-tax cash income

Source: American Community Survey Public Use Micro Sample for New York City, 2010 as augmented by CEO

Table 6. Relations in the poverty Unit*

6.A. Women in Relation to Primary Householder

	IN POV	**NOT IN POV**	**DIFFERENCE***
	%	%	
Is Reference Person	54.4	47.5	**6.9**
Spouse	15.0	22.0	**-7.0**
Unmarried Partner	1.7	2.7	-1.0
Son/Daughter (any age)	11.9	12.2	-0.3
Adopted	0.1	0.2	-0.1
Stepson/Daughter	0.3	0.4	**-0.1**
Sibling	1.9	2.4	**-0.5**
Parent	3.2	4.2	-1.0
Grandchild	0.4	0.6	-0.2
ParentInLaw	0.7	0.6	0.1
Son/Daughter/Inlaw	0.5	0.7	**-0.3**
Other Relative	2.3	2.9	**-0.6**
Roomer/Boarder	1.4	0.6	**0.8**
Roommate	4.4	2.4	**2.0**
Foster Child	0.0	0.0	**0.0**
Nonrelative	1.7	0.5	1.2

*Relationships in bold have statistically significant differences at 90th percent confidence interval

(continued)

6.B. Relations Found in the Poverty Unit

	IN POV	NOT IN POV	DIFFERENCE*
	%	%	
Spouse	30.8	55.4	**-24.6**
Unmarried Partner	4.0	7.0	**-3.0**
Son or Daughter (any age)**			
0	48.3	47.4	0.9
1	20.1	23.9	**-3.8**
2	16.8	18.3	**-1.5**
3	9.1	7.1	**2.0**
4	3.6	2.2	**1.4**
5	1.1	0.6	**0.4**
6	0.6	0.2	**0.3**
Brother or Sister	1.9	2.0	**-0.1**
Parent			
1 parent	5.0	7.0	**-2.0**
2 parents	1.0	2.0	**-1.0**
Grandchildren			
0	90.6	92.9	**-2.3**
1	5.3	4.2	**1.1**
2	2.7	1.9	**0.7**
3+	1.3	0.8	0.6
Parent In-Law	less than 1%, both groups		
Son or Daughter-In-Law	1.3	2.4	**-1.1**
Other Relatives			
0	93.3	91.2	**2.1**
1	3.7	5.6	**-1.9**
2	1.7	1.8	-0.1
3+	0.7	0.9	-0.1
Roomer or Boarder	1.5	0.7	**0.8**
Roommate			
1	4.0	2.0	**2.0**
2	<.01	<.01	0.0

*Relationships in bold have statistically significant differences at 90th percent confidence interval

**Greater than 6 = less than 1% for both groups; Adopted and stepchildren less than 1% for both groups

(continued)

6.C. Size of the Poverty Unit

	IN POV	NOT IN POV	DIFFERENCE*
	%	%	
1. All Women			
1	30.4	20.0	**10.5**
2	19.5	26.9	**-7.5**
3	16.1	18.4	**-2.4**
4	15.7	16.1	-0.4
5	8.9	9.4	-0.5
6+	9.5	9.1	0.3
2. Age 18-64			
1	23.7	17.1	**6.7**
2	18.1	24.9	**-6.8**
3	18.2	19.9	**-1.7**
4	18.6	18.1	0.5
5	10.3	10.2	0.1
6+	11.1	9.8	1.3
3. Age 65+			
1	58.8	34.5	**24.3**
2	25.4	37.2	**-11.8**
3	7.0	10.9	**-3.8**
4	3.4	6.2	**-2.8**
5	2.7	5.4	**-2.7**
6+	2.7	5.9	**-3.2**

*Relationships in bold have statistically significant differences at 90th percent confidence interval

Source: American Community Survey Public Use Micro Sample for New York City, 2010 as augmented by CEO,

Table 7. Income Components and the Poverty Rate.

	All women 18 and over	unmarried women only		
		18-65 no children	18-65 with children	over 65
A. Poverty Rates	%	%	%	%
TOTAL CEO INCOME	20.9	24.9	29.7	27.4
Net of:				
Housing Adjustment	26.8	31.0	39.1	39.7
Income Taxes*	23.9	28.2	37.9	28.2
Food Stamps	24.1	28.5	35.9	32.6
School Meals	21.2	25.2	30.7	27.5
WIC**	21.1	25.0	30.1	27.4
HEAP***	21.0	24.9	29.7	27.4
FICA ****	19.5	23.1	27.3	27.0
Commuting	19.8	23.5	27.9	27.0
Childcare	20.8	24.7	29.0	27.3
Medical*****	17.9	22.0	26.3	22.4
B. Marginal Effects				
Housing Adjustment	5.9	6.1	9.4	12.3
Income Taxes*	3.0	3.3	8.2	0.8
Food Stamps	3.2	3.6	6.2	5.2
School Meals	0.3	0.3	1.0	0.1
WIC**	0.2	0.1	0.4	0.0
HEAP***	0.1	0.0	0.0	0.0
FICA ****	-1.4	-1.8	-2.4	-0.4
Commuting	-1.1	-1.4	-1.8	-0.4
Childcare	-0.1	-0.2	-0.7	-0.1
Medical*****	-3.0	-2.9	-3.4	-5.0

*Includes federal, state and local taxes and tax credits
**Women, Infants and Children nutritional supplement
***Heating and fuel assistance
****Payroll taxes for Social Security and Medicare
*****Medical out of pocket expenses

Source: American Community Survey Public Use Micro Sample for
New York City, 2010 as augmented by CEO

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