

Session: The Supplemental Poverty Measure: New Research Findings
Chair: Kathleen S. Short (U.S. Census Bureau)
Discussant: Constance F. Citro

Paper Prepared for the 2011 Joint Statistical Meetings

**Unit of Analysis for Poverty Measurement:
A Comparison of the Supplemental
Poverty Measure and the Official Poverty Measure**

by
Ashley J. Provencher

August 2, 2011

Ashley J. Provencher
U.S. Census Bureau
Housing and Household Economic Statistics Division
U.S. Census Bureau
Washington DC, 20233

SEHSD Working Paper # 2011-22

Abstract: In 2009, the Office of Management and Budget's Chief Statistician formed an Interagency Technical Working Group (ITWG) on Developing a Supplemental Poverty Measure (SPM). In March 2010, the ITWG issued a series of suggestions on how to develop a new measure drawing on the recommendations of the 1995 report of National Academy of Sciences (NAS) Panel on Poverty and Family Assistance and the extensive research on poverty measurement conducted over the past 15 years. One suggestion of the ITWG was that the family unit should be broadened to include all related individuals who live at the same address, any co-resident unrelated children who are cared for by the family (such as foster children), plus cohabiting partners and their children. This paper examines how the change in unit of analysis from the family definition used in the official poverty measure (a group of two or more people residing together related by birth, marriage, or adoption) to the broader definition impacts the composition of family units. The analysis uses data from the 2010 Current Population Survey (CPS) Annual Social and Economic Supplement (ASEC).

Acknowledgements and Disclaimer

The views expressed in this research, including those related to statistical, methodological, technical, or operational issues, are solely those of the authors and do not necessarily reflect the official positions or policies of the Census Bureau, or the views of other staff members. The authors accept responsibility for all errors.

UNIT OF ANALYSIS FOR POVERTY MEASUREMENT: A COMPARISON OF THE SUPPLEMENTAL POVERTY MEASURE AND THE OFFICIAL POVERTY MEASURE

In 2009, the Office of Management and Budget's Chief Statistician formed an Interagency Technical Working Group (ITWG) on Developing a Supplemental Poverty Measure. In March 2010, the ITWG issued a series of suggestions on how to develop a new measure drawing on the recommendations of the 1995 report of the National Academy of Sciences (NAS) Panel on Poverty and Family Assistance and the extensive research on poverty measurement conducted over the past 15 years. The suggestions of the ITWG were used to develop a supplemental poverty measure (SPM). This paper details the specific methods used to establish the SPM resource unit and the motivation for these methods.

The SPM is an experimental measure that defines income thresholds and resources in a manner different from the official poverty measure. It should be considered a work in progress. Adjustments may be made in the future to improve the measure as issues or nuances are identified. Changes will be based on analytical evidence as presented by research methodologists and statisticians within the U.S. Census Bureau and in consultation with the other appropriate data agencies and experts outside of the U.S. Census Bureau. The SPM will not replace the official poverty measure. Instead, the SPM offers an alternative understanding of the economic well-being of American families and of how federal policies affect those living in poverty. The official poverty guidelines will still be used to determine eligibility for government programs and official rates for allocation of public funds.

This paper first reviews some of the previous research and recommendations on the unit of analysis for a poverty measure related to the creation of the SPM. Then, this paper details how

individuals are grouped into resource units for the SPM. A discussion of the characteristics of the units and people most affected by the change in unit of analysis follows. The paper concludes with a discussion of areas for future research in order to improve the unit of analysis for the SPM.

Background

In recent decades, the structure of American families has transformed. There has been an increase in cohabitation, single-parent families, multi-generation families, and nonfamily living arrangements. While cohabitation of unmarried partners has occurred for decades, there has been an increasing number of cohabiting partners. In 2002, nearly half of all women ages 15 to 44 had lived with an unmarried partner (Chandra, Martinez, Mosher, Abma, and Jones 2005). While cohabitation with children present is a relatively new occurrence, it is also increasingly common (Chandra, et al. 2005; Fitch, Goeken, and Ruggles 2005; Kennedy and Bumpass 2008; Mincieli, Manlove, McGarrett, Moore, and Ryan 2007; Schoen, Landale, and Daniels 2007).

Kennedy and Bumpass (2008) use data from the 1995 and 2002 cycles of the U.S. National Survey of Family Growth (NSFG) to study recent trends in cohabitation. They find that nearly 20 percent of newborns in the late 1990s were to cohabiting couples, consisting of more than half of all births to unmarried mothers. Even children born to unmarried, non-cohabiting mothers are likely to live with their mother and a cohabitating partner at some point.

The SPM adopts a broader definition for the unit of analysis to accommodate many of these structures which are not accounted for in the unit of analysis used for the official poverty measure. The official measure of poverty defines the unit of analysis as the primary family - a householder with at least one additional person who can be linked to the householder by birth,

marriage, or adoption.¹ Other household members who cannot be linked to the householder by birth, marriage, or adoption are considered unrelated individuals. If two or more unrelated individuals can be linked to each other, they comprise an unrelated subfamily.^{2,3} Unrelated children under the age of 15 are excluded from the poverty universe.

In general, the unit of analysis for a poverty measure could be defined in a variety of ways to account for different degrees of resource sharing among unit members. At the extremes, each person could comprise a unit of analysis under the assumption that each household member is autonomous. Alternatively, all household members could be grouped together to determine poverty status at the household-level assuming complete resource sharing across household members. Using the family (wherein family members are restricted to those living within the same household and related by blood, marriage or adoption) as the unit of analysis offers researchers a unit of analysis that is between these two extremes.

Technical Paper X, “Effect of Using a Poverty Definition Based on Household Income,” (U.S. Department of Health, Education, and Welfare 1976) was one of the early interagency investigations of the appropriate unit of analysis for poverty measurement. This early report noted that while all people within a household enjoy economies of scale, there is great variability in the bond between individuals given the various possible relations. Thus, the degree of resource sharing among household members is likely to vary and depend on the relationship

1. Primary families include related subfamilies in this paper.

2. The information available to link family members is limited to parents, spouses, and children. Children in unrelated subfamilies must be under age 18 and never married. Children 18 years old and older or married are treated as autonomous resource units.

3. Henceforth, a subfamily refers to a family within the household wherein members of the subfamily are not related to members in the primary family or the householder.

between individuals. For instance, individuals related by birth, marriage, or adoption may be more likely to share resources compared to unrelated individuals without legal bonds.

More recently, the 1995 NAS report (Citro and Michael 1995), *Measuring Poverty*, and the suggestions of the ITWG recommended that the unit of analysis be amended to account for children in foster care, children under age 15 and unrelated to a household member, and cohabiting partners. The NAS panel recommended maintaining a family-level (as opposed to a household-level) unit of analysis for poverty determination but recommended that the family definition be expanded to include unrelated individuals under age 15 and cohabiting couples. The NAS report underscored that a cohabiting partner is an unmarried partner who is distinct from a housemate or roommate and that additional research was necessary to determine the extent of resource sharing among cohabiting partners.

Short and Smeeding (2005) addressed this question using data from the Survey of Income and Program Participation (SIPP). They found that cohabiting couples met the criteria established by the Consumer Expenditure (CE) survey for “consumer units.” A consumer unit in the CE is defined as a family (related by blood, marriage, cohabitation, or adoption) or two or more individuals who share at least two of three major expenses: housing, food, or other living expenses. This finding is important since the SPM thresholds use CE data and are based on consumer units such that the resource measure is consistent with the thresholds.

In early 2010, the ITWG on Developing a Supplemental Poverty Measure drew on the recommendations of the 1995 report of the NAS Panel on Poverty and Family Assistance and subsequent research on poverty measurement to issue a series of suggestions on how to develop a new poverty measure. Observations of the ITWG included adjustments to the unit of analysis, estimation of the thresholds, and measurement of economic resources. Regarding the unit of

analysis, the ITWG suggested that the thresholds be derived using expenditure data for consumer units and that resources be measured using a consistent unit of analysis. They also suggested that the resource unit include all related individuals who reside at the same address, any co-resident unrelated children who are cared for by the family, and any cohabiting partners and their children.

Method to Create Resource Units for the SPM

The unit of analysis for the SPM groups household members into resource units using a wider array of relationships. Any cohabiting partners, unrelated individuals under age 15, foster children under age 22, and related children over age 17 are joined with existing family units to create SPM resource units. Consequently, family units using the official measure of poverty are preserved but additional members of the household may join a resource unit or two non-family individuals may join to create a resource unit using the broader definition of resource unit for the SPM measure.⁴

Cohabiting Partners

Cohabiting partners and their children comprise the same SPM resource unit. A cohabiting couple consists of two unrelated individuals who live in the same household, are over the age of 14, are not married, and identify each other as a boyfriend, girlfriend, or partner.⁵

The Current Population Survey (CPS) began collecting data on cohabiting partners of the householder in 1996 (see Kreider (2008) for a good discussion). Unrelated individuals who are 15 years old or older and who are either not married or married with an absent spouse are asked whether they have a cohabiting partner in the household. In 2007, the survey question was

4. The same method is applied to people who live in group quarters.

5. This method does not condition on the sex of cohabiting partners.

improved to explicitly ask any unrelated, unmarried adults who live in the same household whether they have a boyfriend, girlfriend, or partner living in the household. The addition of the question in 2007 captured additional cohabiting partners of the householder who were not previously identified as the unmarried partner of the householder (Kreider 2008, 5-6).

There are two concerns related to the treatment of cohabiting partners as part of the same resource unit: the extent to which resources are shared and the stability of the relationship. Short and Smeeding (2005), using data from the SIPP, found that cohabiting couples are likely to share at least two major household expenses. Both the official poverty measure and the SPM use the household composition at the time of the survey to estimate the poverty status of individuals in the previous year. If the cohabiting relationship is very short term, it would be incorrect to aggregate the resources of the cohabiting couple to determine their poverty status. Bauman (1997) used data from the SIPP to analyze the duration of cohabiting couples, and found that approximately 75 percent of cohabiting partners stayed together for six months or longer. A more recent study found that the average cohabiting couple spends two years together (Kennedy and Bumpass 2008). This research suggests that it is reasonable to include cohabiting couples and their families in the same SPM resource unit.

Unrelated Individuals Under Age 15

The official measure of poverty excludes unrelated individuals under age 15 from the poverty universe. Some of these unrelated children are foster children. The unit of analysis for the SPM treats unrelated children who are in foster care differently from unrelated children not in foster care.

i. Unrelated Individuals Under Age 15 Who Are Not Foster Children

Children under age 15 who are unrelated to the reference person and not a child of some other household member are included in the householder's SPM resource unit. These unrelated children are not included in the poverty universe for the official poverty measure. The CPS does not ask income questions to persons under age 15 so there is no information on the child's income and so his or her poverty status cannot be determined.⁶ The SPM calculates a poverty status for unrelated children under age 15 by including these children in the same resource unit as the householder. Grouping unrelated children in the unit of the householder effectively assumes that the householder and any other members of the householder's resource unit pool resources with these unrelated children.

ii. Unrelated Individuals Under Age 22 Who Are Foster Children

The SPM groups foster children under age 22 in the resource unit of the householder. There is legal justification for treating foster children under age 22 as part of the SPM resource unit. Under the Fostering Connections to Success and Increasing Adoptions Act of 2008, guardians of children in foster care are eligible to receive foster payments until the child is age 21 (U.S. Department of Health and Human Services 2011).

The official measure inconsistently treats foster care payments and foster care children. The current official measure counts the householder's receipt of foster care payments in his or her income but does not count the foster child in the householder's resource unit. The householder's income is therefore increased by a sum equal to his or her foster payments but the householder's poverty threshold does not account for the presence of the foster child. Foster

6. There is no documentation detailing why the U.S. Census Bureau selected age 15 as the cutoff for asking the income question.

children age 15 to 21, who are included in the SPM resource unit of the householder, are treated as unrelated individuals under the official poverty measure.

The official measure also treats foster children differently based on their living arrangement. The CPS asks the householder about their relationship to each household member. While the householder has a wide range of possible responses, the respondent can only select one option. Householders with foster children in non-kinship care (foster child and caregiver are unrelated) will most likely identify the child as a foster child since that is the only option to describe the relationship between the householder and child. Householders with foster children in kinship care (foster child and caregiver are related by birth or marriage), however, are related to the child in two ways but may only identify the child in one way. The householder may be more likely to identify their relationship with the child as through birth or marriage (e.g. as their daughter, grandson, or nephew) than as a foster child.⁷

Expansion of Family Relationships through Birth for Unrelated Subfamilies

The official definition of a subfamily groups parents, spouses, and their children who are under age 18 into a family unit. Other family relationships, such as grandparent, sibling or cousin are not considered in the creation of a subfamily primarily because more detailed relationship information is not collected for household members who are not related to the householder.

Since 1989, only children under age 18 who were never married and have a parent present in the household have been included in a subfamily (U.S. Census Bureau 1990). Children

7. As a result of the structure of the relationship question, the CPS may under estimate the number of children in foster care since children living in kinship care may be alternatively identified based on their birth or marriage relationship to the householder. The underestimate of the number of children in foster care is a problem for researchers who are interested in counting the number of foster children but not an issue for researchers who are interested in poverty measurement, particularly if all foster children are included in the universe.

18 years old or older who are unrelated to the primary family are treated as unrelated individuals even if their parent lives in the same household (and is not the householder). For example, consider two individuals who are not related to the householder: a 60 year old mother and her 25 year old son. The unit of analysis for the official measure would separate the mother and son into separate units. In contrast, the unit of analysis for the SPM would group the mother and son into a single resource unit.

Conditioning on the child's age may result in separation of some families into separate resource units. Consider a household consisting of five people. The householder lives with a roommate and the roommate's three children. The children are ages 16, 18, and 20. Using the official measure, the householder is identified as a householder with no relatives present. The roommate and his 16 year old child are a subfamily. The 18 year old and 20 year old children are unrelated individuals. Using the alternative definition of family for the SPM universe, this household consists of two resource units: the householder; and a subfamily (the roommate and his three children).

This example can be extended further to demonstrate how families with multiple generations are divided into multiple units using the official measure. Consider a household with eight people. The householder is married to another household member. The householder and spouse have no children. The third household member is the mother of three other household members who are aged 16, 18, and 34. The 34 year old daughter of the third household member is the mother of the two remaining household members. These children are ages 1 and 3, respectively.

Using the official definitions, this household consists of four resource units:

- 1) the householder and his wife;
- 2) the third household member and her 16 year old child;
- 3) the third household member's 18 year old child; and
- 4) the third household member's 34 year old child and her two children (ages 1 and 3).

The SPM definition of family reduces this household composition to two resource units:

- 1) the householder and his wife; and
- 2) the third household member, her children (ages 34, 18, and 16), and her grandchildren (ages 1 and 3).

The number of resource units in the household changes because the new definition of a subfamily is not conditioned on the age of the child.

The limited data on family relationships outside members of the primary family will still limit the ability to link all members of unrelated subfamilies to resource units. Individuals can only be linked to the SPM resource unit of a subfamily if they are a cohabiting partner, spouse, parent, child, or foster child of a member of the subfamily. For example, two adult siblings who are not the head of household or related to the head of household will only be joined together if they have a parent present in the household. This is a data limitation since the SPM resource unit conceptually includes all individuals who are related by birth or marriage.

Unmarried Parents of Children in the Household

In some households, a child lives with both parents but the parents are not married and do not identify as a cohabiting couple. The official measure would not group the child and both of her parents into the same unit. The definition of the resource unit for the SPM measure, however, groups all three people in the same resource unit based on their relationship to the child.

Table A. Number of SPM resource units
 (Numbers in thousands. People as of March of the following year. For more information on confidentiality protection, sampling error, nonsampling error, and definitions, see www.census.gov/aprd/techdoc/cps/cpsmar10.pdf)

	Number	SE	PCT	SE	
Total	124,199	321.4	100.0		
Unchanged from the official unit	116,103	317.3	93.5	-	
Changed from the official unit	8,096	125.6	6.5	0.01	*

- Represents or rounds to zero. (SE) Standard error. (PCT) Percent.

* Statistically different from zero at the 90 percent confidence level.

Source: U.S. Census Bureau, Current Population Survey, 2010 Annual Social and Economic Supplement.

Resource Unit Composition across Measures: Results

I used data from the 2010 Current Population Survey to create SPM resource units using the new broader definition of family. The new method of creating units of analysis results in 124.2 million resource units.⁸ More than 93 percent of all SPM resource units contain the same members as in their corresponding unit of analysis for the official measure. Approximately 8.1 million SPM resource units (6.5 percent) contain at least one more person than in the unit used for the official measure (see table A).

A unit may grow as the result of any one or more of five possible changes in the definition of family, the inclusion of: (1) a cohabiting partner (and his or her family members),

8. The data in this report are from the Annual Social and Economic Supplement (ASEC) to the 2010 Current Population Survey (CPS). The estimates in this paper (which may be shown in the text, figures, and tables) are based on responses from a sample of the population and may differ from actual values because of sampling variability or other factors. As a result, apparent differences between the estimates for two or more groups may not be statistically significant. All comparative statements have undergone statistical testing and are significant at the 90 percent confidence level unless otherwise noted. Standard errors were calculated using replicate weights. The weighting method for the SPM resource units is currently under research and will be amended as necessary. As such, weighted estimates presented here may differ from weighted estimates in earlier reports (e.g. Short 2011). Further information about the source and accuracy of the estimates is available at www.census.gov/hhes/www/p60_238sa.pdf.

(2) an unmarried parent, (3) a biological child over age 17 in a subfamily, (4) a foster child under age 22, or (5) an unrelated individual under age 15 who is not a foster child.

Table B. Reason for Unit change

(Numbers in thousands. People as of March of the following year. For more information on confidentiality protection, sampling error, nonsampling error, and definitions, see www.census.gov/aprd/techdoc/cps/cpsmar10.pdf)

	Number	SE
Total	8,096	125.6
Cohabiting partner	7,818	123.4
Related children	1,831	55.0
Related children over age 18	152	18.5
Unrelated individual under age 15, not a foster child	292	20.9
Foster child under age 22	127	14.5
Unmarried parent	30	7.3

(SE) Standard error.

Note: A resource unit may change for multiple reasons.

Source: U.S. Census Bureau, Current Population Survey, 2010 Annual Social and Economic Supplement.

Of the 8.1 million units that changed, 7.8 million units changed as a result of the presence of a cohabiting partner (see table B). Approximately 1.8 million units changed as the result of linking individuals to resource units through a related child. In some cases, the unit changed simply as a result of including related children over age 17 of a reference person of a subfamily (152,000 units changed). Unrelated children under age 15 who are not in foster care affected 292,000 resource units while 127,000 units changed as a result including a foster child under age 22. The inclusion of unmarried parents in units changed 30,000 units.

While a single resource unit may have changed for as many as all five reasons, in the 2010 CPS ASEC, no unit changed for more than three reasons (see table C). Of the units that

changed, 76 percent changed for only one reason; 23 percent changed for two reasons; and less than one percent changed for three reasons.

Table C. Number of reasons for change

(Numbers in thousands. People as of March of the following year. For more information on confidentiality protection, sampling error, nonsampling error, and definitions, see www.census.gov/apspd/techdoc/cps/cpsmar10.pdf)

	Number	SE	PCT	SE
Total	8,096	125.6	100.0	
One	6,149	120.1	76.0	1.5
Two	1,893	56.1	23.4	0.7
Three	54	9.1	0.7	0.1

(SE) Standard error. (PCT) Percent.

Note: all are statistically different from each other

- Represents or rounds to zero.

Source: U.S. Census Bureau, Current Population Survey, 2010 Annual Social and Economic Supplement.

Of the 6.1 million units that changed for only one reason, cohabiting partners were the primary reason for a change in unit composition (96 percent or 5.9 million units) (see table D).

Table D. Reason for unit change among units that only change for one reason

(Numbers in thousands. People as of March of the following year. For more information on confidentiality protection, sampling error, nonsampling error, and definitions, see www.census.gov/apspd/techdoc/cps/cpsmar10.pdf)

	Number	SE	PCT	SE
Total	6,149	120.1	100.0	
Cohabiting partner	5,891	117.9	95.8	1.9
Unrelated individual under age 15, not a foster child	101	13.5	1.6	0.2
Foster child under age 22	110	13.3	1.8	0.2
Related children	47	11.8	0.8	0.2

(SE) Standard error. (PCT) Percent.

Note: All reasons (number and percent of units) are statistically different from other reasons except for unrelated children under age 15 who are not foster children and foster children under age 22.

Source: U.S. Census Bureau, Current Population Survey, 2010 Annual Social and Economic Supplement.

Fewer of these units changed because of the addition of an unrelated individual under age 15 who was not a foster child (101,000 units) or a foster child under age 22 (110,000 units).⁹ The inclusion of all individuals who can be linked through a related child resulted in approximately 47,000 new units.

Table E. Composition of units by former family type
(Numbers in thousands. People as of March of the following year. For more information on confidentiality protection, sampling error, nonsampling error, and definitions, see www.census.gov/aprd/techdoc/cps/cpsmar10.pdf)

	Number	SE	PCT	SE
Total changed from the official unit	8,096	125.6	100.0	
Householder with no family present and unrelated individual	4,336	89.5	53.6	1.1
Primary family and unrelated individual	3,323	80.1	41.0	1.0
Householder with no family present and subfamily	124	14.3	0.5	0.1
Primary family and subfamily	89	11.2	0.3	0.1
Subfamily and unrelated individual	37	8.3	0.5	0.1
Two unrelated individuals	125	18.9	1.5	0.2
Primary family, subfamily, and unrelated individual	24	5.7	1.1	0.1
Householder with no family present, subfamily, and unrelated individual	39	6.5	1.5	0.2

(SE) Standard error. (PCT) Percent.

Source: U.S. Census Bureau, Current Population Survey, 2010 Annual Social and Economic Supplement.

Table E shows the former family type of the 8.1 million changed units. Almost 95 percent changed simply due to the addition of an unrelated individual to either a householder with no family present or a primary family.¹⁰ These unrelated individuals may be cohabiting partners, unrelated children under 18, or children in foster care. Less than one percent of the new

9. The number and percent of units that changed solely due to the inclusion of a foster child under age 22 was not statistically different from an unrelated individual under age 15 who is not a foster child.

10. Householders with a family are identified as primary families. A primary family includes related subfamilies.

units were the result of the merger of a householder with no family present and a subfamily.¹¹ It was also uncommon for unrelated subfamilies and primary families or unrelated subfamilies and unrelated individuals to join the same resource unit.¹² No unit changed as the result of two subfamilies creating a new unit (although such a change is possible). Less than 2 percent of all changed units were the result of two unrelated individuals joining a single resource unit. One percent of all changed units consist of a primary family, subfamily, and unrelated individual.¹³ A householder with no family present, a subfamily, and an unrelated individual comprised 1.5 percent of changed units.¹⁴

i. Unrelated Individuals Under Age 15 and Foster Children Under Age 22

There are 460,000 unrelated individuals under age 15 who are excluded from the poverty universe for the official poverty measure but are included in the universe for the SPM.

Approximately 65 percent of these unrelated children (299,000 children) are not in foster care and 35 percent (161,000 children) are in foster care.

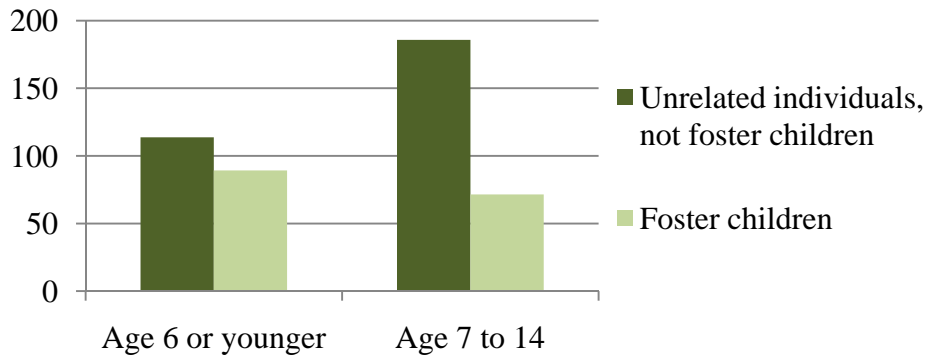
11. The number and percent of units that changed as the result of a householder with no family present and an unrelated subfamily forming a new unit are not statistically different from the units that changed as the result of two unrelated individuals forming a new unit.

12. The number and percent of units that formed as the result of a subfamily and an unrelated individual joining a new unit are not statistically different from the number and percent of units that formed because of a householder with no family present, subfamily, and an unrelated individual creating a new unit or a primary family, subfamily, and unrelated individual creating a new unit.

13. The number and percent of units that changed as the result of a primary family, subfamily, and an unrelated individual forming a new unit are not statistically different from the units that changed as the result of a subfamily and an unrelated individual forming a new unit.

14. The number and percent of units that changed as the result of a householder with no family present, subfamily, and an unrelated individual forming a new unit are not statistically different from the units that changed as the result of a subfamily and unrelated individual forming a new unit.

Figure A. Age distribution of unrelated children under age 15 by foster care status (Numbers in thousands. People as of March of the following year. For more information on confidentiality protection, sampling error, nonsampling error, and definitions, see www.census.gov/aprd/techdoc/cps/cpsmar10.pdf)



Source: U.S. Census Bureau, Current Population Survey, 2010 Annual Social and Economic Supplement.

The distribution of unrelated children under age 15 by age and foster care status illustrates differences in their ages (see figure A). Among unrelated children age 6 or younger, the number of foster children is not statistically different from the number of unrelated children who are not foster children.¹⁵ However, the number of unrelated children who are in foster care and age 7 to 14 years old is less than the number of unrelated children who are not in foster care and of similar ages.

Children who are in foster care and 21 years old or younger were included in the householder’s SPM resource unit. There are approximately 68,000 foster children between 15 and 21 years old (see table F).

15. The number of children in foster care who are age 6 or younger is not statistically different from the number of unrelated children who are in foster care age 7 to 14 years old.

Table F. Children in foster care

(Numbers in thousands. People as of March of the following year. For more information on confidentiality protection, sampling error, nonsampling error, and definitions, see www.census.gov/aprd/techdoc/cps/cpsmar10.pdf)

Age	Number	SE
Total	229	29.1
Under 15 years	161	24.8
15 to 21 years	68	11.5

(SE) Standard error.

Source: U.S. Census Bureau, Current Population Survey, 2010 Annual Social and Economic Supplement.

Characteristics of People in SPM Resource Units

The broadening of the family definition for the SPM unit of analysis does not alter the unit of analysis for 280 million people (see table G). The remaining 24 million people are grouped into a SPM resource unit that is different from their unit using the official measure of poverty.

Race and Hispanic Origin

The distribution of people by race differs among resource units that changed compared to units that did not change. A smaller percent of people in changed units are non-Hispanic White (61 percent) compared to the percent of people in unchanged units who are non-Hispanic White (65 percent). This is also true for the percent of people who are Asian (2 percent of people in changed units and 5 percent of people in unchanged units). A greater percent of people in changed units are Black or Hispanic compared to the percent of each respective race or Hispanic origin in unchanged units: 14 percent of people in changed units are Black compared to 13

percent of people in unchanged units; and 20 percent of people in changed units are Hispanic compared to 16 percent of people in unchanged units.¹⁶

Age

The percent of children under age 18 in changed units is not statistically different from the percent of children under age 18 in unchanged units. Further decomposition of this age group reveals a statistically different distribution of children by age across units that changed and did not change. A larger percent of children under age 15 are in changed units (22 percent) compared to the percent of children of similar age in unchanged units (20 percent). In contrast, a smaller percent of all people in changed units are children age 15 to 17 (4 percent) compared to children of similar age in unchanged units (3 percent).

A higher percent of people in changed units are 18 to 21 years old (7 percent) compared to the percent of all people in unchanged units of similar age (5 percent). People ages 18 to 24 comprise 15 percent of all people in changed units but only 9 percent of all people in unchanged units. This trend was also true for the percent of people ages 25 to 34 (23 percent of all people in changed units compared to 13 percent of all people in unchanged units).¹⁷ A higher percent of people age 35 to 44 are in changed units (14 percent) compared to the percent in unchanged units (13 percent).¹⁸ A smaller percent of all people in changed units are 45 to 64 years old (13

16. The percent of people in changed units who are White alone is not statistically different from the percent of people in unchanged units who are White alone.

17. The percent of people in changed units age 18 to 24 years old is not statistically different from the percent of people in changed units age 35 to 44 years old and the percent of people in unchanged units age 45 to 54 years old.

18. The percent of people in changed units age 35 to 44 years old is not statistically different from the percent of people in unchanged units age 45 to 54 years old.

percent) compared to the percent of people in unchanged units of similar ages (15 percent).¹⁹

Approximately 72 percent of all people in changed units are 18 to 64 years old. This is greater than the percent of people in unchanged units of similar age (62 percent).

Of the 39 million people age 65 or older, 38 million are in units that do not change across poverty measures. Among all people in unchanged units, 14 percent are 65 years old or older. Only 3 percent of people in changed units are age 65 or older.

Residence

Among unchanged resource units, 84 percent of the people (236 million people) reside inside metropolitan statistical areas and 16 percent people (44 million people) reside outside these areas. People in changed units are more likely to reside inside a principal city (37 percent compared to 32 percent) and less likely to reside inside a metropolitan statistical area but outside a principal city (46 percent compared to 53 percent).

Region

A larger percent of people in the changed units reside in the Midwest (24 percent compared to 22 percent) and West (26 percent compared to 23 percent) compared to the percent of people in unchanged units residing in these regions.²⁰ As a share of all people in changed units, a smaller percent of people reside in the South (34 percent) compared to the percent of all people in unchanged units who live in the South (37 percent). The percent of people in changed

19. The percent of people in changed units age 45 to 54 years old is not statistically different from the percent of people in unchanged units age 25 to 34 years old and the percent age 35 to 44 years old.

20. The percent of people within changed units who reside in the Midwest is not statistically different from the percent of people in changed units who live in the West and the percent of people in unchanged units who live in the West.

units who reside in the North is not statistically different from the percent of people in unchanged units who live in this region.

Unresolved Issues for Future Consideration

The SPM measure is an experimental measure to supplement the official measure of poverty. Compared with the official measure, the unit of analysis for the SPM utilizes a wider array of relationships in order to classify household members into resource units. The U.S. Census Bureau may update its methodology to create resource units for the SPM as new information becomes available. Moving forward, there are at least three areas that will require additional research in order to validate the current methodology.

First, it is unclear at what age unrelated children should be treated as dependent from the householder's family unit. Among unrelated children, those in foster care who are under age 22 are included in the householder's resource unit while those not in foster care are included only if they are under age 15. Unrelated children who are not in foster care and 15 years old or older are considered to be autonomous from the householder's resource unit. There are 1.7 million unrelated individuals age 15 to 21 who are not in foster care.²¹ The inconsistency in the age cutoff across different types of unrelated children warrants more research in order to identify at which age unrelated children should be considered economically independent.

Second, further research is necessary to better understand resource sharing among cohabiting couples. The current method assumes that resources are shared for any cohabiting couple. This method was motivated by the observation that cohabiting couples exhibit fairly

21. These unrelated individuals do not live with a spouse or parent. However, this estimate does not control for whether the unrelated individual is the parent of a child living in the same household or a cohabiting partner of another household member.

stable relationships and so should be treated similar to married couples. But this assumption may only be valid for particular couples. For instance, cohabiting couples who recently moved in together may be less likely to share resources compared to couples who have lived together from some extended time period (e.g. six months, one year, etc.). Moreover, different relationships may exhibit different levels of stability. In a recent paper, Sherman (2009) requires that cohabiting partners live together for the previous 12 months before treating them as members of the same resource unit. Future research should consider the extent that cohabiting couples share resources given the period of time that they have lived together.

Research on resource sharing has yet to consider variations in the degree of resource sharing among the resource unit members. Individuals in some resource units may each receive an equal share of the resources while a single individual in other resource units may consume all of the resources.²² In the latter case, it would be more accurate to treat each individual as an autonomous unit. It would be difficult, however, to allocate the costs of expenditures on jointly consumed goods (such as housing or durable goods). Individual analysis would also misrepresent the well-being of individuals without independent economic resources who are economically dependent on other household members.²³

Finally, it is unclear whether the unit of analysis should be based on the household or some subset of the household. The U.S. Census Bureau currently uses the household as the principal unit of analysis when analyzing the distribution of income. This method is not consistent with the method to estimate poverty statistics, which are estimated at the family level.

22. NAS recommendations cite the review conducted by the 1976 Poverty Studies Task Force (U.S. Department of Health, Education and Welfare, 1976: Vol. 1: 34, 100), the insights of Ruggles (1990: 121-124) and the empirical work of Lazear and Michael (1988) and Townsend (1979).

23. For a good survey of the literature on intrahousehold resource sharing, see Haider and McGarry (2005).

There is considerable debate over whether poverty measures should be based on related individuals, all people living at the same household, or some combination thereof. Assuming more complete resource pooling, all members of a household could be grouped as the unit of analysis. Assumptions about differences in the degree of resource pooling across various relationships are not necessary if the household is treated as the unit of analysis. Instead, a household measure would assume that all individuals in the household share resources. But this over simplification may incorrectly assume resource pooling among household members who do not share resources. Previous studies attempted to disentangle the extent of resource sharing among different household members but still there is no clear consensus on how to account for variation in resource pooling and joint consumption behaviors of household members (see Ruggles 1990; Lazear and Michael 1988).

Concluding Remarks

The SPM is an experimental measure that defines the unit of analysis, income thresholds, and resources in a manner different from the official poverty measure. Each of these changes are likely to impact poverty estimates as compared to estimates that use the official poverty measure. As the SPM continues to develop and address the unresolved issues raised in this paper and additional issues not yet identified, future research should continue to examine which people are most affected by changes in the unit of analysis.

REFERENCES

- Bauman, Kurt. "Shifting Family Definitions: The Effect of Cohabitation and Other Nonfamily Household Relationships on Measures of Poverty." U.S. Census Bureau. Working paper. 1997. <http://www.census.gov/hhes/www/povmeas/papers/shft_cen.html>.
- Bumpass, L. and J. Sweet. "Children's Experience in Single-Parent Families: Implications of Cohabitation and Marital Transitions." *Family Planning Perspectives*, 21: 256-260. 1989.
- Chandra, A., G. Martinez, W. Mosher, J. Abma, and J. Jones. "Fertility, family planning, and reproductive health of U.S. women: Data from the 2002 National Survey of Family Growth." National Center for Health Statistics. Hyattsville: 160. Vital and health statistics. Series 23, 25. 2005.
- Citro, Constance F., and Robert T. Michael (eds). *Measuring Poverty: A New Approach*. Washington, D.C.: National Academy Press. 1995.
- DeNavas-Walt, Carmen, Bernadette Proctor, and Jessica Smith. "Income, Poverty, and Health Insurance Coverage in the United States: 2009." U.S. Census Bureau. Current Population Reports. 2010. <<http://www.census.gov/prod/2010pubs/p60-238.pdf>>.
- Fitch, C., R. Goeken, and S. Ruggles. "The Rise of Cohabitation in the United States: New Historical Estimates." Minnesota Population Center, Working paper 2005-03. 2005.
- Haider, Steven and Kathleen McGarry. "Recent Trends in Resource Sharing Among the Poor." in *Shifting Resources: The Next Generation of Research on Economic Changes, Public Policy Changes and Poverty*, eds., Rebecca Blank, Sheldon Danziger and Robert Schoeni. 2005.
- Kennedy, Sheela and Larry Bumpass. "Cohabitation and Children's Living Arrangements: New Estimates from the United States." *Demographic Research*, 19, 1663-1692. 2008.

Kreider, Rose.” Increase in Opposite-sex Cohabiting Couples from 2009 to 2010 in the Annual Social and Economic Supplement (ASEC) to the Current Population Survey (CPS).” U.S. Census Bureau, Housing and Household Economic Statistics Division Working Paper. 2010. < <http://www.census.gov/population/www/socdemo/Inc-Opp-sex-2009-to-2010.pdf>>.

Kreider, Rose. “Improvements to Demographic Household Data in the Current Population Survey: 2007.” U.S. Census Bureau. Housing and Household Economic Statistics Division Working Paper. 2008. <<http://www.census.gov/population/www/documentation/twps08/twps08.pdf>>.

Kreider, Rose and Diana Elliott. “The Complex Living Arrangements of Children and their Unmarried Parents.” Poster presentation prepared for the Population Association of America. 2009. <<http://www.census.gov/population/www/socdemo/hh-fam.html>>.

Lazear, Edward and Robert Michael. Allocation of Income within the Household. Chicago: University of Chicago Press. 1988.

Mincieli, L., J. Manlove, M. McGarrett, K. Moore, and S. Ryan. “The Relationship Context of Births Outside of Marriage: The Rise of Cohabitation.” Child Trends. Brief 2007-13. 2007.

Observations from the Interagency Technical Working Group on Developing a Supplemental Poverty Measure (Interagency), 2010. <http://www.census.gov/hhes/www/poverty/SPM_TWGObservations.pdf>.

Poverty Studies Task Force. “Technical Paper X, Effect of Using a Poverty Definition Based on Household Income.” U.S. Department of Health, Education and Welfare 1(34), 100. 1976.

Provencher, Ashley. "Units of Analysis in the SPM." United States Census Bureau. Working Paper, 2010-14. 2011.

<http://www.census.gov/hhes/povmeas/methodology/supplemental/research.html>.

Ruggles, Patricia. *Drawing the Line: Alternative Poverty Measures and Their Implications for Public Policy*, Washington, D.C.: The Urban Institute Press. 1990.

Schoen, R., S. Landale, and K. Daniels. "Family Transitions in Young Adulthood."

Demography, 44 no. 4, 807-820. 2007.

Sherman, Arloc. "Safety Net Effective at Fighting Poverty But Has Weakened for the Very Poorest." Center on Budget and Policy Priorities. 2009. <

<http://www.cbpp.org/cms/index.cfm?fa=view&id=2859>>.

Short, Kathleen, "Cohabitation and Child Care in a Poverty Measure," Presented at the annual conference of the American Statistical Association. 2009.

Short, Kathleen, "Experimental Modern Poverty Measures 2007." Presented at the conference for the Society of Government Economists at the Allied Social Science Association Meetings, Atlanta, Georgia. 2010.

<http://www.census.gov/hhes/www/povmeas/papers.html>.

Short, Kathleen. "Supplemental Poverty Measure: Preliminary Estimates for 2009." Paper prepared for the ASSA Annual Meetings, Denver, CO, 2011.

Short, Kathleen and Timothy Smeeding. "Consumer Units, Households and Sharing: A View from the Survey of Income and Program Participation (SIPP)." Working Paper. U.S. Census Bureau. 2005.

<http://www.census.gov/hhes/www/povmeas/papers/consumerunits.pdf>.

Townsend, Robert. "Consumption Insurance: An Evaluation of Risk-Bearing systems in Low-Income Economies." *The Journal of Economic Perspectives*, 93 no. 3, 83-102. 1995.

United States Census Bureau. "Household and Family Characteristics: March 1990 and 1989." Current Population Reports Series P-20, No. 447. 1990.

<<http://www.census.gov/population/socdemo/hh-fam/p20-historical/P20-447.pdf>>.

United States Department of Health and Human Services, Administration for Children and Families. "Implementation of the Fostering Connections to Success and Increasing Adoptions Act of 2008." 2011.

<http://www.acf.hhs.gov/programs/cb/laws_policies/implementation_foster.htm>.

Table G. People in SPM resource units by selected characteristics
 (Numbers in thousands. People as of March of the following year. For more information on confidentiality protection, sampling error, nonsampling error, and definitions, see www.census.gov/aprd/techdoc/cps/cpsmar10.pdf)

	Unchanged				Changed				Difference ¹			
	Number	SE	PCT	SE	Number	SE	PCT	SE	Number	SE	PCT	SE
Total	279,840	396	100.0		24,440	386	100.0		255,400	779		
Race ² and Hispanic Origin												
White alone	223,098	359	79.7	0.1	19,305	346	79.0	1.4	203,793 *	699	0.7	1.5
White alone, not Hispanic	182,538	314	65.2	0.1	14,898	305	61.0	1.3	167,640 *	611	4.3 *	1.4
Black alone	35,106	153	12.5	-	3,518	151	14.4	0.6	31,588 *	303	-1.8 *	0.7
Asian alone	13,532	109	4.8	-	479	43	2.0	-	13,052 *	136	2.9 *	0.2
Hispanic (any race)	44,021	169	15.7	0.1	4,880	168	20.0	0.1	39,141 *	337	-4.2 *	0.7
Age												
Under 18	68,917	166	24.6	0.1	6,122	146	25.0	0.6	62,795 *	301	-0.4	0.7
Under 15	56,733	134	20.3	0.1	5,379	132	22.0	0.5	51,355 *	265	-1.7 *	0.6
15 to 17 years	12,184	84	4.4	-	743	38	3.0	0.2	11,441 *	99	1.3 *	0.2
18 to 64 years	173,092	316	61.9	0.1	17,535	280	71.7	1.2	155,557 *	578	-9.9 *	1.3
18 to 21 years	15,092	154	5.4	0.1	1,708	66	7.0	0.3	13,384 *	191	-1.6 *	0.3
18 to 24 years	25,654	132	9.2	0.1	3,659	105	15.0	0.4	21,995 *	223	-5.8 *	0.5
25 to 34 years	35,344	154	12.6	0.1	5,741	141	23.5	0.6	29,604 *	293	10.9 *	0.6
35 to 44 years	36,907	99	13.2	-	3,540	96	14.5	-	33,367 *	193	-1.3 *	0.4
45 to 54 years	41,328	98	14.8	-	3,060	98	12.5	0.4	38,268 *	196	2.2 *	0.4
55 to 59 years	18,222	72	6.5	-	950	49	3.9	0.2	17,272 *	111	2.6 *	0.2
60 to 64 years	15,637	111	5.6	-	586	36	2.4	0.2	15,052 *	124	3.2 *	0.2
Over 65 years	37,831	106	13.5	-	783	54	3.2	0.2	37,048 *	138	10.3 *	0.2

Table G. *Continued.*

	Unchanged				Changed				Difference				
	Number	SE	PCT	SE	Number	SE	PCT	SE	Number	SE	PCT	SE	
Residence													
Inside metropolitan statistical areas	236,054	1,465	84.4	0.5	20,329	379	83.2	1.6	215,725 *	1,478	1.2	1.6	
Inside principal cities	88,875	1,035	31.8	0.4	8,981	255	36.7	1.0	79,895 *	1,022	-5.0 *	1.0	
Outside principal cities	147,179	1,357	52.6	0.5	11,348	278	46.4	1.1	135,831 *	1,337	6.2 *	1.2	
Outside metropolitan statistical areas ³	43,786	1,425	15.6	0.5	4,111	206	16.8	0.8	39,675 *	1,328	-1.2	0.	
Region													
Northeast	50,509	199	18.0	0.1	4,144	169	17.0	0.7	46,365 *	350	1.1	0.8	
Midwest	60,228	238	21.5	0.1	5,868	212	24.0	0.9	54,360 *	437	-2.5 *	0.9	
South	104,116	289	37.2	0.1	8,196	238	33.5	1.0	95,920 *	508	3.7 *	1.1	
West	64,987	201	23.2	0.1	6,231	183	25.5	0.8	58,756 *	365	-2.3 *	0.8	

- Represents or rounds to zero.

* Statistically different from zero at the 90 percent confidence level.

¹ Details may not sum to totals because of rounding.

² Federal surveys now give respondents the option of reporting more than one race. Therefore, two basic ways of defining a race group are possible. A group such as Asian may be defined as those who reported Asian and no other race (the race-alone or single-race concept) or as those who reported Asian regardless of whether they also reported another race (the race-alone-or-in-combination concept). This table shows data using the first approach (race alone). The use of the single-race population does not imply that it is the preferred method of presenting or analyzing data. The Census Bureau uses a variety of approaches. Information on people who reported more than one race, such as White and American Indian and Alaska Native or Asian and Black or African American, is available from Census 2000 through American FactFinder. About 2.6 percent of people reported more than one race in Census 2000. Data for American Indians and Alaska Natives, Native Hawaiians and Other Pacific Islanders, and those reporting two or more races are not shown separately.

³ The “Outside metropolitan statistical areas” category includes both micropolitan statistical areas and territory outside of metropolitan and micropolitan statistical areas. For more information, see

“About Metropolitan and Micropolitan Statistical Areas” at <www.census.gov/population/www/estimates/aboutmetro.html>.

Source: U.S. Census Bureau, Current Population Survey, 2010 Annual Social and Economic Supplement.