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Metropolitan Policy Program

Leaving Money (and Food) on the Table:
Food Stamp Participation in Major Metropolitan Areas and Counties

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"Only about one-half of all eligible individuals participate in the Food Stamp Program."

Findings

An analysis of U.S. Department of Agriculture (USDA) and Census 2000 data on food stamp use and program eligibility in 97 large metropolitan areas reveals that:

- **In 1999, 9.8 million individuals in 97 large metropolitan areas across the nation lived in households that received a combined $9.1 billion in food stamp benefits.** Higher shares of the populations in the metropolitan Southern and Western United States received food stamps, as did those in urban "city-counties" such as St. Louis, New Orleans, and Philadelphia.

- **Only about one-half of all individuals in major metropolitan areas who were eligible for food stamps received benefits in 1999.** Participation rates ranged widely across the nation, from a low of 21 percent in the Middlesex-Somerset-Hunterdon, NJ, metro area to a high of 94 percent in El Paso, TX. Midwestern metropolitan areas reported above-average participation rates, and some urban counties exhibited considerably higher or lower participation rates than their respective metro areas.

- **Across all 97 metropolitan areas, eligible households that did not claim food stamps left an estimated $4.9 billion on the table in 1999.** Forgone benefits in the Chicago and Houston areas exceeded $200 million, while the New York and Los Angeles areas could each have reaped about half a billion dollars more in food stamp funding had all eligible households participated.

- **The number of individuals receiving food stamps in the 97 metropolitan areas rose by 1.4 million from 1999 to 2002, but estimates from the USDA indicate that the overall metropolitan participation rate has likely declined since then.** Because of the economic downturn and changes in the Food Stamp Program that expanded eligibility for working families, the number of individuals eligible for food stamps has increased faster recently than enrollment in the program.

Billions of dollars in unclaimed food stamp benefits and millions of nonparticipating eligible families should focus local leaders' attention on opportunities to connect more eligible individuals to the program. These include emphasizing to federal officials the local importance of food stamps, integrating food stamp outreach into existing working-family campaigns, supporting state policies that streamline access to food stamps, and encouraging the USDA to monitor food stamp participation rates at the sub-state level.

Introduction

Only about one-half of all eligible individuals participate in the Food Stamp Program (FSP), the nation's largest federal nutrition assistance program and second largest antipoverty program. The most recent national analysis indicates that more than 18 million people received food stamps in an average month in 2002. However, this represented only 54 percent of individuals eligible for benefits. Participation was up slightly from the year before, but it was still lower than at any other point since 1990. As a result, approximately 16 million individuals who qualified for food stamps in 2002 did not receive assistance, leaving about $9 billion in unclaimed benefits.[1]

Research on food stamp participation has revealed that an eligible household's characteristics—its structure, the age of its members, its earnings, and its participation in other low-income programs—may influence its members' likelihood of claiming benefits.[2] Similarly, household members' perception of the complexity of obtaining benefits may influence their decision to apply.

Important to research and policy, these factors vary greatly across the United States. Although some estimates show variations in FSP participation between states, none reflects the diversity within and across the nation's urban and metropolitan areas that may affect participation at a local level.[3] Moreover, urban leaders have little information about the financial importance of food stamps for their lower-income families and neighborhood economies.[4]

Now is a potentially auspicious time to look more closely at the meaning of food stamps for urban and metropolitan areas. Research showing that participation among eligible families dropped in the late 1990s prompted Congress and the administration to undertake new efforts to raise food stamp participation rates, especially among working families.[5] Local information on participation would enable policymakers and community leaders to more effectively target scarce resources for outreach in areas where benefits are most needed. As this study shows, even within states, participation rates often vary widely from one local area to another.

In the past five years, hundreds of cities and counties have initiated outreach campaigns to inform eligible families about the Earned Income Tax Credit, a crucial benefit for working families and a fiscal boon to urban economies. Complementary efforts to increase the proportion of eligible households receiving food stamps would also benefit metropolitan areas. Food stamp spending supports local grocery stores, expands the spending power of participating households, and fortifies family health.[6] Better information on metropolitan participation rates can inform outreach coordinators of the financial opportunities associated with increased food stamp use among eligible families, referred to as "take-up," and enable them to evaluate program effectiveness.

To describe the current and potential value of food stamps in urban America, food stamp participation rates are estimated for major metropolitan areas and large counties, finding that although the program annually injects billions of dollars into major urban counties and metropolitan areas, only about one-half of all eligible individuals in 1999 received benefits in these areas. Program participation rates varied widely among metropolitan areas and their large urban counties, but in all areas, less than full participation meant that families and neighborhoods sacrificed substantial benefits. Moreover, although program enrollment has increased since 1999, state-level research suggests that significant gaps remain between food stamp receipt and eligibility in metropolitan areas. The paper concludes with a set of policy actions that could help local leaders reap the power and potential of the FSP for their working families and communities.

Methodology

Estimating food stamp participation rates involves multiple data sources and several assumptions. This section explains the data used to produce these estimates and the methods used to arrive at county and metropolitan participation rates. The Methodological Appendix contains a fuller explanation of the various data sources, assumptions, and procedures.

Because our eligibility data derive from Census 2000, which collected income information for calendar year 1999, in all instances we model the food stamp rules effective in 1999. Those rules have changed in some important respects since then (see Methodological Appendix for further details), but as explained later, over all program participation rates have remained steady.[7] Therefore, the participation rates estimated in this paper likely portray the contemporary situation in large counties and metropolitan areas.

The food stamp participation rate represents the proportion of individuals eligible for the FSP who receive benefits. To construct these participation rates for metropolitan areas and counties, two data sources are used.[8] For the numerator—the number of people receiving benefits through the FSP—we use administrative data that the USDA provides to the Census Bureau detailing the number of food stamp participants at the county level in July of each year. For the denominator—the number of people eligible for benefits—we use the Census 2000 Public Use Microdata Sample (PUMS).[9] These data are a representa-

tive person-level and household-level sample for the nation, states, and geographies that the Census Bureau refers to as Public Use Microdata Areas (PUMAs). By definition, PUMAs are home to at least 100,000 individuals and are generally based on counties or census-defined places. For counties, groups of counties, or places that include more than 200,000 individuals, PUMAs are defined as components of these geographies.

These PUMAs and the PUMS data are used to create a representative sample of individuals in 97 metropolitan areas with populations greater than 500,000 in 2000. These metropolitan areas follow the metropolitan statistical area (MSA) and primary metropolitan statistical area (PMSA) concepts in effect for Census 2000, and in the New England states, the New England County Metropolitan Area (NECMA) concept.[10] Metropolitan areas usually consist of one or more cities and the nearby counties that have close economic and commuting ties to those cities. Most metropolitan areas consist of several counties; the Atlanta, GA, MSA, for instance, includes 20 counties in north-central Georgia that surround Atlanta. Others, such as the Miami, FL, and Los Angeles, CA, PMSA, consist of one large county alone. Overall, 102 MSAs, PMSAs, and NECMAs had populations of at least 500,000 in 2000, but only 97 had boundaries that closely mirrored those established for PUMAs.[11]

Within these metropolitan areas, 50 urban counties are isolated containing the largest city or cities, and then census microdata is used to model food stamp eligibility for those counties.[12] We compare food stamp participation rates in the urban counties with those in their respective metropolitan areas.

The PUMS data is supplemented with model estimates from the Food Stamp Program Quality Control (FSPQC) data set and the March 2000 Current Population Survey (CPS). The FSPQC database is an annual review of a sample of case records to assess quality control in the FSP. It contains demographic, economic, and food stamp eligibility information for a sample of about 47,000 households receiving food stamps. The CPS is a monthly household survey conducted jointly by the Census Bureau and the Bureau of Labor Statistics. The USDA uses both of these data sources to assess annually the performance of state agencies that administer this program.

Our methodology for estimating food stamp eligibility is similar to that used by the USDA to estimate state food stamp participation rates. In particular, we estimate eligibility as a function of household type, income, asset wealth, and individual characteristics, including specific rules associated with able-bodied adults without dependents, refugees, and legal resident aliens.

The USDA method is adjusted to incorporate additional metropolitan information, to take advantage of alternative imputation methods, and to overcome limitations in certain components of the USDA methodology.[13] In some instances, data specific to local areas were unavailable. The USDA accounts for similar data gaps by imputing national information to state-level eligibility estimates. We likewise impute national and state estimates to county and metropolitan areas when necessary. For instance, local information on food stamp issuance errors is unavailable, and in its place we use state-level estimates (see Methodological Appendix).

Although imputations add some uncertainty to estimates, we use a much larger sample of households than the USDA to estimate the number of individuals eligible for food stamps. The Annual Social and Economic Supplement in the CPS, the primary data source for USDA's national and state participation rate, samples 100,000 households nationwide. The Census 2000 5 percent PUMS, the primary data source for our analysis, contains data for a sample of more than 5 million housing units, 50 times the size of the CPS. In general, estimates drawn from larger samples are more accurate and reliable.[14]

To describe the number of people receiving food stamps and the value of food stamps received at the county and metropolitan levels, we use the FSP administrative data described above and data from the Bureau of Economic Analysis' (BEA) Regional Economic Accounts. The USDA provides BEA with county tabulations of the value of food stamps distributed, and those values are summarized here for the metropolitan areas and counties studied.[15]

Findings

A. In 1999, 9.8 million individuals in 97 large metropolitan areas across the nation lived in households that received a combined $9.1 billion in food stamp benefits.

Before exploring metropolitan food stamp participation rates, or the extent to which food stamps reach eligible families in metropolitan areas, the significant economic contribution the program offers to these areas and their residents is examined. In particular, we focus on the number of individuals receiving food stamps locally and the share of local population participating in the program.

In 2000, the 97 metropolitan areas studied here contained 174 million people, slightly more than three-fifths of the nation's population. Of these individuals, roughly 9.8 million lived in households that participated in the FSP in 1999. This equates to 5.7 percent of the overall population of these metropolitan areas.

The percentage of all people participating in the program varied widely across the areas studied (Table 1). The

Table 1. Top and Bottom Metropolitan Areas by Percentage of Population Receiving Food Stamps, 1999

Rank	Metropolitan Area	Population (2000)	No. of Food Stamp Recipients	% in Food Stamp Program	Food Stamp Value
1	McAllen—Edinburg—Mission, TX MSA	569,463	127,244	22.3	$117,738,000
2	El Paso, TX MSA	679,622	113,385	16.7	100,659,000
3	New Orleans, LA MSA	1,381,652	165,203	12.0	161,504,000
4	Miami, FL PMSA	2,253,362	254,889	11.3	208,965,000
5	New York, NY PMSA	9,314,235	1,003,136	10.8	1,046,410,000
6	Memphis, TN—AR—MS MSA	1,111,849	125,207	11.3	108,224,000
7	Fresno, CA MSA	922,516	93,588	10.1	92,161,000
8	Mobile, AL MSA	540,258	53,449	9.9	48,875,000
9	Bakersfield, CA MSA	661,645	59,024	8.9	55,945,000
10	Stockton—Lodi, CA MSA	563,598	50,093	8.9	44,863,000
88	Fort Worth—Arlington, TX PMSA	1,661,525	48,880	2.9	46,295,000
89	Sarasota—Bradenton, FL MSA	589,959	16,740	2.8	15,037,000
90	Dallas, TX PMSA	3,663,308	102,015	2.8	101,707,000
91	Ann Arbor, MI PMSA	625,263	14,971	2.4	11,982,000
92	Monmouth—Ocean, NJ PMSA	1,126,217	29,044	2.6	25,012,000
93	San Jose, CA PMSA	1,682,585	42,313	2.5	37,279,000
94	Orange County, CA PMSA	2,846,289	69,355	2.4	56,195,000
95	San Francisco, CA PMSA	1,731,183	33,649	1.9	32,533,000
96	Nassau—Suffolk, NY PMSA	2,753,913	49,046	1.8	42,980,000
97	Middlesex—Somerset—Hunterdon, NJ PMSA	1,169,641	17,556	1.5	15,512,000
Total (97 metropolitan areas)		**173,527,152**	**9,821,067**	**5.7**	**$9,108,408,000**

Source: Authors' calculations of Census 2000, Bureau of Economic Analysis, and USDA administrative data

metro areas with the highest shares receiving food stamps in 1999 are all located in Southern and Western states (with the exception of New York). Some are in border and agricultural areas with large Hispanic populations, such as McAllen and El Paso, TX and Bakersfield and Fresno, CA. Others represent "Deep South" locales, such as New Orleans, LA, Memphis, TN, and Mobile, AL.

The metro areas with the lowest shares of population receiving food stamps are a somewhat more mixed bunch. Some are wholly "suburban" in their makeup, including Nassau and Suffolk counties on Long Island, NY, and two New Jersey metro areas. San Francisco and San Jose, CA, had low percentages as well, perhaps reflecting the relatively high incomes in the Bay Area in the late 1990s. The Dallas and Fort Worth areas, and Orange County in Southern California, appear on this list as well, even though considerable shares of their populations had below-poverty incomes.[16] As the next section shows, the variation in the proportion of individuals receiving food stamps reflects both underlying differences in eligibility across metro areas and differences in the percentage of eligible families that actually participate in the program.

Across the 50 urban counties we analyzed, a higher share of individuals (8.0 percent) received food stamps in 1999 than at the metropolitan level (Table 2). The counties with the highest proportions of their population in the FSP were all "city-counties"; that is, they also represented the entire central city for their respective metropolitan areas (in the case of the Bronx, a portion of the central city). This distinguished them from some of the counties at the bottom of the list, such as those containing Raleigh, NC, Fort Worth, TX, and Virginia Beach, VA, all of which include suburban jurisdictions or suburban-like development (and higher average incomes) within their borders. As such, the county-level differences shown in Table 2 indicate not only income differences among these places, but also differences in how their administrative

Table 2. Top and Bottom Urban Counties by Percentage of Population Receiving Food Stamps, 1999

Rank	County	Related City/Cities	Population (2000)	Food Stamp Recipients	% in Food Stamp Program	Food Stamp Value
1	St. Louis City, MO	St. Louis	348,189	77,827	22.4	$70,183,000
2	Orleans Parish, LA	New Orleans	484,674	100,710	20.8	101,959,000
3	Bronx County, NY	New York	1,332,650	250,796	18.8	162,826,000
4	Philadelphia County, PA	Philadelphia	1,517,550	271,509	17.9	264,965,000
5	Baltimore City, MD	Baltimore	651,154	99,456	15.3	103,252,000
46	Dallas County, TX	Dallas	2,218,899	73,246	3.3	75,783,000
47	San Francisco County, CA	San Francisco	776,733	24,889	3.2	24,593,000
48	Wake County, NC	Raleigh	627,846	19,546	3.1	17,301,000
49	Tarrant County, TX	Fort Worth/Arlington	1,446,219	43,321	3.0	41,403,000
50	Virginia Beach City, VA	Virginia Beach	425,257	12,117	2.8	10,676,000
	TOTAL (50 urban counties)		**59,204,703**	**4,759,305**	**8.0**	**$4,489,484,000**

Source: Authors' calculations of Census 2000, Bureau of Economic Analysis, and USDA administrative data

boundaries are drawn. That noted, food stamps are clearly an essential investment in cities such as St. Louis, New Orleans, and Philadelphia, where at least one in six people participated in the program in 1999.

The financial impact of the program at the urban and metropolitan levels is considerable. The FSP delivered $9.1 billion in benefits in 1999 to the 97 metropolitan areas studied, and about $94 million to the typical metro area. About one-half of the metropolitan total went to households in the 50 urban counties. In Philadelphia, for instance, food stamps amounted to more than a quarter-billion dollar family investment in 1999.

The cash infusion provided by food stamps fueled economic activity in these metropolitan areas, especially in the retail food industry. Research suggests that food stamp expenditures stimulate economic activity by more than $1.80 for every $1 spent.[17] Thus, the $9.1 billion in food stamps flowing to these metropolitan areas helped generate an estimated $16.4 billion in increased economic output. Moreover, it is estimated that every $1 in food stamps that a household receives increases household food expenditures by between 17 cents and 47 cents.[18] This indicates that the FSP raised food spending in these metropolitan areas anywhere from $1.6 billion to $4.3 billion in 1999. That increase contributed significantly to the size of the grocery industry in these metropolitan areas, which paid $49.7 billion in wages and salaries that year (see Appendix Table A).

Notably, the number of individuals served by the FSP only slightly exceeds one-half the number of individuals living below the poverty line in these metropolitan areas (see Appendix A). This indicates that being poor does not guarantee access to food stamps. Although about 5.7 percent of the population in the average metropolitan area enrolled in the FSP in 1999, 11.6 percent, on average, lived below the poverty line.

B. Only about one-half of all individuals in major metropolitan areas who are eligible for food stamps received benefits in 1999.

The proportion of all people receiving food stamps varies considerably among metropolitan areas, as the previous section demonstrates. That proportion itself depends on the relation between two measures: the share of metropolitan residents *eligible* for the program and the share of those eligible who *participate* in the program. The latter, which we refer to as the FSP *participation rate*, varies to an even greater degree among metropolitan areas.

Across the 97 metropolitan areas in our sample, we estimate that only 52 percent of individuals eligible for food stamps received benefits in 1999. This is nearly identical to USDA estimate of the national FSP participation rate in 1999, at 56 percent.[19]

Food stamp participation rates varied greatly among metropolitan areas, however. To illustrate this variation, we rank metropolitan areas as below average, average, or above average in estimated FSP participation rates (Table 3). Estimated participation rates for all 97 metro areas are shown in Appendix A. These participation rates (as well as USDA calculated national and state participation rates) are estimates, and therefore serve as

Table 3. Metropolitan Areas Grouped by Estimated Food Stamp Participation Rate, 1999

Below average participation	Average participation	Above average participation
0-42% FSP participation rate	**43–61%**	**61–94%**
Ann Arbor, MI PMSA	Albany—Schenectady—Troy, NY MSA	Akron, OH PMSA
Austin—San Marcos, TX MSA	Allentown—Bethlehem—Easton, PA MSA	Albuquerque, NM MSA
Bergen—Passaic, NJ PMSA	Atlanta, GA MSA	Buffalo—Niagara Falls, NY MSA
Dallas, TX PMSA	Bakersfield, CA MSA	Cleveland—Lorain—Elyria, OH PMSA
Fort Lauderdale, FL PMSA	Baltimore, MD PMSA	Detroit, MI PMSA
Fort Worth—Arlington, TX PMSA	Baton Rouge, LA MSA	El Paso, TX MSA
Greensboro—Winston-Salem—High Point, NC MSA	Birmingham, AL MSA	Gary, IN PMSA
Harrisburg—Lebanon—Carlisle, PA MSA	Boston-Worcester-Lawrence-Lowell-Brockton, MA-NH NECMA	Honolulu, HI MSA
Houston, TX PMSA	Charleston—North Charleston, SC MSA	Kansas City, MO—KS MSA
Jacksonville, FL MSA	Charlotte—Gastonia—Rock Hill, NC—SC MSA	McAllen—Edinburg—Mission, TX MSA
Jersey City, NJ PMSA	Chicago, IL PMSA	Memphis, TN—AR—MS MSA
Las Vegas, NV—AZ MSA	Cincinnati, OH—KY—IN PMSA	Miami, FL PMSA
Middlesex—Somerset—Hunterdon, NJ PMSA	Colorado Springs, CO MSA	Milwaukee—Waukesha, WI PMSA
Monmouth—Ocean, NJ PMSA	Columbia, SC MSA	Mobile, AL MSA
Nassau—Suffolk, NY PMSA	Columbus, OH MSA	New Orleans, LA MSA
Oakland, CA PMSA	Dayton—Springfield, OH MSA	Norfolk—Virginia Beach—Newport News, VA—NC MSA
Orange County, CA PMSA	Denver, CO PMSA	Philadelphia, PA—NJ PMSA
Phoenix—Mesa, AZ MSA	Fort Wayne, IN MSA	Portland—Vancouver, OR—WA PMSA
San Diego, CA MSA	Fresno, CA MSA	Rochester, NY MSA
San Francisco, CA PMSA	Grand Rapids—Muskegon—Holland, MI MSA	Sacramento, CA PMSA
San Jose, CA PMSA	Hartford, CT NECMA	St. Louis, MO—IL MSA
Sarasota—Bradenton, FL MSA	Indianapolis, IN MSA	Toledo, OH MSA
Ventura, CA PMSA	Little Rock—North Little Rock, AR MSA	Washington, DC—MD—VA—WV PMSA
West Palm Beach—Boca Raton, FL MSA	Los Angeles—Long Beach, CA PMSA	Wichita, KS MSA
	Louisville, KY—IN MSA	
	Minneapolis—St. Paul, MN—WI MSA	
	Nashville, TN MSA	
	New York, NY PMSA	
	Newark, NJ PMSA	
	Oklahoma City, OK MSA	
	Orlando, FL MSA	
	Pittsburgh, PA MSA	
	Providence-Warwick-Pawtucket, RI NECMA	
	Raleigh—Durham—Chapel Hill, NC MSA	
	Richmond—Petersburg, VA MSA	
	Riverside—San Bernardino, CA PMSA	
	Salt Lake City—Ogden, UT MSA	
	San Antonio, TX MSA	
	Scranton—Wilkes-Barre—Hazleton, PA MSA	
	Seattle—Bellevue—Everett, WA PMSA	
	Springfield, MA NECMA	
	Stockton—Lodi, CA MSA	
	Syracuse, NY MSA	
	Tacoma, WA PMSA	
	Tampa—St. Petersburg—Clearwater, FL MSA	
	Tucson, AZ MSA	
	Vallejo—Fairfield—Napa, CA PMSA	
	Wilmington—Newark, DE—MD PMSA	
	Youngstown—Warren, OH MSA	

Source: Authors' calculations of Census 2000 and USDA administrative data

helpful guideposts for analysis and policy.

The *below-average* participation group contains the 24 metropolitan areas with the lowest estimated FSP participation rates. No metropolitan area in this group has a majority of its eligible individuals enrolled in the Food Stamp Program. The average participation rate in this group is just 34 percent, ranging from a low of 21 percent in the Middlesex-Somerset-Hunterdon, NJ, metro area to 42 percent in the Oakland, CA, metro area (Table 3).

The *average* participation group includes about one-half of the metropolitan areas in our sample. All had participation rates that clustered around the overall average rate for the 97 metro areas, at 52 percent. Rates in this group ranged from a low of 43 percent in the Boston, MA region to a high of 61 percent in the Youngstown–Warren, OH, metropolitan area.

In the *above-average* metropolitan areas, participation rates averaged 72 percent, more than double the average proportion in below average areas. Participation rates in this group ranged from 61 percent in the Wichita, KS, area to 94 percent in El Paso, TX.[20] Even within this group, however, no metropolitan area saw all of its estimated eligible population participate in food stamps in 1999.

Why metropolitan participation rates vary

Differences in policy and the effectiveness of outreach efforts among states and metropolitan areas may affect the number of eligible individuals who are enrolled in the FSP. Underlying population differences may also contribute to this variation.

Regional location related to a metropolitan area's food stamp participation rate in 1999. The metropolitan areas with below-average participation rates include at least one metro area from each region of the country (Northeast, Midwest, South, and West). Many, however, are located in California (five) and Texas (four). Adjacent metro areas in the northern California Bay Area (San Francisco and San Jose) and northeast Texas (Dallas and Fort Worth-Arlington) had low FSP participation. Another cluster of five low participation areas orbits New York City, including a number of wholly suburban metropolises on Long Island and in northern New Jersey.

The metropolitan areas with above-average participation are found in each region as well, but are far more numerous in the Midwest and in Northeastern portions of the Rust Belt. Together with neighbors in Upstate New York and western Pennsylvania, Midwestern metro areas make up nearly one-half of those with high FSP participation rates, compared with just one-fourth of all metro areas in our sample. Participation rates in Buffalo, Cleveland, Detroit, Gary, and St. Louis all topped 60 percent in 1999. The standouts in this group also include two metropolitan areas along the Texas border (El Paso and McAllen), where FSP participation rates far exceeded those seen in other parts of the state.

These regional patterns among metropolitan areas are consistent with patterns found among the states. In 2002, for instance, the USDA estimated that Midwestern states had a participation rate of 60 percent, considerably higher than in other regions. In much of country, participation rates hovered around 53 percent.[21]

Beyond regional location, there is evidence that differences in demographic and economic attributes may also contribute to the variation among metropolitan areas. Research on food stamp participation suggests that both individual and community factors influence eligible households' decisions to access food stamps. Those who are unmarried, who have a history of cash assistance receipt, poorer households, and blacks are more likely to participate in the program when eligible. At the community level, neighborhood poverty may affect participation, as social networks in poor areas may induce greater take-up among eligible households.[22] Because these individual and community attributes vary in the aggregate across metropolitan areas, they may very well contribute to the considerable variation in participation rates across metropolitan areas.[23]

Distinctions between urban county and metropolitan participation rates

The estimated overall food stamp participation rate (55 percent) in the 50 urban counties analyzed was slightly higher than in the 97 metropolitan areas, and 31 of 50 counties had higher FSP participation rates than their respective metro areas. Consistent with the research cited above, this may owe to greater awareness of the program among urban families, differences in the dollar value of benefits in cities than suburbs, or higher (real or perceived) burdens associated with obtaining food stamp benefits among suburban families, such as making trips to downtown human services agency offices to enroll in the program. Overall, however, urban county FSP participation rates track quite closely to those in their broader metropolitan areas (estimated participation rates for all 50 urban counties are shown in Appendix B).[24]

Nevertheless, FSP participation rates in five urban counties in 1999 exceeded those in their broader metropolitan area by at least 10 percentage points. These include the urban counties containing the cities of Memphis, TN; Newark, NJ; Oklahoma City, OK; Philadelphia, PA; Providence, RI. Eligible residents of these counties accessed food stamps at considerably higher rates than their counterparts in surrounding counties (Table 4).

At the same time, three urban counties exhibited participation rates at least 10 percentage points lower than

Table 4. Largest Gaps between Urban County and Metropolitan Area Food Stamp Program Participation Rates, 1999

County	Metro Area	County Food Stamp Recipients*	County Food Stamp-eligible individuals	County Food Stamp Program Participation Rate (%)	Metro Area Food Stamp Program Participation Rate (%)
County participation rate 10+ percentage points higher than metro rate					
Oklahoma County, OK	Oklahoma City, OK MSA	51,634	72,057	72	55
Providence County, RI	Providence-Warwick-Pawtucket, RI NECMA	61,546	82,118	75	59
Essex County, NJ	Newark, NJ PMSA	88,270	134,216	66	53
Philadelphia County, PA	Philadelphia, PA—NJ PMSA	265,373	345,260	77	66
Shelby County, TN	Memphis, TN—AR—MS MSA	109,950	120,952	91	81
County participation rate 10+ percentage points lower than metro rate					
St. Louis City, MO	St. Louis, MO—IL MSA	75,757	145,048	52	81
Virginia Beach City, VA	Norfolk—Virginia Beach—Newport News, VA—NC MSA	11,695	23,135	51	63
Riverside County, CA	Riverside—San Bernardino, CA PMSA	66,888	182,072	37	49
TOTAL (50 urban counties)		**4,651,106**	**8,460,139**	**55**	**54**

** Recipient totals are adjusted for food stamp issuance error rates. See text.*

Source: Authors' calculations of Census 2000 and USDA administrative data

those in their metropolitan areas. These include the urban counties surrounding Riverside, CA; St. Louis, MO; and Virginia Beach, VA. The participation gap in these locales suggests that tens of thousands of individuals missed out on food stamp benefits. For instance, had St. Louis raised its participation rate (52 percent) to that of the surrounding metro area (81 percent), an additional 47,000 individuals would have received food stamps in 1999. Thus, high participation rates at the metropolitan level do not preclude the possibility that significant numbers of urban residents may be missing out on valuable food stamp benefits.

C. Across all 97 metropolitan areas, eligible households that did not claim food stamps left an estimated $4.9 billion on the table in 1999. The low food stamp participation rates in many urban counties and metropolitan areas imply that these places fail to benefit from significant federal dollars annually. As a result, they and their lower-income families forgo financial assistance that could improve nutritional health, support neighborhood grocery stores, and boost local economic activity.

As noted, the typical metropolitan area in our sample received roughly $94 million in food stamp benefits in 1999. With only about one-half of eligible individuals participating in the program, however, significant sums were "left on the table" that year. The typical metro area missed out on an estimated $50 million in food stamp benefits. Across all 97 metropolitan areas, eligible households failed to claim about $4.9 billion in food stamp benefits in 1999.[25]

These amounts assume that the average benefit left unclaimed by eligible, nonparticipating households was the same across metropolitan areas in 1999. Differences in the average characteristics of these households across places, however, would imply greater variability in these totals. Because information on eligible but nonparticipating households at the metropolitan level is unavailable, these dollar totals should be viewed only as estimates of the local economic benefits of full food stamp participation.

The estimated food stamp benefits left unclaimed in a metropolitan area relates to both its population and its FSP participation rate. Eligible households in metropolitan areas with below average participation failed to claim, on average, $59 million in benefits, compared with $60 million in unclaimed benefits in areas with average participation rates, and $26 million in those areas with above average participation. Within these groups, a few metropolitan areas stand out as

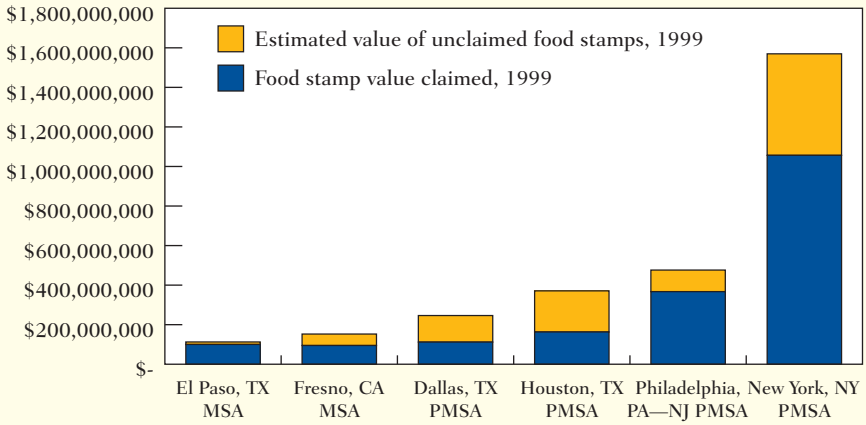
forgoing substantial sums in 1999.

In the below-average group, both the Houston and Dallas areas may have missed out on hundreds of millions of dollars in food stamp benefits. The Houston metropolitan area had only 147,000 food stamp recipients in 1999, even though an estimated 523,000 individuals were eligible for the program (a 28 percent participation rate). This indicates that across the metropolitan area, food stamp recipients claimed only $151 million of the more than $356 million available to eligible households that year. The story was similar in the Dallas area, which saw only 25 percent of eligible individuals receive food stamps in 1999. As a result, we estimate that eligible Dallas-area households left roughly $134 million in food stamp benefits unclaimed that year (Figure 1).

New York, NY, and Fresno, CA, stand out in the average-participation group because of the significant number of their residents (about one in five) who were eligible for food stamps in 1999. Despite this high level of eligibility, both metropolitan areas only saw about one-half of their qualified individuals enroll in the FSP. Consequently, in 1999, lower-income households in the New York metropolitan area (the second-largest in the country) failed to claim more than $527 million in food stamp benefits. In Fresno, with about one-tenth as many people as the New York area, residents left about $45 million in benefits on the table that year.

The average metropolitan area in the group with above average participation missed out on $26 million in food stamp benefits in 1999, a smaller sum than in the other groups. In El Paso, where roughly one in five individuals was eligible for food stamps, the participation rate was an impressive 94 percent, and the area left only $4 million in food stamp benefits unclaimed in 1999. In the Philadelphia metro area, where about one in nine individuals was eligible in 1999, the participation rate was 66 percent. The metro area's large population meant, however, that nearly 200,000 individuals missed out on roughly $106 million in food stamp benefits that year. Thus, even in those regions with higher participation rates, food stamp dollars forgone by eligible low-income households can amount to a significant missed opportunity to improve local economic health.

Figure 1. Value of Food Stamps, Participating and Eligible Non-participant Households, Selected Metropolitan Areas, 1999



Source: Authors' calculations of Census 2000, Bureau of Economic Analysis, and USDA administrative data

D. The number of individuals receiving food stamps in the 97 metropolitan areas rose by 1.4 million from 1999 to 2002, but estimates from the USDA indicate that the overall metropolitan participation rate has likely declined since then.

Many of the data analyzed in this report are from Census 2000, the last major sample of metropolitan areas with enough information to reliably assess FSP participation in these areas. However, enrollment in the FSP has increased significantly since 1999. Across the 97 metropolitan areas, the number of individuals receiving food stamps rose from 9.8 million in 1999 to 11.2 million in 2002, a 14.3 percent increase. Among metropolitan areas, the increase varied widely. Large jumps were seen in fast-growing metropolitan areas such as Las Vegas, NV; Dallas, TX; Phoenix, AZ; and Austin, TX, as well as in most Midwestern metropolitan areas. At the same time, however, enrollment declined in 12 of 13 California metropolitan areas, and in the New York region (Appendix A).

Several factors may help explain the overall rise in enrollment, and the disparate trends apparent across metropolitan areas, including the effects of the economic downturn on food stamp eligibility; extensions of food stamp eligibility included in recent federal legislation; evolving state rules and federal efforts on program access; and changes to metropolitan area populations that have influenced residents' food stamp eligibility and likelihood of enrollment.

Increased participation in the program among eligible families could

also account for some of the rise in food stamp enrollment. However, recent USDA research has shown that nationally, the FSP participation rate fell from about 56 percent in 1999 to about 54 percent in 2002. According to that research, changes in program eligibility rules and weakness in the economy caused the number of eligible individuals to increase faster than the number of enrollees (see Appendix Figure A).[27]

To view how recent changes in FSP participation may have played out in metropolitan areas, USDA research on state participation rates in 1999 and 2001 is used to estimate metropolitan participation rates for 2001.[28] Of course, participation rate changes in metropolitan areas may not track those at the state level exactly, but these estimates provide a useful indication of more recent local participation dynamics.

To the extent that metropolitan area trends followed those in their respective states, about three-fourths (71 of 97) of the metropolitan areas in our sample would have seen drops in their FSP participation rates between 1999 and 2001 (Appendix A). Overall, the participation rate across our 97 metropolitan areas would have fallen by about 1 percentage point during that period, from 52 percent to 51 percent.

The statewide estimated decline in participation rates translates to declines in metropolitan participation rates ranging from less than 1 percentage point in the San Francisco area to 9 percentage points in the Albuquerque area. At the same time, jumps in FSP participation rates in Indiana, Oregon, and Wisconsin suggest strong gains in Indianapolis and Gary, Portland, and Milwaukee. However, despite increasing enrollment, the vast majority of metropolitan areas still miss out on important benefits available through the FSP.

Policy Implications

Food stamps provide a vital source of income for working families and the places they live. Participation in the program remains low, however, for a variety of reasons. Many families do not know that they are eligible for the program.[29] Some might suspect that they are eligible but prefer not to enroll because of complicated administrative procedures, a desire for financial privacy, knowledge that they would only qualify for a small benefit, or perceived stigma surrounding the program. As a result, we estimate that in the typical metropolitan area in 1999, more than $50 million in food stamp benefits went unclaimed.

The 2002 farm bill funded several programs aimed at helping states enroll more eligible families in the FSP. Beyond states, however, leaders at the local level can greatly assist their working families and area economies by ensuring that more eligible households are informed about the program and its benefits, and that eligible low-income families are able to access food stamps without excessive administrative barriers. This section reviews a set of policy actions that could help local leaders promote better financial and food security for working families and their communities.

Emphasize local importance of the program at the federal level

This study shows that the FSP generates enormous economic benefits for cities and metropolitan areas, especially for their lower-income families and neighborhoods. Thus, federal and state policies that expand or restrict access to food stamps can have significant effects on local economies, and these policies should attract interest and involvement from local officials.

It is particularly important that city and county leaders recognize the local implications of ongoing debates at the federal level over the size and operations of the FSP. For example, a proposal in the Bush administration's Fiscal Year (FY) 2006 budget would restrict state flexibility in the FSP, narrowing eligibility and effectively removing 300,000 low-income individuals from the program.[30] New restrictions on state flexibility could cause states to further limit access to the program for fear that they might enroll ineligible families and face federal sanctions. This could lead to additional declines in already low FSP participation rates.

Moreover, some congressional lawmakers are seeking even more significant cuts to the program, which are likely to be considered in the context of FY 2006 appropriations for the USDA, as well as in future years.[31]

In the same way that city and county officials have voiced their opposition to other budget proposals, such as a 40 percent cut in the Community Development Block Grant program, they should make known the potential effects of FSP cuts on the health and vitality of their working families and communities.[32] Mayors, city council leaders, and county executives can demonstrate to policymakers in Washington that the program, and streamlined access to its benefits, remain essential for local well-being. In this regard, organizations that represent city and county governments at the federal level should actively monitor future legislative and regulatory developments that may affect the level of nutrition assistance directed to their lower-income residents.

Integrate food stamp outreach into existing asset-building campaigns

The FSP is not the only federal benefit characterized by less-than-perfect participation. Research suggests that between 75 and 85 percent of eligible families claim the Earned Income Tax Credit (EITC), a federal tax credit that supports low-income workers.[33] During the past several years, many cities,

counties, and states have mounted outreach campaigns to connect eligible workers to the EITC and other tax benefits. Those efforts organize local civic, corporate, and political leaders to publicize the availability of tax credits, knowing that increased participation provides workers and their families with an income boost and attracts more federal dollars to the local economy. Most of these campaigns include outreach messages targeted to low-wage workers and to volunteer sites where workers seek help preparing and filing taxes.

Several of these "asset-building campaigns" have recognized that many of the same families who miss out on the EITC may also qualify for other federal and state benefits. Through their outreach, many link working families to food stamps, for which participation rates—especially among earners—are even lower than for the tax credit. These efforts are especially important given research that families are even less likely to participate in the FSP when eligible if they also receive the EITC.[34] Asset-building campaigns that have successfully integrated food stamps and other public benefit program outreach have employed the following key strategies:

- *Market food stamps as part of a package of supports.* Rather than promote food stamps alone as a potential supplement to tax credits, successful outreach campaigns have often engaged in multi-benefit outreach. These efforts advertise food stamps along with additional work support benefits, such as subsidized health insurance (Medicaid and the State Children's Health Insurance Program [SCHIP]), child care assistance, energy assistance (LIHEAP), and other nutrition programs such as the Women, Infants and Children (WIC) program. These programs can be marketed together as a package of supports for working families.
- *Provide online screening for benefits.* Many states and nongovernmental agencies have developed software to screen households for a range of public benefits. These tools often include "benefits calculators" that estimate the amount of benefits a family could receive. That information can play a significant role in determining whether a family chooses to apply for food stamps.[35] Cities such as Tulsa, Chicago, Memphis, New York, and Philadelphia have placed trained benefits counselors onsite at tax assistance centers to help working families determine whether they are eligible for food stamps and other programs, and to initiate the enrollment process for interested clients.[36] However, many working families who visit tax assistance sites are simply interested in having their taxes prepared. Successful programs have conducted benefits screening through a separate, but parallel, process, and have provided clients with information on other programs and the opportunity to follow up for screening at a later time.

Urban counties and metropolitan areas face different challenges in connecting eligible households to food stamps, given the underlying demographic and economic characteristics that contribute to varying program participation. Nonetheless, most areas have ample room to raise food stamp participation rates through focused outreach efforts already underway.

Support local organizations working to streamline access to food stamps

Local leaders can play a critical role in conducting outreach on food stamps and to connect families to benefits. For food stamps to reach more eligible working families, however, states must have in place rules and procedures that facilitate access, while ensuring that program error rates remain low. Under current food stamp law, states have several opportunities to streamline access to the program, especially for households with a worker. City and county officials should provide support to local organizations, such as hunger relief coalitions and food banks, that monitor states' policies in these areas, and they should work with state officials to tailor food stamp eligibility and reporting requirements:

- *States can simplify income and resource definitions for eligibility determinations.* The 2002 farm bill gave states new options to deliver benefits more efficiently to working households. Several of these options allow states to simplify the types of income and resources considered when determining eligibility for food stamps. States can now simplify the definition of "income" by aligning income-counting rules across benefit programs, so that they consider the same sources of income for food stamp eligibility determinations as for Temporary Assistance for Needy Families (TANF) or family Medicaid.[37] Similarly, states can conform their resource (i.e., asset) counting rules across these same programs. Most have already adopted a unified treatment of vehicles across programs, and they can extend this coordination to Individual Development Accounts (IDAs) and retirement savings accounts.[38] By aligning these definitions across programs, states can significantly streamline the application and interview process for working families seeking food assistance. Currently, 31 states have adopted a simplified definition of income, a simplified definition of resources, or both.[39]
- *States can simplify food stamp reporting requirements.* Many states require families with earnings to reapply for food stamps every three months, mainly to avoid costly errors for mistakenly enrolling ineligible families. However, these onerous

requirements resulted in large drops in participation among eligible working families. Today, states may adopt a semi-annual reporting option for most families. The state calculates a household's benefits at the time of application and then "freezes" the benefits for six months. Households must only report if their income rises above the maximum eligibility level (130 percent of the poverty line). Changes that occur within the six-month period that would simply alter a household's benefit level do not need to be reported, and they do not affect a state's error rate. Most states have adopted simplified reporting (under which households must recertify at four, five, or six months), but several still require households to report monthly, quarterly, or even within ten days of an income or circumstance change.[40] States adopting simplified reporting have experienced reduced staff workload, improved client access, and fewer quality-control errors. The benefits of simplified reporting for caseworkers and families are most tangible in those states that have also streamlined their reporting requirements for other programs in which food stamp households are likely to participate, such as TANF, Medicaid/SCHIP, and subsidized child care.[41]

By adopting these changes, states can reduce administrative burdens and reach additional eligible families, while keeping error rates low. Thus, local leaders should actively support options such as these to enhance the economic benefits flowing to their low-income working families and neighborhoods.

Monitor sub-state participation

The USDA publishes an annual study detailing trends in food stamp participation among eligible households. The study uses data from the CPS and the FSPQC to estimate the number of eligible households and to compare that to the number of participating households from FSP administrative data. The sample sizes of the CPS and FSPQC preclude estimates of participation rates for most sub-state geographies, and even estimates for some smaller states are subject to significant error. Because states are responsible for administering food stamps, state-level participation estimates are important metrics for helping program officials assess performance in reaching eligible families. They are also a critical factor in determining FNS state bonuses.

As this study demonstrates, however, participation rates can vary widely within the same state. Within Texas, for instance, rates ranged from 28 percent in the Houston metropolitan area to 59 percent in San Antonio, to 94 percent in El Paso. These within-state disparities reflect underlying differences in population characteristics, economic conditions, public knowledge of the program, and varying enrollment barriers that families may face (for example, distance to the nearest state assistance office).

Gaining a better understanding of these within-state participation dynamics would help state officials target their outreach and administrative reforms. More importantly, local participation estimates would help elected officials, employers, and community organizations to mobilize resources and connect more working families to food stamp benefits. For this study, we used microdata from the decennial census to model eligibility. The Census Bureau, however, will soon publish American Community Survey microdata that will permit stakeholders to analyze food stamp participation at the metropolitan area level annually, rather than once every ten years.[42] Researchers at the national, state, and local levels should use these forthcoming data to monitor trends in food stamp participation at the sub-state level and to test the local factors that may explain differing rates of program participation.

Methodological Appendix

To estimate eligibility for, and participation in, the FSP at the county and metropolitan levels, we employ a method similar to that used by the USDA in its annual evaluation of state participation rates.[43] We adjust the method in several places, however, to account for metropolitan-specific information and to take advantage of alternative imputation methods. Our methods are summarized below, grouped by the major household characteristics that food stamp caseworkers consider in their program eligibility determinations.

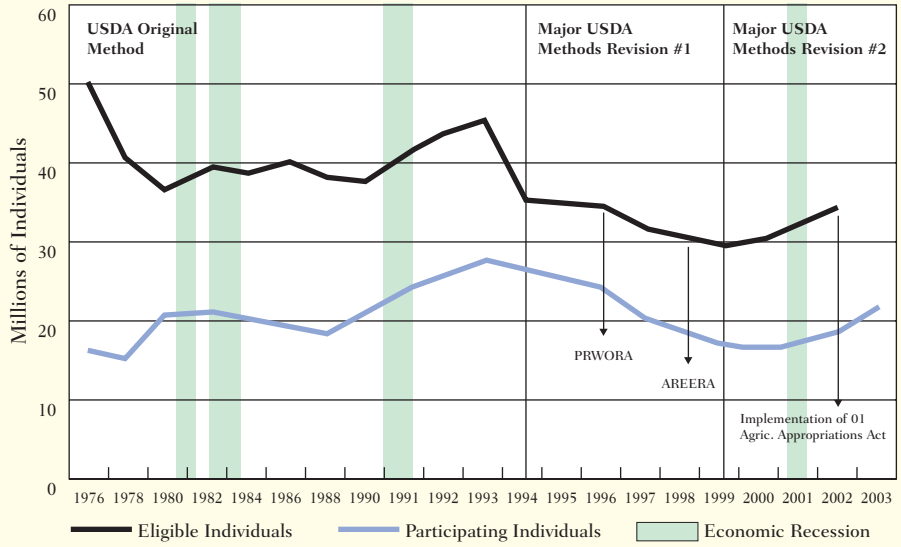
Food Stamp Units

The FSP provides benefits to eligible food stamp "units," which it defines as all household members who purchase and prepare food together. Food stamp units can comprise all or only part of a household.

The CPS and the FSPQC data, the primary sources used by the USDA to estimate state participation rates, do not distinguish food stamp units within households, and the two data sets collect an insufficient amount of data to make these distinctions. Failure to account for filing units within households can significantly underestimate the number of eligible food stamp units. The USDA research relies on alternative criteria to identify food stamp units within households.

Because the Census 2000 PUMS, our primary data source for modeling FSP eligibility, suffers from this same limitation, we use criteria similar to those used by the USDA to identify potential food stamp units within households. In particular, households containing families or individuals who received public assistance income—in most cases, from a state TANF program—are split into multiple food stamp filing units, given that TANF units automatically qualify for food stamps.

Appendix Figure A. National Food Stamp Eligibility and Participation Trends, 1976–2003



Source: Authors' analysis of data from the National Bureau of Economic Research; USDA Food and Nutrition Service; and Cunnyngham,"Trends in Food Stamp Participation Rates." 1976–1993 are August estimates; 1994–1998 are September estimates; and 1999 represents fiscal year averages. See text for explanation of abbreviations.

Income Eligibility

Unless households are automatically eligible for the FSP by virtue of their participation in another program ("categorical eligibility"), all applicants must pass an income eligibility test, which is based on the unit's gross and net monthly income. These tests vary modestly across states and across different household types. In general, a food stamp unit's gross income cannot exceed 130 percent of the applicable federal poverty guideline for that unit size. In addition, the unit's net income cannot exceed 100 percent of the applicable poverty guideline.

States allow applicants to make several deductions from their gross income to estimate net income. These include a standard income deduction, a medical expense deduction, an excess shelter expense deduction, and a dependent care deduction.[44] States also exempt units with elderly or disabled members from the gross income test.

To overcome data limitations, the USDA developed a methodology for estimating monthly gross and net income from data provided in the CPS. Because PUMS data suffer from these same limitations, we use a methodology similar to USDA's to estimate gross and net income for food stamp units in our 97 metropolitan areas and 50 large counties. We first sum the total earned and unearned income in each unit and divide this total by 12 to estimate each unit's gross monthly income.[45] We use the multivariate regression model developed by USDA to estimate net income for each projected food stamp unit in the PUMS data. We model net income as a function of the unit's monthly unearned income, earned income, and a series of variables that indicate the unit's region of residence and income status.[46] We use these estimates to assign a monthly net income to every food stamp unit in the PUMS data.

Asset Eligibility

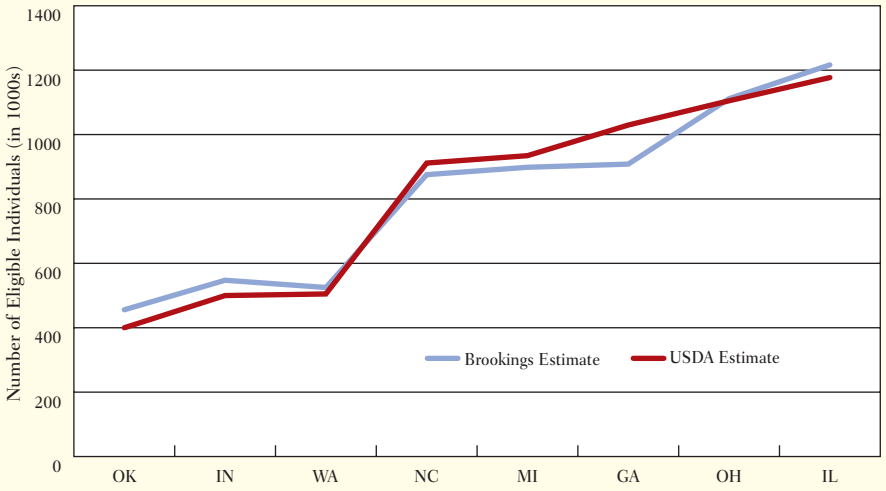
All households that are not categorically eligible for the FSP must also pass an asset eligibility test. As with the income eligibility test, these tests vary modestly across states and across different household types. In general, to be eligible for food stamps, units that do not include an elderly or disabled person cannot have assets exceeding $2,000, and units with an elderly or disabled person cannot have assets exceeding $3,000.[47] However, recent legislation and state rule-making have introduced a wide variety of asset rules across the states.[48]

The data that the USDA uses to estimate FSP participation and to assess program performance contain no information on households' asset holdings. Instead, the USDA relies on an imputed probability that "non-pure" public assistance units will pass the asset test.[49] Because this probability is not published and is based on a data sample that is not representative at the metropolitan or county level, we develop an alternative methodology to estimate asset eligibility.

We use two proxies for asset value and calculate the average number of eligible households based on two different samples of eligible households. The first proxy is used by researchers at the Urban Institute in their TRIM3 model to estimate asset value. This method measures asset value as a function of household interest, dividend, and net rental income.[50]

Because this method automatically treats a household without these types of income as asset-eligible, we use a second proxy for asset value: the estimated value of an automobile in each household.[51] We calculated automobile value from the Survey of Consumer Finances, which is administered by the Federal Reserve every three years on a national sample of 4,500 families. Using these data, we calculate estimates of car values at the 25th, 50th, and 75th percentiles in household income increments of $5,000. We

Appendix Figure B. Comparison of USDA and Brookings Prediction of the Number of Eligible Individuals in 1999, Selected States



Source: Authors' calculations of Census 2000, Bureau of Economic Analysis, and USDA administrative data; Cunnyngham, "Trends in Food Stamp Program Participation Rates: 1999 to 2001."

then use these estimates to impute asset values for food stamp units in the PUMS data, which we randomly chose from the population of households in an income bracket. We treat food stamp units whose imputed car value leads them to exceed the asset threshold as ineligible for food stamps.

Able-Bodied Adults without Dependents (ABAWDs)

The Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) enacted in 1996 requires able-bodied adults (aged 18 to 49) without dependent children (ABAWDs) to meet work requirements—generally 20 hours per week—to qualify for food stamps.

Under the law, states are allowed to exempt ABAWDs from work requirements if they live in a labor surplus area or an area of the state with high unemployment. Individuals are also exempt from this requirement if they are included in their state's 15 percent discretionary exemption, or if they are participating in an approved employment and training program. If an individual fails to meet work requirements and does not qualify for any of these exemptions, he or she can receive food stamp benefits for a maximum of three months in any three-year period.

Data to measure these eligibility parameters are unavailable in the CPS or FSPQC; therefore, the USDA uses federal and state administrative data to impute the probability that individuals with these characteristics meet these exemptions or requirements. The PUMS data are similarly limited, and we use USDA state-by-state estimates of the probability that ABAWDs are eligible for food stamps to randomly assign FSP eligibility to ABAWDs in each metropolitan area and large county.

Refugees and Legal Resident Aliens

The FSP makes an important distinction in eligibility between refugees and legal resident aliens (LRAs). In 1999, refugees who had entered the country after 1992 were eligible for the program (provided they passed income and asset eligibility tests), while legal resident aliens were required to satisfy several additional eligibility requirements. The CPS or FSPQC data, however, do not indicate legal or refugee status. Instead, the USDA imputes refugee status based on data published by what was formerly the Immigration and Naturalization Service (now U.S. Citizenship and Immigration Services [USCIS] in the Department of Homeland Security). Specifically, for FY 1999–2001, the USDA assigned refugee status to 16 percent of noncitizens who entered the United States after 1993.[52]

The domestic destinations of refugees differ, however, from the destinations of other recent immigrants, and the proportion of recent immigrants who are refugees is much higher in some areas than in others. Therefore, we adjust USDA's 16 percent figure for each state using data from USCIS on the state destinations of refugees, asylees, and immigrants awarded legal permanent residents status between 1993 and 1999. In Texas metropolitan areas and counties, where most recent immigrants are not refugees, only 7.5 percent of noncitizens arriving after 1992 are assumed to be refugees. In Minnesota metropolitan areas and counties, where significant numbers of recent immigrants are Southeast Asian and East African refugees, 44 percent of recent arrivals are assigned refugee status.[53]

PRWORA made LRAs who were not veterans or who had not accumulated 40 quarters of work ineligible for food stamps. The Agricultural Research, Extension, and Education Reform Act (AREERA) of November 1998 restored benefits to some additional LRAs: those who were lawfully in the United States on August 22, 1996, and were disabled; LRAs under age 18; or LRAs who were at least 65 years old on August 22, 1996. The

USDA imputes the probability that LRAs not exempted by AREERA meet the 40 quarters of work requirement, based on data from the Panel Survey of Income Dynamics. We use this same probability to randomly assign eligibility to LRAs not exempted under AREERA.

Reliability Analysis

To assess the reliability of our methodology for modeling food stamp eligibility, we replicated the 1999 USDA estimate of FSP eligibility in a random sample of states.[54] The primary data source for this analysis was state-level PUMS data. Although the state-level PUMS data are based on a much larger sample of households than the CPS, we have no prior knowledge that the two samples are systematically different from each other.

Similarly, we know of few systematic, external reliability analyses of the USDA estimates, suggesting that the validity of these estimates is less certain than we would like. Nonetheless, we use the USDA estimates as a guide to assess the reliability of our model, given that their assessments of participation rates directly guide government policy.

Analysis indicates that in a sample of eight states, the number of eligible households estimated by our method and by the USDA method are very similar (Pearson correlation coefficient = 0.98; see Appendix Figure B).

Further, a second reliability test indicates that the two sets of estimates have a robust, statistically significant association. Thus, our method for estimating metropolitan and county-level food stamp eligibility, when employed at the state level, results in eligibility estimates that are nearly identical to those published by the USDA.

Appendix A. Metropolitan Food Stamp Program Data and Estimates

Metropolitan Area	Population, 2000	Food stamp recipients, 1999	Pop. in FSP, 1999 (%)	Pop. in poverty, 1999 (%)	Food stamp value ($1000s), 1999	Grocery wages and salaries ($1000s), 1999	FSP-eligible pop., 1999	FSP participation rate, 1999 (%)	FSP dollars unclaimed ($1000s), 1999	FSP recipients, 2002	Implied FSP participation rate, 2001 (%)
Akron, OH PMSA	694,960	37,370	5.4	9.8	$33,738	$157,116	59,687	62	$12,351	48,407	65
Albany—Schenectady—Troy, NY MSA	794,293	37,315	4.7	9.4	32,850	281,412	75,976	48	21,314	42,278	45
Albuquerque, NM MSA	712,738	53,897	7.6	13.8	48,792	167,428	78,784	67	14,216	61,806	57
Allentown—Bethlehem—Easton, PA MSA	637,958	24,648	3.9	8.7	19,608	158,429	55,191	44	16,856	28,028	41
Ann Arbor, MI PMSA	625,263	14,971	2.4	8.2	11,982	124,266	44,837	32	16,555	23,604	31
Atlanta, GA MSA	4,128,197	184,886	4.5	9.4	172,987	1,185,693	340,554	52	87,899	239,285	46
Austin—San Marcos, TX MSA	1,311,462	43,714	3.3	11.1	42,174	379,168	114,313	38	38,554	70,209	37
*Bakersfield, CA MSA**	661,645	59,024	8.9	20.8	55,945	182,548	117,161	50	32,038	55,106	49
Baltimore, MD PMSA	2,512,431	141,446	5.6	9.8	143,595	726,115	248,415	55	61,028	151,105	51
Baton Rouge, LA MSA	602,894	45,252	7.5	16.2	42,270	133,908	79,797	56	19,140	66,517	53
Bergen—Passaic, NJ PMSA	1,373,167	45,357	3.3	7.6	42,847	508,619	123,644	36	43,159	46,836	33
Birmingham, AL MSA	991,819	63,451	6.4	13.1	56,057	265,916	116,528	52	30,154	75,869	49
Boston-Worcester-Lawrence-Lowell-Brockton, MA-NH NECMA	6,057,826	210,860	3.5	8.6	179,010	2,054,889	480,612	43	148,077	238,591	45
Buffalo—Niagara Falls, NY MSA	1,170,111	91,904	7.9	11.9	82,415	370,127	141,301	64	27,660	90,913	60
Charleston—North Charleston, SC MSA	587,297	43,790	7.5	14.0	38,276	143,251	77,349	56	18,507	56,055	53
Charlotte—Gastonia—Rock Hill, NC—SC MSA	1,499,293	73,392	4.9	9.3	64,882	496,489	129,731	56	31,171	107,994	54
Chicago, IL PMSA	8,308,830	532,065	6.4	10.5	520,136	2,019,951	896,632	58	206,016	602,287	60
Cincinnati, OH—KY—IN PMSA	1,615,365	73,657	4.6	9.7	64,320	549,372	147,176	49	40,364	98,542	51
Cleveland—Lorain—Elyria, OH PMSA	2,250,871	151,763	6.7	10.8	136,293	539,198	233,241	64	45,197	190,465	68
Colorado Springs, CO MSA*	516,929	18,957	3.7	8.0	17,618	127,350	36,581	50	9,873	25,247	49
Columbia, SC MSA	536,691	28,527	5.3	11.7	26,174	112,586	59,758	47	17,134	43,580	45
Columbus, OH MSA	1,581,066	67,688	4.3	10.1	60,030	493,809	134,769	50	36,820	111,414	52
Dallas, TX PMSA	3,663,308	102,015	2.8	11.1	101,707	928,121	348,428	29	134,230	167,413	28
Dayton—Springfield, OH MSA	950,558	44,934	4.7	10.3	38,076	257,823	99,976	44	30,139	64,190	47
Denver, CO PMSA	2,123,361	69,497	3.3	8.1	63,742	800,689	145,688	46	42,470	85,785	45
Detroit, MI PMSA	4,441,551	313,340	7.1	10.7	264,739	935,244	421,370	71	66,263	367,407	69
El Paso, TX MSA*	679,622	113,385	16.7	23.8	100,659	128,781	119,775	94	4,213	127,464	91
Fort Lauderdale, FL PMSA*	1,623,018	54,233	3.3	11.5	53,175	482,705	180,075	29	69,118	67,950	25
Fort Wayne, IN MSA	461,856	18,002	3.9	8.2	15,638	118,348	37,437	47	10,699	30,550	52
Fort Worth—Arlington, TX PMSA	1,661,525	48,880	2.9	10.3	46,295	457,970	153,808	31	57,194	79,065	30
Fresno, CA MSA	922,516	93,588	10.1	22.7	92,161	238,076	176,382	52	45,711	103,392	52
Gary, IN PMSA	631,362	52,347	8.3	10.8	49,217	129,499	61,980	83	5,703	69,054	92
Grand Rapids—Muskegon—Holland, MI MSA	1,145,269	48,718	4.3	8.4	36,480	215,040	87,117	53	22,011	81,482	52
Greensboro—Winston-Salem—High Point, NC MSA	1,251,509	51,870	4.1	10.4	44,789	304,998	121,964	42	38,449	73,999	40
Hartford, CT NECMA	1,148,618	62,853	5.5	8.3	50,586	370,017	101,987	59	22,873	66,867	59
Harrisburg—Lebanon—Carlisle, PA MSA	629,401	21,270	3.4	8.1	17,590	182,858	54,401	38	18,218	23,382	36
Honolulu, HI MSA*	876,156	77,372	8.8	9.9	116,538	219,045	87,142	87	6,016	63,931	82
Houston, TX PMSA	4,177,646	147,017	3.5	13.9	151,343	1,296,752	523,449	28	204,998	219,425	27
Indianapolis, IN MSA	1,607,486	73,106	4.5	8.6	65,683	374,999	128,796	56	30,858	120,338	62
Jacksonville, FL MSA	1,100,491	43,280	3.9	10.7	40,347	441,746	98,848	42	30,845	54,962	37
Jersey City, NJ PMSA*	608,975	49,774	8.2	15.5	48,902	165,314	117,234	41	37,362	44,407	38
Kansas City, MO—KS MSA	1,679,020	79,424	4.7	8.5	67,554	423,583	112,295	69	18,976	106,492	75
Las Vegas, NV—AZ MSA	1,550,512	55,940	3.6	11.1	52,251	442,498	145,512	37	49,477	97,784	43
Little Rock—North Little Rock, AR MSA	583,845	36,690	6.3	12.1	32,620	114,757	59,894	60	12,855	49,877	55
Los Angeles—Long Beach, CA PMSA*	9,519,338	665,942	7.0	17.9	654,625	3,143,140	1,471,800	45	442,731	622,411	44
Louisville, KY—IN MSA	1,093,886	65,893	6.0	10.9	60,512	315,561	107,310	61	22,963	91,714	62
McAllen—Edinburg—Mission, TX MSA*	569,463	127,244	22.3	35.9	117,738	118,858	140,336	90	7,937	156,905	87
Memphis, TN—AR—MS MSA	1,111,849	125,207	11.3	15.3	108,224	287,355	150,949	81	15,781	169,346	75
*Miami, FL PMSA**	2,253,362	254,889	11.3	18.0	208,965	625,997	344,642	72	52,929	277,266	62
Middlesex—Somerset—Hunterdon, NJ PMSA	1,169,641	17,556	1.5	5.4	15,512	511,678	81,648	21	35,020	17,393	19

Metropolitan Area	Population, 2000	Food stamp recipients, 1999	Pop. in FSP, 1999 (%)	Pop. in poverty, 1999 (%)	Food stamp value ($1000s), 1999	Grocery wages and salaries ($1000s), 1999	FSP-eligible pop., 1999	FSP participation rate, 1999 (%)	FSP dollars unclaimed ($1000s), 1999	FSP recipients, 2002	Implied FSP participation rate, 2001 (%)
Milwaukee—Waukesha, WI PMSA	1,500,741	103,328	6.9	10.6	73,137	$345,104	144,824	70	23,902	146,425	82
Minneapolis—St. Paul, MN—WI MSA	2,868,847	118,629	4.1	6.7	105,720	751,652	192,528	61	40,998	135,666	60
Mobile, AL MSA	540,258	53,449	9.9	16.3	48,875	108,724	74,377	69	12,510	63,835	65
Monmouth—Ocean, NJ PMSA	1,126,217	29,044	2.6	6.6	25,012	383,798	70,417	40	22,890	27,803	37
Nashville, TN MSA	1,231,311	68,874	5.6	10.1	63,487	307,890	109,269	61	22,917	101,938	57
Nassau—Suffolk, NY PMSA	2,753,913	49,046	1.8	5.6	42,980	906,010	148,195	33	54,212	46,897	31
New Orleans, LA MSA	1,381,652	165,203	12.0	18.4	161,504	375,953	224,160	72	33,477	204,167	69
New York, NY PMSA	9,314,235	1,003,136	10.8	19.5	1,046,410	1,818,169	1,957,929	50	527,176	902,502	47
Newark, NJ PMSA	2,032,989	118,154	5.8	9.7	118,029	671,905	218,171	53	56,105	99,203	49
Norfolk—Virginia Beach—Newport News, VA—NC MSA	1,551,351	96,840	6.2	10.6	83,152	265,944	147,879	63	29,489	102,744	63
Oakland, CA PMSA	2,392,557	97,081	4.1	9.7	83,264	968,319	224,171	43	69,751	72,937	42
Oklahoma City, OK MSA	1,160,942	80,746	7.0	13.5	71,902	240,446	143,063	55	35,045	117,278	51
Orange County, CA PMSA*	2,846,289	69,355	2.4	10.3	56,195	978,467	272,496	25	110,722	66,336	25
Orlando, FL MSA	1,644,561	66,124	4.0	10.7	67,930	559,686	141,295	45	41,853	92,048	40
Philadelphia, PA—NJ PMSA	5,100,931	382,470	7.5	11.1	364,399	1,592,378	569,268	66	106,137	363,146	62
Phoenix—Mesa, AZ MSA	3,303,211	120,373	3.6	12.0	109,945	1,121,332	347,084	34	124,325	228,502	35
Pittsburgh, PA MSA	2,399,367	162,103	6.8	10.8	135,356	807,805	270,756	59	60,876	157,616	55
Portland—Vancouver, OR—WA PMSA	1,938,224	99,772	5.1	9.5	82,373	591,193	149,369	65	28,671	178,726	76
Providence-Warwick-Pawtucket, RI NECMA	912,238	70,599	7.7	12.4	52,541	255,302	117,844	59	26,054	68,500	59
Raleigh—Durham—Chapel Hill, NC MSA	1,187,941	47,727	4.0	10.2	42,234	314,933	106,067	44	32,042	67,209	43
Richmond—Petersburg, VA MSA	996,512	53,118	5.3	9.3	46,816	223,535	91,956	56	22,052	59,506	55
Riverside—San Bernardino, CA PMSA	3,254,821	204,633	6.3	15.0	190,630	889,365	412,578	49	114,536	175,683	48
Rochester, NY MSA	1,141,625	73,919	6.5	10.3	62,550	403,365	115,368	63	23,178	84,004	59
Sacramento, CA PMSA	1,628,197	123,919	7.6	12.2	108,167	573,650	173,649	70	28,062	108,902	70
St. Louis, MO—IL MSA	2,603,607	195,024	7.5	7.7	175,653	668,346	235,514	81	24,829	238,503	86
Salt Lake City—Ogden, UT MSA	1,333,914	47,238	3.5	15.1	40,376	534,497	92,969	47	26,483	56,698	45
San Antonio, TX MSA	1,559,975	119,360	7.7	12.4	112,718	511,058	201,457	59	45,286	142,717	57
San Diego, CA MSA*	2,813,833	99,897	3.6	8.4	86,608	730,874	293,171	34	105,648	75,855	33
San Francisco, CA PMSA	1,731,183	33,649	1.9	7.5	32,533	755,657	158,288	21	67,855	31,721	21
San Jose, CA PMSA*	1,682,585	42,313	2.5	8.8	37,279	541,105	143,622	29	55,288	37,548	29
Sarasota—Bradenton, FL MSA	589,959	16,740	2.8	11.1	15,037	165,963	41,376	39	13,634	20,426	34
Scranton—Wilkes-Barre—Hazleton, PA MSA	624,776	37,110	5.9	7.9	28,663	148,907	71,220	51	18,942	37,626	48
Seattle—Bellevue—Everett, WA PMSA	2,343,058	74,397	3.2	13.5	62,801	892,169	146,776	50	39,939	108,151	53
Springfield, MA NECMA	608,479	38,109	6.3	9.9	26,665	182,220	84,354	45	25,337	47,571	47
Stockton—Lodi, CA MSA*	563,598	50,093	8.9	17.7	44,863	158,558	83,040	59	18,305	42,210	59
Syracuse, NY MSA	732,117	42,314	5.8	12.1	36,598	251,658	83,174	50	22,554	50,162	47
Tacoma, WA PMSA*	700,820	37,527	5.4	10.5	33,233	174,734	63,469	58	14,419	47,405	61
Tampa—St. Petersburg—Clearwater, FL MSA	2,395,997	122,962	5.1	11.2	112,693	620,050	221,464	54	55,454	145,942	47
Toledo, OH MSA	618,203	42,968	7.0	12.5	37,447	212,893	66,788	64	13,204	51,961	67
Tucson, AZ MSA*	843,746	46,604	5.5	14.7	44,047	190,074	101,068	45	30,080	73,283	47
Vallejo—Fairfield—Napa, CA PMSA	518,821	20,493	3.9	8.3	16,742	156,457	38,277	53	9,822	12,338	52
Ventura, CA PMSA*	753,197	22,575	3.0	9.2	19,201	204,723	57,392	39	19,073	20,231	38
Washington, DC—MD—VA—WV PMSA	5,017,541	184,894	3.7	7.4	179,348	1,179,000	220,296	82	21,945	193,123	73
West Palm Beach—Boca Raton, FL MSA*	1,131,184	38,935	3.4	9.9	37,737	319,282	94,816	40	30,941	42,151	35
Wichita, KS MSA	545,220	29,361	5.4	9.1	21,808	128,210	46,293	62	9,627	44,784	70
Wilmington—Newark, DE—MD PMSA	605,413	23,281	3.8	8.2	21,360	188,205	50,844	43	15,632	29,875	40
Youngstown—Warren, OH MSA	594,746	39,381	6.6	11.5	34,723	127,854	63,372	61	13,272	50,543	65
Total (97 metropolitan areas)	173,527,152	9,821,067	5.7	11.6	$9,108,408	$49,706,511	18,554,011	52	$4,854,672	11,246,786	51

** metropolitan area is composed of one county*

Italicized metro areas indicate discrepancy of at least one percent between modeled eligibility population and potential recipient population. See text for details.

Source: Authors' calculations of Census 2000, Bureau of Economic Analysis, and USDA administrative data

Appendix B. Urban County Food Stamp Program Data and Estimates

Urban County	In Metro Area	Population (2000)	Food Stamp Recipients, 1999	Population in FSP, 1999 (%)	Food Stamp Value ($1000s), 1999	Eligible Food Stamp Program Pop. 1999	Food Stamp Program Participation Rate, 1999 (%)
Bernalillo County, NM	Albuquerque, NM MSA	556,678	39,865	7.2	$37,996	61,554	63
Fulton County, GA	Atlanta, GA MSA	816,006	74,150	9.1	75,013	119,650	60
Baltimore City, MD	Baltimore, MD PMSA	651,154	99,456	15.3	103,252	188,190	51
Suffolk County, MA	Boston-Worcester-Lawrence-Lowell-Brockton, MA-NH NECMA	689,807	65,023	9.4	27,923	134,004	48
Erie County, NY	Buffalo—Niagara Falls, NY MSA	950,265	79,098	8.3	71,405	117,506	66
Mecklenburg County, NC	Charlotte—Gastonia—Rock Hill, NC—SC MSA	695,454	34,752	5.0	30,212	59,829	57
Cook County, IL	Chicago, IL PMSA	5,376,741	475,780	8.8	466,319	733,581	63
Cuyahoga County, OH	Cleveland—Lorain—Elyria, OH PMSA	1,393,978	123,890	8.9	111,781	175,763	70
Franklin County, OH	Columbus, OH MSA	1,068,978	53,630	5.0	48,287	99,584	53
Dallas County, TX	Dallas, TX PMSA	2,218,899	73,246	3.3	75,783	289,998	25
Denver County, CO	Denver, CO PMSA	554,636	38,872	7.0	35,176	74,497	51
Wayne County, MI	Detroit, MI PMSA	2,061,162	252,198	12.2	214,368	302,003	80
Tarrant County, TX	Fort Worth—Arlington, TX PMSA	1,446,219	43,321	3.0	41,403	123,754	35
Fresno County, CA	Fresno, CA MSA	799,407	81,388	10.2	81,530	153,361	52
Hartford County, CT	Hartford, CT NECMA	857,183	57,562	6.7	44,817	84,295	65
Harris County, TX	Houston, TX PMSA	3,400,578	128,230	3.8	133,069	456,942	28
Marion County, IN	Indianapolis, IN MSA	860,454	55,071	6.4	50,996	90,768	60
Duval County, FL	Jacksonville, FL MSA	778,879	34,983	4.5	33,166	82,976	41
Jackson County, MO	Kansas City, MO—KS MSA	654,880	51,177	7.8	45,875	77,750	64
Jefferson County, KY	Louisville, KY—IN MSA	693,604	47,172	6.8	44,951	75,579	62
Shelby County, TN	Memphis, TN—AR—MS MSA	897,472	113,048	12.6	98,454	120,952	91
Milwaukee County, WI	Milwaukee—Waukesha, WI PMSA	940,164	99,748	10.6	71,092	129,356	75
Hennepin County, MN	Minneapolis—St. Paul, MN—WI MSA	1,116,200	59,901	5.4	54,364	103,780	57
Ramsey County, MN	Minneapolis—St. Paul, MN—WI MSA	511,035	37,624	7.4	32,495	57,511	64
Davidson County, TN	Nashville, TN MSA	569,891	44,211	7.8	41,812	67,350	64
Orleans Parish, LA	New Orleans, LA MSA	484,674	100,710	20.8	101,959	124,319	80
Queens County, NY	New York, NY PMSA	2,229,379	152,348	6.8	268,489	357,430	42
Richmond County, NY	New York, NY PMSA	443,728	21,750	4.9	54,132	47,482	45
New York County, NY	New York, NY PMSA	1,537,195	169,329	11.0	207,223	345,404	48
Kings County, NY	New York, NY PMSA	2,465,326	359,739	14.6	309,511	654,500	54
Bronx County, NY	New York, NY PMSA	1,332,650	250,796	18.8	162,826	432,463	57
Essex County, NJ	Newark, NJ PMSA	793,633	90,963	11.5	92,768	134,216	66
Virginia Beach City, VA	Norfolk—Virginia Beach—Newport News, VA—NC MSA	425,257	12,117	2.8	10,676	23,135	51
Alameda County, CA	Oakland, CA PMSA	1,443,741	67,719	4.7	57,584	155,345	43
Oklahoma County, OK	Oklahoma City, OK MSA	660,448	53,176	8.1	47,846	72,057	72
Philadelphia County, PA	Philadelphia, PA—NJ PMSA	1,517,550	271,509	17.9	264,965	345,260	77
Maricopa County, AZ	Phoenix—Mesa, AZ MSA	3,072,149	102,492	3.3	93,767	312,997	32
Allegheny County, PA	Pittsburgh, PA MSA	1,281,666	85,248	6.7	72,845	146,275	57
Multnomah County, OR	Portland—Vancouver, OR—WA PMSA	660,486	48,024	7.3	39,520	75,746	61
Providence County, RI	Providence-Warwick-Pawtucket, RI NECMA	621,602	62,275	10.0	43,410	82,118	75
Wake County, NC	Raleigh—Durham—Chapel Hill, NC MSA	627,846	19,546	3.1	17,301	51,934	37
Riverside County, CA	Riverside—San Bernardino, CA PMSA	1,545,387	68,010	4.4	63,660	182,072	37
Sacramento County, CA	Sacramento, CA PMSA	1,223,499	115,396	9.4	100,345	152,552	74
Bexar County, TX	San Antonio, TX MSA	1,392,931	113,064	8.1	106,936	188,129	59
San Francisco County, CA	San Francisco, CA PMSA	776,733	24,889	3.2	24,593	93,581	26
King County, WA	Seattle—Bellevue—Everett, WA PMSA	1,737,034	57,611	3.3	48,344	116,775	48
St. Louis City, MO	St. Louis, MO—IL MSA	348,189	77,827	22.4	70,183	145,048	52
Hillsborough County, FL	Tampa—St. Petersburg—Clearwater, FL MSA	998,948	63,114	6.3	58,340	100,516	61
District of Columbia	Washington, DC—MD—VA—WV PMSA	572,059	82,085	14.3	81,061	93,972	86
Sedgwick County, KS	Wichita, KS MSA	452,869	26,172	5.8	19,661	46,293	55
TOTAL—50 urban counties		**59,204,703**	**4,759,305**	**8.0**	**$4,489,484**	**8,460,139**	**55**

Source: Authors' calculations of Census 2000, Bureau of Economic Analysis, and USDA administrative data

Endnotes

1. Food and Nutrition Service, "Explaining Changes in Food Stamp Program Participation Rates" (Washington: USDA, 2004). Although the program paid more than $17 billion in benefits in 2002 (and $21 billion in 2003), the estimated average benefit for nonparticipants is significantly lower than the average participant benefit. This is indicated in Karen Cunnyngham, "Trends in Food Stamp Program Participation Rates: 1999 to 2002" (Washington: Mathematica Policy Research, 2004).

2. Sheila R. Zedlweski, "Recent Trends in Food Stamp Participation Among Poor Families with Children" (Washington: Urban Institute, 2004); Sheena McConnell and Michael Ponza, "The Reaching the Working Poor and Poor Elderly Study: What We Learned and Recommendations for Future Research" (Washington: Mathematica Policy Research, 1999); General Accounting Office, "Food Stamp Program: Various Factors Led to Declining Participation." RCED-99-185 (1999).

3. See Laura A. Castner and Allen L. Shirm, "Empirical Bayes Shrinkage Estimates of State Food Stamp Participation Rates in 1999-2001 for All Eligible People and the Working Poor" (Washington: Mathematica Policy Research, 2004). For an assessment of factors that influence state welfare participation, see Matthew C. Fellowes, "Dynamics of State Welfare Demand," paper presented at the 2004 Midwest Political Science Conference, Chicago, IL.

4. There are exceptions, of course. The Greater Philadelphia Coalition against Hunger has estimated a food stamp participation rate for the Philadelphia region. However, most local information relates to food stamp recipients, rather than eligible nonrecipients. As this paper demonstrates, the number of recipients can increase even as participation falls, making it difficult for local leaders to evaluate the effectiveness of outreach campaigns.

5. David A. Super, "Work and the Food Stamp Program" (Washington: Center on Budget and Policy Priorities, 2003).

6. For recent evidence on this later point, see Biing-Hwan Lin, Elizabeth Frazao, and Katherine Ralston, "Nutrition and Health Characteristics of Low-Income Populations." Agriculture Information Bulletin No. AIB796 (Washington: USDA, Economic Research Service, 2005).

7. For a review of recent participation rates see Food and Nutrition Service, "Explaining Changes in Food Stamp Program Participation Rates." For an excellent review of recent policy changes see Stacy Dean and Dorothy Rosenbaum, "Implementing New Changes to the Food Stamp Program: A Provision by Provision Analysis of the Farm Bill" (Washington: Center on Budget and Policy Priorities, 2002). More recent regulatory updates are available at **www.fns.usda.gov/fsp/rules/Regulations/default.htm** (March 2005).

8. See U.S. Census Bureau, "Small Area Income and Poverty Estimates: Food Stamp Recipients," available at **www.census.gov/hhes/www/saipe/techdoc/inputs/foodstmp.html** (February 2005). In calculating participation rates, we adjust these county-level totals for food stamp issuance error rates reported for states in 1999 and aggregate up to the metropolitan area level. The error rate adjustments changed the recipient estimates by an average of 2 percent from their originally reported values.

9. These data represent the most recent, reliable sample of metropolitan areas that contains required information to estimate local food stamp eligibility. Where possible, we analyze trends since 2000 and their likely effects on participation, and assumptions are noted.

10. For post-Census 2000 analysis, these concepts have been superseded by a new metropolitan classification system announced by the Office of Management and Budget in June 2003. For a description, see William Frey and others, "Tracking Metropolitan America into the 21st Century: A Field Guide to the New Metropolitan and Micropolitan Definitions" (Washington: Brookings Institution, 2004).

11. In most instances, we were not able to match exactly the PUMAs designed by the Census Bureau with metropolitan area borders; typically one or two counties at the fringe of a metro area were included or excluded from our eligibility estimates. We adjusted the counties in which food stamp participants were counted to match those considered in the eligibility estimate. Because these counties were generally very small in relation to their metropolitan areas, their inclusion or exclusion is not likely to affect our estimates substantially. Appendix A notes those metropolitan areas in which the weighted total population in our eligibility estimate deviates at least 1 percent from the total population of counties for which food stamp participants were counted.

12. The paper derives separate county-level eligibility estimates for a smaller number of counties than the 97 metropolitan areas because for several urban counties, PUMA boundaries do not match county boundaries well; and because 17 of the 97 metropolitan areas consist of just one county, making separate county-level estimates unnecessary.

13. Although the method used by the USDA to estimate eligibility has grown in complexity (and probably accuracy) over the years, limitations in the method may affect our analysis. In several areas of the USDA method, national data are used to directly impute state-level estimates; various national samples of individuals are used to make predictions about individual-level characteristics; and, more recently, a small-sample technique is used to reduce the error caused by relying on a small, annual state sample. The effect that these limitations have on the annual USDA estimates is, for the most part, unpublished. Nonetheless, because these estimates guide government policy, we attempt to replicate, as closely as possible, these state-

level USDA estimates, which we have used to assess the validity and reliability of our metropolitan estimates. Thus, our estimates face many of the same data limitations that may affect the USDA estimates. Researchers and the USDA itself would benefit greatly from a fuller investigation of how these numerous assumptions affect annual food stamp eligibility estimates.

14. The USDA has recently worked to minimize the imprecision of its estimates by using an innovative small sample estimation technique ("Bayes shrinkage"). For a review of this methodology, and the effect it has on USDA estimates, see L. Castner and A. Schirm, "Empirical Bayes Shrinkage Estimates of State Food Participation Rates for 1998-2000" (Washington: Mathematica Policy Research, 2003). For a summary of the issues associated with the small sample the USDA uses, see Rick H. Hoyle, Statistical Strategies for Small Sample Research (Thousand Oaks: Sage, 1999). We have no priors that the smaller sample used by the USDA systematically drives its eligibility estimates upward or downward.

15. U.S. Bureau of Economic Analysis, Regional Economic Accounts, "Local Area Personal Income Methodology, 1996–2002: Personal Current Transfer Receipts," available at **www.bea.gov/bea/regional/articles/lapi2002/transfer.pdf** (February 2005).

16. Alan Berube and William H. Frey, "A Decade of Mixed Blessings: Urban and Suburban Poverty in Census 2000." In A. Berube, B. Katz, and R. Lang, eds., *Redefining Urban and Suburban America: Evidence from Census 2000, Volume 2* (Washington: Brookings Institution, 2005).

17. Kenneth Hanson and Elise Golan, "Effects of Changes in Food Stamp Expenditures across the U.S. Economy" (Washington: USDA, Economic Research Service, 2002).

18. T. Fraker, "The Effects of Food Stamps on Food Consumption: A Review of the Literature" (Washington: USDA, Food and Nutrition Service, 1990). Although households can use food stamps only to purchase food items, food stamps also help to "free up" resources that families might otherwise have spent on food, thus enabling them to meet other household needs.

19. Food and Nutrition Service, "Explaining Changes in Food Stamp Program Participation Rates."

20. Estimated participation rates in the Youngstown (61.4 percent) and Wichita (61.6 percent) areas were basically the same.

21. Laura A. Castner and Allen L. Schirm, "Reaching Those in Need: State Food Stamp Participation Rates in 2002" (Washington: USDA, 2005).

22. Robert Goerge and others, "Understanding the Food Stamp Program Participation Decisions of TANF Leavers" (Washington: USDA, 2004).

23. A full analysis of this question is beyond the scope of this paper. However, we did find that within metropolitan areas, as the proportion of households receiving public assistance income increased, and as the proportion of poor people living in neighborhoods of "concentrated poverty" (where the poverty rate was 40 percent or higher) increased, the food stamp participation rate also increased. Future analysis in this area should take into account numerous additional factors to analyze the causal forces behind the variance among metropolitan areas.

24. The correlation coefficient between these two series is 0.73.

25. The dollar estimates in this section are based on USDA estimates of the average monthly food stamp benefits available to eligible individuals and participating individuals in 1999. Assuming that this average was constant throughout the calendar year, a value for potential food stamp benefits at full participation is estimated for each metropolitan area in the sample. Note that the average benefit available to nonparticipating eligible households is lower than that claimed by participating households. The USDA estimates imply an average monthly benefit of $70.66 per participating individual in FY 1999 versus $45.25 for eligible nonparticipants. Estimates for all years between 1976 and 2002 can be found in Cunnyngham, "Trends in Food Stamp Program Participation Rates: 1999 to 2002."

26. For instance, these estimates may overstate unclaimed food stamp dollars for an area with a disproportionate share of elderly individuals who are eligible but do not participate, given that seniors are typically eligible for smaller-than-average benefits. Likewise, a metropolitan area with a disproportionate share of eligible working families who do not claim benefits would likely see larger benefits at full participation than are estimated here.

27. Cunnyngham, "Trends in Food Stamp Program Participation Rates: 1999 to 2002."

28. To derive these estimates, each county's food stamp recipient total for 2001 (adjusted for issuance error) is divided by the ratio of its state's participation rate in 2001 to its state's participation rate in 1999, and multiplied by its metro area participation rate in 1999. This yields an implied eligibility total for each county in 2001, which is aggregated to the metropolitan level. Dividing total food stamp recipients (again, adjusted for issuance error) by this implied eligibility total yields the estimated metropolitan participation rate for 2001. In metropolitan areas that do not cross state lines, this method produces the same result as multiplying the 1999 metropolitan participation rate by the ratio of its state's 2001 to 1999 participation rates. Our method assumes that over time, metropolitan participation rates track the rates of their constituent counties' states. Although state-level participation rates are now available for 2002, the method used to calculate those estimates has changed, making it impossible to compare 1999 and 2002 state participation estimates. Castner and Schirm, "Reaching Those in Need."

29. Susan Bartlett and Nancy Burstein, "Food Stamp Program Access Study: Eligible Nonparticipants" (Washington: USDA, Economic Research Service, 2004).

30. Stacy Dean, "Administration's Budget Proposes to Cut the Food Stamp Program" (Washington: Center on Budget and Policy Priorities, 2005).

31. Sharon Parrott, Arloc Sherman, and Bradely Hardy, "House Budget Resolution Would Require Much Deeper Cuts in Key Low-Income Programs than Senate Budget Plan" (Washington: Center on Budget and Policy Priorities, 2005).

32. Dan Miller, "Local Government Organizations, NACo band to Save CDBG." Available at **www.naco.org** (May 2005).

33. For a review of those studies, see Alan Berube, "Rewarding Work through the Tax Code: The Power and Potential of the Earned Income Tax Credit in 27 Cities and Rural Areas" (Washington: Brookings Institution, 2003).

34. Kelly S. Mikelson and Robert I. Lerman, "Relationship Between the EITC and Food Stamp Program Participation Among Households with Children" (Washington: USDA, Economic Research Service, 2004). The authors hypothesize that additional income provided by the EITC may reduce a family's need to enroll in food stamps. It may also be that families that claim the EITC worry that the income will disqualify them from receiving food stamps, even though the program does not count EITC proceeds as income for eligibility purposes, and only begins to count them as a resource 12 months after they are received.

35. Liz Schott and Sharon Parrott, "Using the Internet to Facilitate Enrollment in Benefit Programs: Eligibility Screeners and Online Applications" (Washington: Center on Budget and Policy Priorities, 2004); Michael O'Connor, "Using the Internet to Make Work Pay for Low-Income Families" (Washington: Brookings Institution, 2002).

36. The National League of Cities' (NLC) "EITC Toolkit for Municipal Leaders" assembles research and best practices from around the country to help leaders boost program participation. Available at **www2.nlc.org/nlctoolkit/html**. The NLC Institute on Youth, Education, and Families is also developing a multi-benefit prescreening tool for municipal leaders.

37. Some minimum requirements still apply to the rules states can adopt in the FSP. For instance, states must include earnings, Social Security and SSI income, and unemployment insurance benefits in the food stamp income definition. However, these are unlikely to create problems for alignment efforts because few states opt to exclude these income sources from their TANF and Medicaid eligibility determinations. Sharon Parrott and Stacy Dean, "Aligning Policies and Procedures in Benefit Programs" (Washington: Center on Budget and Policy Priorities, 2004).

38. Center on Budget and Policy Priorities, "States' Vehicle Asset Policies in the Food Stamp Program" (2004); Dean and Rosenbaum, "Implementing New Changes to the Food Stamp Program."

39. States that have not adopted these simplifications include Alaska, California, Connecticut, Colorado, DC, Delaware, Maine, Minnesota, Mississippi, Montana, New Jersey, New Mexico, Nevada, Oregon, Rhode Island, Utah, Vermont, Texas, Washington, and West Virginia. The USDA, Program Development Division; Program Design Branch, "State Options Report" (Washington: Food and Nutrition Service, 2004).

40. These states include California, Hawaii, Massachusetts, Michigan, Mississippi, North Dakota, Oregon, South Dakota, Utah, and Washington. Ibid.

41. Carole Tripp and others, "Simplified Reporting and Transitional Benefits in the Food Stamp Program—Case Studies of State Implementation" (Washington: USDA, 2004).

42. Notably, the survey collects information on whether anyone in the household received food stamp income in the prior 12 months, which could obviate the need for participation rate research to compare eligibility estimates from the ACS with administrative data on food stamp claims. Currently, the survey sample size is sufficient only to describe participation rates for very large consolidated metropolitan statistical areas (CMSAs).

43. These annual reports are produced by Mathematica Policy Research, inc., under a contract with the USDA's Food and Nutrition Service, which oversees the FSP.

44. For more information about each of these deductions see "Food Stamp Program: Deductions (Rules on Allowable Deductions from Income), available at **www.fns.usda.gov/fsp/applicant_recipients/deductions.htm** (March 2005).

45. Because monthly income varies for some households during a year, the USDA now distributes monthly income based on patterns of earnings exhibited in the Survey of Income and Program Participation (SIPP). These data are from a multi-staged stratified sample of the U.S. noninstitutionalized population. Because the USDA does not publish these distributions, and the SIPP does not provide reliable metropolitan estimates, we elected to distribute income evenly over 12 months.

46. These estimates are available from Karen Cunnyngham, "Technical Appendices to Trends in Food Stamp Program Participation Rates: 1999–2001" (Washington: Mathematica Policy Research, 2003).

47. South Carolina has raised the limit for nonelderly households to $2,500, and Connecticut, North Carolina, and Montana have raised it to $3,000.

48. For a review of recent changes in the vehicle asset rules see Center on Budget and Policy Priorities, "States Vehicle Asset Policies in the Food Stamp Program" (Washington, 2005). For a review of asset

holdings among low-income households in 1999 see Randy Russo, "Tables Describing the Asset and Vehicle Holdings of Low-Income Households in 1999" (Washington: Mathematica Policy Research, 1999).

49. Cunnyngham, "Technical Appendices."

50. Specifically, the Institute's model applies an annual 6 percent rate of return to the total value of these income sources to approximate household assets.

51. The Food Stamp Act of 1977 required states to count the fair market value of automobiles in a household in excess of $4,500 toward the program asset limit. Under program rules, a household with a $4,600 car would thus have $100 counted toward the asset limit. The 1996 welfare reform law raised this threshold to $4,650. The FY 2001 USDA Appropriations Act gave states five new options for measuring an automobile's worth, but these rules were not in effect in 1999, the year for which we derive participation estimates. For these reasons, we stress that this variable is a proxy for total asset worth. Center on Budget and Policy Priorities, "States Vehicle Asset Policies in the Food Stamp Program."

52. Karen Cunnyngham, "Trends in Food Stamp Program Participation Rates: 1999 to 2001" (Mathematica Policy Research, 2003).

53. U.S. Department of Justice, *1999 Statistical Yearbook of the Immigration and Naturalization Service* (2002). We observe no correlation between the proportion of estimated eligible individuals identified as refugees and estimated participation rates at the metropolitan level. Nonetheless, a comparison of PUMS data on recent noncitizen arrivals to data from USCIS and from the Department of Health and Human Services' Office of Refugee Resettlement suggests that the 16 percent figure used by the USDA overestimates the proportion of recent immigrants who are refugees. Audrey Singer and Jill Wilson, "Metropolitan Destinations of Refugees" (Washington: Brookings Institution, forthcoming 2005). As such, the USDA may wish to review this methodological assumption, in terms of both the overall proportion of recent immigrants assumed to be refugees, and the application of one national proportion to all states.

54. Castner and Shirm, "Empirical Bayes Shrinkage Estimates." The random sample included 16 percent of the states. Rank-ordered by the number of eligible individuals, these states include Oklahoma, Indiana, Washington, North Carolina, Michigan, Georgia, Ohio, and Illinois.

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