Reaching Those in Need:

STATE FOOD STAMP PARTICIPATION RATES IN 2003

The Food Stamp Program is a central component of American policy to alleviate hunger and poverty. The program's main purpose is "to permit low-income households to obtain a more nutritious diet . . . by increasing their purchasing power" (Food Stamp Act of 1977, as amended). The Food Stamp Program is the largest of the domestic food and nutrition assistance programs administered by the U.S. Department of Agriculture's Food and Nutrition Service. During fiscal year 2005, the program served over 25 million people in an average month at a total annual cost of over $28 billion in benefits, excluding disaster assistance provided as a result of hurricanes in September 2005.

The Government Performance and Results Act of 1993 calls for policymakers to assess the effects of programs, and one important measure of a program's performance is its ability to reach its target population. The national food stamp participation rate—the percentage of eligible people in the United States who actually participate in the program—has been a standard for assessing performance for about 20 years. The U. S. Department of Agriculture's budget request for fiscal year 2006 includes a performance target to reach 68 percent of the eligible population by 2010.

Recent studies have examined national participation rates as well as participation rates for socioeconomic and demographic subgroups (Cunnyngham 2005) and rates for States (Castner and Schirm 2005b). This document presents estimates of food stamp participation rates for States for fiscal year 2003. These estimates can be used to assess recent program performance and focus efforts to improve performance.

Participation Rates in 2003

About 56 percent of eligible people in the United States received food stamp benefits in fiscal year 2003. Participation rates varied widely from State to State, however. Twenty-two States had rates that were significantly higher (in a statistical sense) than the national rate, and 16 States had rates that were significantly lower. Among the regions, the Midwest Region had the highest participation rate. Its 62 percent rate was significantly higher than the rates for all of the other regions. The Mountain Plains and Southeast Regions had participation rates that, at 59 percent, were significantly higher than the rates for all of the other regions except the Midwest. The Northeast Region's participation rate, at 49 percent, was significantly lower than the rates for all of the other regions. (See the last page for a map showing regional boundaries.)

State Comparisons

The estimated participation rates presented here are based on fairly small samples of households in each State. Although there is substantial uncertainty associated with the estimates for some States and with comparisons of estimates from different States, the estimates for

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FOOD AND NUTRITION SERVICE

BY LAURA A. CASTNER AND ALLEN L. SCHIRM • MATHEMATICA POLICY RESEARCH, INC.

NOVEMBER • 2005

Participation Rates

	2002	2003
Alabama	55%	56%
Alaska	63%	65%
Arizona	57%	64%
Arkansas	58%	62%
California	48%	45%
Colorado	46%	48%
Connecticut	56%	53%
Delaware	50%	53%
District of Columbia	68%	72%
Florida	47%	48%
Georgia	59%	65%
Hawaii	76%	67%
Idaho	49%	53%
Illinois	60%	61%
Indiana	67%	65%
Iowa	54%	57%
Kansas	52%	55%
Kentucky	63%	67%
Louisiana	65%	69%
Maine	62%	72%
Maryland	46%	48%
Massachusetts	38%	43%
Michigan	62%	65%
Minnesota	56%	59%
Mississippi	56%	60%
Missouri	70%	76%
Montana	50%	50%
Nebraska	57%	56%
Nevada	41%	44%
New Hampshire	44%	46%
New Jersey	45%	47%
New Mexico	54%	52%
New York	51%	48%
North Carolina	46%	49%
North Dakota	50%	51%
Ohio	57%	61%
Oklahoma	58%	67%
Oregon	80%	83%
Pennsylvania	53%	54%
Rhode Island	52%	53%
South Carolina	58%	65%
South Dakota	54%	52%
Tennessee	70%	82%
Texas	47%	48%
Utah	43%	48%
Vermont	59%	60%
Virginia	51%	54%
Washington	57%	60%
West Virginia	67%	68%
Wisconsin	52%	55%
Wyoming	46%	46%
Northeast Region	50%	49%
Mid-Atlantic Region	52%	54%
Southeast Region	55%	59%
Midwest Region	59%	62%
Southwest Region	52%	54%
Mountain Plains Region	56%	59%
Western Region	53%	52%
United States	54%	56%

There is substantial uncertainty associated with most of these estimates. Confidence intervals that measure the uncertainty in the estimates for 2002 are presented in Castner and Schirm (forthcoming). These confidence intervals are generally about as wide as the confidence intervals that are presented in this document for the 2003 estimates.

2003 show whether a State's participation rate was probably at the top, at the bottom, or in the middle of the distribution. Oregon, Tennessee, and Missouri were very likely at the top, with higher rates than most States. In contrast, Massachusetts likely had a lower rate than most States. Nevada, California, Wyoming, New Hampshire, New Jersey, Utah, Colorado, New York, Florida, Texas, Maryland, North Carolina, and Montana probably fell in the bottom half of the distribution, while the District of Columbia, Maine, Louisiana, West Virginia, Hawaii, Kentucky, Oklahoma, South Carolina, Michigan, Alaska, Georgia, Indiana, Arizona, Arkansas, Ohio, and Illinois were probably in the top half in 2003.

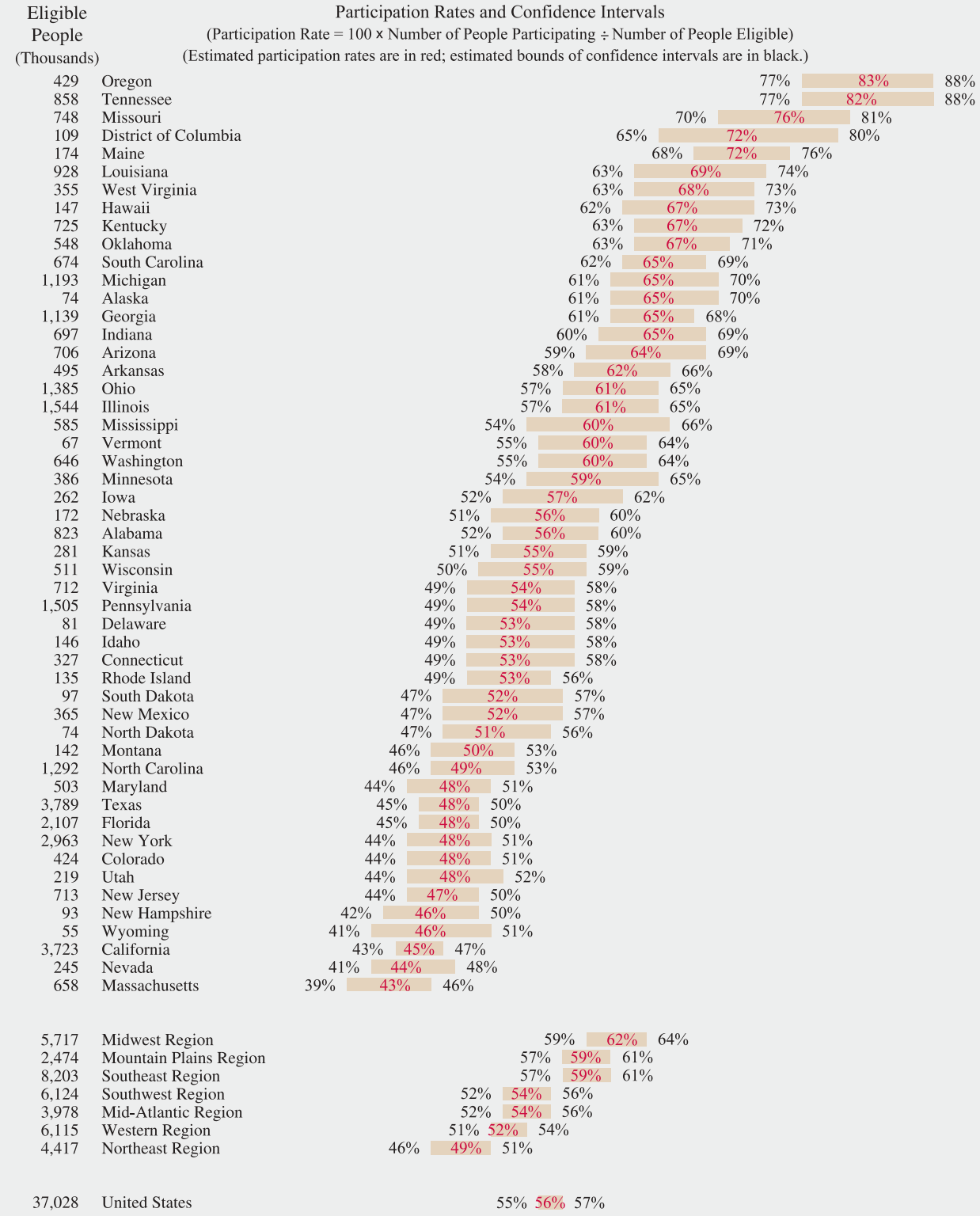
How a State compares with other States may fluctuate over time due to statistical variability in estimated rates and true changes in rates. The statistical variability is sufficiently great that a large change in a State's rate from the prior year should be interpreted cautiously, as should differences between the rates of that State and other States. It may be incorrect to conclude that program performance in the State has improved or deteriorated dramatically. Despite this uncertainty, the estimated participation rates suggest that some States were in the top or bottom of the distribution of rates in both 2002 and 2003. In those two years, Oregon, Tennessee, Missouri, the District of Columbia, Maine, Louisiana, West Virginia, Hawaii, and Kentucky had significantly higher participation rates than two-thirds of the States, and Michigan, Alaska, Indiana, and Illinois had significantly higher rates than half of the States. North Carolina, New York, and California had significantly lower rates than half of the States in both years, and Maryland, Texas, Florida, Colorado, Utah, New Jersey, New Hampshire, Wyoming, Nevada, and Massachusetts had significantly lower rates than two-thirds of the States.

Estimation Method

The estimates presented here were derived using shrinkage estimation methods (Castner and Schirm 2005a, and Castner and Schirm forthcoming). Drawing on data from the Current Population Survey, the decennial census, and administrative records, the shrinkage estimator averaged sample estimates of participation rates with predictions from a regression model. The sample estimates were obtained by applying food stamp eligibility rules to households in the Current Population Survey to estimate numbers of eligible people, while estimating numbers of participating people from food stamp administrative data. The regression predictions of participation rates were based on observed indicators of socioeconomic conditions, such as the percentage of the total State population receiving food stamp benefits.

Shrinkage estimates are substantially more precise than direct sample estimates from the Current Population Survey or the Survey of Income and Program Participation, the leading sources of data used to estimate program eligibility. Because these surveys do not collect data on participation in the Food Distribution Program on Indian Reservations, the estimates presented here are not adjusted to reflect the fact that participants in that program are not eligible to receive food stamp benefits at the same time (Cunnyngham 2005). The Food Distribution Program on Indian Reservations served about 108,000 people in 2003, so the effects of such adjustments would be negligible in almost all States.

How Many Were Eligible in 2003? What Percentage Participated?



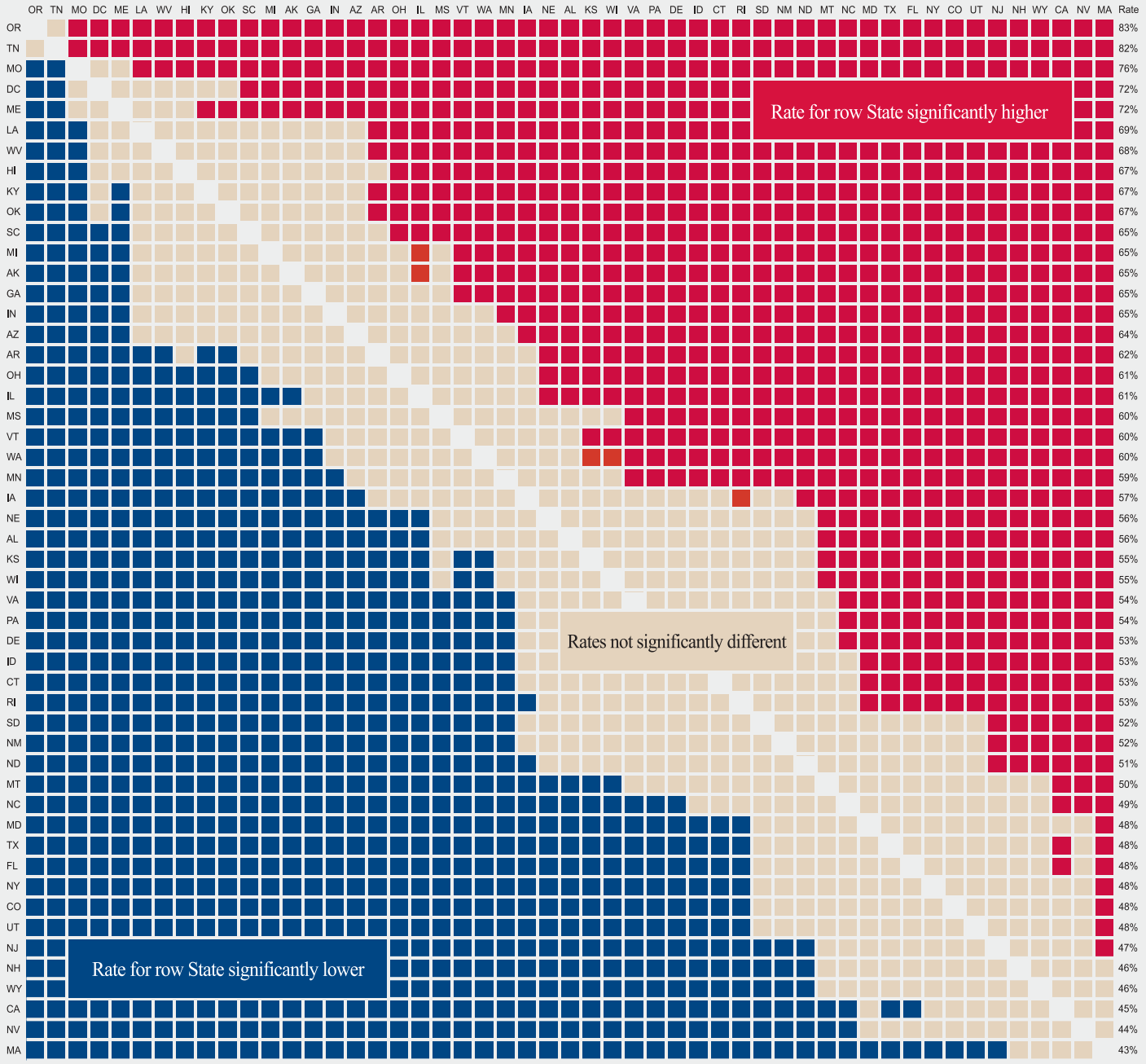
A confidence interval expresses our uncertainty about the true value of a participation rate. Each interval displayed here is a 90-percent confidence interval. One interpretation of such an interval is that there is a 90-percent chance that the true participation rate falls within the estimated bounds. For example, while our best estimate is that Alabama's participation rate was 56 percent in 2003, the true rate may have been higher or lower. However, the chances are 90 in 100 that the true rate was between 52 and 60 percent.

How Did Your State Rank in 2003?

Participation Rate		Ranks and Confidence Intervals (Estimated ranks are in red; estimated bounds of confidence intervals are in black.)
83%	Oregon	1 **1** 3
82%	Tennessee	1 **2** 3
76%	Missouri	2 **3** 6
72%	District of Columbia	3 **4** 12
72%	Maine	3 **5** 8
69%	Louisiana	4 **6** 15
68%	West Virginia	4 **7** 15
67%	Hawaii	5 **8** 17
67%	Kentucky	5 **9** 16
67%	Oklahoma	6 **10** 16
65%	South Carolina	7 **11** 18
65%	Michigan	6 **12** 19
65%	Alaska	6 **13** 19
65%	Georgia	7 **14** 19
65%	Indiana	7 **15** 20
64%	Arizona	7 **16** 22
62%	Arkansas	11 **17** 24
61%	Ohio	13 **18** 25
61%	Illinois	14 **19** 25
60%	Mississippi	12 **20** 29
60%	Vermont	14 **21** 27
60%	Washington	14 **22** 28
59%	Minnesota	14 **23** 30
57%	Iowa	18 **24** 33
56%	Nebraska	20 **25** 35
56%	Alabama	20 **26** 35
55%	Kansas	22 **27** 35
55%	Wisconsin	22 **28** 37
54%	Virginia	23 **29** 39
54%	Pennsylvania	23 **30** 39
53%	Delaware	24 **31** 39
53%	Idaho	24 **32** 40
53%	Connecticut	24 **33** 40
53%	Rhode Island	26 **34** 40
52%	South Dakota	25 **35** 44
52%	New Mexico	24 **36** 44
51%	North Dakota	27 **37** 44
50%	Montana	32 **38** 46
49%	North Carolina	33 **39** 47
48%	Maryland	35 **40** 49
48%	Texas	37 **41** 48
48%	Florida	37 **42** 48
48%	New York	35 **43** 49
48%	Colorado	36 **44** 49
48%	Utah	35 **45** 49
47%	New Jersey	37 **46** 49
46%	New Hampshire	38 **47** 50
46%	Wyoming	37 **48** 51
45%	California	44 **49** 51
44%	Nevada	42 **50** 51
43%	Massachusetts	47 **51** 51

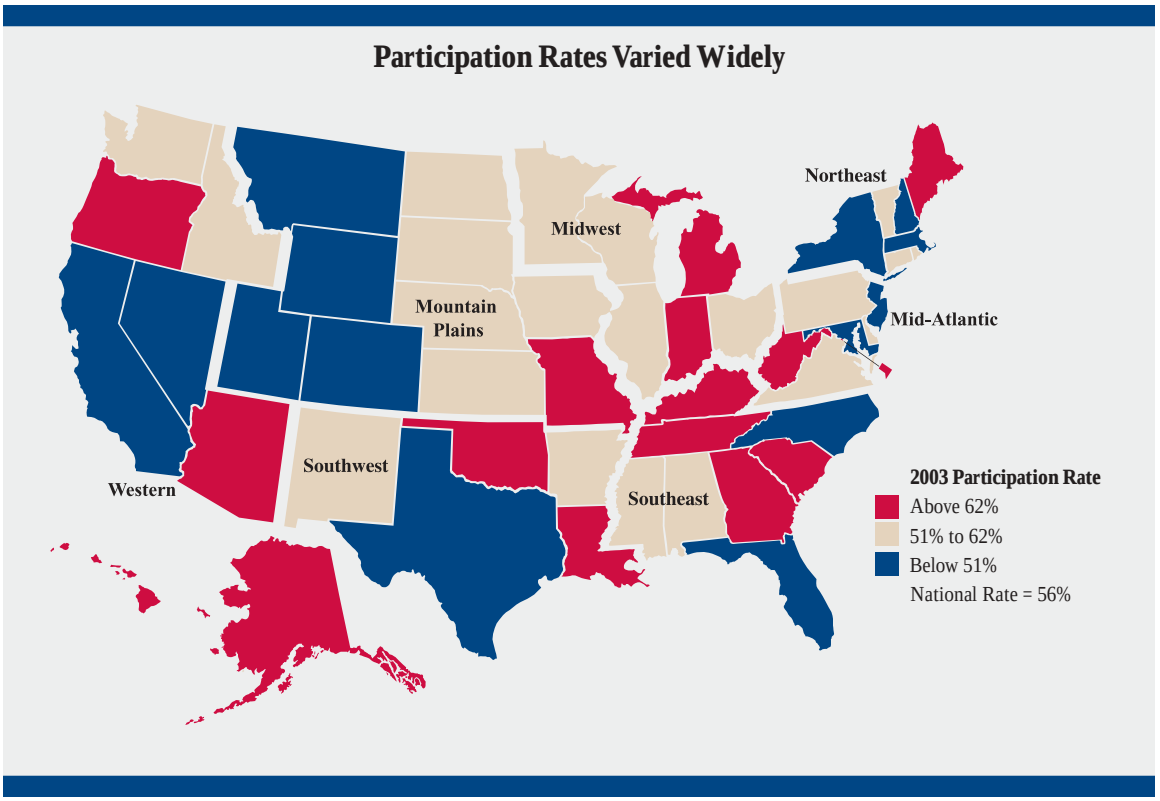
A confidence interval expresses our uncertainty about the true value of a State's rank. Each interval displayed here is a 90-percent confidence interval. One interpretation of such an interval is that there is a 90-percent chance that the true rank falls within the estimated bounds. For example, while our best estimate is that Alabama had the 26th highest participation rate in 2003, the true rank may have been higher or lower. However, the chances are 90 in 100 that the true rank was between 20 and 35 among all of the States. To determine how Alabama or your State compares with any other State, see the chart on page 5.

How Did Your State Compare with Other States in 2003?



Whether one State has a significantly higher participation rate than a second State can be determined from this figure by finding the row for the first State at the left of the figure and the column for the second State at the top of the figure. If the box where the row and column intersect is red, there is at least a 90-percent chance that the first State (the row State) has a higher true participation rate. If the box is blue, there is at least a 90-percent chance that the second State (the column State) has a higher true participation rate. Equivalently, there is less than a 10-percent chance that the first State has a higher rate. If the box is tan, there is more than a 10-percent chance but less than a 90-percent chance that the first State has a higher rate; thus, we conclude that neither estimated rate is significantly higher.

Taking Alabama, the State in the middle of the distribution, as an example, we see that it had a significantly lower participation rate than 19 other States (Oregon, Tennessee, Missouri, the District of Columbia, Maine, Louisiana, West Virginia, Hawaii, Kentucky, Oklahoma, South Carolina, Michigan, Alaska, Georgia, Indiana, Arizona, Arkansas, Ohio, and Illinois) and a significantly higher rate than 14 other States (Montana, North Carolina, Maryland, Texas, Florida, New York, Colorado, Utah, New Jersey, New Hampshire, Wyoming, California, Nevada, and Massachusetts). Its rate was neither significantly higher nor significantly lower than the rates for the other 17 States, suggesting that Alabama is probably in the broad center of the distribution, unlike, for example, Oregon and Massachusetts, which were surely at or near the top and bottom of the distribution, respectively. Although we use the statistical definition of “significance” here, most of the significant differences were at least 10 percentage points, a difference that seems important as well as significant, and all of them were at least 3 percentage points.



Because our focus in this document is on participation among people who are eligible for the Food Stamp Program, the estimates of eligible people were adjusted using available data to reflect the fact that Supplemental Security Income recipients in California are not legally eligible to receive food stamp benefits because they receive cash instead. It might be useful in some other contexts, however, to consider participation rates among those eligible for food stamp benefits or a cash substitute.

Although our focus is on participation among people who are eligible for the Food Stamp Program, no data are available to estimate the number of people who would fail the program's income tests but are categorically eligible for food stamp benefits through participation in noncash public assistance programs. Therefore, because such people cannot be included in estimates of eligible people, they have been excluded from the estimates of participating people used in deriving the participation rates presented here. The methods used to estimate the numbers of eligible and participating people are described in detail in Cunnyngham (2005).

References

Castner, Laura A., and Allen L. Schirm. "Empirical Bayes Shrinkage Estimates of State Food Stamp Participation Rates in 2002-2003 for All Eligible People and the Working Poor." Washington, DC: Mathematica Policy Research, Inc., forthcoming.

Castner, Laura A., and Allen L. Schirm. "Empirical Bayes Shrinkage Estimates of State Food Stamp Participation Rates in 2000-2002 for All Eligible People and the Working Poor." Washington, DC: Mathematica Policy Research, Inc., October 2005a.

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NOVEMBER • 2005

Produced by Mathematica Policy Research, Inc., for the Food and Nutrition Service under contract no. FNS-03-030-TNN.