

## STATE FOOD STAMP PARTICIPATION RATES IN 2002

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 2004, the program served almost 24 million people in an average month at a total annual cost of nearly \$25 billion in benefits. The average monthly food stamp benefit was about \$200 per household.

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 over 15 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 (Cunningham 2004) and rates for States (Castner and Schirm 2004b). This document presents estimates of food stamp participation rates for States for fiscal year 2002. These estimates can be used to assess recent program performance and focus efforts to improve performance.

### Participation Rates in 2002

About 54 percent of eligible people in the United States received food stamp benefits in fiscal year 2002. Participation rates varied widely from State to State, however. Nineteen 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 60 percent rate was significantly higher than the rates for all of the other regions. The Northeast Region's participation rate, at 50 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 2002 show whether a State's participation rate was probably at the top, at the bottom, or in the middle of the distribution. Oregon, Hawaii, and West Virginia were very likely at the top, with higher rates than most States. In contrast, Massachusetts, Nevada, and New Jersey likely had lower rates than most States. Utah, Florida, Colorado, New Hampshire, Idaho, North Carolina, Texas, Maryland, Kansas, Wyoming, California, Montana, and New York probably fell in the bottom half of the distribution, while Missouri, Louisiana, Kentucky, Tennessee, the District of Columbia, Indiana, Michigan, Maine, Alaska, and Vermont were probably in the top half in 2002.

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 have fairly consistently been in the top or bottom of the distribution of rates in recent years. In all three years from 2000 to 2002, Oregon, Hawaii, West Virginia, Missouri, Louisiana, Kentucky, the District of Columbia, Michigan, and Maine had significantly higher participation rates than two-thirds of the States, and Tennessee, Alaska, and Vermont had significantly higher rates than half of the States. Kansas, New Hampshire, Colorado, Florida, and New Jersey had significantly lower rates than half of the States in all three years, and Texas, North Carolina, Idaho, Utah, 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 2004a, 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.



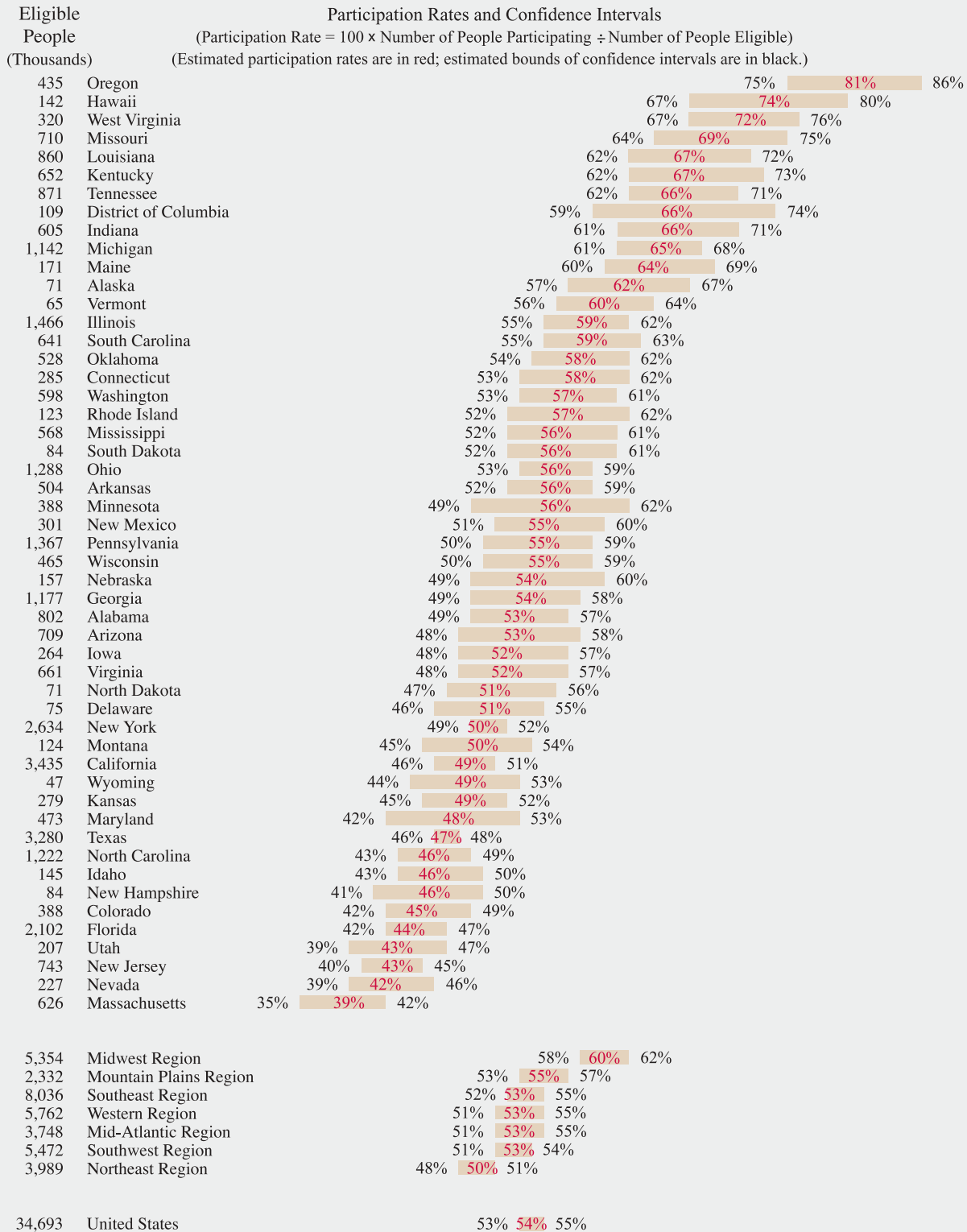
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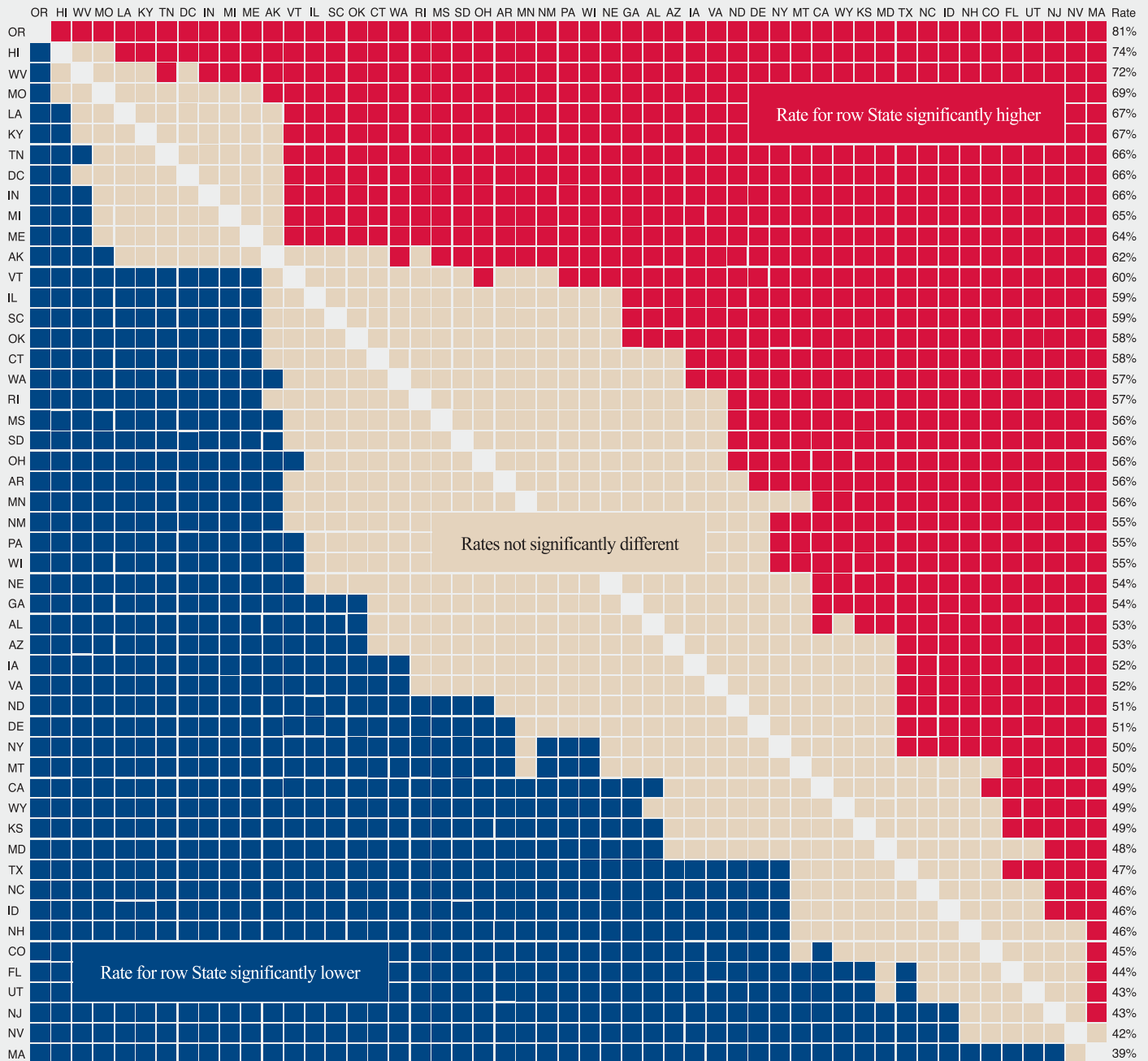
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## How Many Were Eligible in 2002? What Percentage Participated?



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 Mississippi's participation rate was 56 percent in 2002, the true rate may have been higher or lower. However, the chances are 90 in 100 that the true rate was between 52 and 61 percent.

## How Did Your State Compare with Other States in 2002?



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.

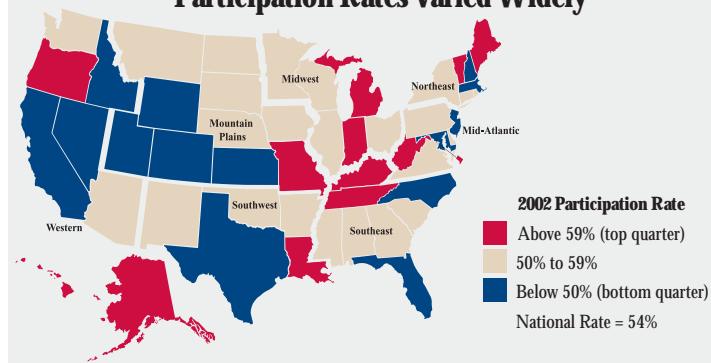
Taking Pennsylvania, the State in the middle of the distribution, as an example, we see that it had a significantly lower participation rate than 13 other States (Oregon, Hawaii, West Virginia, Missouri, Louisiana, Kentucky, Tennessee, the District of Columbia, Indiana, Michigan, Maine, Alaska, and Vermont) and a significantly higher rate than 16 other States (New York, Montana, California, Wyoming, Kansas, Maryland, Texas, North Carolina, Idaho, New Hampshire, Colorado, Florida, Utah, New Jersey, Nevada, and Massachusetts). Its rate was neither significantly higher nor significantly lower than the rates for the other 21 States, suggesting that Pennsylvania 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.

## Participation Rates

	2000	2001	2002
Alabama	56%	53%	53%
Alaska	62%	58%	62%
Arizona	46%	47%	53%
Arkansas	57%	55%	56%
California	54%	49%	49%
Colorado	49%	46%	45%
Connecticut	61%	58%	58%
Delaware	52%	49%	51%
District of Columbia	86%	73%	66%
Florida	49%	45%	44%
Georgia	53%	50%	54%
Hawaii	89%	77%	74%
Idaho	44%	41%	46%
Illinois	63%	62%	59%
Indiana	60%	61%	66%
Iowa	54%	51%	52%
Kansas	50%	49%	49%
Kentucky	72%	69%	67%
Louisiana	65%	64%	67%
Maine	72%	67%	64%
Maryland	52%	50%	48%
Massachusetts	42%	41%	39%
Michigan	68%	64%	65%
Minnesota	57%	54%	56%
Mississippi	52%	52%	56%
Missouri	70%	68%	69%
Montana	53%	51%	50%
Nebraska	56%	52%	54%
Nevada	38%	40%	42%
New Hampshire	49%	46%	46%
New Jersey	50%	45%	43%
New Mexico	54%	53%	55%
New York	57%	52%	50%
North Carolina	48%	47%	46%
North Dakota	50%	55%	51%
Ohio	57%	54%	56%
Oklahoma	56%	54%	58%
Oregon	72%	75%	81%
Pennsylvania	64%	58%	55%
Rhode Island	63%	60%	57%
South Carolina	56%	55%	59%
South Dakota	58%	57%	56%
Tennessee	64%	61%	66%
Texas	46%	45%	47%
Utah	47%	43%	43%
Vermont	70%	63%	60%
Virginia	54%	52%	52%
Washington	56%	54%	57%
West Virginia	85%	75%	72%
Wisconsin	53%	53%	55%
Wyoming	51%	50%	49%
Northeast Region	56%	52%	50%
Mid-Atlantic Region	60%	55%	53%
Southeast Region	54%	52%	53%
Midwest Region	61%	59%	60%
Southwest Region	51%	50%	53%
Mountain Plains Region	57%	55%	55%
Western Region	54%	51%	53%
United States	56%	53%	54%

There is substantial uncertainty associated with most of these estimates. Confidence intervals that measure the uncertainty in the estimates for 2000 and 2001 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 2002 estimates.

## Participation Rates Varied Widely



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 2004). The Food Distribution Program on Indian Reservations served about 110,000 people in 2002, so the effects of such adjustments would be negligible in almost all states. 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.

The shrinkage estimates of participation rates for 2000 and 2001 presented here differ from, and are generally lower than, the estimates in Castner and Schirm (2004a and 2004b) because of improvements in data and methods. These improvements, described in detail in Cunnyngham

(2004) and U.S. Department of Agriculture (2004), include procedures that account for changes in Food Stamp Program rules, specifically, the updated limits on the value of vehicles that an eligible household can own. These new rules expanded the number of people eligible for food stamp benefits. In the future, some of the estimates presented here will be revised—and improved—with further improvements in data and methods.

## References

- 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 for the Working Poor." Washington, DC: Mathematica Policy Research, Inc., forthcoming.
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