Reaching Those in Need:

STATE FOOD STAMP PARTICIPATION RATES IN 1998

The Food Stamp Program is a central component of American policy to reduce 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 2000, the program served just over 17 million people in an average month at a total annual cost of nearly $15 billion in benefits. The average monthly food stamp benefit was about $170 per household.

Although the costs of the Food Stamp Program and other assistance programs are scrutinized during federal budget debates, the Government Performance and Results Act calls for policymakers to pay close attention to the effects of programs, not just total dollars spent. 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. Recent studies have also examined participation rates for socioeconomic and demographic subgroups of the national population (Castner 2000) and rates for States (Schirm 2000). The Food and Nutrition Service's Strategic Plan for 2000 to 2005 calls for continued monitoring and includes a performance target to "increase the rate of . . . program participation among eligible people."

This document presents estimates of food stamp participation rates for States as of September 1998 and estimates of how rates changed between September 1994 and September 1998. These estimates

can be used to assess recent program performance, determine whether performance has been improving or deteriorating, and focus efforts to improve performance. The estimates can also be used to help understand the effects of the strong economy and expanding job opportunities for low-income families and the early consequences of the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (P.L. 104-193). This law ended the entitlement to welfare and replaced the Aid to Families with Dependent Children program with the work-oriented Temporary Assistance for Needy Families block grant. The law also included important changes to Food Stamp Program rules, limiting participation by legal noncitizens and unemployed, able-bodied adults without dependent children.

Participation Rates in 1998

In September 1998, about 59 percent of eligible people in the United States received food stamps. Participation rates varied widely from State to State, however, with some rates under 50 percent and some over 80 percent. Sixteen States had rates that were significantly higher (in a statistical sense) than the national rate, and 12 States had rates that were significantly lower. Among the regions, the Mid-Atlantic had the highest participation rate. Its 67 percent rate was significantly higher than the rates for all of the other regions. The Western and Southwest Regions had the lowest rates, at 56 percent. However, their rates were not significantly lower than the 59 percent rates for the Southeast, Northeast, and Mountain Plains Regions. (See the last page for a map showing regional boundaries.)

Changes Since 1994

Nationwide, the food stamp participation rate fell by 11 percentage points between September 1994 and September 1998. Rates fell in every region of the country and most States. For 35 States, the 1998 rate was significantly lower than the 1994 rate, and the decline in each

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Participation Rates

	1994	1995	1996	1997	1998
Alabama	70%	62%	67%	62%	63%
Alaska	72%	77%	78%	83%	80%
Arizona	75%	63%	59%	56%	47%
Arkansas	65%	52%	60%	54%	64%
California	58%	61%	61%	62%	54%
Colorado	70%	62%	59%	56%	52%
Connecticut	67%	72%	61%	61%	60%
Delaware	74%	73%	67%	68%	56%
District of Columbia	65%	71%	67%	83%	89%
Florida	67%	60%	60%	56%	54%
Georgia	75%	72%	65%	58%	57%
Hawaii	84%	100%	89%	100%	100%
Idaho	57%	55%	58%	51%	49%
Illinois	73%	75%	69%	74%	66%
Indiana	74%	72%	68%	65%	61%
Iowa	72%	68%	64%	64%	57%
Kansas	64%	65%	63%	59%	53%
Kentucky	76%	77%	72%	71%	69%
Louisiana	76%	70%	69%	67%	69%
Maine	89%	91%	84%	85%	82%
Maryland	72%	76%	67%	68%	66%
Massachusetts	67%	63%	61%	49%	49%
Michigan	78%	80%	73%	74%	70%
Minnesota	69%	70%	66%	59%	56%
Mississippi	81%	72%	73%	68%	57%
Missouri	83%	80%	73%	66%	66%
Montana	67%	56%	55%	62%	59%
Nebraska	72%	65%	60%	68%	65%
Nevada	58%	57%	57%	47%	46%
New Hampshire	67%	71%	64%	53%	45%
New Jersey	66%	75%	65%	60%	58%
New Mexico	72%	63%	62%	64%	66%
New York	73%	74%	68%	65%	60%
North Carolina	63%	61%	65%	58%	50%
North Dakota	63%	59%	60%	60%	54%
Ohio	80%	80%	69%	70%	58%
Oklahoma	68%	63%	58%	82%	61%
Oregon	70%	73%	66%	70%	63%
Pennsylvania	81%	82%	74%	74%	69%
Rhode Island	77%	82%	74%	68%	70%
South Carolina	69%	54%	64%	63%	64%
South Dakota	59%	51%	56%	58%	57%
Tennessee	83%	75%	70%	69%	69%
Texas	72%	71%	64%	57%	51%
Utah	75%	73%	72%	65%	60%
Vermont	88%	88%	77%	84%	68%
Virginia	75%	73%	66%	57%	59%
Washington	74%	79%	71%	68%	64%
West Virginia	91%	94%	89%	100%	92%
Wisconsin	68%	66%	60%	54%	49%
Wyoming	69%	63%	63%	56%	54%
Northeast Region	73%	73%	67%	63%	59%
Mid-Atlantic Region	76%	79%	71%	69%	67%
Southeast Region	72%	65%	65%	62%	59%
Midwest Region	75%	76%	69%	69%	62%
Southwest Region	72%	68%	64%	61%	56%
Mountain Plains Region	73%	69%	65%	62%	59%
Western Region	62%	64%	62%	63%	56%
United States	71%	70%	66%	64%	59%

There is substantial uncertainty associated with most of these estimates. Confidence intervals that measure the uncertainty in the estimates for 1994 to 1997 are presented in Schirm (forthcoming). Those confidence intervals are generally about as wide as the confidence intervals that are presented in this document for the 1998 estimates.

State's rate was at least seven percentage points. Only in the District of Columbia and Hawaii were the rates significantly higher in 1998 than in 1994. For every region, the participation rate fell significantly. The Western Region had the smallest decline, at six percentage points. The decreases in rates for all of the other regions except the Mid-Atlantic were significantly larger, at least 13 percentage points over the four-year period. During the period, the variation in regional participation rates diminished, and the variation in State rates grew, suggesting that differences among States within regions generally became larger.

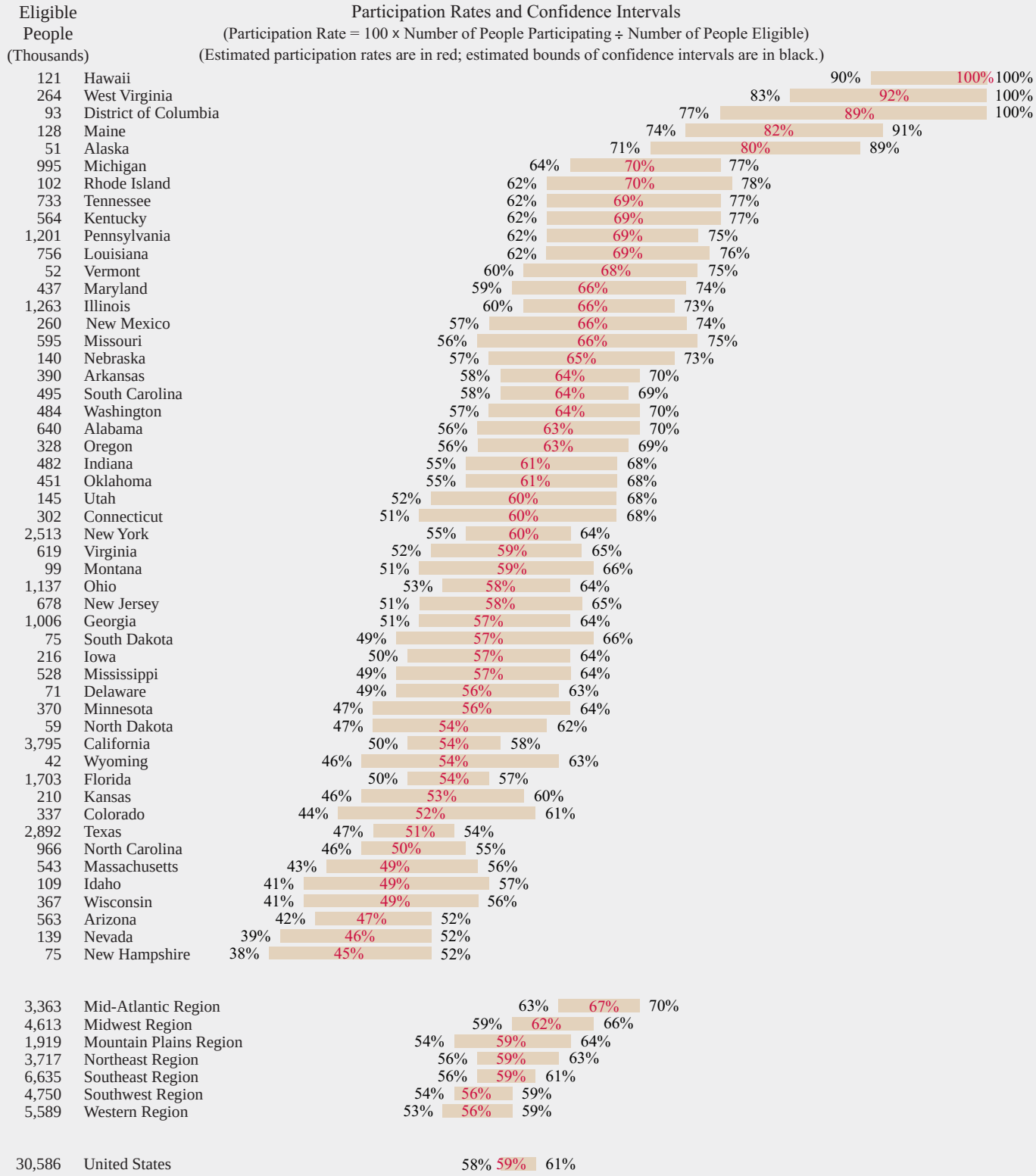
State Comparisons

All of 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 1998 show whether a State's participation rate was probably at the top, at the bottom, or in the middle of the distribution. Hawaii, West Virginia, the District of Columbia, Maine, and Alaska were very likely at the top, with higher rates than most other States. In contrast, New Hampshire, Nevada, and Arizona almost surely had lower rates than most other States. Wisconsin, Idaho, Massachusetts, North Carolina, and Texas probably fell in the bottom half of the distribution, while Michigan, Rhode Island, Tennessee, Kentucky, Pennsylvania, and Louisiana were probably in the top half.

The estimates of changes in participation rates between two years are less precise than the estimates of rates for a single year. Although there is enough uncertainty that even some fairly big differences among States are not statistically significant, the District of Columbia, Hawaii, and Alaska probably had about the largest increases in participation rates between 1994 and 1998. Arizona, Mississippi, Ohio, New Hampshire, and Texas probably had among the largest decreases.

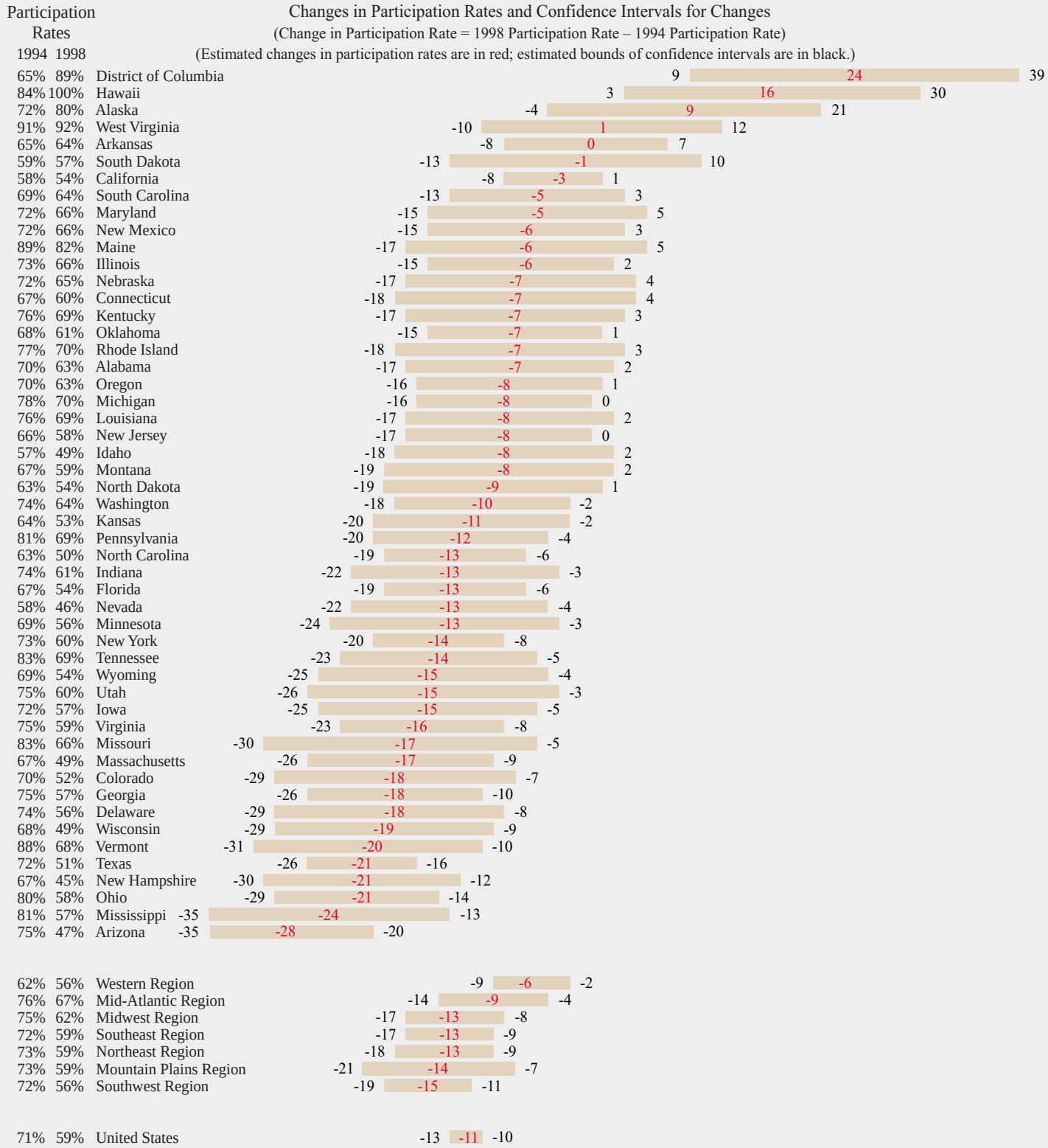
How a State compares with other States may fluctuate over time due to statistical variability in estimated rates and true changes in rates. The statistical variability is sufficiently great that a large change in a State's rate from the prior year should be interpreted cautiously, as should differences 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 at least four of the five years from 1994 to 1998, Hawaii, Maine, Vermont, and West Virginia have had significantly higher participation rates than two-thirds of the States, and Michigan and Pennsylvania have had significantly higher rates than half of the States. Arizona, Idaho, Massachusetts, and Nevada have had significantly lower rates than half of the States in at least four of the five years.

How Many Were Eligible in September 1998? What Percentage Participated?



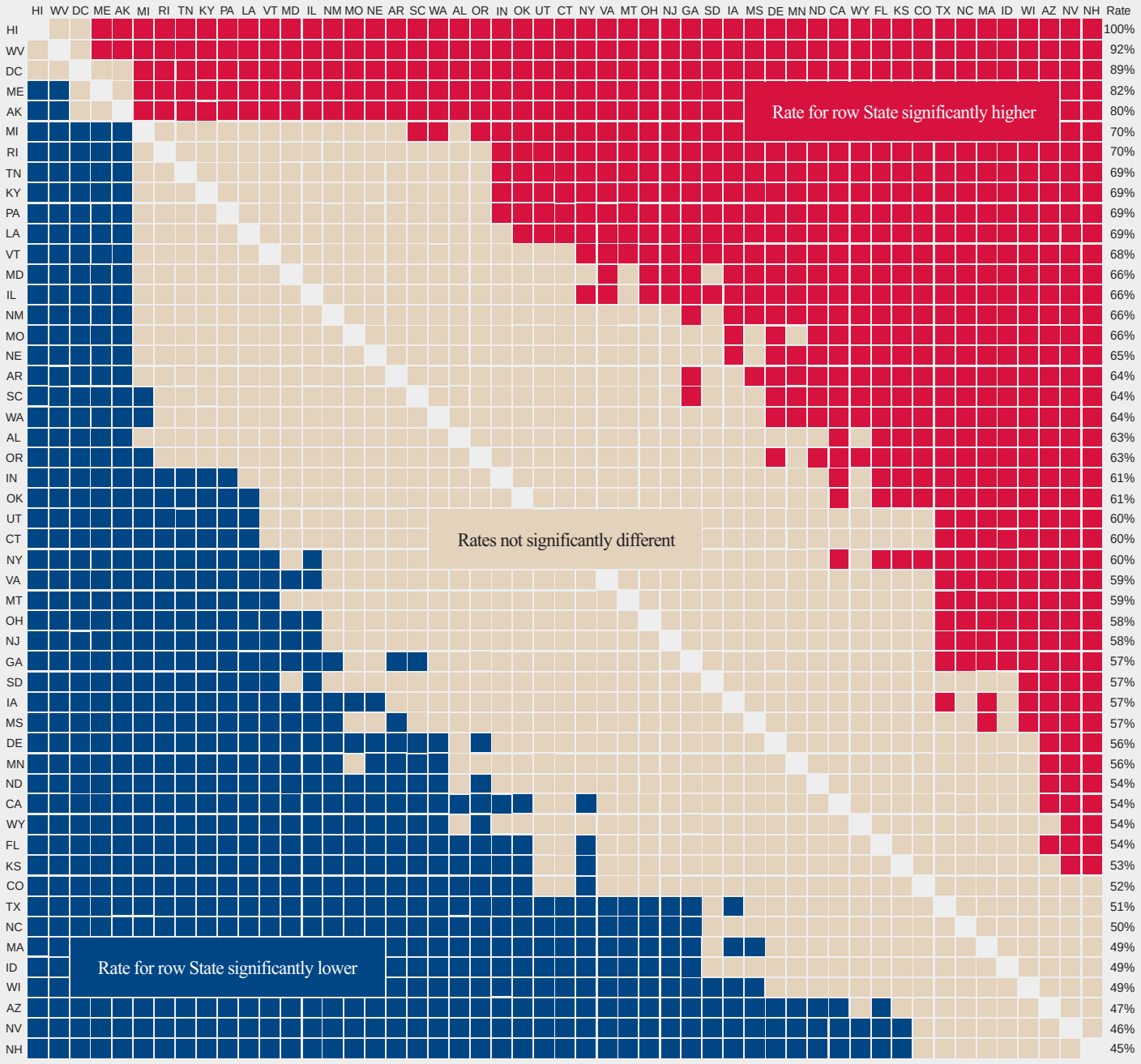
A confidence interval expresses our uncertainty about the true value of a participation rate. Each interval displayed here is a 90 percent confidence interval. One interpretation of such an interval is that there is a 90 percent chance that the true participation rate falls within the estimated bounds. For example, while our best estimate is that Iowa's participation rate was 57 percent in September 1998, the true rate may have been higher or lower. However, the chances are 90 in 100 that the true rate was between 50 and 64 percent.

How Did Participation Rates Change Between September 1994 and September 1998?



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 change in the participation rate falls within the estimated bounds. Differences between the estimated changes in red and the values obtained by subtracting the 1994 rates at the left of the page from the adjacent 1998 rates are due to rounding.

How Did Your State Compare with Other States in September 1998?



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 Connecticut, the State in the middle of the distribution, as an example, we see that it has a significantly lower participation rate than 11 other States (Hawaii,West Virginia, the District of Columbia, Maine, Alaska, Michigan, Rhode Island, Tennessee, Kentucky, Pennsylvania, and Louisiana) and a significantly higher rate than 8 other States (Texas, North Carolina, Massachusetts, Idaho, Wisconsin, Arizona, Nevada, and New Hampshire). Its rate is neither significantly higher nor significantly lower than the rates for the other 31 States, suggesting that Connecticut is probably in the broad center of the distribution, unlike, for example, Hawaii and New Hampshire, which are 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 are at least ten percentage points, and all of them are at least five percentage points, a difference that seems important as well as significant.

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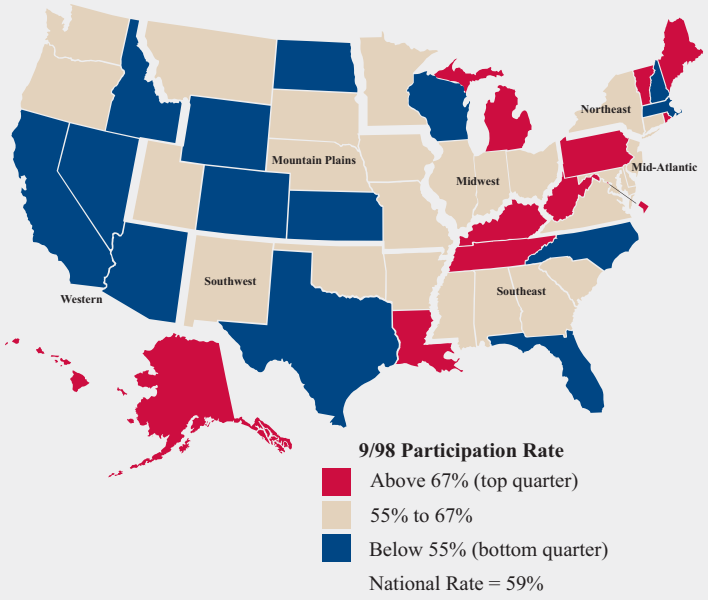
Estimation Method

The estimates presented here were derived using shrinkage estimation methods (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 predictions were based on observed indicators of socioeconomic conditions, such as per capita income and the percentage of the total State population receiving food stamps. 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 current data on household incomes and 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 stamps at the same time (Castner 2000). The effects of such adjustments would generally be negligible.

The shrinkage estimates of participation rates for 1994 and 1997 presented here differ from the estimates in Schirm (2000). The differences are due to improvements in data and methods, which are described in Castner (2000) and Schirm (forthcoming). One improvement is that data for 1998 were available and were used with previously available data to derive estimates for the earlier years. The 1998 data were used because socioeconomic conditions in one year are related to conditions in other years – both earlier and later. Thus, the shrinkage estimator uses data for all of the years for which estimates are sought to obtain the most accurate estimates for each year and for changes between years. Before 1998 data became available, 1997 data were the most recent data used in deriving estimates for 1994 to 1997. When 1998 data became available, they were used to derive the first estimates for 1998 and revised estimates for 1994 to 1997. In the future, the estimates for 1994 to 1998 will be revised – and improved – when data for 1999 and subsequent years become available.

Participation Rates Vary Widely



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