SAFETY NET

The Stanford Center on Poverty and Inequality

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KEY FINDINGS

- In non-recessionary periods, the safety net provides about 38 percent of the income support needed to raise incomes up to the official poverty line.The effectiveness of the American safety net increased during the Great Recession up to 53 percent.

- While baseline support (i.e., support to households with no market earnings) roughly doubled during the recession and reached as high as $7,447 per household in 2010, it fell back to $4,867 by 2013.

- Incentives to securing market income have been increasing. A household that increased its income from $0 to $1000 lost $206 in support in 1999, but only $92 in support in 2013.

- The poverty relief ratio reveals that only four states (Massachusetts, New Jersey, Rhode Island, and Washington) provide more than 60 percent of the support needed to bring incomes up to the poverty line.

This report examines whether some states have more effective safety nets than others. Although there are many reasons why states differ in their poverty rates, one possibility is that some states successfully deliver support to families that need that support ("effective" safety nets), while others provide very little support. Are there indeed big differences across states in the effectiveness of their safety nets? This report answers that simple, but important, question.

We might well expect sizable differences across states in their safety net policies and effectiveness. After all, the welfare reforms of the 1990s allowed states to experiment with different approaches to using federal welfare funds, provided that they conducted a rigorous evaluation of the alternative practices. There continue to be substantial differences across states in welfare policy and practice that might have implications for the effectiveness of their safety nets. This report provides some preliminary evidence on whether these differences might be related to state-specific ideologies about poverty.

It is of course difficult to summarize the overall effectiveness of the safety net because our welfare system is a complicated amalgam of social assistance and insurance programs. Due to this patchwork approach to meeting needs, low-income families are often obliged to rely on support from many sources, and the task of judging the overall effectiveness of the safety net thus requires the assessment of the combined effect of all programs. For these reasons, a focus on one program or a single source of support provides an incomplete and potentially misleading evaluation of the safety net, especially because different states may rely on different programs to secure their objectives. In this report, the focus is not on state differences in the policies themselves; rather, we care only about the end result of those policies for poverty relief. We therefore consider all programs and derive a total income–based measure, dubbed the poverty relief ratio (R), of the effectiveness of the safety net.

The first and key objective of this report is to assess, therefore, whether each state's safety net is efficiently delivering on the simple objective of reducing poverty. But we also care about *how* this objective is—or is not—being met. Historically, the safety net has been evaluated not just in terms of its effectiveness in directly eliminating poverty in the short run (via transfers), but also in terms of its success in incentivizing families to secure income in the labor market and in reducing, over the long run, the very need for transfers. We of course want a safety net that provides the necessary temporary support, while also encouraging families to become self-sufficient.

In this report, a two-pronged assessment of the safety net is therefore adopted, with the following questions serving as the focus of our analyses:

- Which states provide the highest level of basic income support to

those who are very poor (e.g., the *baseline support* parameter)?

- To what extent does state policy incentivize efforts to increase market income by minimizing the rate of fall-off in transfers as income grows (e.g., the *relief falloff* parameter)?

The derivation of these two measures—as well as the summary measure of total poverty relief—is presented in the Appendix.

Data and Measurement

This report is based on the Annual Social and Economic Supplement (ASEC) to the Current Population Survey (CPS). Each March, the Census Bureau supplements its monthly CPS survey with the ASEC module, which is used to assess the economic well-being of American households.

While ASEC is among the best of current household surveys for the analysis of income and poverty, two features of these data warrant close attention, given the objectives of this analysis. First, ASEC is designed to be representative of the nation as a whole, and state-level parameters are often estimated with large margins of error. To address concerns about the accurate representation of especially small states, the stability of estimates across years was carefully examined,

FIGURE 1. Sources of Support for Low-Income Households, 2013

NOTE. This figure reports average annual amounts of cash and near-cash support for low-income households in 2013. Source: Annual Social and Economic Supplement to the Current Population Survey, 2014.

and results in this report summarize data from the five most recent ASECs 2010–2014.[1]

Second, the CPS relies on self-reported income and benefit amounts, and it is known to underestimate both.[2] Because this analysis uses both reported income and benefits, it is difficult to know the direction of the possible bias, let alone the size. Therefore, estimated levels of poverty relief, as reported below, should be interpreted with appropriate caution.[3]
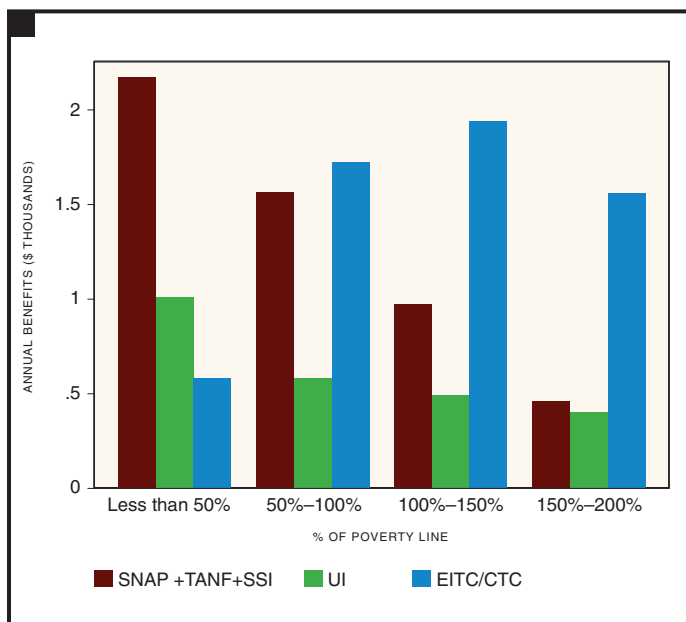
The measures that we use here, which have been developed in earlier research,[4] are derived from the relationship between household market income and overall amounts of social transfers. Using parameters from a nonlinear analysis of the distribution of income support, the poverty relief ratio equals the ratio of income support to the amount of support needed to increase all families' incomes to the level of the official poverty line. This analysis uses the official U.S. poverty line as a common threshold for all states, in part because this threshold is used to determine eligibility for benefits. As noted above, the poverty relief ratio will be our key summary measure, but we will also report (a) levels of support provided to those with no market income (baseline support) and (b) the extent to which benefits decline with small increases in earnings (relief falloff).[5]

By using a total-income approach, the analysis takes into account that the portfolio of programs on which low-income families rely varies with their income level. As seen in Figure 1, while safety net programs—especially the Supplemental Nutrition Assistance Program (SNAP) and the Temporary Assistance for Needy Families Program (TANF)—are the main source of support for the *very* poor (those with earnings less than 50% of the poverty line), tax credit programs, such as the Earned Income Tax Credit (EITC) and the Child Tax Credit (CTC), are an important source of support for families with just slightly higher levels of income. In the analysis to follow, we take into account income support provided through all of these programs, specifically the cash benefits provided through TANF, unemployment insurance (UI), Supplemental Security Income (SSI), the "near-cash" benefits provided through SNAP and energy subsidies, and the refundable tax credit programs.

National Results

As a backdrop to the state-level results, it is useful to first report on the national results. Figure 2 reports trends from 1999 to 2013 in overall levels of poverty relief, baseline support, and relief falloff. In the left panel, the estimates of the poverty relief ratio indicate that the safety net generally pro-

vides only about 38 percent of the income support needed to raise incomes up to the official poverty line, although the effectiveness of the American safety net increased during the Great Recession, up to 53 percent.

Looking now at the right panel of Figure 2, we see that the increase in the effectiveness of the safety net coincides with an overall increase in the level of income support provided to those with no market income. Baseline support (short dashes, left axis) increased from a low of $3,671 in 2007 to $7,447 in 2010. By 2013, however, reported levels of baseline support had dropped to an average of $4,867 per household.

The relief falloff parameter (long dashes, right axis) pertains to the extent to which income support declines with small increases in earnings. The results presented here are the extent of falloff precipitated by an increase from $0 in earnings to $1,000 in earnings. As shown here, this increase in earnings led to a loss of $206 in support in 1999 and a loss of only $92 in support in 2013. This analysis suggests, then, that the disincentives to securing market income have on average been declining, although the Great Recession briefly disrupted this general decline.

State Results

To evaluate the effectiveness of safety net programs in the states, Figure 3 plots estimates of baseline support against estimates of relief falloff for each state, averaged over the 2009–2013 period. The solid lines in Figure 3 report median values for each dimension and allow us to characterize the distribution of support for low-income households in each state. For example, states in the upper-right quadrant (e.g., California) provide relatively high levels of baseline support for households with no market income, but they also have relatively high levels of relief falloff. These may be understood as states that are committed to relieving poverty, but that also want to quickly get out of the business of supporting families that are experiencing an increase in market income. The benefit of this approach is that state money is saved by reducing support quickly as families become more self-sufficient, whereas the cost is that it introduces sharper disincentives for securing market income. This quadrant might be understood, then, as the "progressive" quadrant, in the sense that it entails combining (a) substantial support for the very poor (a classically progressive approach), with (b) less worry about the moral hazard argument (which is a classically conservative concern). Although there are indeed many politically liberal states in this quadrant (e.g., California, Massachusetts), there are also some that are less so (e.g., Nevada).

The obvious trade-off here is that, insofar as a state provides less relief to the very poor, it can then presumably also afford

FIGURE 2. Poverty Relief in the United States, 1999–2013
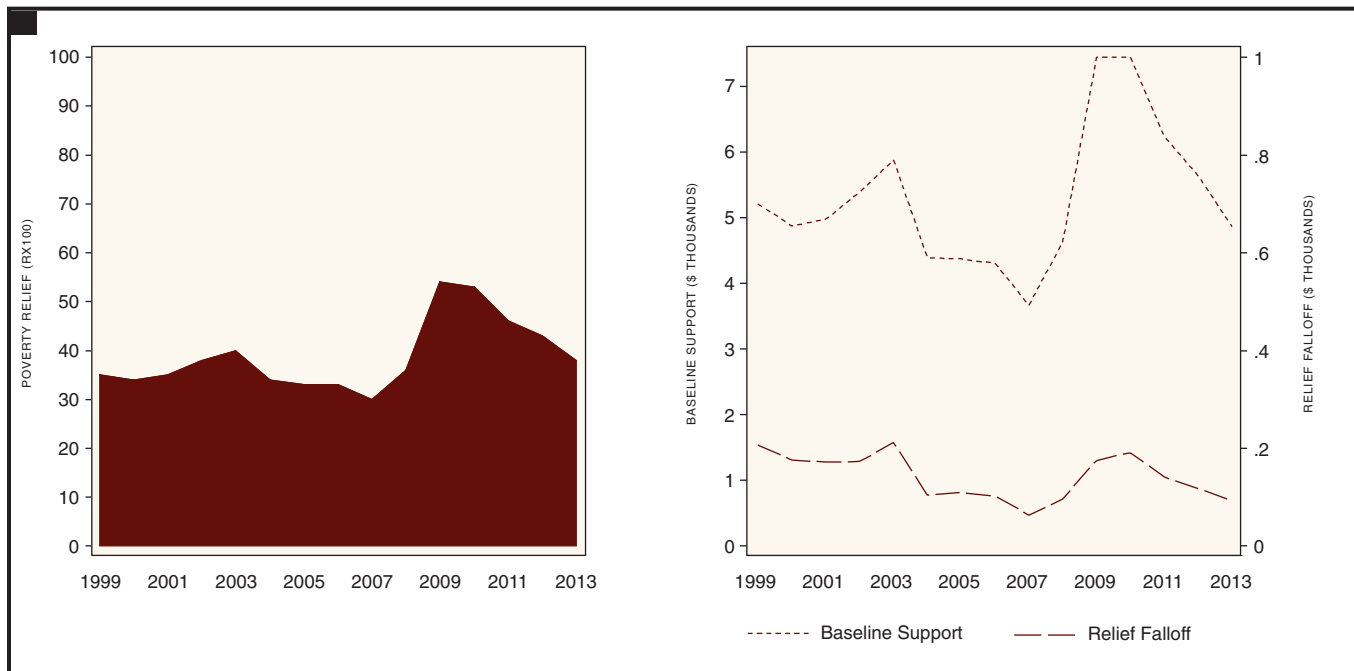
NOTE. This figure reports trends in levels of poverty relief (left panel) and baseline support and relief falloff (right panel) for the United States since 1999.
Source: Annual Social and Economic Supplement to the Current Population Survey.

a smaller relief falloff parameter. It is accordingly no surprise that the other highly populated quadrant, the bottom-left one, entails the combination of low baseline support with relatively low relief falloff. However, it is the EITC and child tax credits — federal programs — that slow the rate of benefit decline in the lower-left quadrant states. These are states that provide very little income support, even to the very poor, and instead rely on programs that favor low-income working families. If the top-right quadrant is the politically liberal one, the bottom-left quadrant is therefore a characteristically more conservative one. This political labeling of the quadrants, which is clearly very rough, is indeed partly consistent with the results of Figure 3. For example, Texas and Florida are found in this quadrant, with Wyoming assuming the most extreme position.

There are a few states that fall into the other two quadrants (albeit only barely). Connecticut, in the upper-left quadrant, provides relatively high levels of baseline support, and comparatively low rates of relief falloff. It may accordingly be understood as an across-the-board "generous" state. The case of Nebraska (lower-right quadrant), by contrast, is one in which low-income households receive comparatively low levels of baseline support and in which support also decreases rather sharply with small increases in earnings. This may be understood, then, as an overall commitment to stinginess. Although there are, then, a few cases of states falling slightly off the diagonal, it's hard not to be struck more generally by the quite linear relationship between the relief falloff and baseline support parameters.

The summary measure, provided by the poverty relief ratio, is especially helpful for distinguishing between states with similar levels of baseline support (or, alternatively, relief falloff). Florida and Texas, for example, offer about the same levels of baseline support. However, rates of relief falloff are slightly higher in Florida. Estimates of the poverty relief ratio distinguish Florida and Texas, taking values of 40 and 42, respectively. That is, about 40 percent of the income support needed to bring all households' incomes to the level of the federal poverty line is provided in Florida, whereas about 42 percent is provided in Texas.

FIGURE 3. Baseline Support and Relief Falloff in the 50 States, 2009–2013
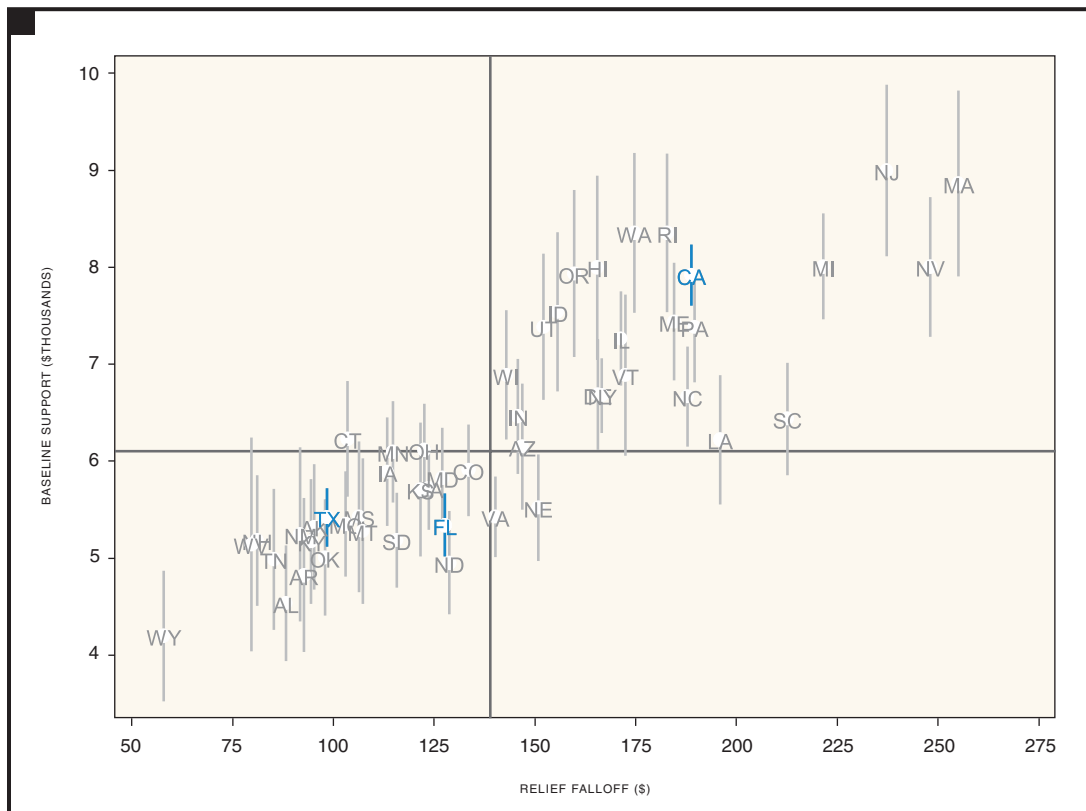
NOTE. This figure reports estimates of levels of baseline support and relief falloff for 50 states, estimated for a pooled 2010–2014 sample. Solid lines denote median values. Error bars report 95 percent confidence intervals.
Source: Annual Social and Economic Supplement to the Current Population Survey, 2010–2014.

Figure 4 reports the distribution of the poverty relief ratio for the U.S. states, with states shaded by quartile and darker shades indicating more effective safety net programs, at least as gauged by this measure. There is some evidence of regional variation, with northwestern states typically providing more support, as a percentage of the federal poverty line, and southern states on average providing less support.[6]

Conclusions

This report evaluates the effectiveness of the American safety net from the perspective of low-income households. Is enough income support provided to increase all incomes to the level of the official poverty line? The simple answer: No. While we observed a short-term increase in support during the Great Recession, there is currently a striking shortfall of support. Using estimates of the poverty relief ratio, averaged over the 2009–2013 period, only four states (Massachusetts, New Jersey, Rhode Island, and Washington) provide more than 60 percent of the support needed to bring incomes up to the poverty line. Further, because most of the income support received by low-income households comes in the form of near-cash benefits (SNAP) or tax credits (EITC), rather than regular cash support, the economic well-being of low-income households may be especially precarious.

The state-level results indicate that there are two types of states. One type targets their support to comparatively well-off families. The other type by contrast, provides more substantial support to poor families, but then combines that with a relatively sharp falloff in support as those families secure more market income.

There is accordingly a relatively strong relationship, at the state level, between the baseline and falloff parameters. This relationship presumably arises because the total amount of support is seen as relatively fixed and hence trade-offs must be made. The way in which this trade-off is resolved appears to arise, in part, out of ideological or "political" commitments to particular visions of how poverty is generated and should be ameliorated. ∎

FIGURE 4. State Poverty Relief Ratios, 1999–2013

Poverty Relief Ratio (Rx100)
- Q1: Less than 41%
- Q2: 41% – 45%
- Q3: 45% – 53%
- Q4: More than 53%
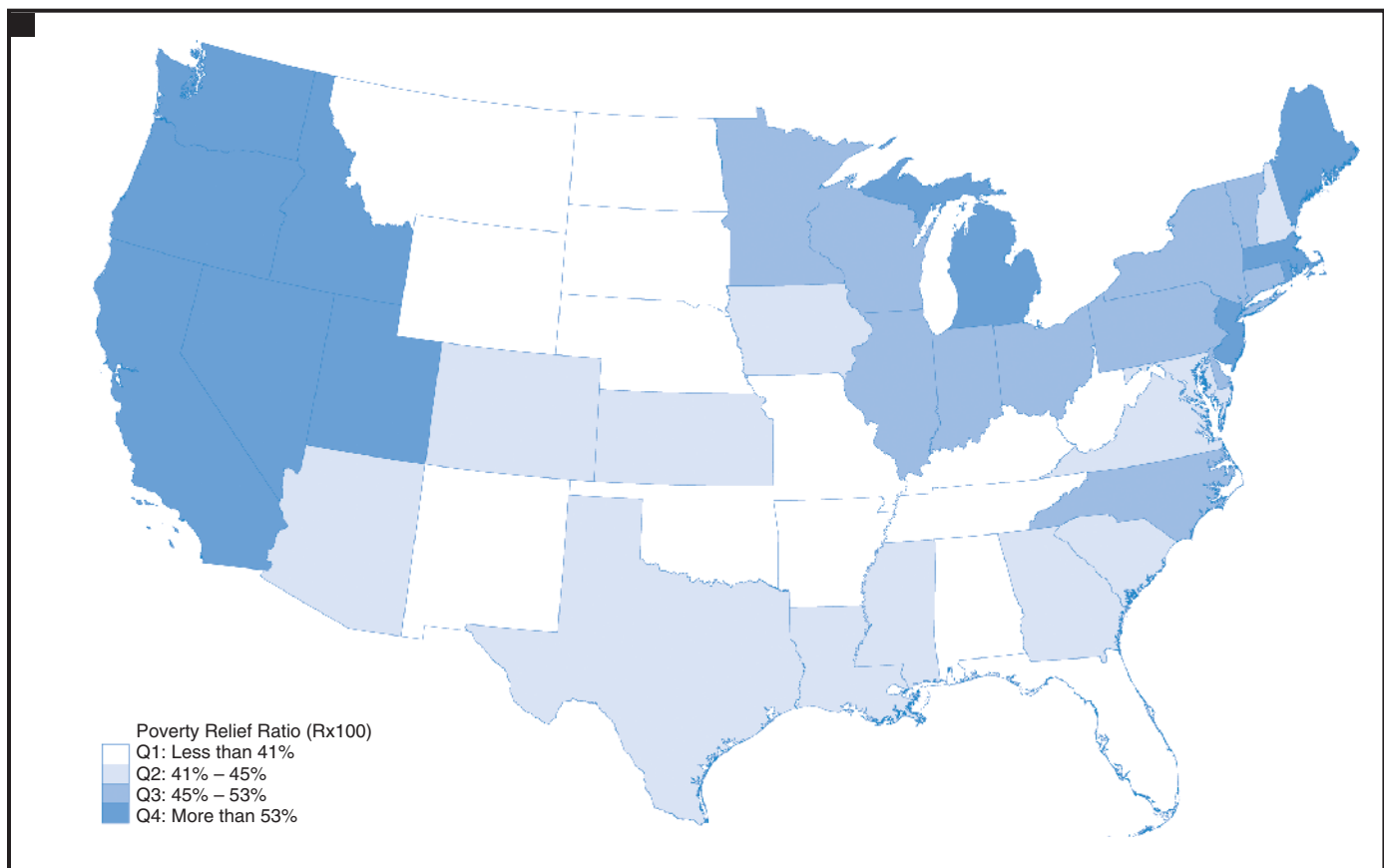
NOTE. This figure classifies states by estimates of their overall level of poverty relief into quartiles, with darker shades indicating higher levels of poverty relief.
SOURCE. Annual Social and Economic Supplement to the Current Population Survey, 2010–2014.

APPENDIX. DATA PROCESSING AND ESTIMATION NOTES

The analysis presented here is based on the following specification of the relationship between social transfers (T) and market income (Y):

$$T_{ij} = \alpha_j + \beta_{1j} \exp(\beta_{2j}Y_{ij}) + e_{ij} \qquad (1)$$

The index i = 1…n denotes households in states j = 1…J. The parameters $\alpha_j > 0$, $\beta_{1j} > 0$, and $\beta_{2j} < 0$ describe the bivariate relationship within each state, and e_{ij} is a stochastic residual term. This function is identified with the restriction that β_{1j} and β_{2j} do not equal zero.

The level of support needed to increase households income to the poverty threshold, ψ, is given by the equation

$$T_{ij} = \psi - Y_{ij}. \qquad (2)$$

Then, the poverty relief ratio is defined as the ratio of the area under the curve defined by Eq. (1) to the area defined by Eq. (2):

$$R = \frac{\int_0^\tau \alpha + \beta_1 \cdot exp(\beta_2\ MI)\partial MI + \int_\tau^\Psi \psi - MI \partial MI}{\int_0^\Psi \psi - MI\ \partial MI} \qquad (3)$$

(The variable τ represents the point at which these curves intersect.)

"Relief falloff" is estimated as β_{1j} (1-exp($\beta_{2j}Y_{ij}$)), the expected difference in T between Y equals zero, and Y equals one thousand, or the difference in levels of support provided to no-income households, and households earning $1,000 per year.

Parameters are estimated by non-linear least squares. Estimates of τ are generated using a line-search strategy.

State-level estimates are based on pooled 2010–2014 ASEC samples.

Transfers (T) include TANF, SNAP, unemployment insurance, SSI, government-funded workers' compensation, heating subsidies, EITC, and child tax credits.

Market income (Y) includes wages and salaries, earnings from self-employment, investments, dividends, pensions, social security, alimony, child support, and veterans' payments.

All calculations are based on 2014 thousands of dollars, for households headed by working-aged (25–59) adults.

NOTES

1. Spearman rank order correlation coefficients are generally positive and substantial. For state-level estimates of the poverty relief ratio, correlations comparing 2009 with 2010, 2011, 2012, and 2013 are 0.72, 0.60, 0.49, and 0.20, respectively. For levels of baseline support, the Spearman rank order correlations comparing 2009 with 2010, 2011, 2012, and 2013 are 0.41, 0.39, 0.26, and 0.14, respectively. There is a weaker rate of consistency in levels of relief falloff, which are generally estimated with more variance. Spearman rank order coefficients range from 0.13, comparing 2009 with 2010, to –0.02, for a comparison of 2009 and 2013. The weaker relationship between observations for 2013 and earlier years is not unexpected, as some programs that provided increased support during the Great Recession have ended.

2. See Wheaton, 2007.

3. Jusko and Weisshaar, 2015, replicate some of their ASEC analysis with Survey of Income and Program Participation (SIPP) data, a household survey that more accurately captures income levels and benefits received. They find estimates of levels of poverty relief to be very similar in magnitude, and to match national trends quite closely.

4. See Jusko, 2008; Jusko and Weisshaar, 2015.

5. While this measure of "poverty relief" is similar to "poverty gap" measures, we use the poverty relief measure here because it offers two advantages: First, the summary measures of baseline support and relief falloff are especially useful for comparing safety net programs

across states. Second, the poverty relief ratio maintains rank order of states, across different poverty thresholds. For more on poverty relief versus poverty gap measures, see, for example, Ziliak, 2006.

6. By using a common poverty threshold—the federal poverty line—these estimates do not reflect differences in the cost of living, which are undoubtedly lower in the southern and some midwestern states, compared with the northeastern states. However, there are some states with similar costs of living (e.g., Texas and Utah, Bureau of Economic Analysis, 2014) that nevertheless provide quite different levels of poverty relief.

ADDITIONAL RESOURCES

Bureau of Economic Analysis, 2014. "Real Personal Income for States and Metropolitan Areas, 2008–2012." BEA Report 14–16, published online: http://www.bea.gov/newsreleases/regional/rpp/2014/pdf/rpp0414.pdf.

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