

# SAFETY NET

The Stanford Center on Poverty and Inequality

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## KEY FINDINGS

- The U.S. safety net provides about half of the income support needed to increase all incomes to the level needed to meet basic needs (measured here as 150% of the official U.S. poverty line).
- Levels of poverty relief are typically higher—and sometimes *much* higher—in other post-industrial countries.

It is one of the truisms of comparative poverty scholarship that the United States (U.S.) is quite ungenerous in its poverty policy. As is frequently argued, a main reason why there is so much poverty in the U.S. is not that the market itself generates an unusual amount of poverty, but rather that relatively little in the way of post-market assistance is provided to those in need. The evidence on behalf of this claim is well-established; indeed, the chapter by Janet Gornick and Markus Jäntti, as published in this report, provides clear and compelling evidence that social programs in the U.S. do not reduce “market poverty” to the extent that such programs in other well-off countries do.

We will build on this result by providing (1) a precise quantitative measure of just how much the U.S. safety net falls short of meeting needs, and (2) a precise assessment of how the U.S. compares to its peers on this quantitative measure. The simple question here: To what extent does the U.S. safety net meet the standard set by other well-off countries?

Although we will provide new evidence, then, on the overall performance of the U.S. safety net, even more importantly we will also provide new evidence on the *type* of safety net that the U.S. has built. In particular, there are two dimensions that may be distinguished in characterizing a country’s safety net:

*Baseline relief:* How much basic income support is provided to those who are very poor (e.g., the “baseline relief” parameter)?

*Relief falloff:* To what extent does a country’s safety net incentivize efforts to increase market income by minimizing the falloff in transfers as income grows (e.g., the “relief falloff” parameter)?

There are of course strong stereotypes about where the U.S. falls on each of these two dimensions. That is, the conventional wisdom is not just that the U.S. has a limited safety net, but also that it’s limited in a quite distinctive way. The standard view in this regard is that the U.S. provides little in the way of baseline relief, a policy decision that rests on the view that, when such relief is set at too high a level, it reduces the incentive to enter the labor market. The U.S. safety net is also presumed to be based on a distinctively low falloff parameter. We’re said to like a slow falloff because we want families to ramp up their market earnings without facing the disincentive of a large consequent loss in their program support.

The upshot is that, just as there’s a conventional wisdom about the (relatively small) size of the U.S. safety net, so too there’s a conventional wisdom about the particular form our safety net takes. The latter conventional wisdom has not,

however, been subjected to much in the way of empirical test. This article provides that test by examining how a classic set of relatively well-off countries compare on each of these two key safety net parameters.

This report thus addresses three questions for each of 13 well-off countries:

1. Are the overall benefits provided to low-income households substantial enough to meet basic needs?
2. How much support is provided to those households with no market income (“baseline support”)?
3. How quickly do benefits decline as income increases (“relief falloff”)?

To address these questions, the LIS data set (formerly the Luxembourg Income Study), a state-of-the-art resource for the analysis of income and wealth, is used.<sup>1</sup> The LIS comprises nationally representative data sets that have been revised and standardized to allow for reliable comparisons. Given the objective of this report, it’s especially relevant that each country-level data set has been supplemented with extensive documentation of the various social programs, including eligibility criteria and typical benefit amounts.

The next section develops an approach to estimating the parameters indexing each of the two safety net dimensions, as well as the overall measure of safety net performance. In the section that follows, a comparative analysis is then carried out with this approach, an analysis in which features of the U.S. safety net are compared to 12 other well-off countries. The results will show that the U.S., when compared to other countries at similar levels of development, leaves significant needs unmet. The U.S. safety net provides the lowest level of poverty relief among the 13 countries in our analysis, a relatively low level of baseline support, and a moderate rate of relief falloff. As will be shown, the conventional wisdom about the U.S. safety net is roughly on the mark, not just with respect to the overall amount of relief, but also with respect to the way in which that small amount of relief is delivered.

### Measuring Safety Net Effectiveness

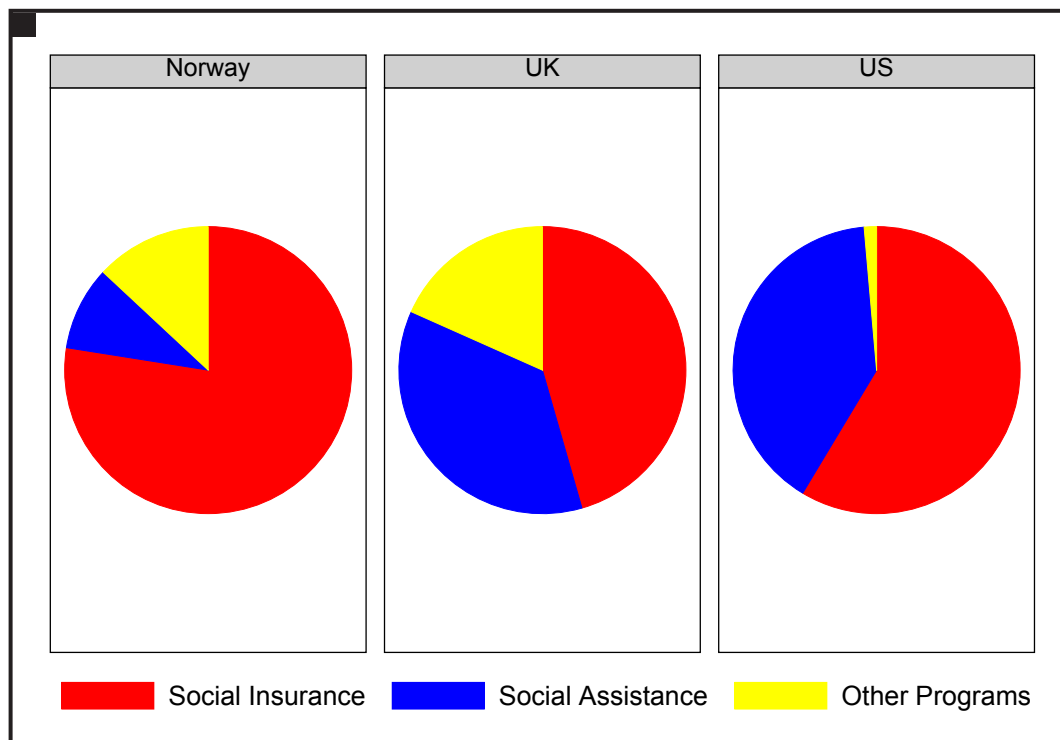
The measures of safety net effectiveness that are used in this report are derived from characteristics of the relationship between household market income and overall amounts of social transfers. As described in earlier research,<sup>2</sup> we estimate parameters from a nonlinear analysis of the distribution of income support, as a function of market income. This analysis allows us to estimate a “poverty relief ratio,” designated  $R$ , for each country. The value of  $R$  is the ratio of income support to the amount of support needed to increase all families’

incomes to a given poverty threshold. Higher values on  $R$  indicate more generous social support (see Appendix for more details).

The intuition behind this measure of “poverty relief” is similar to that behind “poverty gap” measures. Both measures allow analysts to examine the extent to which social programs fulfill unmet needs. Here, I use the poverty relief ratio because it offers important analytic advantages over the poverty gap measure, three of which I’ll mention here.

First, by using a total-income approach,  $R$  recognizes the

FIGURE 1. Sources of Support for Low-Income Households



Source: LIS. This figure reports average annual amounts of monetary support, by program type, for households with no market income.

full portfolio of programs on which low-income families often rely. The key feature of *R* is that it refers to the *amount* of support received and not the *way* in which that support is delivered. There are wide cross-national variations in the types of programs on offer. For example, if social programs are classified according to their eligibility criteria, three main types of programs may be distinguished, with countries differing substantially in their mix of types.

This point is demonstrated in Figure 1, where we report the share of total monetary support that low-income households in the U.S., the United Kingdom, and Norway receive from social insurance programs, social assistance programs, and other universal benefit programs. We see here that social insurance programs, which generally require a history of contributions and provide support during labor market interruptions, provide support to varying degrees across the U.S., the United Kingdom, and Norway. Although all countries rely heavily on social insurance programs for low-income households, we see that low-income households in the U.S. and the United Kingdom also typically receive a substantial proportion of their income from means-tested social assistance programs. The U.S. and United Kingdom safety nets also differ in that the United Kingdom relies more on benefits provided through programs that are not means-tested and are

non-contributory (e.g., children’s benefits, universal pension systems, or veterans’ benefits).<sup>3</sup>

What Figure 1 suggests is that, although social assistance programs are often most closely identified with the “safety net” in public discussions, low-income households everywhere rely on a portfolio of programs for support. In some countries, low-income households may rely just as much, and sometimes more, on social insurance programs and universal benefits. As a consequence, any analysis that focuses on one type of program (e.g., social assistance programs) would provide a misleading assessment of the effectiveness of the social safety net in each country, and cross-national comparisons would be similarly undermined. For this reason, this analysis evaluates the effectiveness of the safety net in each country by estimating the *total* amount of support provided to low-income households, relative to *total* need.

The second advantage of the poverty relief ratio is that, by using a parametric framework (as described in the Appendix), it is possible to distinguish between (1) levels of support provided to those with no market income (baseline support) and (2) the extent to which benefits decline with small increases in earnings (relief falloff). When these two dimensions are distinguished, safety net programs can be classified into general types, as will be done below.

The third advantage of the poverty relief ratio is that it maintains the rank order of country cases regardless of the poverty threshold used. This property sets *R* apart from other measures of the effectiveness of the safety net (e.g., reduction in poverty rates). For the analyses reported below, the threshold is set at 150 percent of the official U.S. poverty line (150PL) in 2011, for a family of four (\$33,525).

As seen in Table 1, when income is measured in a consistent currency (2011 USD), similar proportions of each national population are identified as low-income. Low-income households comprise at least 39 percent of the population in more than half of the countries included in this analysis; in Greece and Spain, this proportion is substantially larger. Levels of support are only weakly related to the size of the low-income population.<sup>4</sup> For each country, this threshold also exceeds the standard “at-risk of monetary poverty” threshold, which is often used in the analysis of European social policy. As a consequence, it can be interpreted as a fully inclusive measure, capturing all of a country’s antipoverty efforts.

TABLE 1. Assessing the Poverty Threshold

	Percent Low-Income	At-Risk-of-Poverty Threshold
Australia	43	\$28,086
Canada	39	\$23,581
Germany	36	\$24,329
Denmark	38	\$24,656
Spain	61	\$15,895
Finland	41	\$20,940
Greece	70	\$14,028
Ireland	53	\$19,614
Iceland	37	\$21,173
Netherlands	24	\$25,940
Norway	38	\$24,845
United Kingdom	48	\$21,998
U.S.	37	\$29,114

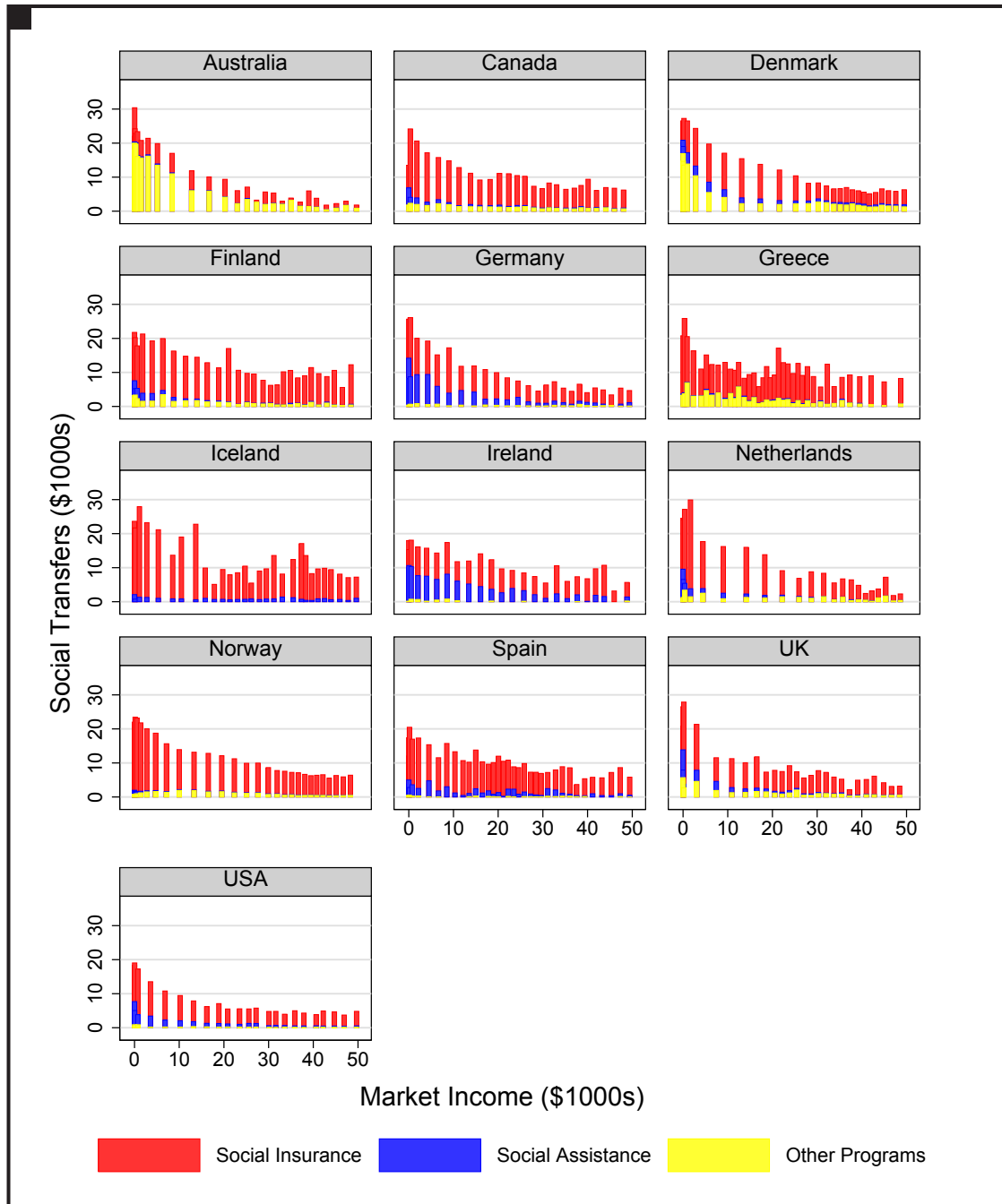
Note: This table reports the percent of households with total incomes less than the 150PL threshold and an estimate of the “at-risk-of-poverty” threshold, or 60 percent of the reported median income in each country.

**The Results**

As a starting point, Figure 2 reports the overall relationship between social transfers (all social insurance, social assistance, and other monetary benefits) and market income for each country included in this analysis. It is immediately apparent from Figure 2 that overall levels of support vary across countries. Compare, for example, the amounts of

“baseline” support provided to households earning no market income (at the left side of each graph). In the U.S., these very poor households receive an average of \$18,595, while in Australia, for example, a much higher level of baseline relief, \$23,331, is provided. Countries also vary in the amount of support provided to the relatively well-off. Households at the \$50,000 level in Norway receive an average of \$6,746 in

FIGURE 2. Social Transfers and Market Income, by Country



Source: LIS. This figure reports average annual amounts of monetary support, by program type, for households at each market income level. Each bar represents 1 percent of the national working-aged sample.

transfers, whereas households at the same level in the U.S. receive an average of only \$3,368 in transfers. The U.S. bars are of course distinctively low not just at the two extremes but also throughout the interior of the curve.

As seen in Figure 2, countries also vary in the rate at which benefits decrease as the household's earnings increase, indeed the difference in "relief falloff" is especially apparent in comparing Spain and the United Kingdom. The overall relationship between social transfers and market income follows the same general (negative binomial) pattern in each country included in this analysis, with the largest amounts of support provided to those with little or no market income, and amounts of support declining nonlinearly as income increases. Because of this general pattern, important aspects of the safety net can be characterized and reliably compared with the parameters that describe this relationship (see the Appendix for details).

Figure 3 uses estimates of the parameters that describe the relationship between market income and social transfers to assess baseline support (vertical axis) and relief falloff (horizontal axis). Countries that take higher values in baseline support (e.g., Denmark) provide more generous transfers to those households with no market income. In countries with higher rates of relief falloff (e.g., Greece), however, benefits decrease more quickly with small increases in earnings.

When these dimensions of social policy are plotted against each other, the safety nets of the countries included in this study can be classified in a straightforward way. First, the top left quadrant pertains to a safety net that provides relatively high levels of baseline support, combined with comparatively low rates of relief falloff. This quadrant represents, then, an especially generous and uniform social safety net, with Denmark providing the exemplar here.

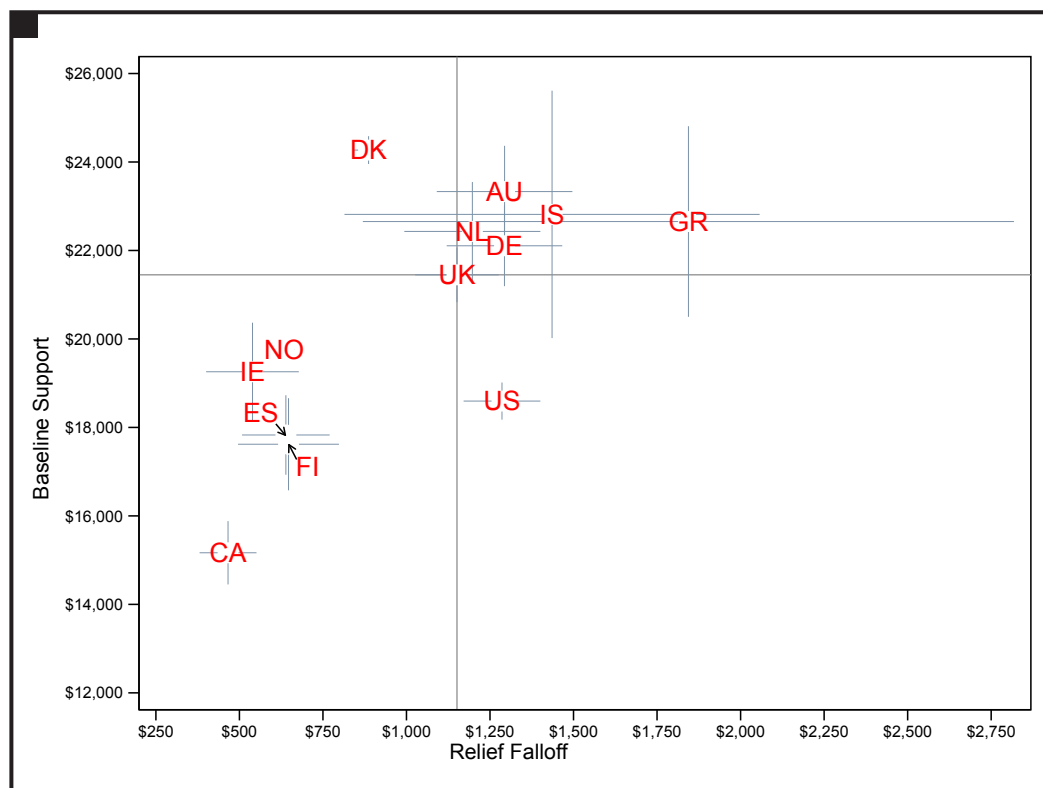
Second, the countries in the lower left quadrant provide less generous levels of baseline

relief, but benefit amounts decrease only slowly with small increases in earnings. This type of safety net, represented most closely by the case of Canada, doesn't single out the extreme poor for special treatment. The contrast between these first two types, represented by the difference between Canada and Denmark, thus hinges mainly on the amount of aid delivered to the extreme poor. In liberal regimes, like Canada, levels of baseline support are generally lower.

Third, countries in the top right quadrant provide quite generous levels of support for those with no market income, but the rate of relief falloff in these countries is relatively high. This high falloff is typically presumed to reduce incentives to increase market income. It is of course unsurprising that Greece, which has long been criticized for such disincentives, provides the best example of this type.

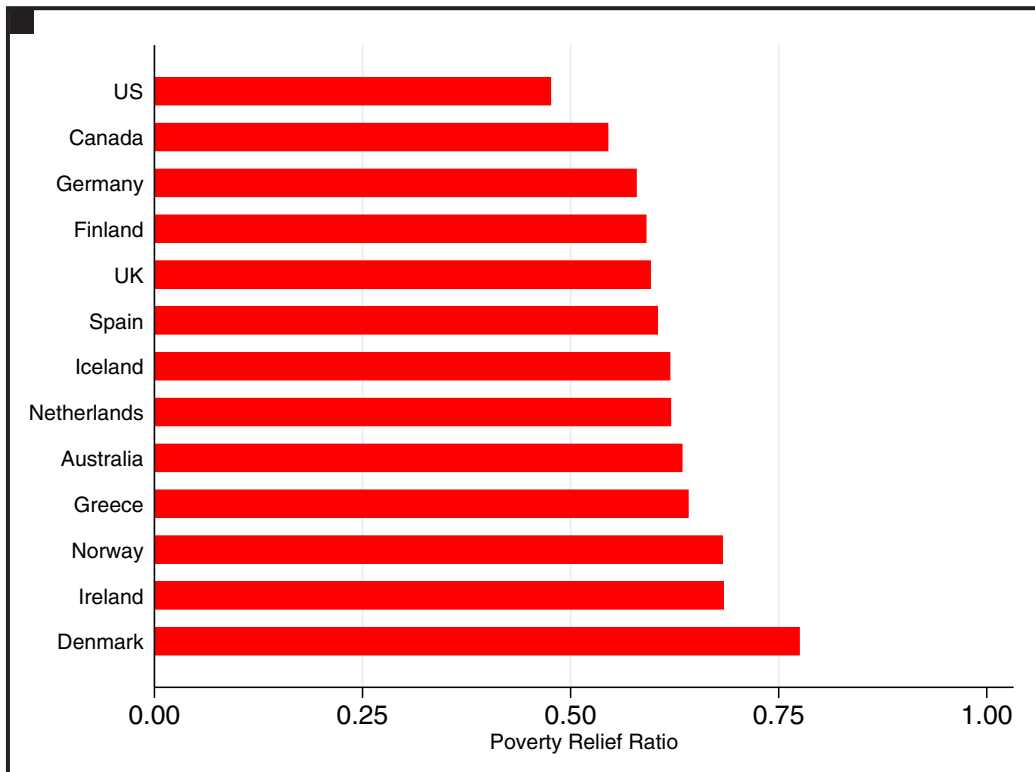
The lower right quadrant pertains to safety nets with low baseline support, but with steep falloff. It is perhaps surprising that the U.S. falls—albeit only barely—within this quadrant. To be sure, the low level of baseline support in the

FIGURE 3. Levels of Baseline Support and Relief Falloff



Source: LIS. This figure reports estimated parameters that pertain to levels of baseline support (i.e., average levels of support for those reporting no income), and rates of relief falloff (i.e., the decrease in benefits with a \$1,000 increase in earnings). Error bars report 95 percent confidence intervals, estimated using the delta method. Solid lines report median values on each dimension. All amounts are reported in 2011 USD. The countries included in this analysis are Australia (AU), Canada (CA), Denmark (DK), Finland (FI), Germany (DE), Greece (GR), Iceland (IS), Ireland (IE), Netherlands (NL), Norway (NO), Spain (ES), the United Kingdom (UK), and the U.S.

FIGURE 4. Country Poverty Relief Ratios



Source: LIS. This figure reports estimates of overall poverty relief provided in each country as a proportion of total support needed to raise all incomes to 150 percent of the U.S. poverty line.

U.S. is expected, but one would not have hypothesized that the U.S. would fall above the median on relief falloff. In interpreting this result, we should bear in mind that many other countries (Australia, Germany, Iceland, Greece) fall yet further to the right and thus have even steeper rates of relief falloff.

The relationship between social transfers and market income can also be used to provide overall estimates of poverty relief. Figure 4 reports the poverty relief ratio, using the 150PL poverty threshold. In the U.S. case, for example, this analysis suggests that the safety net provides about 47 percent of the support needed to provide for all basic needs. That is, the total amount of monetary support provided to low-income Americans meets less than half of their economic needs, as defined by the 150PL. For all other countries, levels of poverty relief are higher, in some cases just slightly higher (e.g., 54% in Canada) and in other cases substantially higher (e.g., 77% in Denmark).

### Implications

This report suggests that the U.S. safety net is, for the most part, delivering in a way consistent with its reputation. The overall amount of poverty relief is the lowest among the 13 countries in our analysis; the baseline level of support is the fourth lowest among our countries; and the rate of relief falloff is just slightly above the median level.

How might one evaluate such results? If one likes the type of safety net that the U.S. is purported to have, then one might be pleased with these results. If, on the other hand, one prefers a safety net that provides more relief, then of course these results would be judged as distressing. ■

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### 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 ( $Y$ ):

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

The index  $i = 1 \dots n$  denotes households in states  $j = 1 \dots J$ . 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  $\beta_{1j}$  and  $\beta_{2j}$  do not equal zero.

The level of support needed to increase households' income to the poverty threshold,  $\psi$ , is given by the equation:

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

Next, the poverty relief ratio is defined as the ratio of the area under the curve defined by Equation 1 to the area defined by Equation 2:

$$R = \frac{\int_0^{\tau} \alpha_j + \beta_{1j} \exp(\beta_{2j} MI) dMI + \int_{\tau}^{\psi} \psi - MI dMI}{\int_0^{\psi} \psi - MI dMI} \quad (3)$$

(The variable  $\tau$  represents the point at which these curves intersect.)

“Baseline support” is estimated with the expression  $\alpha_j + \beta_{1j}$ , or the expected value of  $T$  when  $Y$  equals zero.

“Relief falloff” is estimated as  $\beta_{1j}(1 - \exp(\beta_{2j}))$ , or the expected difference in levels of support provided to no-income households, and households earning \$1,000 per year.

Parameters are estimated by nonlinear least squares. Estimates of  $\tau$  are generated using a line-search strategy.

Social transfers ( $T$ ) include all monetary benefits provided through social insurance, social assistance, and other benefit programs that are reported in LIS data. (Support for post-secondary education and the costs of medical care are excluded.)

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

All calculations are based on 2011 thousands of U.S. dollars, for non-standard households, headed by working-aged (25–59) adults.

### NOTES

1. Luxembourg Income Study (LIS) Database, <http://www.lisdatacenter.org> (multiple countries; 2010). Luxembourg: LIS.

2. Jusko, Karen Long. 2008. “The Political Representation of the Poor.” Ph.D. dissertation, Department of Political Science, University of Michigan. Jusko, Karen Long and Katherine Weisshaar. 2015. “Measuring Poverty Relief.” Working Paper.

3. Note that while these measures of poverty relief, baseline support, and relief falloff provide a comprehensive assessment of monetary transfers provided through public programs and reported in LIS data, these measures also omit important aspects of support that take the form of non-monetary support or that are provided through private organizations.

4. The correlation between overall levels of poverty relief and the proportion of working-aged “low-income” households with earnings less than \$33,525 is 0.12.