

Geographic Inequality in Social Provision: Variation across the U.S. States

Sarah K. Bruch, Janet C. Gornick, and Joseph van der Naald

Appendix

Geographic Cost-of-living Adjustments

In the social provision analyses, we use the Bureau of Economic Analysis (BEA) Regional Price Parities by State and Metro Area (RPP). The RPP's are annual price indexes that are designed to measure the geographic difference in cost-of-living using a weighted average of the price of goods and services for the average consumer in one geographic region compared to all other regions in the U.S. We use the RPP's to adjust the generosity indicators (dollar amount spent per recipient) for all programs. Specifically, we use the aggregate state-level "all items" RPPs which cover all consumption goods and services including housing rents, and apply the adjustment to the entire generosity value.¹

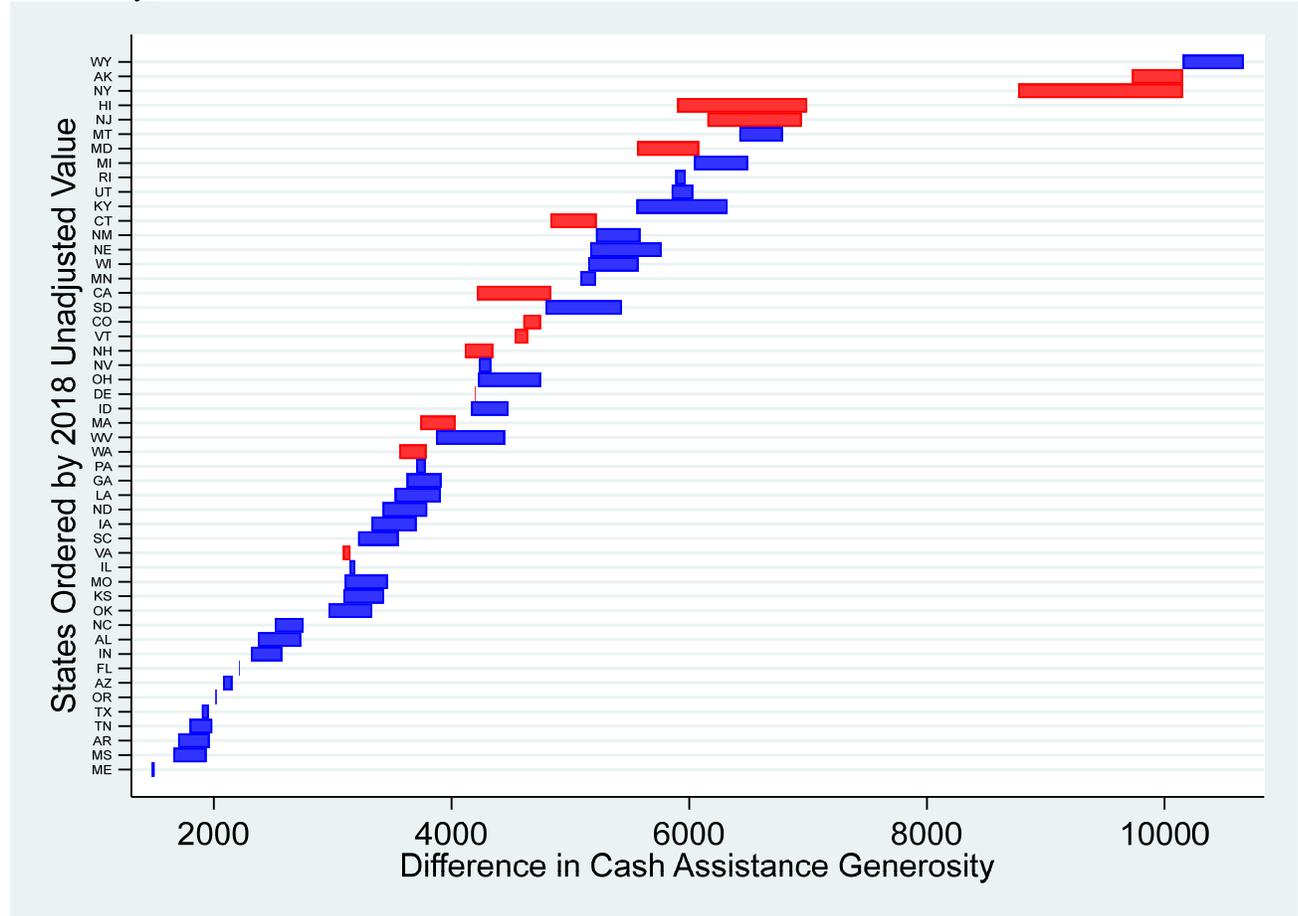
We use the BEA RPP cost-of-living adjustments for two primary reasons. First, the RPP adjustment is a full basket adjustment, incorporating state-level differences in costs beyond geographically-adjusted rents. Second, the state-level BEA RPP are at the same level of geography as the generosity policy indicators. This differs from the SPM adjustments which are based primarily on Department of Health and Urban Development (HUD) Fair Market Rents (e.g. 40th percentile rent and utilities), which are applied to household survey data at the family level.²

Figure A1 compares the generosity indicator for cash assistance with and without the BEA RPP geographic cost-of-living adjustment (COLA). For the vast majority of states, applying the RPP COLA increases the value of the generosity indicator. In the graph, blue bars indicate an increase in value when comparing the adjusted and unadjusted values. The largest decreases in value are observed in states with more generous cash assistance benefits (represented by red bars). Applying the RPP COLA reduces the extent of cross-state variation (from a Gini coefficient of 0.253 without the adjustment to 0.234 with the adjustment).

¹ The BEA RPPs are available yearly beginning in 2008 through 2017. For years prior to 2008, we adjust the generosity indicators using the five year average of 2008-2012 RPPs. For 2018, we adjust using the 2017 value.

² For more information on geographic differences in the cost of living using the SPM, see Nolan et al. 2016.

Figure A1. Cost-of-living Adjusted (COLA) Compared to Non-COLA Cash Assistance Generosity, 2018



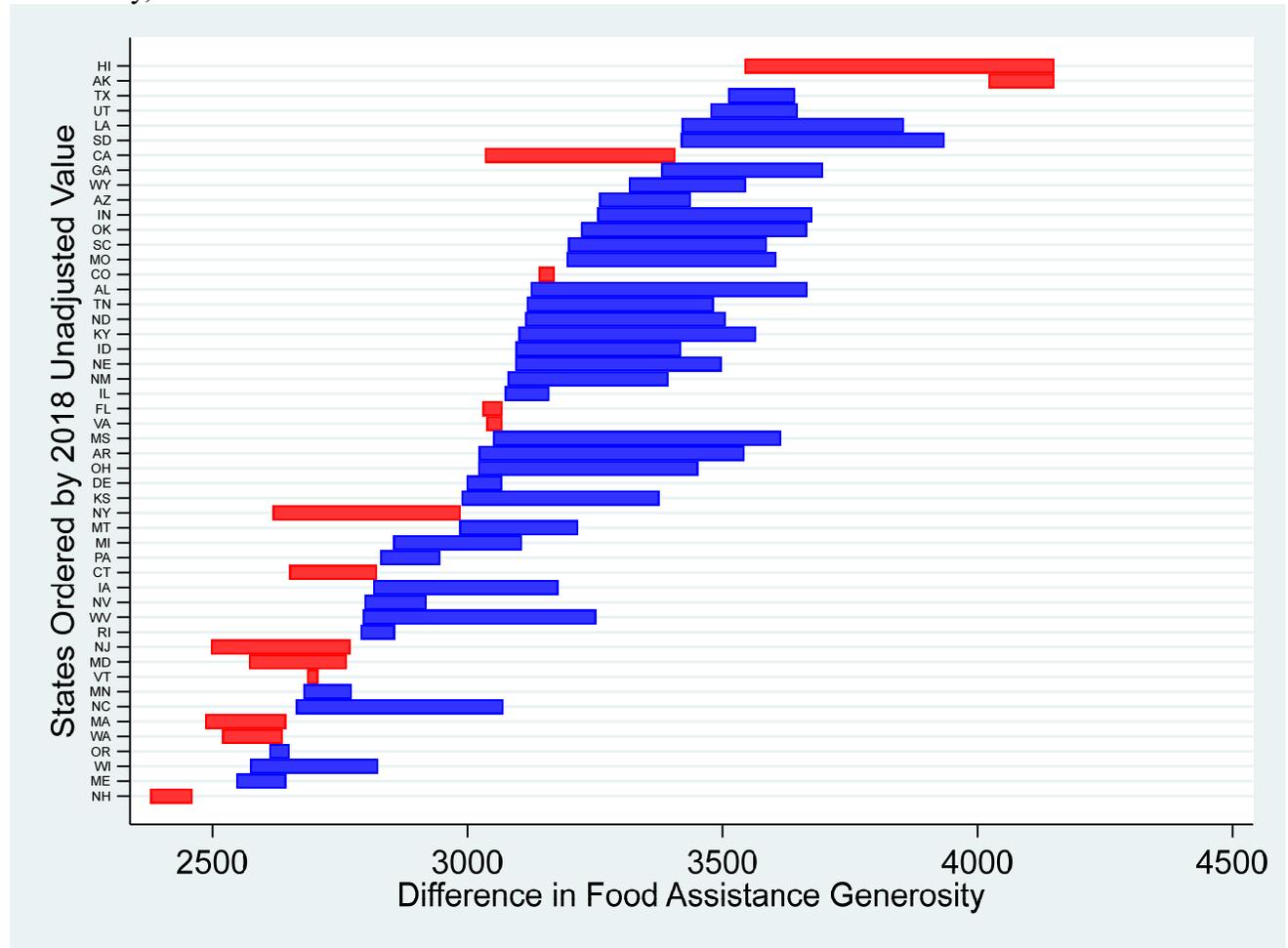
Note: The cost-of-living adjustment (COLA) uses the Bureau of Economic Analysis' Regional Price Parities by State and Metro Area (RPP). Red indicates a decrease in the generosity value for that state after applying the RPP COLA. Blue indicates an increase in the generosity value for that state after applying the RPP COLA.

The decrease in cross-state inequality observed for cash assistance is also observed in six of the ten programs (see Table A1). However, in four programs cross-state inequality is greater when using the COLA measures compared to the non-adjusted measures (food assistance, SSI, state income taxes, and cash assistance-based work assistance). To get a sense of why cross-state inequality is increased in some programs it is helpful to look at the difference between the indicators for individual states. Figure A2 displays the COLA and non-COLA adjusted generosity indicator for food assistance. As can be seen in the graph, many of the states that have values that are decreased with the application of the adjustment are states that have the lowest generosity value without the adjustment. This pattern results in pulling the bottom end of the distribution further down, and in so doing increases cross-state inequality.

Table A1. Cross-State Inequality in Generosity of Social Provision, Cost-of-living Adjusted (COLA) Compared to Non-COLA, 2018

Program	Generosity (Gini Coefficient)	
	Adjusted	Unadjusted
Cash Assistance	0.234	0.253
Child Support	0.082	0.101
Food Assistance	0.066	0.053
Unemployment Insurance	0.152	0.170
Supplemental Security Income	0.049	0.015
State Income Tax	0.886	0.874
Preschool and Early Education	0.139	0.146
Targeted Work Assistance	0.548	0.541
Child Health Insurance	0.139	0.143
Child Care	0.123	0.133

Figure A2. Cost-of-living Adjusted (COLA) Compared to Non-COLA Food Assistance Generosity, 2018



Population Denominator Estimates

To ensure that our population estimates are accurate, we compared these estimates to the closest possible counts from the Census and American Community Survey (ACS). We tabulated state-level counts of three- and four-year old children (used as the denominator for the early childhood education inclusion indicator) and single parent families (used as the denominator for the child support enforcement inclusion indicator) using Census data compiled for the years 1990 and 2000 and the ACS 2006-2010 five-year estimate, both from IPUMS-USA (Ruggles et al 2010). These state-level population counts were then compared to the estimates obtained from the CPS ASEC. In comparing the CPS ASEC to the Census and ACS counts of these two populations, we found that the percentage difference was generally 15% or below across states, ranging from five to nine states across years that exceed this threshold. The reason for this disparity is that the CPS person-level and household-level weights do not take marital status or this specific age group into account.

Additionally, we compare two poverty estimates from the ASEC against comparable Census and ACS figures, those of children under 18 in poverty and estimates of poor families. We compute similar percentage differences between these estimates and counts from the Census and ACS and find that the differences more often exceed the 15% threshold, and in certain states across years the percentage difference can exceed 80%. The considerable disparity between Census and ASEC counts for these poverty estimates is likely due both to the issue raised above in relation to the demographic counts, and to the differences in income definitions used for assessing poverty.