

Child poverty in rural America

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TAKEAWAYS

From 2004 to 2015, poverty (based on the official poverty measure thresholds and total household disposable income) increased for rural families with children, and fell for urban families.

After the Great Recession of 2007 to 2009, earnings recovery was slow, and particularly so in rural America.

Declines in earnings were the most important factor in rising poverty rates, and this effect was twice as large for rural families.

Social welfare system transfers reduced poverty for rural families by an average of about 35 percent more than for urban families.



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More than one in four rural children lived in a family with

income below the official poverty line in 2013, compared to one in five in 1999. Possible reasons for this rise in rural child poverty include changes in family composition, educational attainment, labor markets, and changes to social welfare policies. The social welfare system in the United States, comprising the full array of income transfers, tax credits, and other benefits available to those in need, was designed to offset economic hardship. While researchers have thoroughly documented the changing nature of the social welfare system including how it responded to the Great Recession, most of this work has not examined differences between rural and urban areas. In particular, relatively little is known about how the social welfare system functions for rural families with children. With the study described in this article, we seek to add to this knowledge by assessing whether current social welfare programs are effectively protecting rural families with children from poverty.

Our research questions include:

- How did earnings, total income, and poverty change from 2004 through 2015?
- How did trends in earnings, income transfers, and poverty vary across different types of families?
- How much of the changes in child poverty were accounted for by changes in earnings and transfers, respectively?

In addressing these questions, we consider how observed trends for rural families compare to those for urban families.

Child poverty in rural America

Our study looks at poverty among families with children, particularly rural families. This population is of interest for three reasons. First, children who experience poverty and associated forms of disadvantage are at an increased risk of experiencing negative outcomes as they age, including dropping out of high school, early pregnancy, poor health, and low socioeconomic status.¹ Even if a person becomes more advantaged later in life, the negative effects of childhood economic adversity may persist. Policies that reduce childhood poverty may thus also have positive effects on economic attainment in adulthood.

Second, child poverty is of interest because children, and particularly rural children, experience disproportionately high poverty rates compared to working-age adults. For example, in 2016 about one in four rural children and one in five urban children were poor, compared to only about one in eight working-age adults. We focus especially on rural children because they are more likely than urban children to live in areas with high rates of poverty, and therefore live in both poor families and poor places.²

Third, rural families with children are of particular interest because current demographic trends could increase child

poverty, particularly in rural areas, including changes in family structure amid decreasing marriage rates, increased racial and ethnic diversity, and declines in parents' post-high school educational attainment.³ The extent to which these demographic changes will indeed increase child poverty, and the effects of that poverty throughout an individual's life, could be mitigated by the U.S. social welfare system.

The social welfare system

The social welfare system in the United States comprises all the income transfers, tax credits, social insurance policies, and other benefits available to families and individuals. The components of this system fall into the following three categories:

- Universal benefits for which eligibility does not depend on income, including Social Security and Unemployment Insurance;
- Safety net programs generally targeted to the poor and near-poor, which include Medicaid, housing subsidies, the Supplemental Nutrition Assistance Program (SNAP; formerly known as Food Stamps), and cash assistance such as Temporary Assistance for Needy Families (TANF); and
- Work supports provided through employers and the tax system, including the Earned Income Tax Credit (EITC), and employer-sponsored health insurance.

The U.S. social welfare system largely relies on safety net programs that provide work supports instead of cash benefits to offset family economic hardship. The system began in 1935 with two universal programs and a safety net program. The universal programs, Social Security and Unemployment Insurance, are available to all workers who have been employed and made sufficient contributions through payroll taxes. The means-tested safety net program, Aid to Families with Dependent Children (AFDC, intended to provide assistance to children in poor families), would eventually become TANF. The 1960s and 1970s saw the arrival of most of the other major social welfare programs that currently exist, including Food Stamps (now SNAP), Medicaid and Medicare, Supplemental Security Income, and the EITC.

Three major trends characterize the social welfare system in the United States. First, total spending on the system has increased steadily since the 1960s.⁴ Second, over the past 25 years, there has been a shift in policy away from guaranteed income support and towards a work-based system.⁵ The 1996 Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA)

Defining “urban” and “rural”

Note that determining which areas are urban and which are rural is challenging. The Current Population Survey (CPS) and federal data sources that use counties as their base geography do not permit identification of “urban” and “rural” areas. Instead, counties are divided into only “metro” and “nonmetro,” where each metro area must contain either a place with a minimum population of 50,000, or a Census Bureau-defined urbanized area and a total population of at least 100,000 (75,000 in New England). In this article, metro areas are called “urban” and nonmetro areas are called “rural.” While this is not a perfect match, it is the best possible choice given available data.

Income sources

For this analysis, we use the following income sources when calculating poverty (see “Measuring Poverty” box):

Earnings, including wages, salaries, self-employment income (including farm income), and property income.

Other private income sources, including pension or retirement income, and private transfers such as child support payments.

All **transfers** that are counted as family income when calculating the **official poverty measure**, specifically:

- Social Security income
- TANF cash assistance
- Supplemental Security Income
- Unemployment Insurance
- Workers' compensation
- Veterans' payments
- Survivor benefits
- Disability benefits

All **transfers** that are counted as family income when calculating the **Supplemental Poverty Measure**, specifically:

- Near-cash in-kind benefits such as the Supplemental Nutrition Assistance Program (SNAP) and the National School Lunch Program; and
- Tax-related transfers such as the Earned Income Tax Credit (EITC).

replaced AFDC with TANF and eliminated the benefit as an entitlement, added time limits, and expanded work requirements. The PRWORA also made large expansions in the work-based EITC and childcare subsidy program. Third, the social welfare system, which began with a focus largely on redistributing income to single-mother families with children, now focuses on older adults, the disabled, married-parent families, and the working poor.⁶

Methods and analysis

We use repeated cross-sectional data from the 2005 to 2016 Annual Social and Economic Supplement (ASEC) to the Current Population Survey (CPS), which provide detailed information on employment and income for 2004 through 2015.⁷ This time period allows us to describe poverty trends before, during, and after the Great Recession of December 2007 through June 2009.

We look at income composition and poverty for families with children. The income components we use to measure family resources are all cash and near-cash income (see text box for more detail about measuring income). We use three poverty measures, all based on official poverty measure (OPM) thresholds, but using three alternate resource measures:

- Earnings only;
- Earnings, other private income sources, and transfers included in the official poverty measure; and
- Total disposable income, including transfers and tax credits counted in the Supplemental Poverty Measure (see text box for more information about measuring poverty).

We also look at results separately for four combinations of family structure and employment status during the prior year:⁸

- Married couples where both parents work;
- Married couples where one parent works;
- Single parents who work; and
- Single parents who do not work.

How did earnings and total income change during the study period?

Across the families with children in our sample, average total income stayed roughly the same from 2004 until 2015, as did the composition or mix of income sources by our three types of resource categories, as shown in Figure 1. However, there are several notable differences between rural and urban areas. First, average disposable

Measuring poverty

The U.S. Census Bureau uses two primary poverty measures—the official poverty measure (OPM) and the Supplemental Poverty Measure (SPM). For each measure, analysts calculate the poverty rate by comparing family resources to the established poverty threshold.

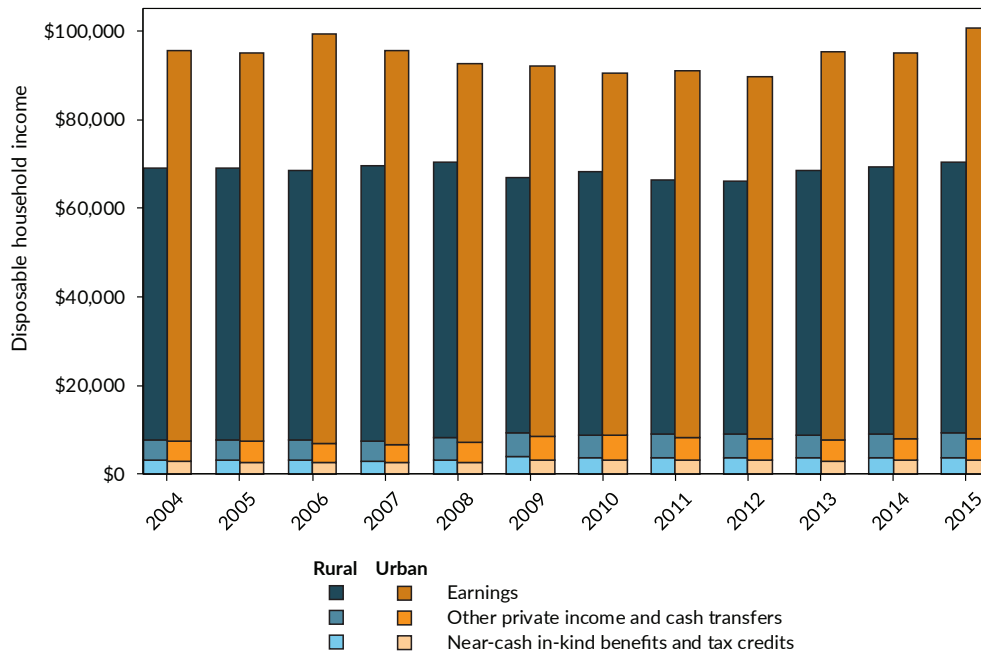
OPM poverty thresholds are calculated as three times the cost of a nutritionally adequate diet in 1964, adjusted for inflation and family size. Resources are calculated as pre-tax cash income.

SPM thresholds are based on expenditures on food, clothing, shelter, and utilities, with adjustments for family size and composition, and for geographic differences in housing costs. Resources are measured as post-tax, post-transfer cash and near-cash income, counting tax credits and in-kind benefits such as the Supplemental Nutrition Assistance Program (SNAP) and housing assistance. Nondiscretionary expenditures such as medical out-of-pocket costs, childcare, work expenses, and child support paid to another household are subtracted.

The study described in this article uses three poverty measures based on the official poverty measure thresholds and three alternate-resource measures: (1) earnings poverty, which includes earnings and other private income sources only; (2) the official poverty measure, which adds in cash transfers; and (3) an alternative poverty measure based on disposable household income, which adds in post-tax, post-transfer cash and near-cash income included in the Supplemental Poverty Measure, but not considering all nondiscretionary expenses, and not adjusting for family unit composition or geography. None of the measures account for taxes.

To learn more about the official and alternative poverty measures, see: <https://www.irp.wisc.edu/resources/how-is-poverty-measured/>

Figure 1. Average disposable household income for rural families was lower in each year 2004–2015 than that for urban families, although rural families nearly always received more transfers from the social welfare system.



Source: The Annual Social and Economic Supplement (ASEC) of the Current Population Survey (CPS) for calendar years 2005–2016.

Note: Amounts are shown in 2016 dollars.

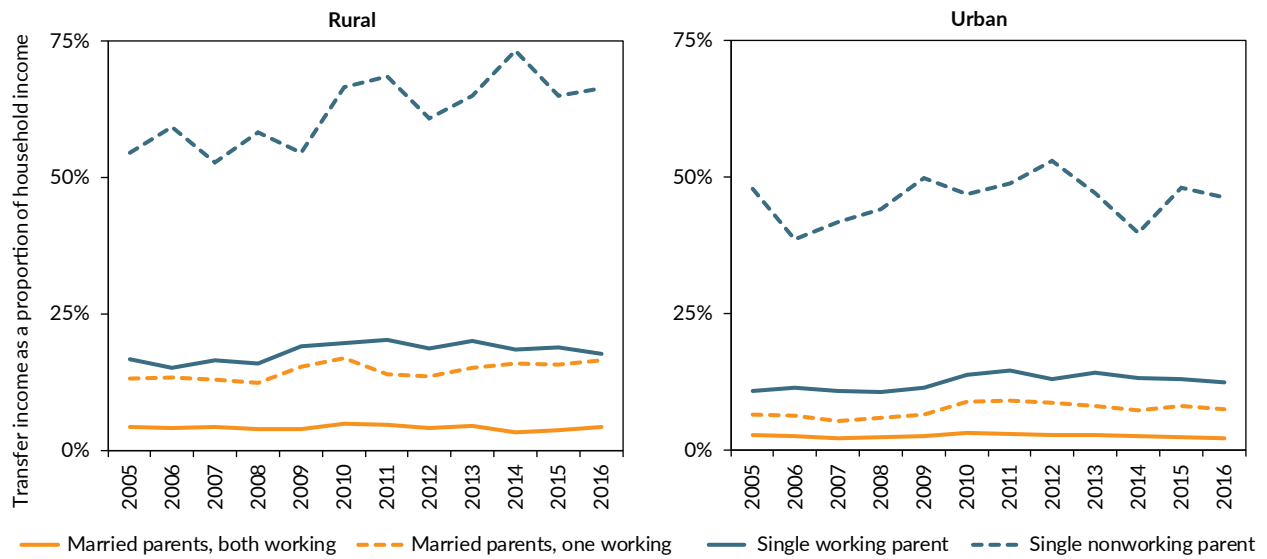
household income (the full column height in Figure 1) was always lower in rural areas. Second, while total income did not immediately return to pre-recession levels after the Great Recession ended in 2009, the recovery was even slower in rural areas. Over the 12-year period, average income increased by only 2.1 percent in rural areas, compared to 5.5 percent in urban areas. Finally, public transfers accounted for a larger proportion of household income for rural families (over 10 percent) compared to urban families (about 6 percent).

While total income did not immediately return to pre-recession levels after the Great Recession ended in 2009, the recovery was even slower in rural areas.

Next, we look at the proportion of disposable income accounted for by public transfers by rural-urban status for our four combinations of family structure and employment status, as shown in Figure 2. We find that the rural-urban gap in transfers as a proportion of income persists across family-work structures, with a particularly large gap for families with only one worker, married or single.

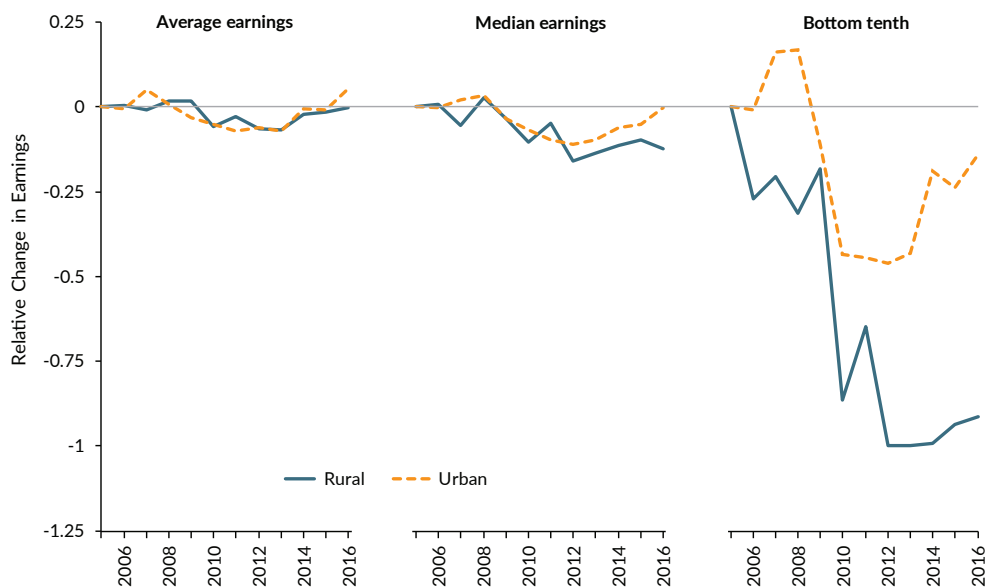
Figure 3 shows the change in earnings over time across different points in the income distribution. Trends in average earnings, shown on the left side of the figure, are fairly similar between rural and urban families. However, as shown in the center of the figure, median earnings (that is, the amount that divides the distribution into two equal groups,

Figure 2. Social welfare system transfers make up a substantially larger proportion of disposable income among rural families compared to urban families for all types of family-work structure, but particularly for families with only one worker.



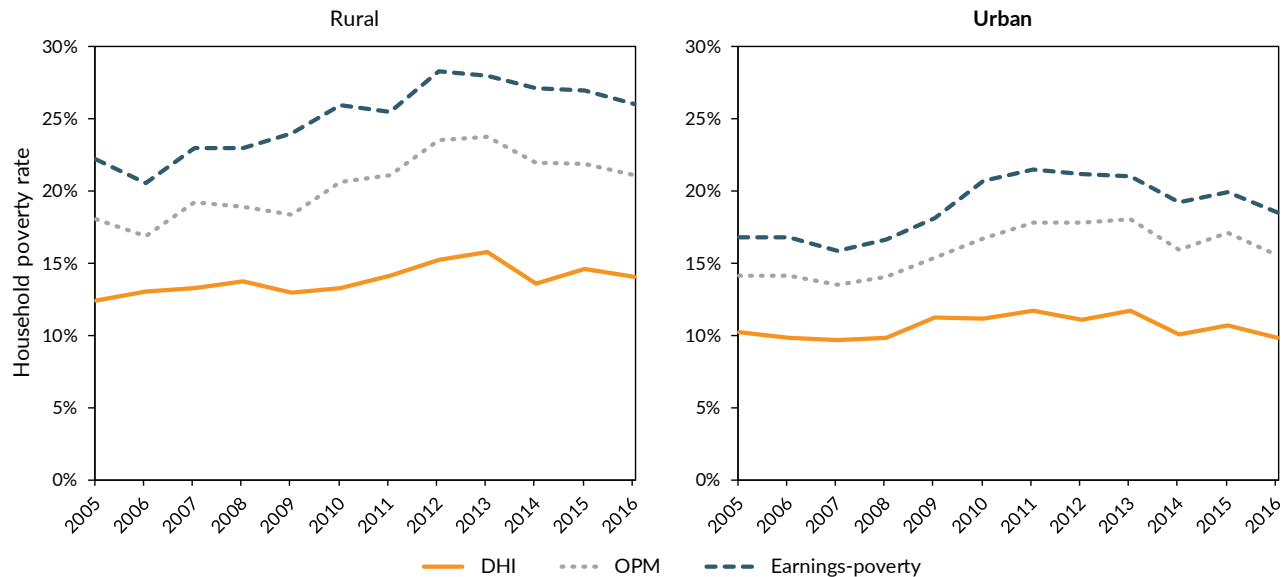
Source: The Annual Social and Economic Supplement (ASEC) of the Current Population Survey (CPS) for calendar years 2005–2016.

Figure 3. Families at the bottom of the earnings distribution experienced the largest income declines, particularly those in rural areas.



Source: The Annual Social and Economic Supplement (ASEC) of the Current Population Survey (CPS) for calendar years 2005–2016.

Figure 4. Following the Great Recession of December 2007 to June 2009, official poverty rose faster for rural families than urban families; however, one-quarter of the rural-urban poverty gap closes when noncash transfers and tax credits are included in the measure of poverty.



Source: The Annual Social and Economic Supplement (ASEC) of the Current Population Survey (CPS) for calendar years 2005–2016.

Notes: OPM is poverty rate based on the official poverty measure; Earnings-poverty is poverty rate based on earnings from employment; and DHI is poverty rate based on an alternative poverty measure that counts total disposable household income including noncash transfers and tax credits.

with half of all families earning more and half earning less) diverged beginning in 2011. In urban areas, median earnings had returned to pre-recession levels by the end of the study period, 2015, but in rural areas, they were more than 10 percent lower in 2015 than in 2004. Finally, families in the bottom tenth of the earnings distribution, shown on the right side of the figure, have experienced the largest declines. In rural communities, the lowest earners in 2015 made about 85 percent less than the same group in 2004. This is in stark contrast to those families in the top tenth of the earnings distribution (not shown in the figure), who saw little change in earnings over the period, regardless of rural-urban status. The large earnings drop over time in rural communities was mostly explained by more families being out of work and more families with zero earnings.

A similar analysis of changes in disposable household income over time—that is, earnings plus public transfers—shows smaller rural-urban gaps at all points in the distribution, suggesting that income transfers may have a larger effect for rural families than they do for urban families.

What were the trends in poverty rates?

Figure 4 shows our three poverty measures over time for rural and urban families. Looking first at the official poverty measure, the center line in each panel, we see that poverty rates increase from 2005 through 2013. Following the end of the recession in 2009, rural poverty rates continued to rise at a higher rate than those for urban families, up to a high of 24 percent in 2013.

Earnings-poverty rates (that is, poverty based on official poverty measure thresholds but accounting for only earnings), the top line in each panel, are consistently higher than official poverty rates, but the shape of the line is very similar, showing that trends in earnings are correlated with trends in the official poverty measure. As expected given rural-

urban earnings trends, earnings-poverty is significantly higher in rural areas than in urban areas.

Finally, our alternative poverty measure based on disposable household income (which includes post-tax, post-transfer cash and near-cash income relative to official poverty thresholds) is shown in the bottom line in each panel. This poverty rate is consistently much lower than the official poverty rate, and fluctuates less, indicating less sensitivity to changes in the national economy. The figure also shows that the additional transfers and tax credits included in the alternative poverty measure close the rural-urban poverty gap substantially, by nearly 25 percent.

Comparing earnings-poverty to a measure that includes all disposable household income indicates the extent to which the social welfare system counteracts poverty in the United States. Our findings are similar to those of the Council of Economic Advisors, which found that rural child poverty in 2015 would have been about 70 percent higher in the absence of the social welfare system during the Great Recession.⁹

These poverty trends also varied across family structure and employment status. Considering only rural families with children, and using our alternative poverty measure, which includes noncash transfers and tax credits, we find that married couple families with two working parents had a very low risk of poverty, under 1 percent. When only one parent in a married-couple family works, the poverty rate rises to 10 percent. For working single-parent families, the rate averages about 15 percent, around 50 percent higher than the rate for two-parent families with one worker. For non-working single-parent families, the poverty rate was extremely high, with an average of about two-thirds of all such families in poverty over the period.

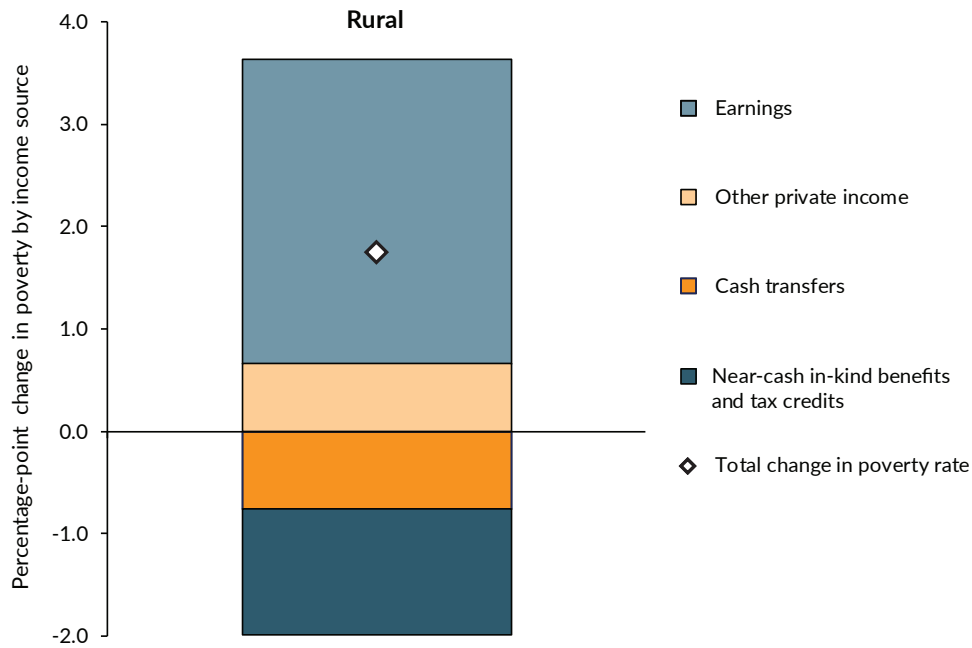
How much of the change in rural child poverty was accounted for by changes in earnings and transfers?

Among rural families with children, our alternative poverty measure increased by 1.7 percentage points over the study period, compared to a decrease of 0.2 percentage points for the entire sample of families with children. When we look at the contribution of the various income components to this increase in rural poverty, as shown in Figure 5, we find that changes in earnings were particularly important in explaining the increase in rural poverty. In fact, if the other components had not changed at all during the study period, declines in earnings alone would have increased the alternative poverty measure rate by about 3 percentage points rather than 1.7 percentage points. Other private income sources such as pensions and private transfers also declined, but accounted for relatively small increases in the alternative poverty measure rate.

Changes in earnings were particularly important in explaining the increase in rural poverty.

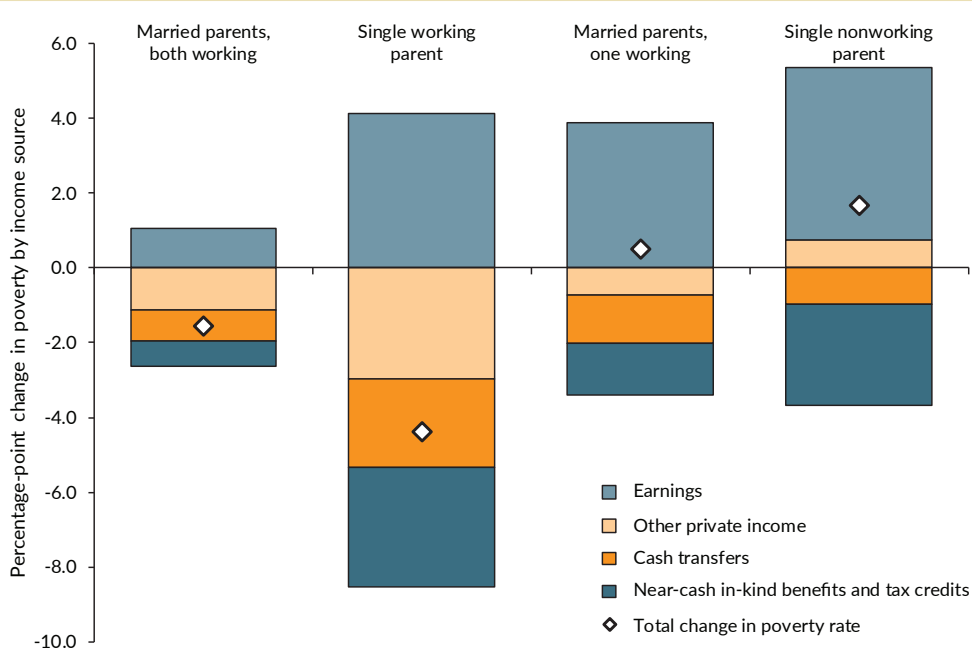
While earnings were decreasing during the study period, income from public transfer income increased for those living in rural settings. Transfers that are counted as resources for the official poverty measure, including TANF, Supplemental Security Income (SSI), and Unemployment Insurance reduced poverty by 0.8 percentage points. The additional transfers included in our alternative poverty measure, including the EITC and SNAP, reduced poverty even more, by 1.2 percentage points.

Figure 5. Declines in earnings between 2004 and 2015 were the most important income component in explaining the 1.7 percentage point increase in the rural poverty rate.



Source: The Annual Social and Economic Supplement (ASEC) of the Current Population Survey (CPS) for calendar years 2005–2016.

Figure 6. Among rural families, increases in transfers outweighed declines in earnings for married families where both parents work and single-parent working families, resulting in poverty decreases for those families.



Source: The Annual Social and Economic Supplement (ASEC) of the Current Population Survey (CPS) for calendar years 2005–2016.

We also looked at the contribution of the various income components to the change in the rural poverty rate, using our alternative poverty measure, for our four categories of family structure and employment status. As shown in Figure 6, the overall poverty rate for married rural families with two working parents fell by 1.6 percentage points during the study period. Although declines in earnings alone would have resulted in a poverty rate increase of 1.1 percentage points, increases in the other income components were together large enough to counter the drop in earnings. A similar but even more dramatic result is found for working rural single-parent families; declines in earnings alone would have raised the poverty rate by 4.1 percentage points, but increases in other income sources resulted in the largest net decline in poverty among rural families.

Rural married families with only one parent working saw a slight increase in poverty of 0.5 percentage point, the net effect of a large decrease in earnings (accounting for a 3.9-percentage-point poverty increase) that was not quite outweighed by the poverty-reducing effects of increases in transfers and other income sources.

Finally, for nonworking rural single-parent families, the poverty rate rose by 1.7 percentage points. These families experienced a very large decrease in earnings—possibly reflecting relatively recent changes in their work status, or loss of earnings from other household members who worked—accounting for a 4.6 percentage point increase in poverty. Other private income also declined. Much of this loss was offset by transfers that together reduced the poverty rate by 3.6 percentage points. Note that there is a very large difference in the social welfare supports that are available to single working parents compared to single nonworking parents, in particular in the set of transfers that are included in the official poverty measure (the second column from the right in each set in the figure). These transfers reduced poverty by 2.4 percentage points for working single parents, but only by 1 percentage point for single parents that did not work.

Changes in transfers over the study period reduced rural poverty by a greater proportion for single compared to married parents.

Conclusions and directions for future work

During our study period of 2004 through 2015, including the recession-affected period of 2007 to 2009, poverty increased for rural families while it fell for urban families overall. Declines in earnings were particularly important in explaining the increase in the rural poverty rate. At the beginning of the study period, poverty based solely on earnings—without regard to income transfers provided through the social welfare system—was around 5 percentage points higher in rural compared to urban areas. While earnings-poverty in urban areas began to fall in 2011, it continued to rise steeply in rural areas until 2013. In order to understand the extent to which the social welfare system in the United States offset earnings declines, we estimated an alternative poverty measure based on disposable household income, which includes noncash benefits such as SNAP and tax credits such as the EITC, which are not included in the official poverty measure. We find that in rural compared to urban areas, social welfare transfers as a whole account for a larger proportion of disposable household income and have a larger poverty-reducing effect. Overall, we find evidence that the social welfare system cushioned to some extent the major changes in earnings that were observed during the Great Recession of 2007 to 2009.

Married families with two workers are at the least risk of falling into poverty of all family-work structures we examined, but the proportion of families in this category has fallen steeply in the past decade, while the proportion of families with a single parent has risen. We find that changes in transfers over the study period reduced rural poverty by a greater proportion for single compared to married parents, suggesting that the social welfare system may reduce market inequality across family structures.

While our results demonstrate the importance of the social welfare system as a whole, more work is still needed to isolate the relative contributions of specific policies such as SNAP and the EITC. Our finding that families at the bottom of the earnings distribution, particularly those in rural areas, experienced the largest earnings declines while those at the top of the distribution remained relatively insulated suggests a need to better understand income inequality in rural America.¹⁰ Finally, a combination of qualitative and quantitative work is called for to better understand how the social welfare system works in rural areas, and how it can be improved. ■

¹See, for example, G. W. Evans and M. A. Schamberg, “Childhood Poverty, Chronic Stress, and Adult Working Memory,” *Proceedings of the National Academy of Sciences* 106, No. 16 (2009): 6545–6549.

²J. P. Ziliak, “Are Rural Americans Still Behind?” *Focus* 34, No. 2 (2018): 13–24. <https://www.irp.wisc.edu/wp/wp-content/uploads/2018/11/Focus-34-2b.pdf>

³Ziliak, “Are Rural Americans Still Behind?”

⁴R. A. Moffitt, “The Deserving Poor, the Family, and the U.S. Welfare System,” *Demography* 52, No. 3 (2015): 729–749. <https://doi.org/10.1007/s13524-015-0395-0>

⁵L. M. Berger, M. Cancian, and K. Magnuson, “Anti-Poverty Policy Innovations: New Proposals for Addressing Poverty in the United States,” *RSF: The Russell Sage Foundation Journal of the Social Sciences* 4, No. 2 (2018): 1–19. <https://doi.org/10.7758/RSF.2018.4.2.01>

⁶Moffitt, “The Deserving Poor, the Family, and the U.S. Welfare System.”

⁷S. Ruggles, K. Genadek, R. Goeken, J. Grover, and M. Sobek, *Integrated Public Use Microdata Series: Version 6.0 [dataset]*. Minneapolis, MN: University of Minnesota, 2015. Retrieved from <http://doi.org/10.18128/Do10.V6.0>

⁸Our original analysis also included a fifth category—married couples where neither parent works. Due to small sample sizes, the results for this group are less reliable and are not reported in this article, but are included in the full paper on which this article is based: D. W. Rothwell and B. C. Thiede, “Earnings, the Social Safety Net, and Poverty Among Rural American Families,” Working paper submitted for the 2018 Rural Policy Research Institute conference on “Rural Poverty Fifty Years After *The People Left Behind*,” March 19–20, 2018, Washington, DC.

⁹“Opportunity for All: Fighting Rural Child Poverty,” Council of Economic Advisors, Domestic Policy Council, and Office of Management and Budget, May 2015. Retrieved from https://obamawhitehouse.archives.gov/sites/default/files/docs/rural_child_poverty_report_final_non-embargoed.pdf

¹⁰Note that the data used for this analysis are not panel data, and thus do not provide information on changes over time for a given household.

Type of analysis: Descriptive

Data source: The Annual Social and Economic Supplement (ASEC) of the Current Population Survey (CPS) for calendar years 2005–2016 (providing information on employment and income during the prior calendar year).

Type of data: Household survey

Unit of analysis: Families with children. The Census Bureau’s definition of family for the purposes of measuring poverty was used.

Sample definition: Families with children in annual datasets pooled across the 11-year period, excluding members of the fifth through eighth rotation groups in the 2006–2016 samples to account for the rotating sampling structure of the CPS, and excluding observations from the three-eighths experimental sample of the 2014 CPS.

Time frame: 2004 to 2015

Poverty definition used: Official poverty measure (OPM); in addition, we created two measures of poverty, which use the OPM thresholds but alternative measures of family resources: an earnings poverty measure that considers earnings from wages, salaries, self-employment income (including farm income), and property income; and an alternative poverty measure that reflects transfers such as the Earned Income Tax Credit and the Supplemental Nutrition Assistance Program.

Limitations: Metro and nonmetro definitions do not line up perfectly with urban and rural. Analysis does not take into account state variation in welfare policy. Family categories used in analysis count cohabitating family heads as single parents; since cohabitating couples are likely somewhat better off than single adults, the results likely underestimate the economic penalty of growing up in a single-parent family. CPS data has some missing data for earnings because of nonresponse and some have shown the value of transfers to be underreported in the CPS. Risk factors such as race and ethnicity are not included in the analysis. The decomposition methods used do not assume or consider any behavioral responses to the changes in the economy and transfers.

IRP focus

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