

Child Poverty Rates in the U.S.: Changes Over Time and Space

By

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The focus of this paper is to analyze the changes in county-level child poverty rates across time and to investigate the spatial distribution of the change in child poverty rates using county-level data from the 1990 and 2000 decennial census and the 2006-2008 American Community Survey estimates. This paper will (1) describe the geographic distribution of changes in child poverty rates across counties in the United States, (2) explore factors associated with the change in child poverty rates, concentrating on changes in family composition, racial and ethnic composition, educational attainment, and economic restructuring, (3) examine whether the factors associated with change in child poverty differ across metropolitan and nonmetropolitan counties, and (4) identify geographical areas where child poverty rates have increased or decreased over time. The results of this study will answer the following research questions: (1) What factors are associated with increases or decreases in county-level child poverty rates? (2) Do the factors associated with changes in child poverty rates over time vary across metropolitan and nonmetropolitan areas? (3) Has the geographic distribution of larger increases in child poverty rates changed over time?

Previous studies have concentrated on the spatial distribution of county-level child poverty rates (Friedman and Lichter 1998; Voss et al. 2006), however these studies do not look at the changes in child poverty rates over time and the data used in these studies are dated (1990). This study will look at the change in county-level child poverty rates and whether factors such as metropolitan status and the changes in family structure, racial composition, educational attainment and industrial and employment structure are associated with changes in child poverty rates. This study improves on the existing literature by using the most recent county-level data on child poverty rates—the 2006-2008 American Community Survey estimates. This paper also updates and extends the literature on child poverty rates that makes comparisons across metropolitan and nonmetropolitan areas (Lichter and Johnson 2007).

Background and Significance

Over the past few decades, poverty rates have remained high, with the majority of high poverty counties in nonmetro areas (Lichter and Johnson 2007). Poverty rates in persistently poor counties, which are counties with poverty rates of

20 percent or higher over the past four censuses, have remained very high in both metro and nonmetro counties (Lichter and Johnson 2007). However, the number of counties with very high poverty rates have declined between 1990 and 2000 in both metro and nonmetro counties (Lichter and Johnson 2007).

Over half of nonmetro children who are poor live in counties with child poverty rates over 20 percent (Lichter and Johnson 2007). Poverty rates among children are more likely to be highly concentrated and persistent over several decades than poverty rates among other age groups (Lichter and Johnson 2007). Poor children in rural areas are more likely to be significantly over-represented in high poverty areas compared to the child age population overall (Lichter and Johnson 2007).

Previous research that examined the spatial distribution of county-level child poverty rates found concentrations of high child poverty rates in the Mississippi Delta, Appalachia, the lower Rio Grande Valley, the historical “black belt,” rural counties where Indian reservations are located, and some central city counties of major metropolitan areas (Friedman and Lichter 1998; Voss et al. 2006). These areas all have higher than average percentages of minority populations, with one exception—Appalachia. Appalachia has a largely white population, but has been dependent on extractive industries for its economic base. Both high percentages or concentrations of minority populations (Lichter 1997) and reliance on extractive industries have been associated with high levels of poverty (Rural Sociological Society Task Force on Rural Poverty 1993). As minority populations have become more dispersed since the 1990s, we expect that child poverty rates increased in counties experiencing increases in minority populations. Increases in reliance on extractive industry employment, however, have a less clear relationship with child poverty. Such increases may be associated with a boom in natural resource extraction, which tends to temporarily increase economic conditions, possibly reducing child poverty rates. These studies also found areas with concentrations of low child poverty rates, some of which are found in New England, central Virginia, North Carolina, and the central Midwest (Friedman and Lichter 1998; Voss et al. 2006).

Family structure has been associated with child poverty (Lichter 1997; Lichter and Eggebeen 1992) and with poverty generally (Lichter and McLaughlin 1995). Female-headed households with children living in nonmetro areas experience high poverty rates (Snyder and McLaughlin 2004; Snyder et al. 2006), with two of every five such families and one of every four rural children under five years of age living in poverty (Albrecht and Albrecht 2000). Snyder et al. (2006) found female-headed households with a racial or ethnic minority female household head have even higher rates of poverty. Increases in female-headed households with children are expected to be associated with increases in child poverty. Family poverty can cause child developmental problems and a decline in child and family well-being (Snyder et al. 2004). Poverty in a county can result in fewer resources being available or allocated to social services, education, and support for low income

families and children. Rural poor children often go without the resources they need to live a safe and healthy life.

Snyder and McLaughlin (2004) examine the factors that are associated with the likelihood of a female-headed family with children being poor using data from the 1980, 1990, and 2000 March Current Population Survey. They find that black female-headed families with children are .859 times and Hispanic female heads .612 times more likely than white female-headed families to be poor. Snyder and McLaughlin (2004) also find that work effort and job quality are associated with poverty, such that female-headed families with children where the head had no job are 3.56 times more likely to be in poverty than those where female heads had a full-time good job (Snyder and McLaughlin 2004). Female family heads with less than a high school education are 1.34 times more likely to be in poverty than female family heads with more than a high school education (Snyder and McLaughlin 2004). The findings from these family-level analyses and from earlier studies (Lichter and McLaughlin 1995) support the importance of educational attainment and quality of local jobs as important factors affecting poverty of female-headed families with children. They also suggest factors, such as local job availability and changes in job availability that may be associated with changes in county-level child poverty rates.

Cotter (2002) examined the household and labor market area effects on poverty using data from the 1990 Census PUMS-L sample. He found that families in nonmetropolitan labor markets are .172 times more likely to be poor than families in metropolitan labor markets (Cotter 2002). A negative relationship was found between the percentage of women in the labor force and the likelihood that a family would be in poverty. Both the percentage in good jobs and the percentage in manufacturing decrease the likelihood that a family will be in poverty (Cotter 2002). These findings of differences in odds of family poverty in metropolitan and nonmetropolitan areas, even after labor market effects are included, suggest that the relationship between labor market characteristics and family poverty differ for metropolitan and nonmetropolitan counties. The factors associated with change in child poverty rates also may vary across metropolitan and nonmetropolitan counties. This study will determine if this is the case.

Data and Methodology

Maps displaying the change scores in child poverty rates from 1990 to 2000, 2000 to 2006-2008, and 1990 to 2006-2008 will be created. These maps will identify the areas of the United States that have experienced the largest increases and decreases in county-level child poverty rates. Maps of child poverty rates in 1990 and 2006-2008 will show the changes in the geographic distribution of child poverty over the seventeen year period.

Weighted least squares regression models of change in child poverty rates from 1990 to 2000, 2000 to 2006-2008, and 1990 to 2006-2008 will be estimated. First, all counties in the continental United States will be included in the 1990 to 2000 change model. In the 2000 to 2006-2008 model and the 1990 to 2006-2008 model, only the counties with a population of 20,000 or more will be included in the models. Currently, these are the only counties that are included in the American Community Survey 2006-2008 estimates. Then, the 1990 to 2000 change model will be re-estimated including only those counties that were included in the 2006-2008 American Community Survey data. This will help identify if there are differences in the factors associated with the change in child poverty rates in counties with more than 20,000 population compared to all counties in the US.

These multivariate models will control for changes in family structure, industrial and employment structure, education, and racial composition. The dependent variable and the independent variables will be measured as first differences, for example, the 2000 value minus the 1990 value. In situations where the basic structure of counties—dependence on extractive industries, for example, is considered to have an effect on changes in child poverty, the base year value also will be included in the models. While theoretically the first difference model approach reduces the need for considering spatial relationships in the data, exploratory spatial analysis will be conducted to determine whether spatial modeling approaches are necessary.

To determine whether there are differences in the factors that are associated with changes in child poverty in metropolitan and nonmetropolitan counties, two strategies will be used. First, a nonmetropolitan county variable will be used in the full models (described above), based on nonmetropolitan status in 1990. A second variable indicating if a county became metropolitan from 1990 to 2000 also will be included. These tend to be among the more rapidly growing nonmetropolitan counties that often are adjacent to metropolitan areas. Significance of either of these variables suggests importance of nonmetropolitan status, even when other characteristics are included in the models. Second, separate weighted least squares regression models of change in child poverty will be estimated for metropolitan and nonmetropolitan counties. The estimated coefficients will be compared to determine if they differ across the metropolitan and nonmetropolitan models. This allows each of the estimated coefficients to vary across metropolitan and nonmetropolitan counties.

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