



# REPORT

## Documenting Poverty in North Carolina

March 2016

Using North Carolina data as its reference point, this report discusses traditional measures of documenting poverty and provides perspectives on how alternative measures may better reflect its actual impact. Policymakers should consider the range of measures when trying to understand the economic well-being of their communities and state.

For example, several economic measures show that financial hardship in North Carolina has been increasing since before the great recession that began in 2007. This hardship has a greater impact on children than on adults and on families than on single individuals. By any measure, North Carolina fares, on average, worse than most other states in terms of poverty and currently is experiencing the highest levels of poverty since the recession of the early 1980s. The poorest areas of the state are located in wide swaths of rural eastern and mountainous western counties. In addition, all urban areas in the state have at least one pocket of severe economic hardship.

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## Definitions of Poverty

### The Poverty Line

Government researchers generally measure the rate of poverty of individuals and families according to income using a measure established in 1963 called the poverty threshold.<sup>1</sup> The poverty line is three times greater than what a family would pay for the least expensive (“economy”) food plan, as defined by the U.S. Department of Agriculture (USDA). The poverty threshold is indexed annually for inflation using the Consumer Price Index.<sup>2</sup> Depending on household composition and number, a family’s income must fall beneath this threshold to be considered as living in poverty.<sup>3</sup>

The official poverty line is the most conservative measure in common use in that it is the most restrictive, resulting in lower estimated levels of poverty than the alternative measures discussed below. It has been criticized for decades but remains in use because a politically or methodologically acceptable alternative has not been developed.<sup>4</sup> It is interesting to note that, according to its developer, Mollie Orshansky, the poverty threshold was not intended as a measure of adequate income, but of inadequate income; instead of measuring an income that is able to maintain a household, Orshansky sought to measure an income that clearly was not enough to maintain a household.

The federal poverty line is usually the default measure used by lower levels of government in making their own calculations, but not always.<sup>5</sup> For example, in determining financial eligibility

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1. Gordon Fisher, “The Development and History of the U.S. Poverty Thresholds—A Brief Overview” (Washington, D.C.: U.S. Department of Health and Human Services, May 7, 2010), <http://aspe.hhs.gov/poverty/papers/hptgssiv.htm>. An unpublished, 88-page paper on the development of the measure that Fisher also produced, “The Development of the Orshansky Poverty Thresholds and Their Subsequent History as the Official U.S. Poverty Measure,” is available at the Census Bureau’s website on poverty measurement, [www.census.gov/hhes/www/poverty/about/overview/measure.html](http://www.census.gov/hhes/www/poverty/about/overview/measure.html).

2. The federal Office of Management and Budget designated the Census Bureau as the official determiner of the poverty threshold, that is, the official measure of poverty. In line with various statistical thresholds, annual poverty guidelines, used for administrative purposes, are established by the U.S. Department of Health and Human Services under the authority of 42 U.S.C. § 9902(2).

3. Pre-tax income, not including capital gains or the cash value of government benefits, such as food stamps, is counted. Non-relatives, such as roommates, are not considered as being part of a household for these purposes.

4. For criticism of the poverty line measure see, for example, Jeannette Wicks-Lim. “Lies, Damned Lies, & Poverty Statistics: The Census Bureau Is Right to Reconsider the Official Poverty Line,” *Dollars & Sense* (published by the Economics Affairs Bureau, Inc.), July/August 2010, [www.peri.umass.edu/fileadmin/pdf/other\\_publication\\_types/magazine\\_\\_journal\\_articles/jwl\\_jul10.pdf](http://www.peri.umass.edu/fileadmin/pdf/other_publication_types/magazine__journal_articles/jwl_jul10.pdf). A 1995 National Academy of Sciences report recommended the development of new poverty measures. Based in part on this report, a supplemental poverty measure has been developed that takes into account the value of many government benefit programs and their impact on moving people out of poverty. Data on this supplemental measure are discussed in Kathleen Short, “The Supplemental Poverty Measure: 2013,” *Current Population Reports*, October 2014, [www.census.gov/content/dam/Census/library/publications/2014/demo/p60-251.pdf](http://www.census.gov/content/dam/Census/library/publications/2014/demo/p60-251.pdf).

5. Additional efforts have been made to develop state- or locally specific measures, such as the Wisconsin Poverty Measure; see Yiyoon Chung, Julia B. Isaacs, and Timothy M. Smeeding, “Advancing Poverty Measurement and Policy: Evidence from Wisconsin during the Great Recession,” *Social Service Review* 87, no. 3 (2013): 525–55. However, as Chung et al. state, despite the need for an improved measure for poverty, the “technical difficulties involved, such as the lack of data and techniques needed to identify accurate information about comprehensive needs and resources, make the analysis expensive and impede research on this topic” (526).

**Table 1. Poverty Line Thresholds, 2015**

Number of Persons in Family/Household	Poverty Threshold
1	11,770
2	15,930
3	20,090
4	24,250
5	28,410
6	32,570
7	36,730

Source: U.S. Department of Health and Human Services, "2015 Poverty Guidelines," Sept. 3, 2015, <http://aspe.hhs.gov/2015-poverty-guidelines>.

**Table 2. Income Requirements for Federal Program Eligibility**

Number of Persons in Family/Household	185% of Poverty Threshold (\$)
1	21,774
2	29,470
3	37,166
4	44,862
5	52,558
6	60,254
7	67,950

Source: U.S. Department of Health and Human Services, "2015 Poverty Guidelines," Sept. 3, 2015, <http://aspe.hhs.gov/2015-poverty-guidelines>.

for certain federally funded programs, state or local agencies in North Carolina often refer not to the poverty thresholds but to the federal poverty guidelines, a simplified version of the federal poverty measure produced each year by the U.S. Department of Health and Human Services for administrative purposes. The 2015 poverty line thresholds, according to the 2015 poverty guidelines, are presented in Table 1.

#### ***Census Definition versus Definitions Used for Federal Program Eligibility***

As noted above, the Census Bureau uses the poverty line definition when reporting the statistical levels of poverty in any geographic area, such as cities, counties, and states. However, poverty level is also a criterion for participation in programs targeting the needy. These programs often have eligibility requirements that are higher than the official poverty line but generally are a multiplier of it. A common example is eligibility for the National School Lunch Program (free and reduced price lunch) and related federal programs. Children can participate if they come from a household with an income up to 185 percent of the federal poverty line, as listed in Table 2. The percentage of children in schools who qualify for a free or reduced price lunch is a commonly used measure of childhood poverty in program administration decisions.

Being deemed as poor or needy by the free and reduced price lunch or similar program standards often serves as the criterion for eligibility in other programs: a child who is deemed eligible

for a free or reduced price lunch may automatically be eligible for other assistance. The same logic applies at other levels of program administration. Programs targeting poor communities, such as the Community Development Block Grant program, may base area eligibility on the percentage of children in the school system who qualify for the free and reduced price lunch program.

In other words, the poverty line measure is the fundamental building block upon which most other definitions of poverty and need are based. In turn, the entire conversation around poverty in the United States—trends, programs, who are affected most—is based on how much income is coming into a household.

## **New Perspectives on Understanding Poverty**

### ***Using Income Inequality***

The national conversation as well as academic research on poverty has shifted in recent years to changes in household status across the entire economy, going beyond the traditional question of how many people are poor. Newer research tends to be on economic inequality, that is, the distribution of income and/or relative income growth or decline. It asks where income is concentrated across the economic spectrum and whether people are worse off or better off over time relative to everyone else. In terms of poverty, the focus tends to be on whether people are able to climb out of poverty and, thus, whether the proportion of the population who are poor is decreasing or increasing.

### ***Using Material Deprivation***

One aspect of current academic research is challenging the traditional concept of poverty based on income. The poverty line measure only takes into account the amount of income that is available, not whether that income is sufficient. It does not account for the costs of housing, food, transportation, and so on. Thus, there is a movement within the international community, primarily in Western, developed countries, such as Canada and northern Europe, and in Western-based international organizations, to define poverty as material deprivation.<sup>6</sup> Rather than focusing on available financial resources, material deprivation measures revolve around whether a household can use those resources to meet its basic needs for housing, food, water, and energy. Income-based measures do not take into account that housing, food, and medical care are less expensive in some areas of a state or the country and more expensive in others. Material deprivation measures, by definition, account for differences in the cost of living across geography. The same income may support a family well in one place but subject them to poverty circumstances in another. By paying attention to actual living conditions, some researchers argue, material deprivation measures are more accurate, comparable, and methodologically sound than poverty thresholds.

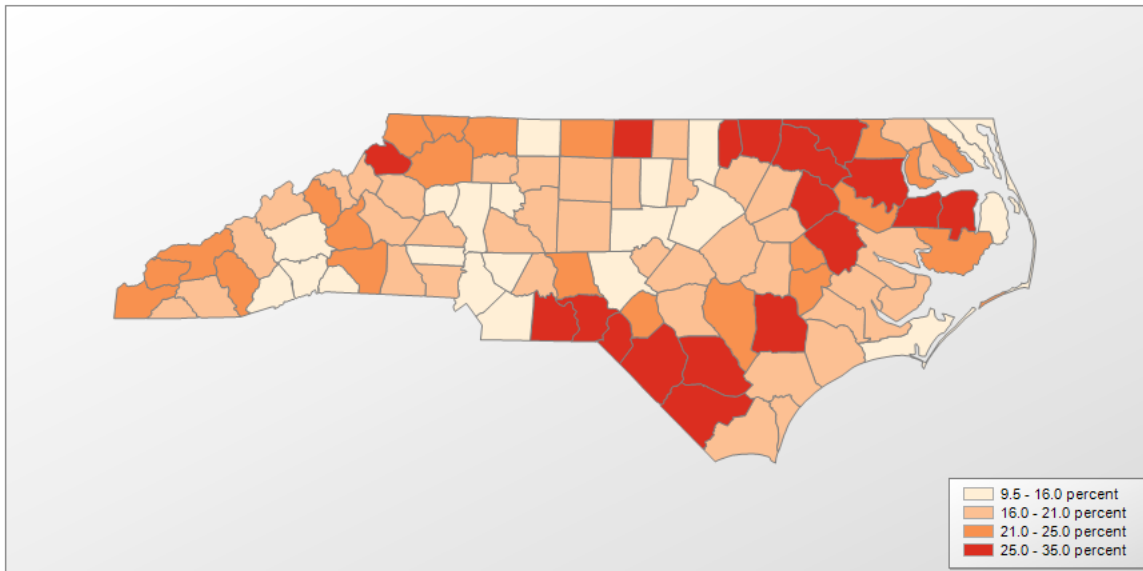
Perhaps the most common measure of poverty from this perspective is food insecurity, which measures whether a household can provide sufficient and predictable amounts of food to maintain an active, healthy life.<sup>7</sup> It is likely that a struggling family will skip meals before allowing the

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6. The most important contributions are probably the chapters included in Douglas J. Besharov and Kenneth A. Couch, eds., *Counting the Poor: New Thinking about European Poverty Measures and Lessons for the United States* (New York: Oxford University Press, 2012), especially the material comparing the idea of viewing poverty through the lens of resources (i.e., income, a U.S.-based conceptualization) and social exclusion (a European-based conceptualization).

7. Also developed, defined, and measured by the USDA. A description of this measure can be found at [www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/definitions-of-food-security.aspx](http://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/definitions-of-food-security.aspx).



**Figure 1. Percentage of N.C. Population Living in Poverty, by County, 2013**

Source: USDA, Economic Research Service, County-Level Data Sets/Poverty, [www.ers.usda.gov/data-products/county-level-data-sets/poverty.aspx#VKLuv7j7DaA](http://www.ers.usda.gov/data-products/county-level-data-sets/poverty.aspx#VKLuv7j7DaA) (accessed Sept. 15, 2015). Original data source: Bureau of the Census, Small Area Income and Poverty Estimates (SAIPE) program, [www.census.gov/did/www/saipe/index.html](http://www.census.gov/did/www/saipe/index.html).

power to be cut off or being evicted from their home. Research around food insecurity and hunger has seen a dramatic increase in the past decade.<sup>8</sup> There has also been a surge in the number of federal programs addressing food insecurity and related public health issues, such as obesity and diabetes.<sup>9</sup>

### What Is the Extent of Poverty in North Carolina according to These Measures?

In comparison to the official national poverty line, which is around 18 percent, North Carolina has a higher portion of its overall population living in poverty than the U.S. average, the lowest percentage being 9.5 percent and the highest percentage being 35 percent. Figure 1 shows the percentages of the N.C. population living in four different poverty ranges according to 2013 census data by county. The state's poverty levels range from around 10 percent in Camden and Union

8. See Judi Bartfeld and Rachel Dunifon, "State-Level Predictors of Food Insecurity among Households with Children," *Journal of Policy Analysis and Management* 25, no. 4 (2006): 921–42; Patricia A. Collins, Elaine M. Power, and Margaret H. Little, "Municipal-level Responses to Household Food Insecurity in Canada: A Call for Critical, Evaluative Research," *Canadian Journal of Public Health* 105, no. 2 (2014): E138–41; and Lynn McIntyre, Aaron C. Bartoo, and J. C. H. Emery, "When Working Is Not Enough: Food Insecurity in the Canadian Labour Force," *Public Health Nutrition* 17, no. 2 (2014): 49–57.

9. See the description of the USDA StrikeForce initiative at [www.usda.gov/wps/portal/usda/usdahome?navid=STRIKE\\_FORCE](http://www.usda.gov/wps/portal/usda/usdahome?navid=STRIKE_FORCE).

counties to 30 percent and higher in Scotland, Halifax, and Robeson counties. There is a clear pattern of high poverty in the eastern rural and western mountain areas of the state. Data for all counties are included in Appendix A.

In addition, a recent analysis by UNC's Center for Urban and Regional Studies using more precise data on distressed communities found that county averages, even those of relatively better off areas, often mask pockets of deep poverty.<sup>10</sup> To be considered severely distressed, census tracts, usually representing an area comprising approximately four thousand people, must meet three criteria: an unemployment rate equal to 14.5 percent, a yearly income that is less than or equal to \$16,921, and a poverty rate of greater than or equal to 24 percent. The most important take-away from the report is that some pockets of urban poverty are deeper than those found in broader rural poor areas. The majority of the ten most distressed neighborhoods in the state are in urban areas and, in rank order, are as follows:

1. the East Kinston area of Kinston,
2. the Lockwood area of Charlotte,
3. the University City South and College Downs areas of Charlotte,
4. the Leonard Avenue area of High Point,
5. the Waughtown and Columbia Heights areas of Winston-Salem,
6. the Grier area of Charlotte,
7. the downtown, Roundtree, and Richardson Square areas of Wilson,
8. the Capitol Drive, Jackson Homes, and Boulevard areas of Charlotte,
9. the Central Raleigh and South Park areas of Raleigh, and
10. the northeast Winston area of Winston-Salem.

Over the past fifteen years, the percentage of individuals living in poverty in North Carolina has risen in fits and starts, as shown in Figure 2. However, the general trend is a rising level of poverty, currently at the highest point since 1982.

Using as a measure of poverty the percentage of children who qualify for a free or reduced price lunch (185% of the federal poverty line), the same pattern emerges but with much higher numbers. Appendix B includes data for all N.C. counties using 2014 data. Figure 3 shows the trend for the state as a whole over time. Given that approximately 56 percent of all public school children are enrolled in the program—a record high—a majority of N.C. children can be documented as living in poor households.

Economic inequality provides a broader perspective because it includes how people are faring across all income groups. A full distribution chart is presented in Appendix C, but as is the case in other states, there is downward pressure in income distribution in North Carolina. In 2005, those making \$100,000 or more made up 12.1 percent of the population, but by 2013, that amount had increased to 17.2 percent (see Figure 4).

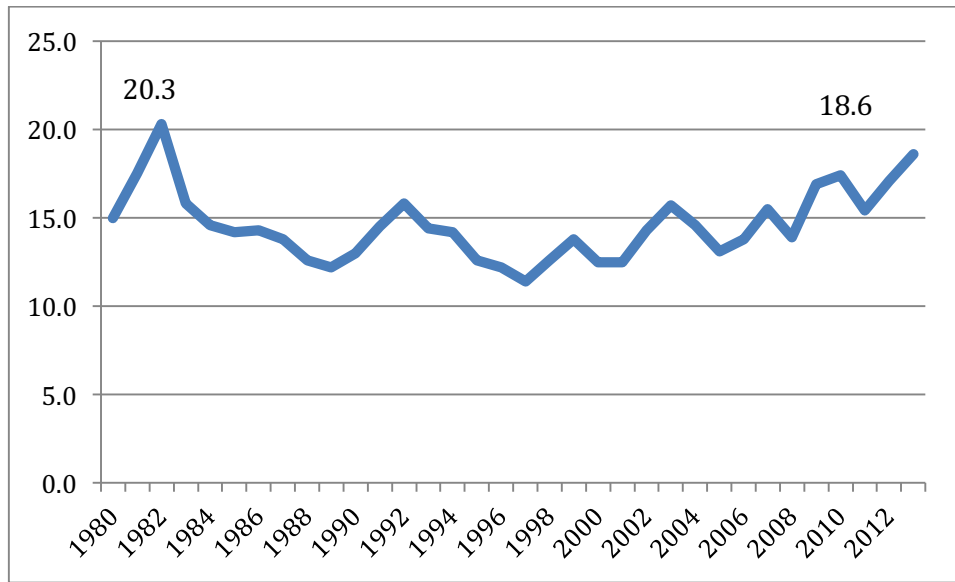
Over the past forty years, income inequality within the state of North Carolina has increased dramatically. In that time period, all but 3 of the state's 100 counties have experienced a growth

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10. William High and Todd Owen, *North Carolina's Distressed Urban Tracts: A View of the State's Economically Disadvantaged Communities* (Chapel Hill: UNC Center for Urban and Regional Studies, February 2014), <http://curs.unc.edu/2014/06/08/curs-releases-north-carolinas-distressed-urban-tracts-view-states-economically-disadvantaged-communities>.

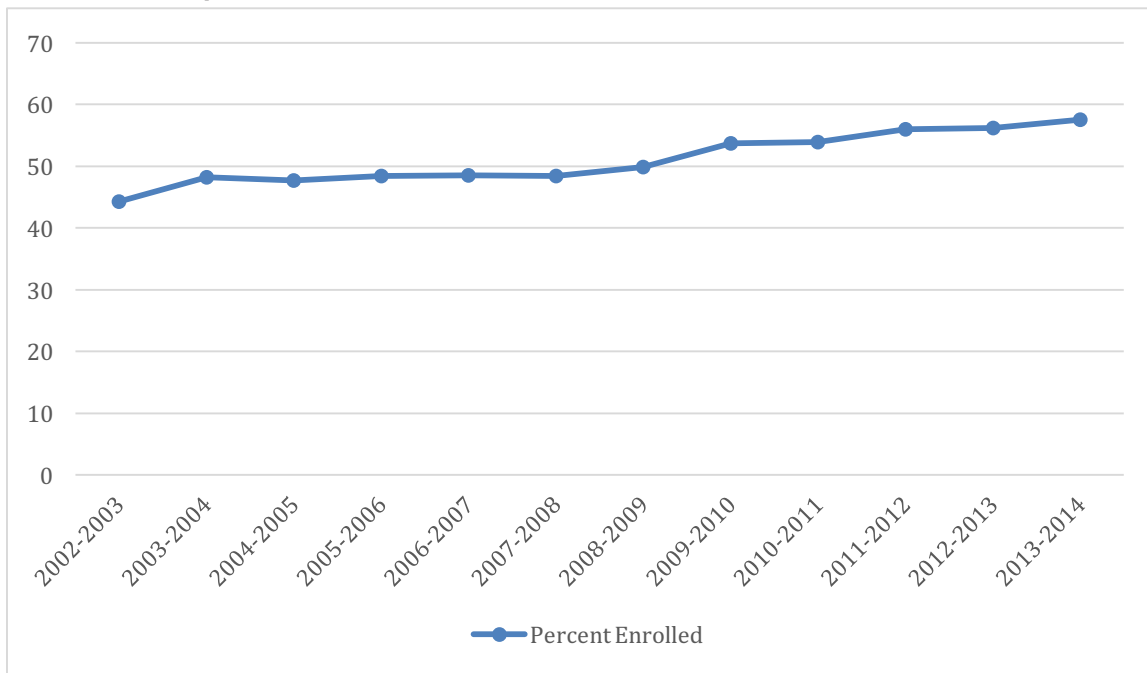


**Figure 2. Percentage of N.C. Population Living in Poverty, 1980–2014**



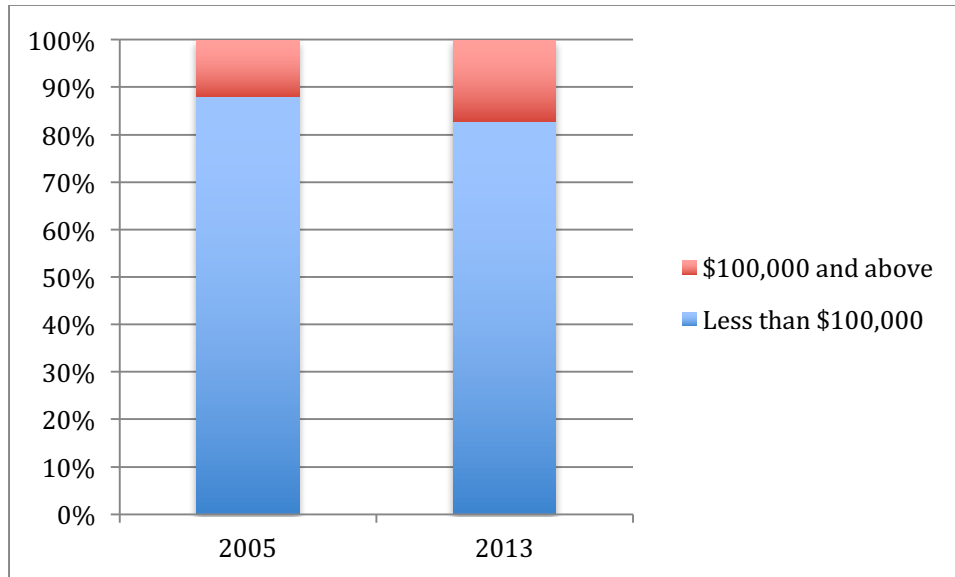
Source: Authors, based on data from Historical Poverty Tables of the U.S. Census—People, [www.census.gov/hhes/www/poverty/data/historical/people.html](http://www.census.gov/hhes/www/poverty/data/historical/people.html) (accessed Sept. 15, 2015).

**Figure 3. Percentage of N.C. Public School Students Enrolled in the National School Lunch Program (free and reduced price lunch), 2002–2014**



Source: Authors, using data from “Percent of Students Enrolled in Free and Reduced Lunch, 2007–2012” (Baltimore, Md.: Kids County Data Center, Annie E. Casey Foundation, last updated February 2012), <http://datacenter.kidscount.org/data/tables/2239-percent-of-students-enrolled-in-free-and-reduced-lunch?loc=35#detailed/2/any/false/1021,909,857,105,118/any/4682> (accessed Sept. 15, 2015). Original data source: North Carolina Department of Public Instruction, Division of Financial and Business Services, “Free & Reduced Meal Application Data,” [www.ncpublicschools.org/fbs/resources/data](http://www.ncpublicschools.org/fbs/resources/data).

**Figure 4. Comparing Proportion of Total Income Shared by Higher Earning Households**



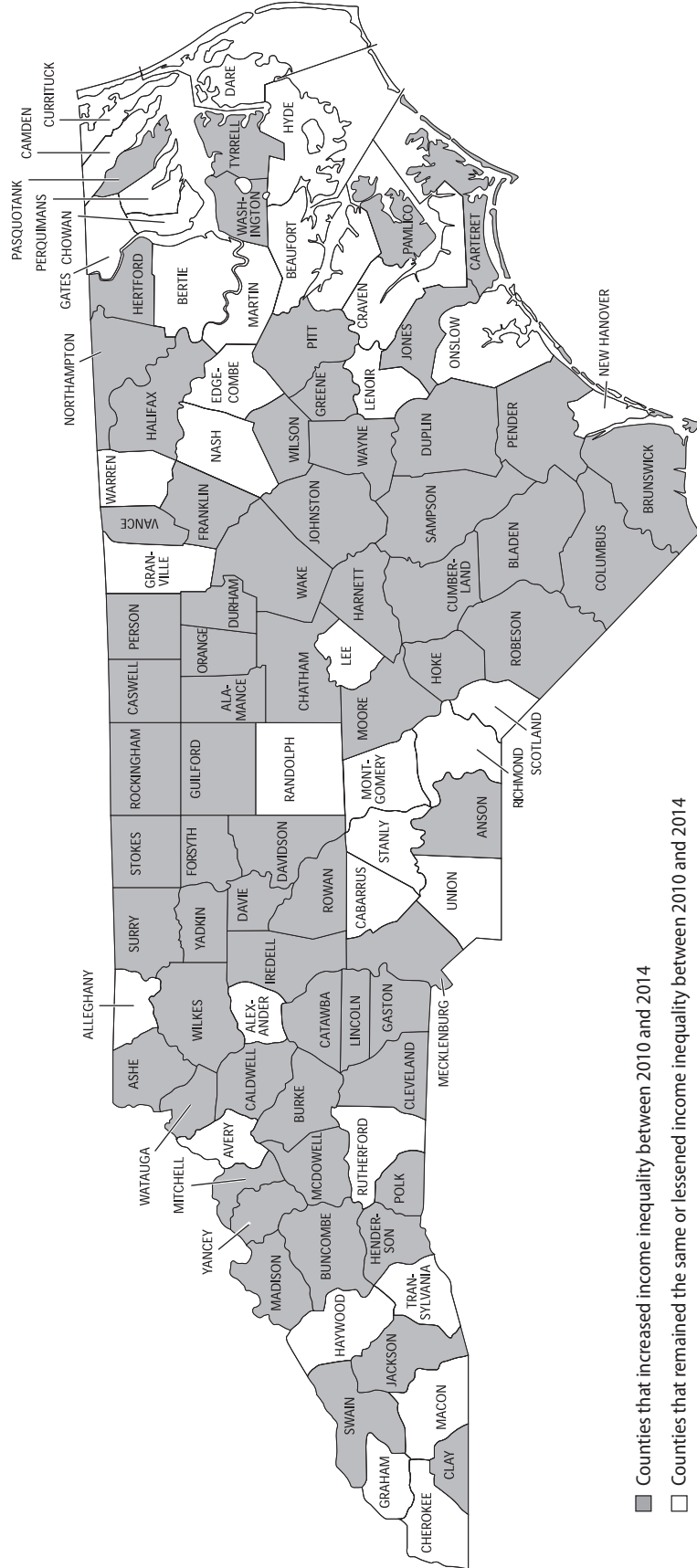
*Source:* Authors, based on data from U.S. Census Bureau—American FactFinder, <http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml> (accessed Sept. 15, 2015).

in income inequality. Most recently, between 2010 and 2014, 65 counties experienced increased income inequality.<sup>11</sup> (See Figure 5.)

Finally, using food insecurity as a measure of poverty, North Carolina is again worse than the United States as a whole, and children are affected more negatively than the general population (see Appendix D and Figure 6). Data from the Food Bank of Central and Eastern North Carolina suggest that households in general have been facing a steadily increasing level of hardship, with more food than ever being received by needy families through its member, nonprofit community food pantries (see Figure 7).

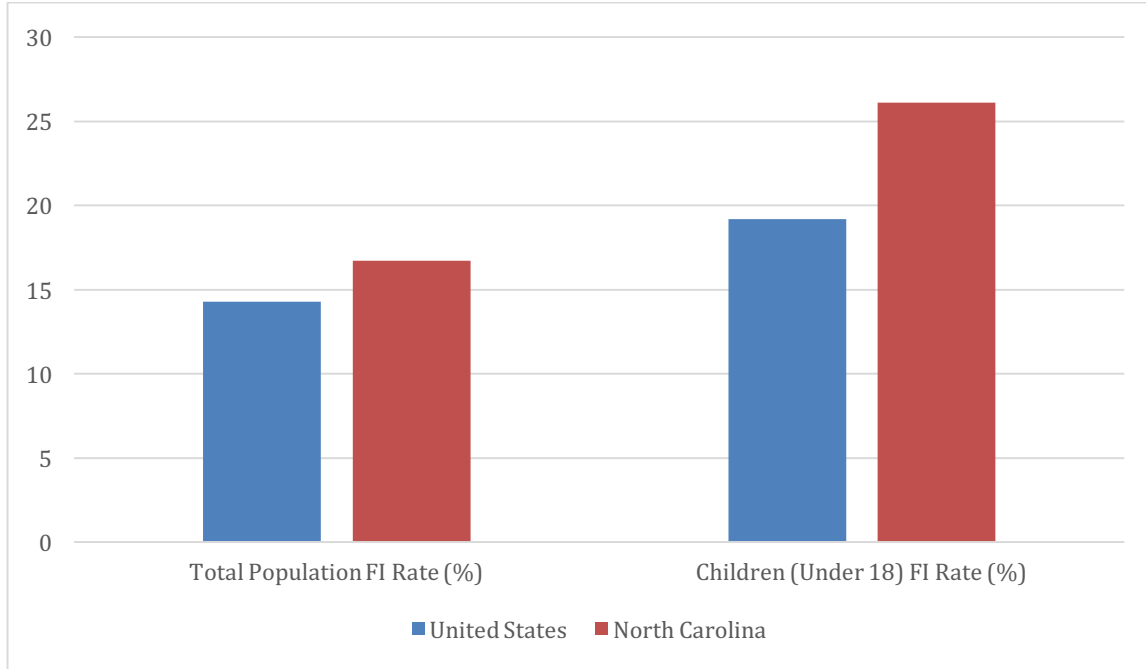
11. Income inequality is measured here using the Gini coefficient from the Census Bureau's American Community Survey of five-year estimates accessed in January 2016. The Gini coefficient is a common measure of the distribution of income across the population. See a full discussion by Daniel H. Weinberg, "U.S. Neighborhood Income Inequality in the 2005–2009 Period," *American Community Survey Reports* No. 16, October 2011, [www.census.gov/prod/2011pubs/acs-16.pdf](http://www.census.gov/prod/2011pubs/acs-16.pdf).

Figure 5. Income Inequality in North Carolina, by County, 2010–2014

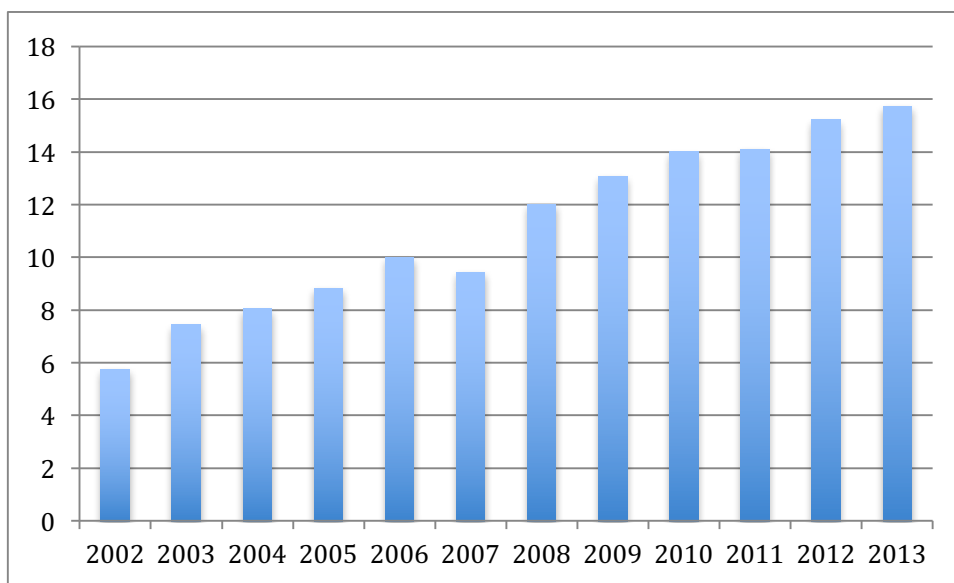


- Counties that increased income inequality between 2010 and 2014
- Counties that remained the same or lessened income inequality between 2010 and 2014

Source: American Community Survey, U.S. Census Bureau, 5-year estimates, data accessed January 18, 2015.

**Figure 6. Percentage of N.C. Population Living with Food Insecurity, 2015**

*Source:* Authors, based on USDA, Economic Research Service, “Food Security in the U.S.,” Key Statistics and Graphics, [www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/key-statistics-graphics.aspx#.UiYOnD\\_8KSp](http://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/key-statistics-graphics.aspx#.UiYOnD_8KSp), and Feeding America, Map the Meal Gap, 2011–2013, <http://map.feedingamerica.org/county/2013/child/north-carolina>.

**Figure 7. Median Pounds of Food per Person Being Distributed by Food Pantry Members of the Food Bank of Central and Eastern North Carolina, 2002–2013**

*Source:* Calculations based on data supplied to the authors in August 2014 by the Food Bank of Central and Eastern North Carolina.

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## Appendix A. Poverty Data Using Traditional Measures for N.C. Counties

Area Name	Percentage of Total Population Living in Poverty	Percentage of Children (0–17) Living in Poverty	Median Household Income (\$)
United States	15.9	22.6	53,046
North Carolina	18.0	25.8	46,334
Alamance County	19.8	27.1	43,043
Alexander County	14.0	22.9	40,637
Alleghany County	21.2	32.6	35,170
Anson County	28.8	37.9	33,870
Ashe County	22.4	33.2	35,951
Avery County	20.4	31.6	36,969
Beaufort County	20.5	32.6	40,429
Bertie County	26.6	36.9	30,768
Bladen County	27.1	37.4	30,164
Brunswick County	16.1	28.1	46,438
Buncombe County	15.7	22.0	44,713
Burke County	20.6	31.1	37,263
Cabarrus County	12.1	17.0	53,551
Caldwell County	18.3	25.4	34,357
Camden County	9.5	13.9	56,607
Carteret County	15.2	24.1	46,534
Caswell County	25.5	33.2	35,315
Catawba County	16.5	24.9	44,332
Chatham County	15.6	21.9	57,091
Cherokee County	22.5	34.3	34,432
Chowan County	22.2	36.1	34,420
Clay County	19.3	32.9	38,828
Cleveland County	19.6	31.0	38,989
Columbus County	25.3	38.3	35,761
Craven County	16.6	26.2	47,141
Cumberland County	18.0	27.4	45,231
Currituck County	11.7	19.1	57,159
Dare County	11.1	19.8	55,481
Davidson County	19.3	28.3	43,083
Davie County	13.9	19.2	50,139
Duplin County	25.4	37.0	34,433
Durham County	17.0	22.4	51,853
Edgecombe County	27.3	45.8	33,960
Forsyth County	20.5	30.4	45,724

**Appendix A. Poverty Data Using Traditional Measures for N.C. Counties (*continued*)**

Area Name	Percentage of Total Population Living in Poverty	Percentage of Children (0–17) Living in Poverty	Median Household Income (\$)
Franklin County	18.4	25.3	41,696
Gaston County	19.2	28.0	42,017
Gates County	18.2	26.5	46,592
Graham County	24.7	35.9	33,903
Granville County	15.3	21.0	49,852
Greene County	23.3	33.9	40,853
Guilford County	19.2	27.4	45,431
Halifax County	31.6	43.5	32,329
Harnett County	18.5	24.3	44,625
Haywood County	20.4	31.1	41,557
Henderson County	15.5	23.9	44,815
Hertford County	24.9	38.1	33,406
Hoke County	23.2	31.9	45,489
Hyde County	22.9	32.5	42,279
Iredell County	12.7	17.6	50,329
Jackson County	24.2	31.7	36,951
Johnston County	16.6	21.6	49,711
Jones County	20.2	34.8	36,213
Lee County	17.9	26.7	44,819
Lenoir County	21.7	34.1	35,770
Lincoln County	14.6	20.8	48,940
McDowell County	21.9	31.3	35,297
Macon County	20.4	33.0	37,892
Madison County	19.9	30.1	38,598
Martin County	22.6	35.9	35,111
Mecklenburg County	15.5	20.5	55,444
Mitchell County	18.3	29.4	37,680
Montgomery County	22.1	33.0	31,830
Moore County	14.3	22.3	49,544
Nash County	16.6	24.1	43,084
New Hanover County	18.9	24.2	49,835
Northampton County	29.0	42.1	31,433
Onslow County	16.9	23.2	45,450
Orange County	15.5	13.4	55,569
Pamlico County	19.0	35.1	43,853
Pasquotank County	21.8	33.9	46,053
Pender County	18.3	25.5	44,524
Perquimans County	20.9	35.1	43,709

**Appendix A. Poverty Data Using Traditional Measures for N.C. Counties (*continued*)**

Area Name	Percentage of Total Population Living in Poverty	Percentage of Children (0–17) Living in Poverty	Median Household Income (\$)
Person County	18.4	25.7	42,317
Pitt County	25.4	31.1	40,718
Polk County	14.7	26.4	44,745
Randolph County	19.8	28.7	41,208
Richmond County	27.3	40.8	32,384
Robeson County	30.7	44.0	29,806
Rockingham County	18.8	29.3	38,567
Rowan County	18.8	27.8	41,495
Rutherford County	23.9	34.4	36,334
Sampson County	21.9	31.2	36,496
Scotland County	34.1	44.1	29,592
Stanly County	17.7	25.6	42,518
Stokes County	14.4	20.7	42,703
Surry County	21.3	31.0	35,641
Swain County	23.2	34.9	36,094
Transylvania County	15.6	29.7	41,781
Tyrrell County	27.2	38.9	34,216
Union County	10.3	14.4	65,892
Vance County	27.3	40.3	34,987
Wake County	10.9	14.5	66,006
Warren County	27.2	39.8	34,285
Washington County	25.5	40.3	34,936
Watauga County	27.3	21.3	34,293
Wayne County	20.8	32.1	41,731
Wilkes County	23.1	31.5	33,159
Wilson County	20.9	33.7	39,204
Yadkin County	18.9	27.1	40,371
Yancey County	21.3	30.8	38,579

Source: USDA, Economic Research Service, County-Level Data Sets, Percent of Total Population in Poverty, 2013, [www.ers.usda.gov/data-products/county-level-data-sets/poverty.aspx#VKLuv7j7Da](http://www.ers.usda.gov/data-products/county-level-data-sets/poverty.aspx#VKLuv7j7Da).  
Original data source: Bureau of the Census, Small Area Income and Poverty Estimates (SAIPE) program, [www.census.gov/did/www/saipe/index.html](http://www.census.gov/did/www/saipe/index.html).

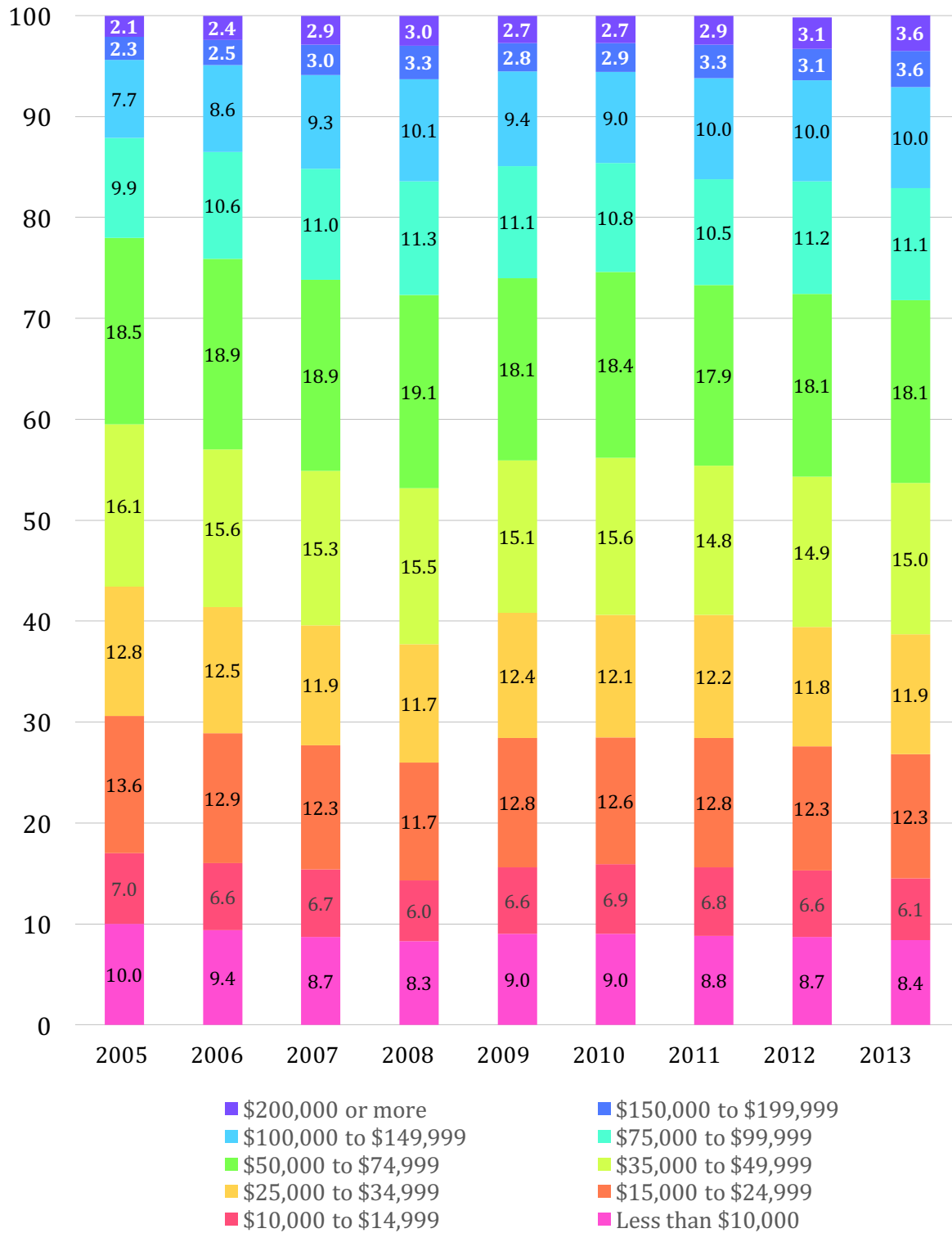
## Appendix B. Poverty Data Using Percentage of Students Enrolled in Free and Reduced Price Lunch for N.C. Counties

County	Students Enrolled in Free and Reduced Lunch (%)	County	Students Enrolled in Free and Reduced Lunch (%)	County	Students Enrolled in Free and Reduced Lunch (%)
North Carolina	56.0				
Alamance County	55.6	Franklin County	61.3	Pamlico County	64.2
Alexander County	54.2	Gaston County	59.9	Pasquotank County	61.7
Alleghany County	63.3	Gates County	58.8	Pender County	63.7
Anson County	79.5	Graham County	63.6	Perquimans County	69.2
Ashe County	75.6	Granville County	51.0	Person County	63.9
Avery County	60.0	Greene County	84.3	Pitt County	61.4
Beaufort County	72.0	Guilford County	58.7	Polk County	64.3
Bertie County	83.7	Halifax County	82.3	Randolph County	58.6
Bladen County	79.1	Harnett County	57.9	Richmond County	75.8
Brunswick County	63.7	Haywood County	54.9	Robeson County	83.8
Buncombe County	55.5	Henderson County	54.9	Rockingham County	60.0
Burke County	63.0	Hertford County	85.0	Rowan County	61.9
Cabarrus County	48.3	Hoke County	69.4	Rutherford County	70.6
Caldwell County	59.7	Hyde County	68.6	Sampson County	73.4
Camden County	76.3	Iredell County	43.0	Scotland County	79.8
Carteret County	45.1	Jackson County	58.2	Stanly County	56.0
Caswell County	69.4	Johnston County	45.9	Stokes County	52.0
Catawba County	54.9	Jones County	91.2	Surry County	62.5
Chatham County	52.0	Lee County	64.4	Swain County	66.8
Cherokee County	69.6	Lenoir County	76.9	Transylvania County	58.8
Chowan County	68.3	Lincoln County	49.5	Tyrrell County	81.2
Clay County	60.8	Macon County	65.2	Union County	36.1
Cleveland County	64.9	Madison County	63.0	Vance County	95.2
Columbus County	75.1	Martin County	73.2	Wake County	38.6
Craven County	58.6	McDowell County	69.9	Warren County	86.5
Cumberland County	51.1	Mecklenburg County	54.0	Washington County	93.3
Currituck County	36.9	Mitchell County	58.9	Watauga County	41.3
Dare County	47.3	Montgomery County	76.5	Wayne County	66.3
Davidson County	54.5	Moore County	45.9	Wilkes County	65.9
Davie County	45.1	Nash County	69.6	Wilson County	64.4
Duplin County	76.3	New Hanover County	51.9	Yadkin County	55.8
Durham County	63.6	Northampton County	98.2	Yancey County	59.6
Edgecombe County	85.0	Onslow County	47.7		
Forsyth County	55.1	Orange County	32.2		

*Source:* “Percent of Students Enrolled in Free and Reduced Lunch, 2011–2012” (Baltimore, Md.: Kids County Data Center, Annie E. Casey Foundation, last updated February 2012), <http://datacenter.kidscount.org/data/tables/2239-percent-of-students-enrolled-in-free-and-reduced-lunch?loc=35#detailed/5/4910-5009/false/1021/any/4682>.

*Original data source:* North Carolina Department of Public Instruction, Division of Financial and Business Services, “Free & Reduced Meal Application Data,” [www.ncpublicschools.org/fbs/resources/data](http://www.ncpublicschools.org/fbs/resources/data).

### Appendix C. Household Income Distribution (adjusted for N.C. inflation rate), 2005–2013



Source: Authors based on data from U.S. Census Bureau, American FactFinder, <http://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?> (accessed Sept. 15, 2015).

## Appendix D. Poverty Data Using Food Insecurity Measures for N.C. Counties

Area Name	Total Population Food Insecurity Rate (%)	Children (under 18) Food Insecurity Rate (%)
United States	15.9	21.6
North Carolina	18.6	26.7
Alamance County	17.1	27.0
Alexander County	15.9	29.1
Alleghany County	16.4	31.8
Anson County	22.7	28.0
Ashe County	16.3	29.9
Avery County	16.8	28.7
Beaufort County	19.2	27.5
Bertie County	24.1	26.9
Bladen County	22.0	29.2
Brunswick County	15.9	27.6
Buncombe County	15.5	25.9
Burke County	16.9	28.6
Cabarrus County	14.7	22.5
Caldwell County	17.2	29.4
Camden County	12.2	20.2
Carteret County	15.0	25.9
Caswell County	19.3	27.7
Catawba County	16.3	27.3
Chatham County	12.6	22.4
Cherokee County	16.0	28.1
Chowan County	21.2	27.7
Clay County	15.7	31.8
Cleveland County	19.0	27.8
Columbus County	21.4	29.9
Craven County	18.1	26.6
Cumberland County	20.5	24.5
Currituck County	12.2	21.5
Dare County	14.9	26.4
Davidson County	15.9	26.8
Davie County	13.4	24.8
Duplin County	18.6	29.1
Durham County	19.1	22.3
Edgecombe County	25.7	28.8
Forsyth County	17.8	25.0



**Appendix D. Poverty Data Using Food Insecurity Measures for N.C. Counties (*continued*)**

Area Name	Total Population Food Insecurity Rate (%)	Children (under 18) Food Insecurity Rate (%)
Franklin County	16.5	23.1
Gaston County	17.6	26.8
Gates County	16.8	23.8
Graham County	18.3	29.9
Granville County	17.2	22.5
Greene County	19.4	27.4
Guilford County	19.3	23.4
Halifax County	25.1	28.1
Harnett County	17.8	25.4
Haywood County	14.3	27.9
Henderson County	13.0	24.7
Hertford County	24.0	24.4
Hoke County	19.1	25.3
Hyde County	20.1	28.1
Iredell County	15.4	24.4
Jackson County	16.3	26.6
Johnston County	15.3	25.0
Jones County	19.3	25.1
Lee County	17.7	27.9
Lenoir County	22.1	27.4
Lincoln County	15.0	27.0
McDowell County	16.9	30.9
Macon County	16.2	30.6
Madison County	15.2	26.9
Martin County	22.3	28.5
Mecklenburg County	18.1	22.3
Mitchell County	16.5	30.1
Montgomery County	19.1	31.4
Moore County	15.3	25.4
Nash County	21.0	25.1
New Hanover County	17.4	24.7
Northampton County	23.7	28.6
Onslow County	17.1	24.4
Orange County	15.6	22.2
Pamlico County	15.7	25.9
Pasquotank County	20.4	24.2
Pender County	17.0	27.1
Perquimans County	17.8	25.3

**Appendix D. Poverty Data Using Food Insecurity Measures for N.C. Counties (*continued*)**

Area Name	Total Population Food Insecurity Rate (%)	Children (under 18) Food Insecurity Rate (%)
Person County	17.8	22.7
Pitt County	21.5	24.1
Polk County	14.2	27.3
Randolph County	15.4	28.0
Richmond County	21.9	29.0
Robeson County	22.8	34.4
Rockingham County	18.1	27.3
Rowan County	17.4	27.3
Rutherford County	19.0	30.6
Sampson County	17.9	26.2
Scotland County	26.4	34.3
Stanly County	15.8	25.3
Stokes County	14.9	27.3
Surry County	15.9	27.9
Swain County	18.1	33.1
Transylvania County	14.8	28.8
Tyrrell County	19.2	30.3
Union County	12.4	21.0
Vance County	24.9	31.2
Wake County	14.9	20.2
Warren County	23.5	24.9
Washington County	23.2	28.7
Watauga County	19.0	26.1
Wayne County	19.6	26.4
Wilkes County	17.3	31.0
Wilson County	22.6	28.4
Yadkin County	14.5	27.9
Yancey County	16.0	31.7

Source: Feeding America, Child Food Insecurity in North Carolina by County in 2012, [www.feedingamerica.org/hunger-in-america/our-research/map-the-meal-gap/2012/nc\\_allcountiescfi\\_2012.pdf](http://www.feedingamerica.org/hunger-in-america/our-research/map-the-meal-gap/2012/nc_allcountiescfi_2012.pdf).