

**STANDARDS OF LIVING IN APPALACHIA,  
1960 TO 2000**

by

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**About This Report**

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The Appalachian Regional Commission is a federal-state partnership that works with the people of Appalachia to create opportunities for self-sustaining economic development and improved quality of life.

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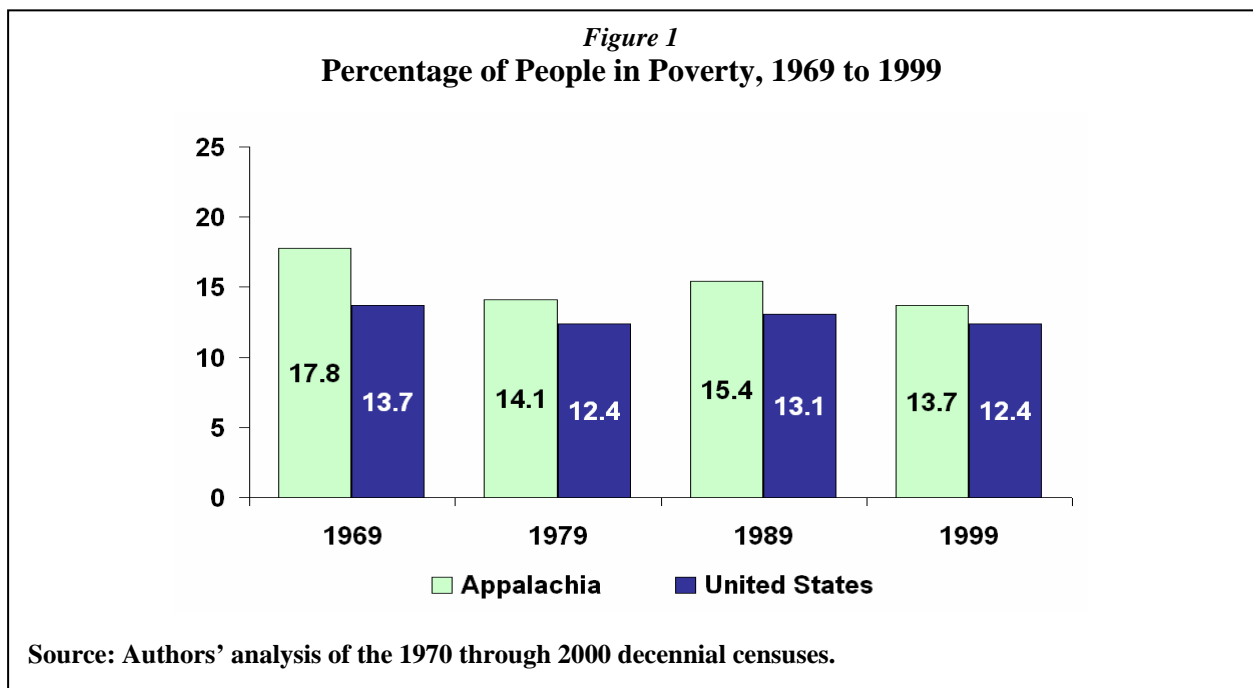
In 1964, President Lyndon Johnson formed the Appalachian Regional Commission (ARC) to study and improve the economic conditions of poor families living in the Appalachian region. In their first report that same year, the ARC concluded that “from the facts on income and joblessness, we can infer that the ‘real’ Appalachian standards of living are below national norms.”<sup>1</sup> Recent research by Sanders and Black have shown that economic conditions in Appalachia have improved considerably since that first report was written.<sup>2</sup> Between 1970 and 2000, the poverty rate in Appalachia dropped from 17.8 percent to 13.7 percent. Average income increased from \$42,000 to \$55,000 (in 2000 dollars). And although men’s labor force participation rate declined slightly during this period (following the national pattern), the labor force participation rate of women in Appalachia increased from 37 percent to 53 percent. Unemployment fluctuated over the period, with the unemployment rate in 2000, at 5.7 percent, higher than the 1970 rate of 4.0 percent.<sup>3</sup>

Undoubtedly, these positive economic trends have led to improvements in the lives of Appalachian families. However, the well-being of families cannot be measured solely by employment and income:

The low income of the people and communities in Appalachia manifests itself in many ways: in dilapidated and crowded housing; a lack of plumbing and clean running water; limited access to public utilities, social services, and medical care; geographic isolation born of poor transportation systems; and inadequately staffed and poorly funded schools.<sup>4</sup>

We address two key questions in this report: First, to what extent have economic gains led to improvements in Appalachian living standards? Using data from the 1960 to 2000 decennial censuses, we measure the extent to which families' standards of living have improved along several key dimensions of consumption and housing.

Second, have Appalachian living standards approached the typical standards for families in the rest of the United States? Poverty rates in Appalachia are still high, particularly in more isolated rural areas, but conditions have improved dramatically relative to national averages (see Figure 1). This economic convergence has been attributed to several factors, including the diffusion of technology to Appalachia's rural communities, significant population losses in the most distressed areas,<sup>5</sup> the economic spillover from adjacent metropolitan areas (especially Atlanta),<sup>6</sup> and 40 years of focused efforts by the Appalachian Regional Commission and state and local governments in the region.<sup>7</sup> In this paper, we compare trends in housing and consumption in Appalachia with trends outside of the region to see if there has been a similar convergence in living standards.



## Data and Methods

This report presents data from the long forms of the 1960 to 2000 decennial censuses. Because this report focuses on historical trends in consumption and housing, we chose to start our analysis with the 1960 Census. The 1960 census data capture the conditions that troubled President Johnson when forming the ARC. Since 1970, the U.S. Census Bureau has tabulated county-level statistics on various measures of housing and consumption and made these data publicly available in electronic form. However there are two barriers to using these files for the present analysis: 1) they do not tabulate the same statistics consistently over time and 2) no such public statistics are available from the 1960 data. For this reason we accessed data from the Census Bureau's internal long-form data files from 1960 to 2000. These data represent 25 percent of all U.S. households in 1960, 20 percent of households in 1970, and 1-in-6 households in 1980 through 2000. All tabulations were done within the Census Bureau using Special Sworn Status and have been cleared for public release through the Census Bureau's Disclosure Review Committee.

Census data allow us to track long-term trends in standards of living across several key dimensions of housing and consumption:

- Homeownership;
- Mobile homes;
- Age structure of housing;
- Housing value;
- Household crowding;
- Plumbing facilities;
- Air conditioning and heating;
- Telephone availability; and
- Number of cars and trucks available.

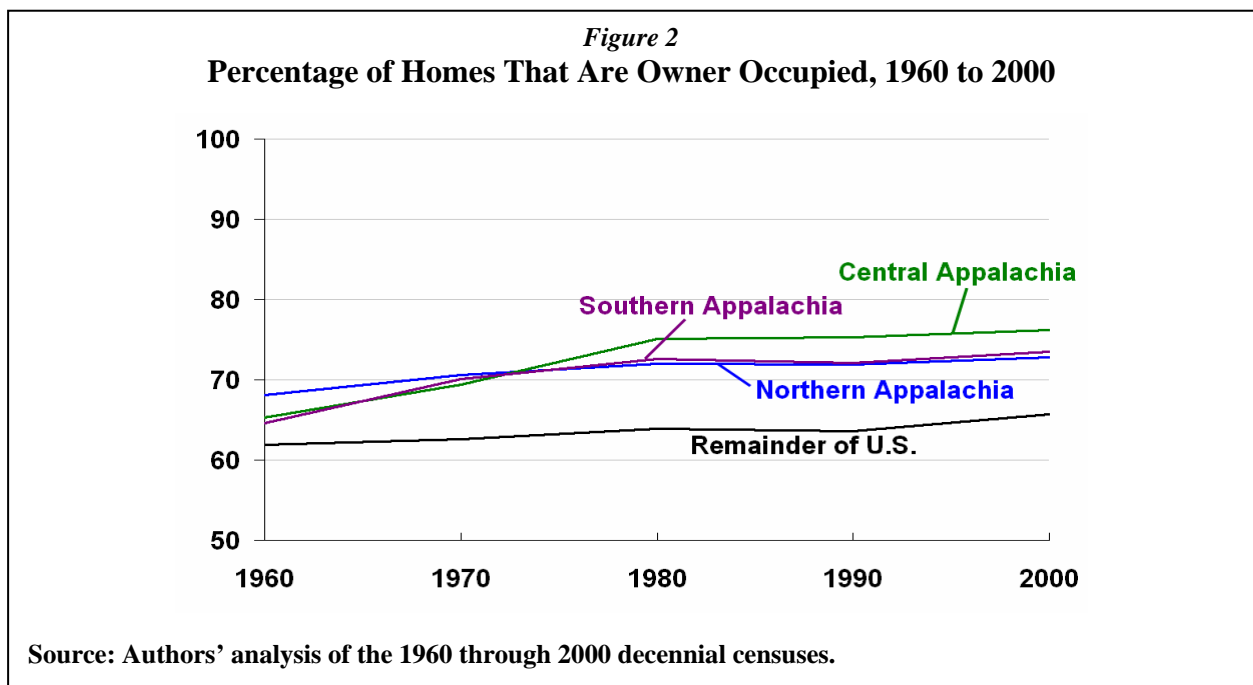
There are other indicators that could be used to track standards of living, such as access to health care, neighborhood characteristics and amenities, and educational standards, but we are limited by the questions asked in the decennial census questionnaires. We also lack information

on Appalachian residents' own assessments of their quality of life, which are based on material well-being as well as health status and safety, emotional well-being, relationships with family and friends, and civic participation.<sup>8</sup>

In this report, we present trends in housing and consumption for the northern, central, and southern subregions of Appalachia,<sup>9</sup> and for the portion of the United States outside of Appalachia.

### Homeownership

Buying a home is one of the most important steps a family can take to improve its standard of living. For most Americans, especially those living in low-income families, a home is the most valuable asset they will ever own.<sup>10</sup> For families, homeownership promotes responsibility and provides a stable living environment. It is a critical source of wealth accumulation and economic security. Children are more likely to thrive in homes that are owned rather than rented.<sup>11</sup> In addition to helping families, homeownership can provide benefits to communities by promoting good citizenship, civic participation, and stable social networks.<sup>12</sup>

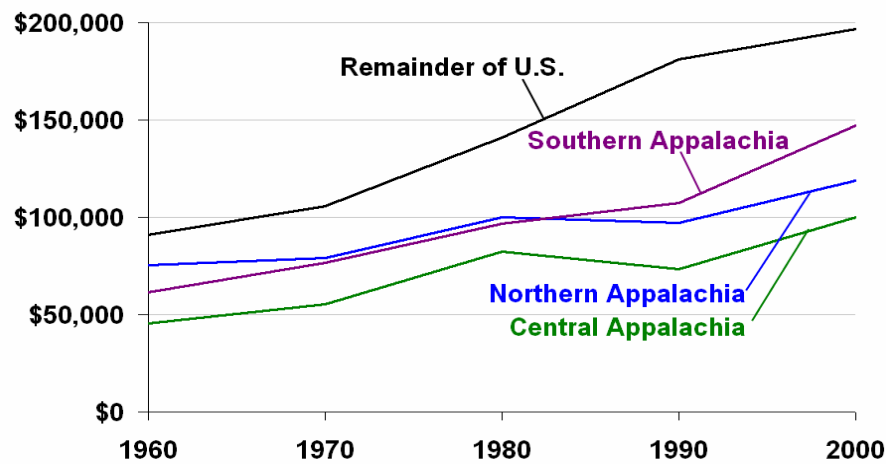


Rates of homeownership in the United States have increased since 1960 and are currently at historic highs (see Figure 2, page 4). Homeownership rates are consistently higher in Appalachia than in the rest of the United States. In 2000, about 73 percent of homes in Appalachia were owner occupied, compared with 66 percent of homes outside of the region. Homeownership rates are highest in rural areas, in part because of the lack of affordable/adequate rental housing in many rural communities.<sup>13</sup> In predominantly rural central Appalachia, for example, 76 percent of homes were owner occupied in 2000.

### **Housing Values**

Part of the reason for higher rates of homeownership in Appalachia is that housing prices are lower there than in the remainder of the United States. Figure 3 (page 6) presents the average price of housing for 1960 through 2000 in current dollars.<sup>14</sup> Over most of the period, the price of housing increased more slowly in Appalachia, especially in northern Appalachia (which includes the city of Pittsburgh) than in the rest of the United States. Within Appalachia, southern Appalachia has had the greatest increase in housing prices, likely reflecting a general shift in the U.S. population to the South. Between 1990 and 2000, prices in southern Appalachia increased more rapidly than in the remainder of the United States. Overall, relative to the non-Appalachian United States, housing in Appalachia remains a bargain, at nearly half the cost found outside the region.

*Figure 3*  
**Housing Values (in 2006 Dollars), 1960 to 2000**



Note: Excludes mobile homes, condominiums and cooperatives, and housing on 10 or more acres of land deemed to be farms.

Source: Authors' analysis of the 1960 through 2000 decennial censuses.

### Mobile Homes

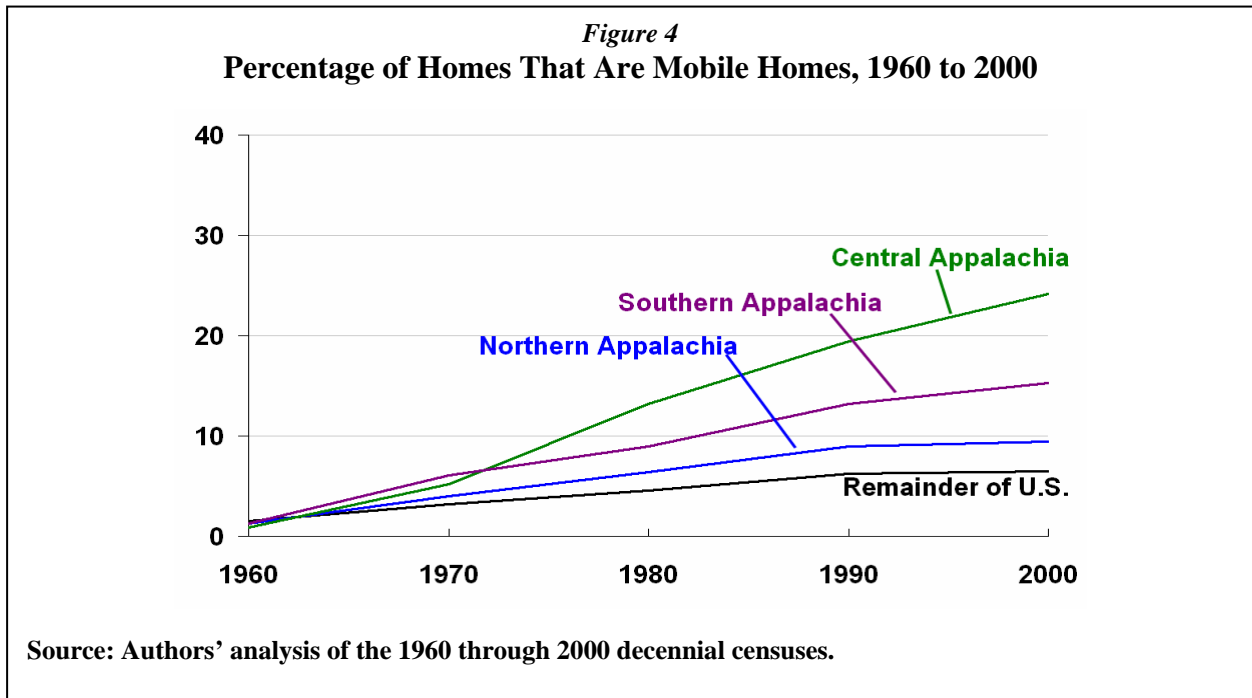
The growing availability of low-cost mobile homes<sup>15</sup> has contributed to the increase in homeownership rates in the United States during the last several decades. Fifty years ago, mobile homes housed mostly low-income families living in “trailer” parks. Today, they are the fastest-growing type of housing in the United States, accounting for one-quarter of new homes.<sup>16</sup> In 2000, mobile homes accounted for about 6 percent of all housing units nationwide, but more than twice that share—14 percent—in Appalachia.

Mobile homes have contributed to the recent improvements in Appalachian living standards. In 1964, the ARC estimated that 27 percent of homes in Appalachia needed major repairs, and 8 percent were so run down that they threatened the health and safety of families.<sup>17</sup> The proportion of dilapidated homes was even higher in rural Appalachia. Because mobile



homes tend to be newer than conventional homes, they are less likely to have structural deficiencies or other major problems. The lower cost of buying and maintaining mobile homes has also made them accessible to many low-income families and first-time home buyers who otherwise could not afford to buy a home. In 2000, the median value of mobile homes nationwide was \$31,200.

Few people owned mobile homes in 1960 (see Figure 4). Mobile home growth accelerated primarily during the 1970s and 1980s, then slowed somewhat during the 1990s.<sup>18</sup> Nevertheless, mobile homes remain an important source of housing for low- and moderate-income families. In 2000, there were 1.4 million mobile homes in Appalachia, accounting for about 14 percent of the region’s housing units. In central Appalachia, nearly one-fourth of all homes were mobile homes in 2000.



Although buying a home is almost always viewed as a positive financial step for low-income families, there are some concerns about the long-term economic benefits of owning a mobile home—especially if the family does not own the land on which their home sits.<sup>19</sup> Mobile

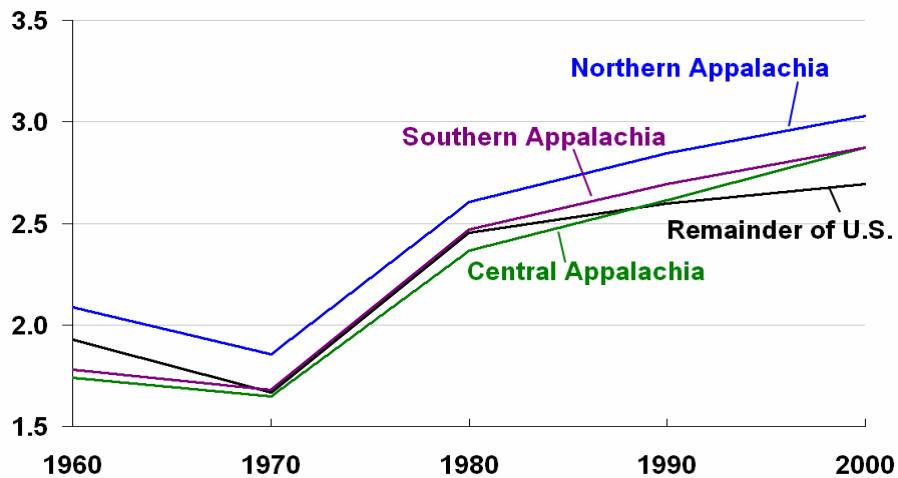
homes also carry a stigma of poverty that can perpetuate negative stereotypes about rural communities and families.<sup>20</sup> But, as we report below, the rise in families living in mobile homes paralleled a fall in several indicators of substandard housing. While mobile homes today may have a negative stereotype, they usually replaced inferior housing.

### **Household Crowding**

Crowding was once considered to be an urban problem, but it is also a problem in many rural communities and small towns, particularly among new immigrant communities.<sup>21</sup> In rural areas, renters are much more likely to experience problems with housing quality, including crowding, compared with those who own homes.<sup>22</sup> Severe overcrowding can lead to health and safety risks, particularly if crowded conditions are combined with physical housing deficiencies.

In general, Appalachia has less crowded housing conditions than the rest of the United States. Between 1960 and 2000, the number of rooms per person increased from 1.9 to 2.9 in Appalachia, indicating a major improvement in the size of homes relative to family size (see Figure 5, page 9). Outside of Appalachia, the number of rooms per person increased at a slightly slower pace, from 1.9 to 2.7. Northern Appalachia has consistently had the least-crowded housing conditions. Nationwide, the decline in household crowding is linked to the gradual increase in the size of new homes as well as long-term declines in average family size.

*Figure 5*  
**Average Number of Rooms Per Person, 1960 to 2000**

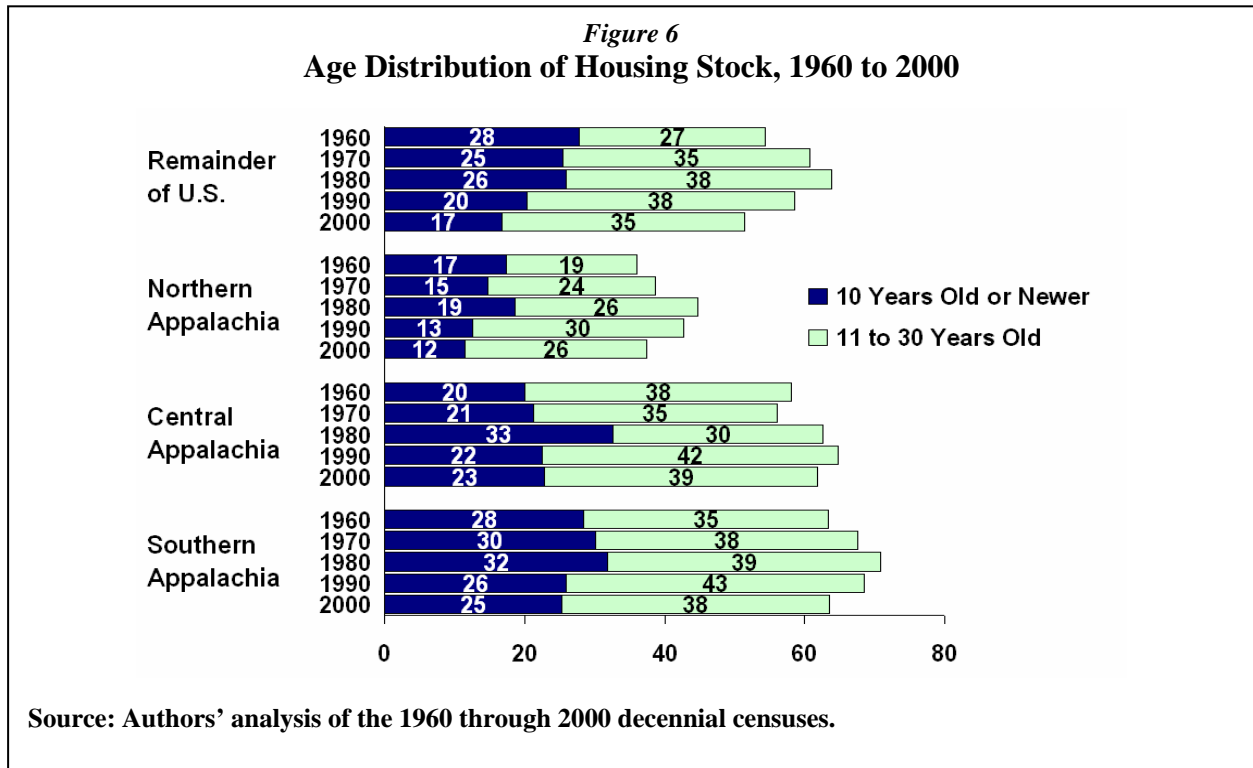


Source: Authors' analysis of the 1960 through 2000 decennial censuses.

### Age of the Housing Stock

There are many measures of the quality of housing. One simple measure is the age of the housing stock. Figure 6 (page 10) shows the share of housing built within the past 10 years and the share that is 11 to 30 years old. In the United States, the percentage of housing that is 10 years old or newer has been declining since 1960. However, the percentage of housing built over the previous 30 years increased until 1980 and then decreased. This reflects the aging of the housing stock, especially the aging of housing built during the post-World War II boom. Northern Appalachia follows the national pattern, although at a lower level. In 1960, about 36 percent of housing in northern Appalachia had been built within the previous 30 years. After rising to 45 percent in 1980, this share fell back to 38 percent by 2000. Outside Appalachia, 52 percent of the housing stock was 30 years old or newer in 2000. In central and southern Appalachia, however, the housing stock generally is not aging. Both central and southern Appalachia had a boom in new construction during the 1970s. In addition, the rate of new

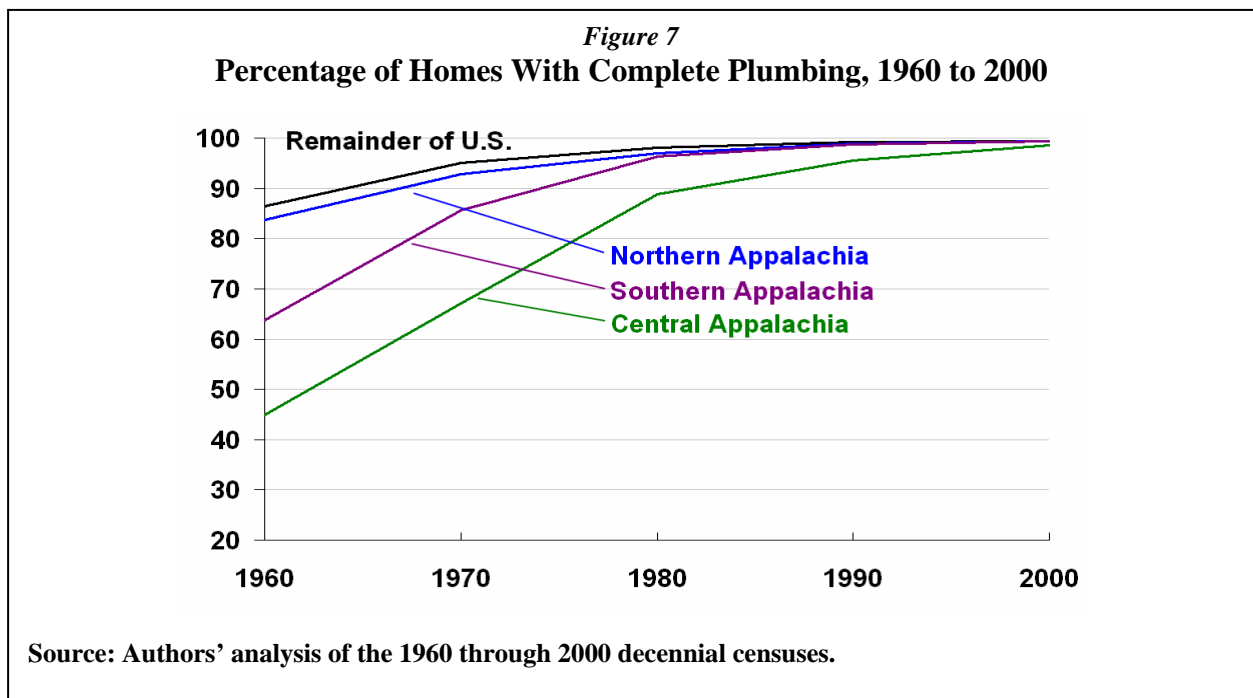
construction continued to be above the rate outside Appalachia throughout the 1980s and 1990s. As newer homes tend to offer greater amenities, the increased share of housing built in the last 30 years is one indication that housing quality in central and southern Appalachia had improved between 1960 and 2000.



### Plumbing Facilities

Historically, Appalachia's plumbing facilities have been inferior to those found in the rest of the United States. In 1964, an estimated one-half of farm homes in the region lacked adequate plumbing.<sup>23</sup> Homes with inadequate plumbing or without access to running water are of particular concern because of the potential health risk to the population—particularly children and older persons.

Census data from 1960 to 2000 confirm that plumbing facilities have improved dramatically in the Appalachian region (see Figure 7). Nearly 100 percent of homes in central and southern Appalachia, which once lagged far behind northern Appalachia and the rest of the United States, now have complete plumbing. It is worth noting that the areas in Appalachia with the fastest rise in mobile homes also had the most dramatic rise in homes with complete plumbing.



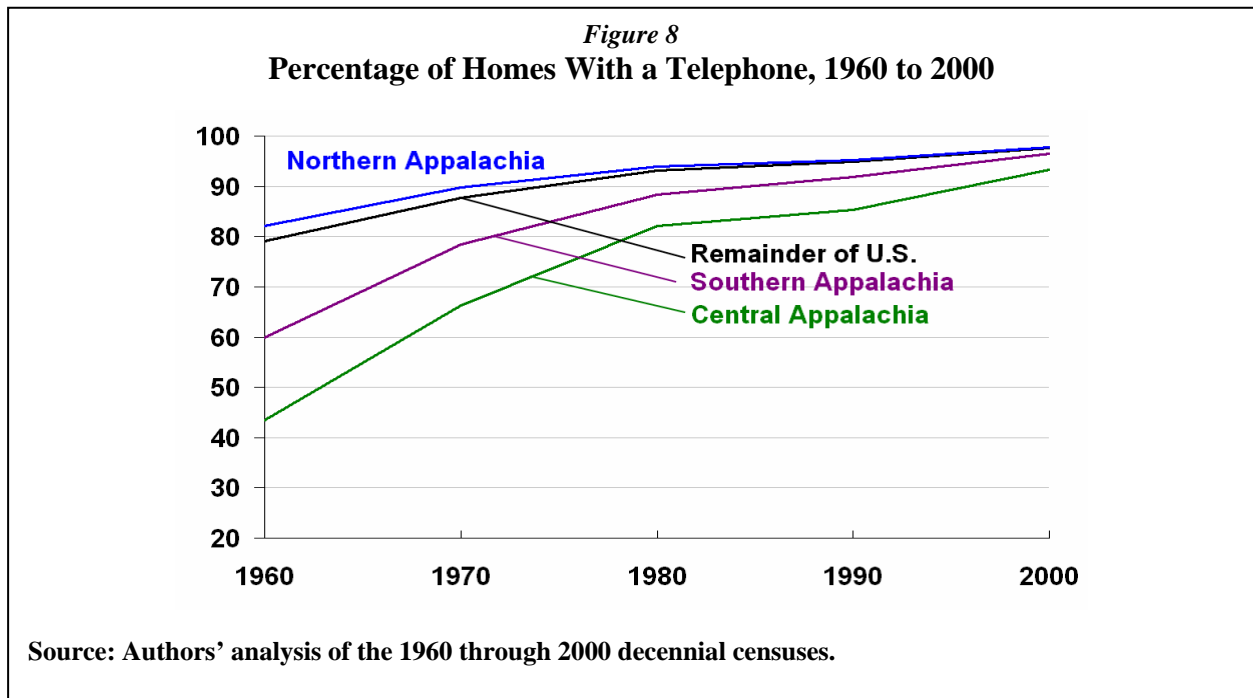
### Telephone Availability

Telephone access is critically important, especially for low-income families, because it puts people in contact with family members, potential job opportunities, and social networks. The lack of telephone access in some areas can also complicate efforts to provide social and medical services to needy families.<sup>24</sup>

Between 1960 and 2000, the proportion of homes with a phone increased in Appalachia and across the United States (see Figure 8, page 12). In 1960, only 71 percent of homes in Appalachia—and only 43 percent of homes in the central subregion—had a telephone. By 2000,

telephone access had increased to 97 percent of homes in Appalachia and 93 percent of homes in central Appalachia. Outside the region, the share of homes with a phone also increased, from 79 percent in 1960 to 98 percent in 2000. Telephone service is still spotty in some rural communities, but overall, Appalachian families have similar access to phones as families living outside of the region.

There is some evidence of a divide in Internet use. While the 2000 Census did not collect information on Internet access in homes, the September 2001 supplement to the Current Population Survey (CPS) did. The CPS is much smaller than the Census and the most detailed geography available is at the state level. It is not possible to calculate statistics for Appalachia specifically. On average, 56 percent of Americans had access to the Internet in their homes, but the states that form Appalachia had Internet access rates at or below that level. For example, the rates in Alabama, West Virginia, and Kentucky were 43 percent, 47 percent, and 50 percent, respectively.



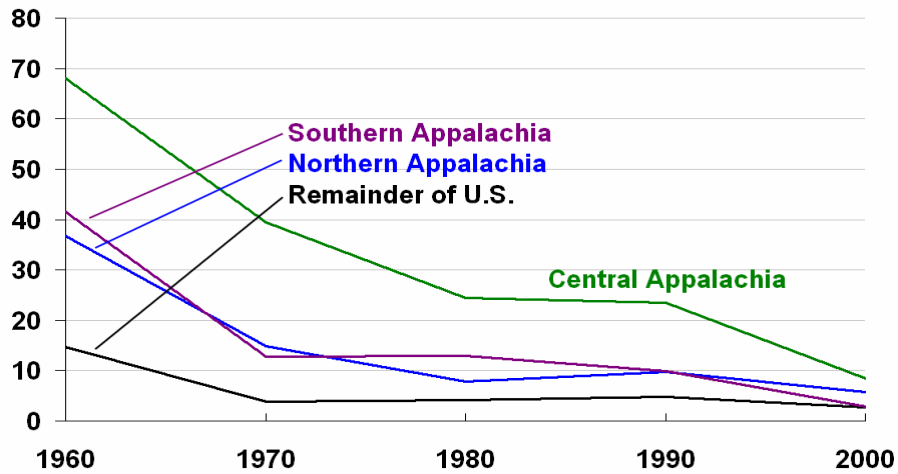
## **Air Conditioning and Heating**

Coal still plays an important role in Appalachia's economy. More than three-quarters of the region's electrical output is derived from coal.<sup>25</sup> For Appalachian households, however, coal is rarely used anymore for home heating purposes. More modern, less polluting fuels—such as propane, oil, natural gas, and electricity—deliver energy more efficiently to homes in the Appalachian region, boosting the comfort level, health, and safety of people living there.

Over the last 40 years, there has been convergence in the types of fuels used to heat homes in Appalachia and the rest of the United States (see Figure 9, page 14). In 1960, 41 percent of Appalachian homes were heated with wood or coal, more than twice the share of homes outside of the region (15 percent). In central Appalachia, more than two-thirds of homes were heated with wood or coal. By 2000, the proportion of homes heated with wood or coal had fallen dramatically, particularly in the central subregion, where there was a 60-percentage-point drop.

There is evidence of similar gains in access to air conditioning, at least through 1980. Between 1960 and 1980, the proportion of Appalachian homes with at least some air conditioning increased from 7 percent to 43 percent. Figures are not available for 1990 and 2000.

*Figure 9*  
**Percentage of Homes Heated With Wood or Coal,\* 1960 to 2000**



\* Includes homes that listed “other” or “none” as fuel source.

Source: Authors’ analysis of the 1960 through 2000 decennial censuses.

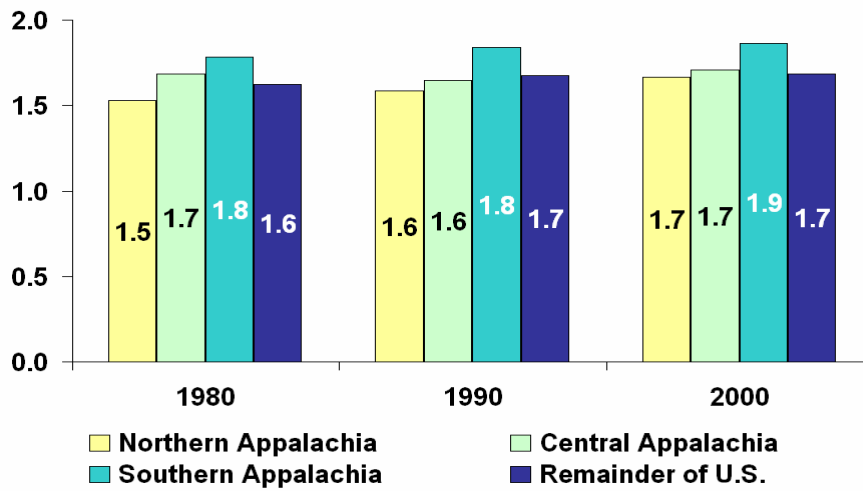
### **Number of Cars and Trucks Available**

Given the lack of public transportation in most Appalachian communities, most families rely on cars and trucks to get to work, drive to school, or to visit the local pharmacy or supermarket. In Appalachia, private vehicles are often the only means of transportation available.

Census data indicate that the average number of cars and trucks per household is roughly equal in Appalachia and in the remainder of the United States (see Figure 10, page 15). Between 1980 and 2000 (data are not available for earlier years), the average number of cars and trucks per household held steady at 1.6 to 1.8 in Appalachia and 1.6 to 1.7 in the United States as a whole.



**Figure 10**  
**Average Number of Cars and Trucks Available, 1980 to 2000**



**Note:** Data on vehicle availability were not collected in the 1960 and 1970 censuses.

**Source:** Authors' analysis of the 1980 through 2000 decennial censuses.

### Conclusion

Several studies have documented improved economic conditions in Appalachia. With the exception of the unemployment rate, indicators show widespread improvement in the economic well-being of Appalachian families. While family earnings have increased since the 1960s, the period between 1970 and 1980 was particularly important for closing the earnings gap between Appalachian families and other American families for two principal reasons. First, a series of housing programs became available over the 1970s that made it possible for low-income workers to finance housing through federal and state programs. Second, the 1970s was a pivotal decade for Appalachia, specifically central Appalachia—a historically poor region that relied heavily on coal mining—because of the OPEC oil embargo that contributed to a global increase in the price of coal.

There were approximately 10 years of relative prosperity in Appalachia fueled by higher coal prices. The results shown here suggest that this period of increased wealth, combined with the more general trend toward economic parity, helped improve the well-being of the population. Appalachian families invested heavily in the single biggest store of wealth for most U.S. families: housing. Homeownership rates rose, but more importantly, the quality of the homes in which Appalachians live improved greatly. In central Appalachia, for example, less than one-half of homes had complete plumbing facilities in 1960. By 2000, nearly all central Appalachian homes had complete plumbing. Similarly, coal and wood, both highly polluting sources of home heating, were the most common home-heating fuels in central Appalachia in 1960. By 2000, they were used as fuel in fewer than 10 percent of homes. And telephone service, which had lagged behind the rest of the United States, became universal. Having said this, access to internet service appears to continue to lag behind in Appalachia.

If there is a lesson in this work, it is that we need to avoid using stereotypes of what constitutes a “good” standard of living and to remember the deplorable conditions that have faced Appalachia historically. While mobile homes, in particular, are the focus of much derision, they replaced housing that was far less habitable. Our view is that the adoption of mobile homes was a rational response to the desire of Appalachian families to improve their standard of living on the basis of their rising but limited incomes.<sup>26</sup>

## NOTES

<sup>1</sup> Appalachian Regional Commission, "Appalachia, A Report by the President's Appalachian Regional Commission (1964)," accessed online at [www.arc.gov/index.do?nodeId=2255](http://www.arc.gov/index.do?nodeId=2255), on Feb. 16, 2007.

<sup>2</sup> Dan A. Black and Seth G. Sanders, "Labor Market Performance and Income Inequality in Appalachia," *Demographic and Socioeconomic Change in Appalachia* (Washington, DC: Population Reference Bureau and Appalachian Regional Commission, 2004), accessed online at <http://arc.gov/index.do?nodeId=2460>, on Feb. 20, 2007.

<sup>3</sup> Black and Sanders, "Labor Market and Income Inequality in Appalachia": 61-63.

<sup>4</sup> Daniel T. Lichter and Lori Ann Campbell, "Changing Patterns of Poverty and Spatial Inequality in Appalachia," *Demographic and Socioeconomic Change in Appalachia* (Washington, DC: Population Reference Bureau and Appalachian Regional Commission, 2005), accessed online at <http://arc.gov/index.do?nodeId=2914>, on Feb. 20, 2007.

<sup>5</sup> Black and Sanders, "Labor Market and Income Inequality in Appalachia."

<sup>6</sup> Appalachian Regional Commission, "Regional Technology Assets and Opportunities: The Geographic Clustering of High-Tech Industry, Science and Innovation in Appalachia (2002)," accessed online at [www.arc.gov/index.do?nodeId=2574](http://www.arc.gov/index.do?nodeId=2574), on Feb. 16, 2007.

<sup>7</sup> Since 1965, the ARC, along with state and local governments in Appalachia, has spent more than \$15 billion on economic and social development programs throughout the Appalachian Region.

<sup>8</sup> Robert A. Cummins, "The Domains of Life Satisfaction: An Attempt to Order Chaos," *Social Indicators Research* 38, no. 3 (1996): 303-28.

<sup>9</sup> Northern Appalachia contains every Appalachian county in New York, Pennsylvania, Maryland, and Ohio, as well as 46 of West Virginia's 55 counties. Central Appalachia includes West Virginia's nine southernmost counties, all of Appalachian Kentucky, the southwestern tip of Virginia, and the northwest part of Tennessee's Appalachian area. Southern Appalachia includes most of the Appalachian portion of Virginia and Tennessee, as well as the entire Appalachian sections of the Carolinas, Georgia, Alabama, and Mississippi.

<sup>10</sup> Housing Assistance Council, *Homeownership as an Asset in Rural America* (2005), accessed online at [www.ruralhome.org/manager/uploads/Homeownership.pdf](http://www.ruralhome.org/manager/uploads/Homeownership.pdf), on Feb. 20, 2007.

<sup>11</sup> Donald R. Haurin, Toby L. Parcel, and R. Jean Haurin, "The Impact of Homeownership on Child Outcomes," Low-Income Homeownership Working Paper Series, 01-14 (Joint Center for Housing Studies of Harvard University, 2001), accessed online at [www.jchs.harvard.edu/publications/homeownership/liho01-14.pdf](http://www.jchs.harvard.edu/publications/homeownership/liho01-14.pdf), on Feb. 20, 2007.

<sup>12</sup> William M. Rohe, Shannon Van Zandt, and George McCarthy, "The Social Benefits of Homeownership: A Critical Assessment of the Research," Low-Income Homeownership Working Paper Series 01-12 (Joint Center for Housing Studies of Harvard University, 2001), accessed online at [www.jchs.harvard.edu/publications/homeownership/liho01-12.pdf](http://www.jchs.harvard.edu/publications/homeownership/liho01-12.pdf), on Feb. 20, 2007.

<sup>13</sup> Housing Assistance Council, *Why Housing Matters: HAC's 2000 Report on the State of the Nation's Rural Housing* (2000), accessed online at [www.ruralhome.org/pubs/hsganalysis/SNRH/why/whyhousingmatters.pdf](http://www.ruralhome.org/pubs/hsganalysis/SNRH/why/whyhousingmatters.pdf), on Feb. 13, 2007.

<sup>14</sup> This includes all owner-occupied homes excluding mobile homes, condominiums and cooperatives and housing on 10 or more acres of land deemed to be farms. In addition, this data field is often imputed by the Census Bureau as the nonresponse rate is high, typically in excess of 50 percent.

<sup>15</sup> We use the term “mobile home” instead of “manufactured housing” to be consistent with Census Bureau terminology. The Census Bureau defines a “mobile home” as any housing unit built in a factory and towed to its site on its own wheels.

<sup>16</sup> Housing Assistance Council (2000), accessed online at [www.ruralhome.org/pubs/hsganalysis/SNRH/why/whyhousingmatters.pdf](http://www.ruralhome.org/pubs/hsganalysis/SNRH/why/whyhousingmatters.pdf), on Feb. 13, 2007.

<sup>17</sup> Appalachian Regional Commission, “Appalachia, A Report”: 13.

<sup>18</sup> U.S. Census Bureau, “Housing: Physical Characteristics,” accessed online at [http://factfinder.census.gov/jsp/saff/SAFFInfo.jsp?\\_pageId=tp13\\_housing\\_physical](http://factfinder.census.gov/jsp/saff/SAFFInfo.jsp?_pageId=tp13_housing_physical), on Feb. 13, 2007.

<sup>19</sup> Consumers Union Southwest Regional Office, “Manufactured Housing Appreciation: Stereotypes and Data (April 2003),” accessed online at [www.consumersunion.org/pdf/mh/Appreciation.pdf](http://www.consumersunion.org/pdf/mh/Appreciation.pdf), on Feb. 13, 2007.

<sup>20</sup> Julia O. Beamish et al., “Not a Trailer Anymore: Perceptions of Manufactured Housing,” *Housing Policy Debate*, 12, no. 2 (2001): 373-92.

<sup>21</sup> Mark Mather, “Housing and Commuting Patterns in Appalachia,” *Demographic and Socioeconomic Change in Appalachia* (Washington, DC: Population Reference Bureau and Appalachian Regional Commission, 2004), accessed online at <http://arc.gov/index.do?nodeId=2086>, on Feb. 20, 2007.

<sup>22</sup> Housing Assistance Council, “Housing in Rural America (2006),” accessed online at [http://216.92.48.246/manager/uploads/HousinginRuralAmerica\\_2.pdf](http://216.92.48.246/manager/uploads/HousinginRuralAmerica_2.pdf).

<sup>23</sup> Appalachian Regional Commission, “Appalachia, A Report”: 13.

<sup>24</sup> William O’Hare, “Disconnected Kids: Children Without a Phone at Home (2001),” accessed online at [www.aecf.org/kidscount/snapshot.pdf](http://www.aecf.org/kidscount/snapshot.pdf), on Feb 20, 2007.

<sup>25</sup> Appalachian Regional Commission, “Energizing Appalachia: A Regional Blueprint for Economic and Energy Development (2006),” accessed online at [www.arc.gov/index.do?nodeId=3118](http://www.arc.gov/index.do?nodeId=3118), on Feb. 15, 2007.

<sup>26</sup> This report relied on internal microdata from the decennial censuses. A reasonable question is what we learned from using this data that we could not have learned from other sources. First, to our knowledge there is no comprehensive electronic file with summary statistics from the 1960 Census that is publicly available. Using the internal census data files allowed us to paint a picture of Appalachia before Lyndon Johnson’s War on Poverty. Second, while public summary statistics are available for 1970 through 2000, changes in the survey instrument as well as which statistics were tabulated for each year make constructing consistent time series problematic.