DOCUMENT RESUME

ED 309 005 RC 017 129

AUTHOR	Tickamyer, Ann R.; Tickamyer, Cecil
TITLE	Poverty in Appalachia. Appalachian Data Bank Report #5.
INSTITUTION	Kentucky Univ., Lexington. Appalachian Center.
SPONS AGENCY	Chessie System, Cleveland, OH.
PUB DATE	Mar 87
NOTE	47p.
AVAILABLE FROM	Appalachian Center, University of Kentucky, 641 S. Limestone, Lexington, KY 40506-0333 ($3.00).
PUB TYPE	Reports - Research/Technical (143) -- Statistical Data (110)
EDRS PRICE	MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS	*Area Studies; *Change Strategies; Demography; Disadvantaged Environment; Economic Development; Elementary Secondary Education; Low Income; Low Income States; *Poverty; *Poverty Areas; Poverty Programs; Social Change; Social Isolation; Social Services; *Unemployment
IDENTIFIERS	*Appalachia

ABSTRACT

This report examines the causes and effects of Appalachian poverty, focusing on education, unemployment, social services, and economic development. The data in the report were extracted from the 1980 U.S. Census. Although there has been a steady decline in Appalachian poverty rates since the landmark 1964 declaration of a War on Poverty, statistics show the picture of a region that remains much poorer than the rest of the nation. In 1980, prior to a major recession, the Central Appalachian Subregion had a poverty rate that was nearly double the national average. High numbers of people live just above the poverty line and are thus highly vulnerable to economic disruption. Some improvements can be attributed to expanded public spending, but persistent poverty rates reflect a continuously isolated, inaccessible, undiversified, and dependent economy. In such conditions, there is little incentive for individual effort toward advancement. Education, for example, offers little reward in an area with few jobs. The persistence of poverty indicates the need for programs whose intervention strategies are designed to target isolated rural economies and their vulnerable populations. Programs of the past have sometimes enjoyed limited success and, in other instances, have failed spectacularly. This report concludes that, if the future is to learn from the past, rural economic strategies should be based on a realistic appreciation of the needs and abilities of rural residents. In the meantime, the costs of failure to find solutions to poverty remain high for individuals and their communities. This report includes a section on the measurement of poverty with an emphasis on the Orshansky method. Ten charts and graphs offer detailed demographic information. (TES)

POVERTY IN APPALACHIA

Appalachian Data Bank Report #5

March 1987

A PUBLICATION OF

THE APPALACHIAN CEN

UNIVERSITY OF KENTUCKY

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This report was produced at the Appalachian Center, University of Kentucky, as a part of the Appalachian Data Bank, a project supported by a grant from the Chessie System. For further information about the Data Bank or the Appalachian Center, contact Dr. Ronald D Eller, Director, The Appalachian Center, 641 S. Lime, University of Kentucky, Lexington, Kentucky 40506-0333, or telephone (606) 257-4852.

HIGHLIGHTS

* Even though poverty rates all over the nation, including Appalachia, have been declining since 1960, the poverty rate in Central Appalachia is still nearly twice the national average.

* In addition to high numbers of people living below the poverty line, Central Appalachia, like the rest of the country, has large and growing numbers of people living just above the poverty line (the near-poor) and thus highly vulnerable to any disruption in their economic lives.

* Based on 1980 figures, rural counties in the Central Appalachian region experience much higher poverty rates when compared to national figures. 22.7% of all people, and 19.2% of all families, living in the Central Appalachian region were living in poverty, compared to 12.4% and 9.6%, respectively, for the rest of the country.

* Many nationally vulnerable populations such as female headed households, blacks, and single persons are at even higher risk for poverty in Central Appalachia even though they are proportionately underrepresented. However, because of this underrepresentation, their presence cannot be used to explain the region's high poverty rates.

* The sources of poverty in the region are extremely complex, but are influenced by the interplay of three major factors:

  --lack of employment opportunity in weak, single industry labor markets;

  --an underskilled, educationally disadvantaged work force;

  --historical and cultural factors related to economic, political, and social development.

This report on poverty in Appalachia is a product of the APPALACHIAN DATA BANK, a project of the Appalachian Center at the University of Kentucky. The purpose of the Appalachian Data Bank is to collect and disseminate information on education, unemployment, social services and economic development in the Central Appalachian region. This report is the fifth in a series to be produced by the Data Bank. The data in this report have been extracted from the 1980 U.S. Census.

INTRODUCTION

On April 24, 1964, following a decade of civil rights organizing in poor black communities in the deep South and the discovery of white poverty in Appalachia, President Lyndon B. Johnson declared a War on Poverty, from a front porch in Inez, Kentucky. There was an immediate increase in the number and scope of programs intended to benefit the least fortunate segments of American society, ultimately to remove barriers to their full participation in the mainstream of American social and economic life. Many of these programs continued to expand for the next 15 years. During this period the official poverty rate dropped from 22.1% in 1960 to 13.7% in 1970, inching downward to 12.4% in 1980 (see Figure 1).

This improvement was even more dramatic in Appalachia. For example, in the Central Appalachian Subregion defined by the Appalachian Regional Commission -- roughly, the coal-mining counties extending from southern West Virginia to the Cumberland Plateau of Tennessee (see Figure 2) -- the poverty rate declined from an astonishing 54.1% in 1960 to 34.7% in 1970, to 22.7% in 1980.

But in spite of the obvious effectiveness of antipoverty programs, the War was not won. Poverty rates remain unacceptably high, and the risk of poverty is much greater for some regions and population groups than others. The "success story" in Central Appalachia is only that the region has caught up with the nation of twenty years before. Moreover, these improvements occurred during a period of economic growth, which boosted

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We wish to thank Jane Bagby, Dwight Billings, Claire Carpenter, and Ron Eller for their many helpful comments and suggestions regarding both the style and content of this report.

the effectiveness of the programs. In particular, the high-paying but volatile Appalachian mining industry was in an expanding phase.

More recent events have conspired to halt progress, or even reverse it. The deep recession and weak recovery of the 1980s have been disastrous for low-income families, who also faced cutbacks in antipoverty programs. Higher social security taxes as well as increasingly prevalent local payroll taxes have their greatest impact on the working poor. To add insult to injury, even income taxes now reach somewhat below the poverty threshold.

These events underscore the primary role of antipoverty programs as a minimal safety net, reducing the extent of official poverty but swelling the ranks of the near-poor. These people remain vulnerable not only to economic slumps but also to many other more common disruptions of their economic lives, events such as job loss and program ineligibility which occur regularly even when the mainstream economy is strong. For the persistence of poverty, whether in a region or in a population group, is not primarily a matter of individual families remaining permanently destitute. Rather, the near-poor suffer recurring episodes of temporary poverty, a condition only slightly less damaging.

The greatest success of the safety net has been the reduction in poverty among the elderly. Benefits for this group have been somewhat better, because policy-makers do not assume that the elderly can bootstrap themselves up to a comfortable standard of living through employment in the local economy. Younger persons are expected to make it on their own, once the safety net tides them over their difficult times.

Unfortunately, the local economy has not come through for many Americans. Economists now regard a 7% labor force unemployment rate as "full employment", about double the common understanding of twenty years ago. New jobs have been created predominantly in the service, retail, and light manufacturing sectors, offering low pay and negligible opportunity for advancement. Rural areas have failed to diversify their local economies, continuing to depend heavily on agriculture and extractive industries, which are currently in the bust phase of their boom-and-bust cycles.

This report will examine the prevalence and sources of poverty and near-poverty in the Appalachian counties of the five state region of Kentucky, West Virginia, Virginia, North Carolina, and Tennessee. The designation of Appalachian counties by the Appalachian Regional Commission (ARC) is used throughout. Attention will focus on the Central Appalachian Subregion defined by the ARC; mention of the Northern and Southern Subregions refers only to the portions of those regions within the five state area.

The statistics presented here are from the county-level summary data of the 1980 Census, which is based on 1979 income information. More recent estimates of poverty rates, documenting the increase in poverty since 1980, are available for the entire nation and for very broad census regions such as the South, but the county estimates necessary for an analysis of Appalachian poverty are not available.

POVERTY IN APPALACHIA

In the 1980 Census, 9.6% of American families had incomes below the poverty threshold. This threshold depends on family size, since larger families need more money to get by. Because of the much greater incidence of poverty in large families, 10.6% of persons living in families were classified as poor. In addition to these family members, there is a relatively small number of people living either alone or with others to whom they are not related; 25.1% of these unrelated individuals were classified as poor. Combining the family and nonfamily populations produces the official poverty rates of 12.4% of persons. These rates provide a basis for comparison with others reported below. They also serve to emphasize that one needs to be quite clear about the universe implicit in any poverty statistic -- whether it refers to all persons whose poverty status is determined, to all families, or to some subset of these. (See the Technical Note following the Conclusion of this report for more information on the determination of poverty status.)

The five state region consisting of Kentucky, West Virginia, Virginia, North Carolina, and Tennessee experienced slightly higher poverty rates. Here 14.9% of persons, and 11.8% of families, were poor in 1980.

Within these five states, poverty was still more prevalent in the ARC-designated Appalachian counties. The official poverty rate in 1980 was 17.0%, and 13.7% of families had incomes below the appropriate poverty threshold.

Even the non-Appalachian counties of these states had poverty rates slightly above the national rates (13.9% of persons, 10.9% of families). Part of the explanation lies in the fact that these states have a more rural population than the rest of the country, for rural areas have a somewhat greater incidence of poverty. In order to expose the frequency of poverty in these states, and especially in mostly rural Appalachia, it is necessary to exclude the diluting effect of lower metropolitan poverty rates.

Consequently, the remainder of this report will confine attention to the nonmetro counties of the five state region, with the exception of national statistics occasionally quoted for comparison.

Nonmetro Poverty: Poverty rates do indeed jump when metro counties are excluded (see Figure 3). In non-Appalachian nonmetro counties, 16.8% of persons and 13.2% of families were poor. And in nonmetro Appalachia the corresponding rates were 19.1% and 15.6%. These rates approach those which shocked the nation in the 1960s, and there is reason to suspect that these are underestimates.

But this is not yet the full story. The incidence of poverty is not uniformly distributed even within the nonmetro Appalachian portion of these five states. The Great Valley of Tennessee and Virginia, with many prosperous farms and easy access to Knoxville, Johnson City, and Roanoke, enjoyed relatively low frequency of poverty by rural standards, though still slightly above the national rate. The counties on the eastern and western edges of the region are not easy to distinguish from their non-Appalachian counterparts. The southern Blue Ridge was already rapidly developing as a vacation and retirement center, with poverty rates slightly below the regional average in spite of extreme poverty in and near the Cherokee reservation. Even the northern half of West Virginia, whose significant mining activity complements a fairly diverse rural economy including a small vacation and retirement boom, had a lower incidence of poverty than the regional average. These areas did not have low poverty rates -- all were above the 13.2% poverty rate for the nation's rural population. But all were below the regional average.

To account for high regional poverty, all that remains is the core of the Central Appalachian Subregion, counties either dominated by the mining industry or with little local economy at all. Poverty was still more prevalent in these counties in 1980 than national policy was willing to accept twenty years ago. In the nonmetro counties of the Central Appalachian Subregion, the official 1980 poverty rate was 23.6%. Almost one out of every five families lived in poverty. Even including the region's relatively prosperous counties in the Huntington-Ashland-Charleston corridor only reduces the official poverty rate to 22.7%.

Two decades have certainly brought improvements to Central Appalachia, where more than half the population was poor in 1960. Nevertheless, poverty remains endemic in the Central Appalachian Subregion, the area most closely identified by residents and nonresidents alike as the core of the Appalachian region.

Near-Poverty: Besides the 12.4% of the population with incomes below poverty level, an additional 4.6% of the U.S. population had incomes above poverty level but less than 1.25 times that level. According to this criterion, another 3.8% of families were also near-poor. Thus, combining the poverty and near-poverty statistics, a cumulative 17.0% of persons, and 13.4% of families, had incomes whose ratio to poverty level was less than 1.25. These cumulative rates indicate just how much the prevalence of true need might be underestimated by the official poverty rates, which are highly sensitive to the somewhat arbitrary official poverty thresholds. Together with cumulative rates corresponding to still higher income ratios, they also provide an estimate of the prevalence of true near-poverty, those barely adequate but precarious economic situations which fuel cycles of recurrent episodes of poverty.

Near-poverty was also more prevalent in nonmetro Central Appalachia than in the rest of the five state region, and much more prevalent than in the rest of the country (see Figure 4). Here 7.2% of persons were near-poor, according to the above criterion of having income ratios between 1.0 and 1.25. Adding in the poor population, 30.8% of persons in nonmetro Central Appalachia had low income ratios (below 1.25). For families the corresponding frequency of low income ratio was 26.8%

The frequency of low income ratio in the rest of the five state region is about halfway between the high rate in Central Appalachia and the lower national average. In the nonmetro non-Appalachian counties, 23.3% of persons and 19.1% of families had low income ratios. In the nonmetro counties of the Northern Appalachian Subregion within these five states, 22.7% of persons and 18.4% of families had low income ratios. And in the nonmetro counties of the Southern Appalachian Subregion in the five states, 22.0% of persons and 18.5% of families had low income ratios. Although there is considerable variation within them, these regions are overall rather similar to each other, and different from Central Appalachia, with respect to the prevalence of poverty and low income ratios. However, their near-poverty rates are much closer to that of Central Appalachia.

Almost one person out of four in Central Appalachia is classified as poor, nearly one in three as either poor or near-poor. Both poverty and near-poverty are so prevalent in this region that its cycle of poverty is unlikely to be broken without continued external assistance.

VULNERABLE POPULATIONS

High regional poverty may be due either to overrepresentation of groups known to be especially vulnerable to poverty or to elevation of poverty rates for all groups, or to a combination of both effects. This is because a regional poverty rate is the weighted average of the rates of its constituent population groups.

It has already been noted, for example, that the lower poverty rates of many densely populated metropolitan areas can mask the extent of poverty in regions which include them. Similarly, a region including a larger rural population is likely to experience higher poverty rates. Even nonmetro counties vary quite a bit in the size of their rural populations. The nonmetro Appalachian counties of the five state region are 77.6% rural, compared with 66.8% rural for their non-Appalachian counterparts. The nonmetro Central Appalachian Subregion, with its widely separated small towns set in a rugged terrain, is 81.7% rural.

This rural effect, while significant, is rather small. It is not enough alone to account for poverty rates much above the national average (see Figure 5). The effect of membership in a vulnerable population group is much larger.

Outside of Central Appalachia, the poorest counties in the U.S. can be described broadly as those of the deep South with large rural black populations, some border counties with many Hispanics, and others scattered around the country containing Indian reservations. Besides these at-risk racial and ethnic groups, there are several other vulnerable population groups which have a similarly increased risk of poverty but which never occur in such extreme regional concentrations. Female-headed families suffer an increased risk of poverty comparable to that of racial and ethnic minorities. Unrelated individuals, not living in a family situation, face a similar danger. The "double stigma" of belonging to two of these vulnerable groups approximately doubles the risk of poverty.

In addition to these especially vulnerable population groups, the dependent economic situation of both children and the elderly suggests that these age-groups might also tend to have high poverty rates. Whether this actually happens will be determined by how well their needs are met by those upon whom they are dependent. The elderly are now the beneficiaries of public programs which have reduced dramatically their poverty rate, although many remain near-poor. Children, on the other hand, remain dependent on their family situations and benefit only indirectly from current public programs.

None of these high-risk groups is greatly overrepresented in nonmetro Central Appalachia, and some have unusually small populations. Blacks, for example, comprise 11.7% of the U.S. population but only 2.4% of Central Appalachia. The elderly are represented at their national frequency of 11.2%. Children are a slightly larger component of the Central Appalachian population -- 27.4% compared with 24.4% nationally. Nonfamily persons are 12.4% nationally but just 8.5% in this Subregion. Families with a female head and no husband present account for 13.9% of all families nationally but only 11.5% in Central Appalachia. More significantly, 16.2% of all American families with children have a female head with no husband present, but in Central Appalachia the figure is just 10.5%.

Thus poverty in nonmetro Central Appalachia cannot be explained by concentrations of high-risk groups who pull up the [illegible] the weight of their numbers. Instead, poverty rates are greatly elevated for nearly all groups, including most of the high-risk groups. For example, 28.6% of Central Appalachian children were poor, compared with 16.0% nationally. Only 8.8% of elderly American families were poor, but in Central Appalachia the rate was 22.3%. And 52.7% of female-headed families with children were poor (see Figure 6).

Blacks <u>may</u> be an exception. In West Virginia -- which includes both metro and nonmetro counties as well as counties in both the Northern and Central Appalachian Subregions -- the black poverty rate is 27.0%, slightly less than the national rate of 29.9% but still quite high. Unfortunately, the black poverty rate for Appalachia and its Subregions cannot be determined from public data, because Census confidentiality requirements prevent the reporting of the tiny black population in many small Appalachian counties.

The recognition that poverty rates for white married-couple families in Central Appalachia are very high should not overshadow the importance of high-risk groups in the region. Poverty rates for these high-risk groups are even higher, and although their numbers are proportionately smaller than in other parts of the counry, taken together they account for many people in the region. Programs which do not take into account their particular vulnerability are not likely to help high-risk groups very much, and they are in the greatest need.

SOURCES OF POVERTY

Explanations of poverty in Appalachia center around three sources. These are labor market factors -- the availability and characteristics of employment for persons residing in the area; human capital factors -- the characteristics and skills of the resident population which enhance or detract from their ability to earn income; and regional factors -- economic and socio-cultural characteristics of the region which increase poverty rates. Each of these will be considered in turn.

Labor Markets: The primary source of income for most people is wages and salary earned from labor force participation. Local labor market factors determine the opportunities available for individuals and families to gain income adequate to meet their needs. Areas characterized by high unemployment rates, low paying jobs, and great instability in demand for labor will tend to have high poverty rates due to chronic lack of opportunity. Appalachia has all of these unfortunate characteristics.

All rates associated with lack of opportunity for employment are high for this region and especially high in Central Appalachia. For example, 43.2% of women and 19.5% of men in the entire U.S. were not in the labor force in this census year. In the nonmetro counties of the five state region the rates were 47.5% and 23.1%. For Central Appalachia the rates rose to 59.4% and 29.9%, respectively. Similarly, 19.5% of female labor force participants, and 17.9% of male, were unemployed for some period during the year prior to the census. For the nonmetro portion of the five state region this unemployment rate was just barely higher, but for nonmetro Central Appalachia the figures rose to 21.4% for women and 25.2% for men. Other indicators of a poor demand for labor show the same pattern.

Figure 7 gives the percent of persons who were in the labor force but never actually had a job during the year in question and the rates for underemployment -- an estimate of proportion of the labor force who worked less than full time either in hours per week or weeks per year. In both cases the rates for the Central Appalachian Subregion are considerably higher than those for the total five state area, the non-Appalachian portion of the area, and the U.S. as a whole.

Another way of assessing economic opportunity is to examine the types of employment available in an area (see Figure 7). Labor markets with a predominance of low-wage, low-skill jobs or with many jobs in industries which are highly volatile, sensitive to economic down-swings, or highly seasonal in demand for labor provide little chance for people to earn a stable income or to get ahead. Many of the counties of Appalachia are heavily dependent on the coal industry for employment and income. While mining employment tends to have higher wages than other industries, it is a highly volatile industry, with frequent periods of unemployment for its workers as well as a fairly small total work force. Other types of employment available in Appalachia are low-wage manufacturing and agricultural employment.

In summary, the lack of opportunity characteristic of weak, often single-industry Appalachian labor markets is one major explanation for the high poverty rates of the region.

Human Capital: In addition to the availability of employment in an area, the skills and qualifications of potential members of the labor force partly determine success or failure in the labor market. Human capital factors include both advantages and liabilities which result from the individual's background, education, training, and experience. Typically, human capital advantage is assessed by looking at educational background. For assessing regions, proportions of the population who have or who have not attained important educational credentials such as a high school diploma or a college degree are used to assess the level of human capital. In the Appalachian region the proportion of high school dropouts is extremely high -- 59.5% of nonmetro Central Appalachian residents over age 25 had not finished high school, compared to 52.1% for the five state region, 50.6% for the non Applachian portion of these five states, and 33.5% for the U.S. as a whole. The proportion of the population with a high school diploma but without a college degree is somewhat less informative, since this figure tends to be inversely proportional to the high school dropout rate. In other words, areas with large numbers of high school dropouts have smaller college dropout rates and vice versa, reflecting the smaller pool of college attendees. For the same reason, however, areas like Central Appalachia with relatively few high school graduates also have very few college graduates.

Another human capital factor which keeps people out of the labor force is disability. The Appalachian region has a very high proportion of working-age people who are classified as work-disabled. The figure for Central Appalachia is 16.1%, compared to 11.9% for the five state region, 10.7% for the non-Appalachian portions of these states and 8.5% for the entire U.S. For Central Appalachia, of these persons classified as work-disabled, 7.0% are considered to be unable to work and an additional 7.8% were not in the labor force -- considerably higher proportions than in the other areas. This situation is of course related to the nature of the local labor markets. In many Appalachian counties the jobs most desirable for their high wages also carry high risk of disabling injury. In particular, counties with high mining employment have correspondingly high work disability rates. This is just one way human capital and labor markets interact to shape individual opportunity.

Appalachians thus appear to be at a disadvantage in competing for jobs in the labor market, especially those jobs which require high levels of education and training. It must be noted, however, that evaluation of human capital has to take place in conjunction with available opportunities. There is little incentive to acquire high levels of education where few jobs exist requiring these skills.

Region: The remaining explanation for high Appalachian poverty rates stresses something distinctive about the region itself. There is ongoing debate among Appalachian scholars over whether and why a distinct regional effect exists. One position maintains this region has a unique subcultural identity, with its own patterns of economic activity, family life, language and customs which run counter to modern economic values. A recent newspaper article describing poverty in the Central Appalachian county of Dickenson, Virginia, quotes residents who accept a poverty-level lifestyle in return for the supportive environment provided by community and kin networks. An unsympathetic variant of this argument regards this cultural complex as the "culture of poverty" and uses this to explain persistent poverty in the region.

Alternative regional explanations look to the history of economic and political development, land ownership, resource extraction and labor relations to account for Appalachian economic problems Theories of uneven development and internal colonialism describe a history of exploitation and external control of land and labor creating regional underdevelopment and an economy which does not serve its residents. High unemployment, poverty, and a weak labor market are the direct results of a long history of exploitive social relations between the small number who benefit from this pattern of development and the rest of the populaton.

However one feels about this debate, it appears to be the case that poverty rates are worse in Appalachia than can be accounted for adequately by any one factor. In other words, it is the complex interrelationship of opportunity and lifestyle, conditioned by the economic and social factors previously discussed, which creates a unique regional identity which cannot be explained away by any one simple source such as degree of rurality, isolation, or lack of economic opportunity.

An example of this complexity is the relationship among poverty, unemployment, labor force participation, and the number of workers available to support the family. There is a distinctive Appalachian pattern of families with few members in the labor force. More than 90% of Appalachian families are headed by a married couple. But women's low labor force participation rate suggests that the wife is usually not in the labor force, either because she has chosen a traditional lifestyle or because the local economy offers her little opportunity. As a result, over 60% of Appalachian families either rely on the support of only one worker or else have no workers at all (see Figure 7). Families with only one worker must depend on high wages and steady employment; they are vulnerable to poverty, if they are not poor already. Families with no workers are in trouble already -- it is no accident that the poverty rate for families is very close to the proportion of families with no worker. It must be remembered that the number of workers reflects the unemployment rate; where labor market opportunities are few, there will be few workers.

A further appreciation of this complexity can be gained by examining poverty rates for the different subregions within Appalachia for different types of families and different types of economic base. Figure 8 uses poverty rates for two types of families with children -- female headed with no husband present, and families with a male present -- to examine how economic opportunity influences poverty rates in the different parts of the nonmetro five state region. At nearly every level of every measure of the economy, Appalachian counties have higher poverty rates than non-Appalachian; and Central Appalachian counties are worse than other Appalachian counties. This means that Appalachians suffer a greater likelihood of poverty, even after allowing for their poor local economy. As the percent of rural population in the county increases so does poverty. And at every level there are higher poverty rates for female-headed families than for other families. Poverty rates increase with higher unemployment rates, with especially dramatic figures for women. The greater the non-participation in the labor force rate, the greater the levels of poverty, especially for female-headed families.

The type of employment opportunities in the county affect poverty rates for female-headed families differently from those of other families. Women have higher poverty rates regardless of the basis of the local economy, but they are especially at risk in counties with high mining and agricultural employment. Mining is especially significant, because for counties with high levels of mining employment, men's poverty levels drop whereas women's increase. This results from the lack of other employment opportunities where the local economy depends heavily on male-dominated resource extraction industries, and from the relatively high wages available to men working in the volatile mining industry, when the jobs are there. Poverty rates are highest for everyone in high agriculture employment counties, although here again they are much higher for women. It is ironic to note that while female poverty rates decline somewhat at the highest level of manufacturing employment, it is precisely the jobs in low-wage manufacturing, so often held by women, which are declining in the region.

CONCLUSION

Although there has been a steady decline in Appalachian poverty rates since the landmark 1964 declaration of a War on Poverty, the region remains far poorer than most of the rest of the nation. In 1980, prior to a major recession, the Central Appalachian Subregion had a poverty rate nearly double the national average, a rate still slightly above the 1960 national average. In this sense very little has changed. Both regional and national poverty rates have declined, but the relative as well as absolute levels of poverty in Appalachia remain dismal.

Some of the improvement in poverty rates can be attributed to programs which expanded public spending, to increased social welfare benefits and regional development projects often targeted to specific disadvantaged populations. The Appalachian Regional Commission, for example, became the vehicle for greatly improving the infrastructure of the region, improving transportation, communication, and health-care facilities and infusing badly needed capital into the region. Many new and expanded public assistance programs raised income levels for the poor in Appalachia as in the rest of the country. And programs targeted to specific problems of the region, such as the black lung program, gave some relief to victims of the local economy.

While recognizing these victories in the War on Poverty, it appears that in Appalachia the major battles remain to be fought. The persistence of unacceptably high poverty rates reflects an economy which remains isolated and inaccessible, undiversified, dependent on volatile extractive industries or low-wage footloose manufacturing. In such a low opportunity economy, there is little incentive for individual effort towards advancement. Education, for example, offers little payoff in an area with few jobs requiring even a high school diploma, not to mention more advanced training. At best, attainment of educational credentials may require a painful decision to abandon important family and community ties for uncertain rewards in locales more promising economically.

The persistence of high poverty rates, and its clear link to lack of economic opportunity, suggest the need for programs whose intervention strategies are designed to target isolated rural economies and their vulnerable populations. Too often programs intended to promote economic development have failed because they didn't take account of the particular combinations of individual and structural conditions typical of impoverished regions.

The programs of the past have sometimes enjoyed a limited success, sometimes suffered spectacular failures. If the future is to learn from the past, we must find ways to support the economies of rural areas which are based on a realistic appreciation of the needs and abilities of their residents and the land they inhabit, which sustain today's poor while aiming at a self-sustaining tomorrow. In the meantime, for both individuals and communities in Appalachia, the cost of failure to find adequate solutions to persistent poverty remains high.

TECHNICAL NOTE: THE MEASUREMENT OF POVERTY

To measure the extent of poverty is a difficult and politically sensitive problem. It requires a determination of who is, and who is not, poor. We must be able to identify the resources available to the individual or family, and we must agree which resource mixes can support a minimal standard of living. These are not purely technical matters.

In 1964 Mollie Orshansky of the Social Security Administration devised a method for "counting the poor" which successfully avoided the obvious political pitfalls. As testimony to its success, this method survives to this day with only minor modifications as the basis for the official poverty rates regularly estimated by the Census Bureau and written into the law as the criterion for distribution of antipoverty funds. This report has already used the "Orshansky index" as evidence that poverty became less common between 1960 and 1980. However, the method has suffered from its beginning a great deal of scholarly criticism, and now there is a growing argument that it has deteriorated over time in its ability to accomplish even its own limited objectives. Consequently, it is important to understand the method, at least in outline, in order to appreciate that the official poverty rate gives an incomplete picture of the low-income population, for small differences in evaluating income could easily change poverty rates by large amounts.

In calculating resources available to low-income families or individuals, the Orshansky method considers only pre-tax money income, including transfer payments such as social security and unemployment compensation. If poverty status were determined on the basis of the lower after-tax income actually available to them, more people would be considered poor and the corresponding poverty rate would be higher. On the other hand, there are resources which currently are not included. During the last twenty years non-cash benefits such as food stamps, Medicare, Medicaid, housing subsidies, and employment-related benefits have become increasingly important resources for low-income consumption. Including such "in-kind income" would decrease poverty rates. No one knows how much these two effects would cancel out. Finally, there is no attempt to allow for the higher level of public services available in larger urban areas or for the allegedly larger non-cash economy of rural areas.

Since the only recognized resource is cash, a minimal standard of living can be specified by the Orshansky method as a "poverty threshold", the dollar amount needed to buy the minimal satisfactory level of goods and services for a lifestyle somewhere between subsistence and comfort. However, there is no consensus even on the general question of just how close to bare subsistence this poverty threshold should be, and there is even less agreement about details. How much of a basic necessity such as shelter do low-income people truly need to buy?

Fortunately, there is agreement that everyone's diet must meet minimum daily nutritional requirements. Orshansky's strategy was therefore to determine the cost of an "economy food plan" for families of a given age-sex composition, to adjust this for family size to allow for "economies of scale", and finally to multiply this food budget by a factor reflecting the ratio of total expenditures to food expenditures for low-income families. Even this task is still not a purely technical problem, although it is usually treated as if it were.

The obvious direct approach to the determination of a cheap healthy diet is to minimize its cost subject to nutritional constraints. This approach produces diets which are monotonous and unpalatable. In a 1945 exercise of this sort, an economist determined that the cheapest daily subsistence diet consisted of about one-third pound each of cabbage and pancake flour, tiny quantities of spinach and pork liver, and more than half a gallon of cooked brown rice. In order to avoid this absurdity, the U.S. Department of Agriculture took a different approach to its 1961 Economy Food Plan, which was adopted by Orshansky. With this approach, the observed diets of an identified population of low-income persons are changed in the smallest possible way so as to meet recommended daily allowances. Cost does not enter into this procedure -- apparently it is assumed that the poor shop wisely. If they also ate wisely, then whatever they ate would have become the food plan. But in fact only about half of them met nutritional standards, so the food plan had to change their diets a little. The resulting Economy Food Plan (see Figure 9) seems much more palatable, in part because it avoids specific foodstuffs in favor of broad categories. However, it depends too much on grain products, fats and oils, and sugar, simply because that's what their impoverished subjects actually ate.

For the purpose of determining poverty thresholds, the food plan is used only to determine the cost of food -- nobody is expected actually to eat such a diet. This fact reduces the significance of any criticism of its details, although a more reasonable diet is likely to be more expensive. Nevertheless, it is important to realize that the procedure is rather arbitrary, and even circular, yet it largely avoids political controversy through the appearance of objectivity. The same criticism applies to both the family size adjustment and the multiplying factor, which turned out to agree with the conventional wisdom of economists in spite of ambiguous data (see Figure 10).

Using these thresholds, a family is classified as "in poverty" provided its income is below the threshold corresponding to its size and number of children. The poverty status of individual family members is the same as that of the family to which they belong. Individuals living alone can be classified in the same way, using the family size adjustment. Except for children, unrelated individuals living together with each other or with a family are classified as if they were living alone, regardless of any communal financial arrangements. In this way, 97.5% of the U.S. population is classified as to poverty status -- all except persons living in group quarters and unrelated children.

The thresholds are updated annually to allow for inflation, using the consumer price index, in spite of serious reservations by many economists about its appropriateness for this adjustment. For example, use of this method underestimates the present cost of the 1945 subsistence diet mentioned above by at least 30%.

This and other evidence suggest that poverty thresholds may have declined, so that current poverty rates are really underestimates. First, the original poverty thresholds were about half the median income, but now they are only a third. If half the median income is defined as a relative poverty threshold, then relative poverty rates have hovered around 20% of the population ever since World War II. Second, poor people now spend more of their money on non-food items, suggesting that the prices of those other necessities have increased faster than food prices. However, the derivation of the Orshansky method assumes stability in relative prices of food and non-food items. Finally, the increased representation in the poverty population of such at-risk groups as female-headed families is also consistent with this idea that we are presently underestimating poverty because of inadvertently lowered poverty thresholds, since these vulnerable populations are overrepresented among the poorest of the poor and will be classified as poor no matter what threshold we use.

However, an alternative rosier hypothesis accounts for this evidence equally well. If the entire income distribution were shifted, improving everyone's real situation with a small bonus which still maintained all the inequalities of their old relative positions, exactly the same effects would occur. For example, the low-income population would be better off and so able to spend more of their small incomes on non-food items.

Thus it is questionable whether we can confidently interpret small changes over time in the official poverty rates. The intractibility of this deceptively simple question says a great deal about our current understanding of poverty. It also highlights the controversies Orshansky had to avoid in order to devise a poverty measure which could serve as the basis for national policy. Although there is consensus that the truly needy deserve public assistance, there remains widespread fear that such assistance might occasionally go to those who can take care of themselves and reluctance to fund programs such as job training which might address the root causes of poverty. The poverty thresholds provided a politically acceptable criterion for this absolute poverty which concerned the public. It would be a mistake to exaggerate the precision of this criterion.

The essential difficulty for interpretation lies in the fact that poverty rates are extremely sensitive to these imprecise thresholds. This is because incomes are densely clustered near those levels; for example, about 5% of families in the 1980 Census had incomes within $1000 of the poverty cutoff for a family of four ($7356). As an illustration of this sensitivity, 17.0% of persons had incomes less than 1.25 times the poverty threshold, compared with the official poverty rate of 12.4%.

A ratio of income to poverty level of at least 1.0 but less than 1.25 is commonly used to define near-poverty, although a cap of 1.5 is sometimes employed. These ranges have only the practical justification that the Census Bureau occasionally reports them. By either definition, near-poverty increased between 1970 and 1980, even as poverty declined slightly. This provides the most damning indictment of excessive reverence for official poverty thresholds, for some antipoverty programs have been accused of "teaching to the test", targeting groups already close to poverty level in order to exaggerate their efficacy and so to improve the likelihood of continued funding.

Two considerations therefore justify an emphasis on near-poverty. Since poverty thresholds lack precision and may have deteriorated over time, some estimate of the sensitivity of poverty rates to thresholds is essential. In addition, for the near-poor opportunity is generally downward. With little chance to improve their situations and with little public support, they form the pool from which next year's poor will be recruited.

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FIGURES

Figure 1. Poverty Rates, 1960-1980, United States and the Central Appalachian Subregion. Rates are the percent of persons below poverty level.

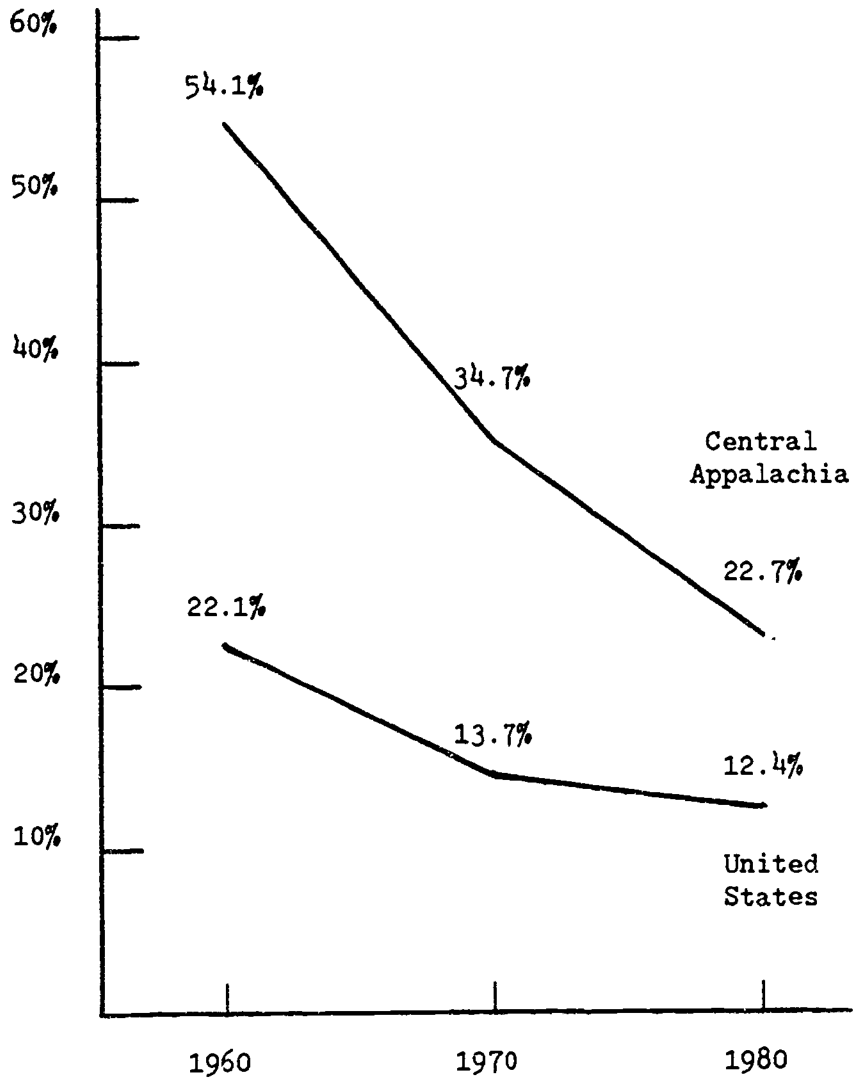


Figure 2. The Appalachian Counties of the Five State Region of Kentucky, West Virginia, Virginia, North Carolina, and Tennessee, as Designated by the Appalachian Regional Commission. The Appalachian metro counties are stippled. The boundary between the Central, Northern, and Southern Appalachian Subregions is indicated by a dashed line (***), and the poverty rate for all counties in each Subregion is superimposed. The poverty rate for the non-Appalachian counties is 13.9%.

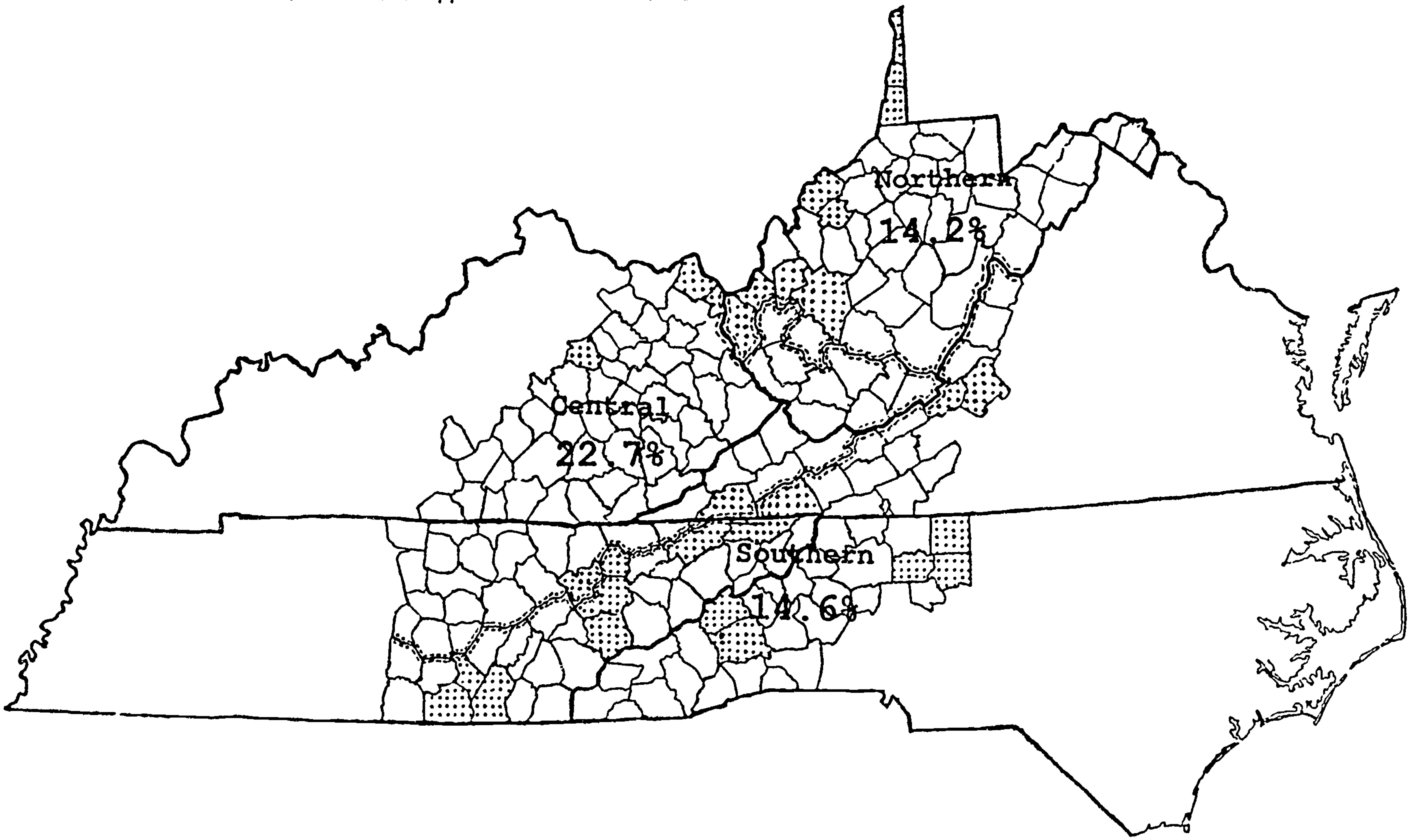
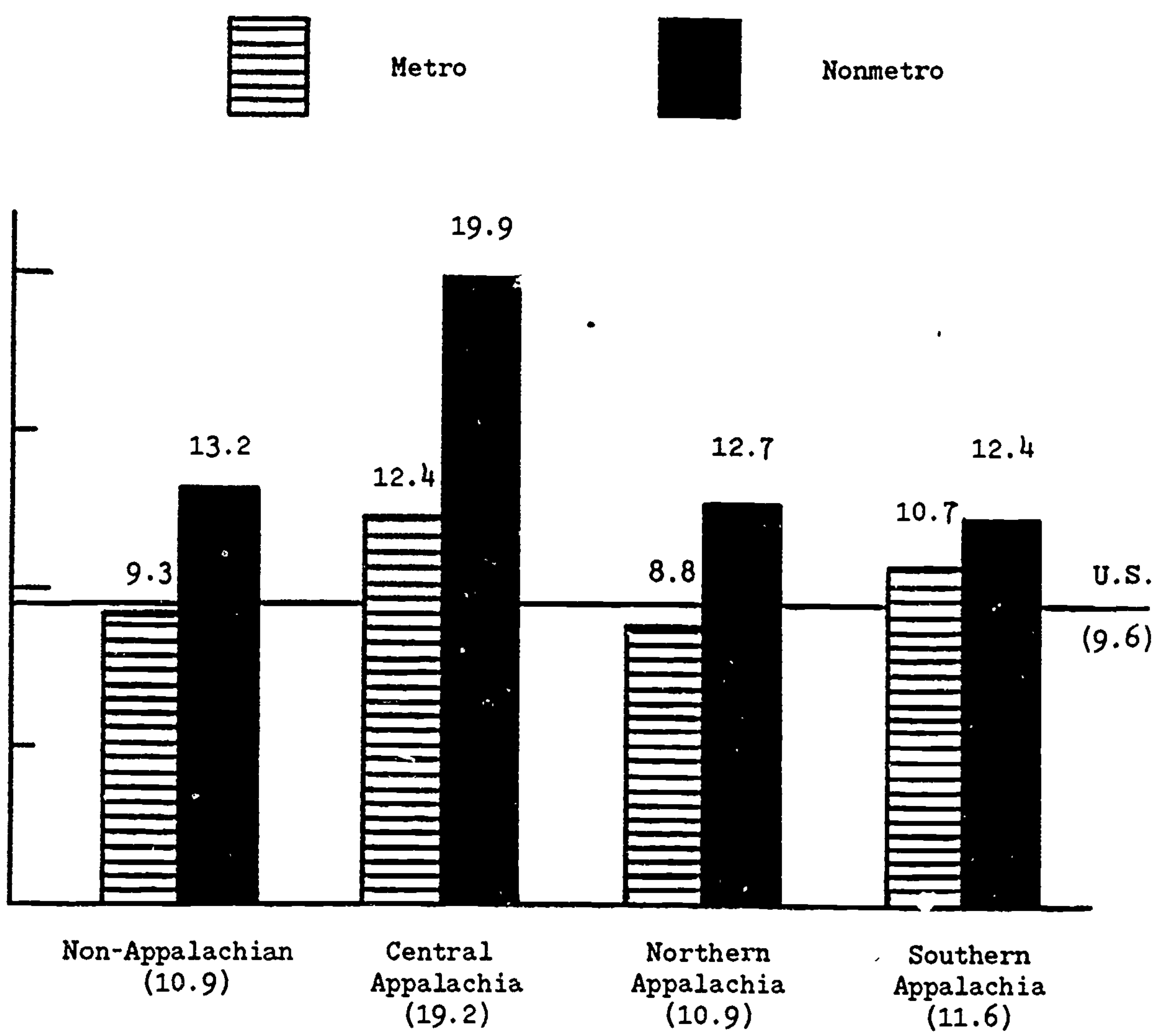


Figure 3. Poverty Rates for Families and Persons in the Five State Region of Kentucky, West Virginia, Virginia, North Carolina, and Kentucky, By Appalachian Subregion and Metro/Nonmetro Status of County. Total poverty rate for each Subregion is given at the bottom of the graph. The horizontal line represents the total U.S. poverty rate (9.6% of families, 12.4% of persons).

A. Families in Poverty.



(continued)

Figure 3.(continued).

B. Persons in Poverty.

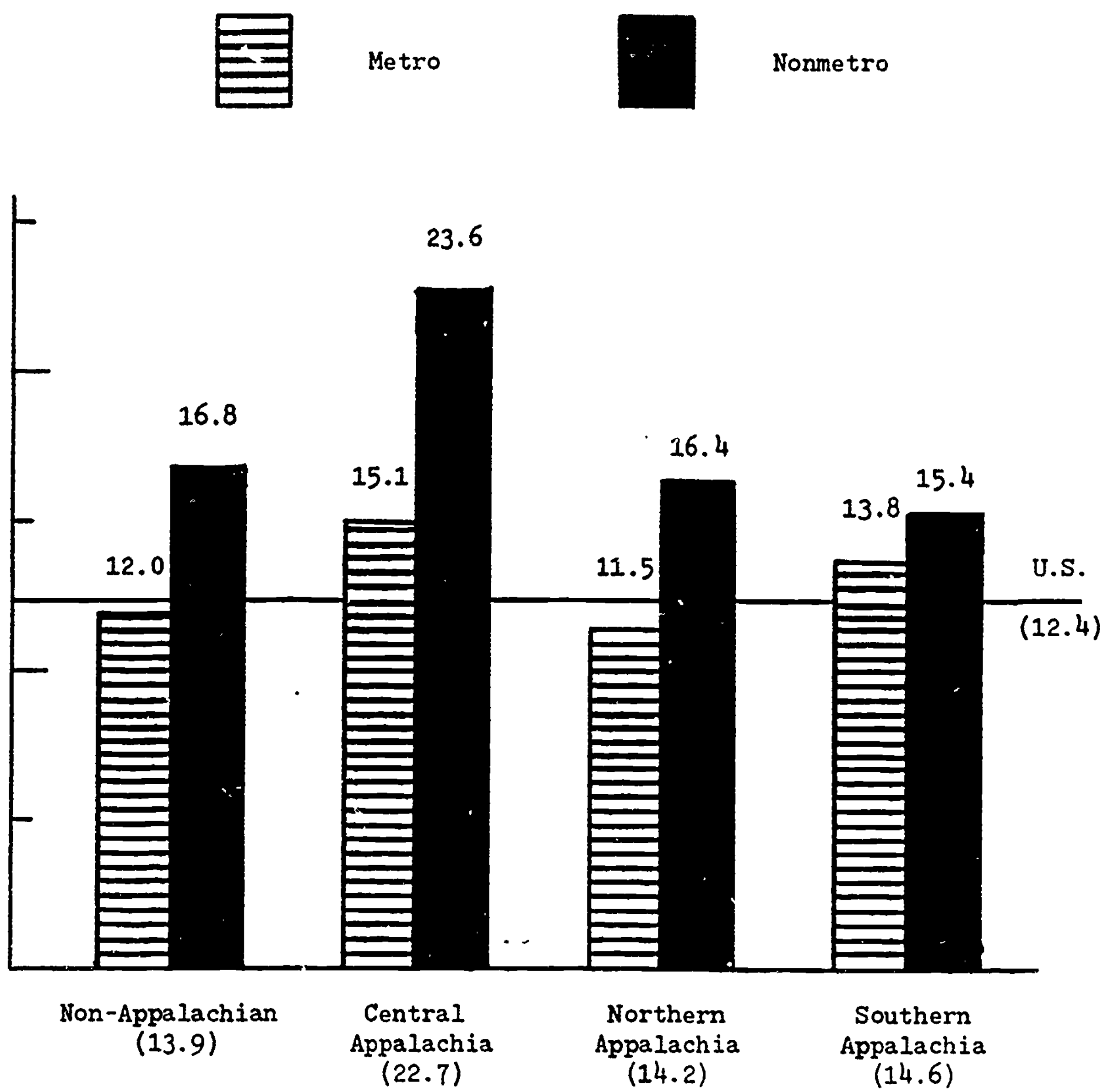


Figure 4. Percent of Persons in Appalachian Counties of the Five State Region with Incomes Below Specified Multiples of Poverty Level, 1980. By Appalachian Subregion and Metro/Nonmetro Status of County. For each Subregion the lower line gives the metro data. The U.S. total is also given, including both metro and nonmetro counties. As discussed in the text, this indicates both the sensitivity of official poverty rates to the poverty threshold and the size of the near-poor population.

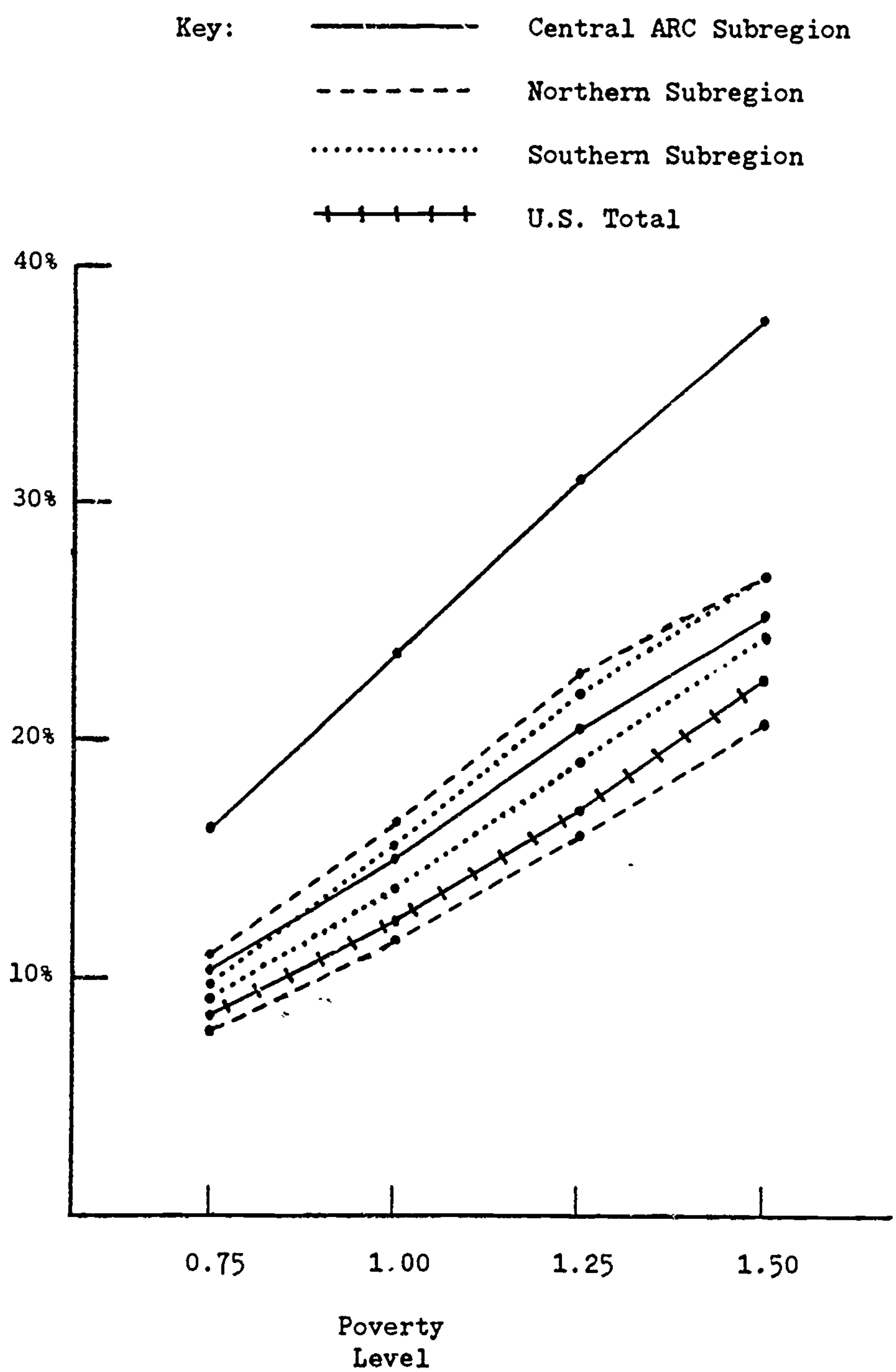


Figure 5. United States Poverty Rates, 1980, By Selected Races, Urban and Rural Residence, and Family Structure. Each rate is the percentage of persons in the specified category with income below poverty level. Note that All Other Families includes both married couples and male-headed families, no wife present. Rates enclosed in boxes are those for the most detailed combinations of characteristics.

	All Races			White			Black			American Indian		
	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
All Persons	12.4	12.1	13.2	9.4	8.7	11.2	29.9	28.7	36.4	27.5	22.6	33.1
Nonfamily Persons	25.1	23.8	31.3	22.6	21.2	29.1	39.7	37.9	57.7	38.7	34.8	48.5
Persons in Families	10.6	10.2	11.7	7.5	6.6	9.7	28.5	27.4	34.7	26.1	20.5	32.0
Adults	8.0	7.4	9.7	5.9	5.0	8.2	22.0	20.7	29.2	21.4	15.9	27.6
Children	16.0	16.2	15.6	11.0	10.3	12.6	37.8	37.0	42.6	32.5	27.4	37.4
Female-head Families, No Husband Present	34.4	34.2	35.1	24.7	23.8	28.3	49.8	49.1	55.8	49.0	45.4	53.7
Adults	24.4	24.1	25.8	16.8	15.9	20.3	39.5	38.7	45.6	40.7	36.4	46.1
Children	47.8	47.8	48.0	37.5	36.7	40.6	60.1	59.3	66.7	57.1	54.0	61.1
All Other Families	7.1	6.0	9.7	5.7	4.4	8.4	16.3	14.0	27.3	20.1	13.1	27.0
Adults	6.0	5.0	8.5	4.9	3.8	7.5	14.3	12.2	24.3	17.3	11.2	23.9
Children	9.4	8.2	12.1	7.5	6.0	10.3	20.0	17.2	32.0	24.4	16.5	31.0

Figure 6. Family Poverty Rates, 1980, For the Five State Region of Kentucky, West Virginia, Virginia, North Carolina, and Tennessee. By Family Structure, ARC Subregion, and Metro/Nonmetro Status of County. Note that families with Female Head have no husband present, but Other families include both married couples and male-headed families with no wife present.

	All Families			Families With Children			Families With No Children		
	Total	Female Head	Other	Total	Female Head	Other	Total	Female Head	Other
United States	9.6	30.3	6.2	13.2	40.3	7.5	5.3	9.7	4.9
Five State Region									
TOTAL	11.8	32.0	8.6	14.9	41.6	9.7	8.1	13.8	7.4
Nonmetro	14.3	33.8	11.5	17.2	44.2	12.7	10.8	16.6	10.1
Metro	9.5	30.7	5.8	12.8	39.8	6.6	5.5	11.3	4.8
Non-Appalachian									
TOTAL	10.9	32.0	7.2	14.0	41.1	8.0	7.0	13.0	6.3
Nonmetro	13.2	33.9	10.0	16.1	43.7	10.9	9.8	16.1	9.1
Metro	9.3	30.9	5.3	12.6	39.7	6.1	5.1	10.8	4.4
Appalachian									
TOTAL	13.7	32.1	11.3	16.8	43.0	12.8	10.2	15.7	9.5
Nonmetro	15.6	33.6	13.3	18.6	45.0	14.3	12.0	17.3	11.4
Metro	10.3	29.5	7.4	13.4	39.9	8.5	6.9	12.9	6.2
Central ARC									
TOTAL	19.2	39.1	16.6	22.6	51.9	18.6	14.6	20.0	13.0
Nonmetro	19.9	39.6	17.4	23.4	52.7	19.4	15.3	20.1	14.8
Metro	12.4	34.6	9.7	15.3	44.8	11.2	8.9	18.5	7.9
Northern ARC									
TOTAL	10.9	29.0	8.6	14.1	41.6	10.2	7.4	12.3	6.8
Nonmetro	12.7	30.7	10.4	15.8	43.8	12.1	9.0	13.7	8.4
Metro	8.8	27.1	6.3	11.9	39.1	7.7	5.6	10.7	5.0
Southern ARC									
TOTAL	11.6	29.2	9.1	14.1	38.3	10.0	8.8	14.6	8.2
Nonmetro	12.4	28.4	10.4	14.3	36.8	11.1	10.2	16.0	9.6
Metro	10.7	29.9	7.5	13.8	39.7	8.5	7.3	13.2	6.5

Figure 7. Economic Characteristics of Nonmetro Counties in Five State Region, by ARC Appalachian Subregion.

	ARC Appalachian Subregion Within Central Five State Region				United States
	Non-ARC	Central	North	South	
Labor Force Nonparticipation Rate:					
Female	43.2	59.4	56.7	44.6	43.2
Male	20.7	29.9	26.6	21.9	19.5
Never Employed in 1979:					
Female	2.6	3.7	2.8	2.1	2.3
Male	1.1	2.3	1.6	1.0	1.4
Unemployment Rate:					
Female	19.2	21.4	19.5	19.7	19.5
Male	16.2	25.2	22.8	17.7	17.9
Underemployment Rate:					
Female	20.3	23.7	22.6	19.4	20.3
Male	12.3	15.5	14.2	12.2	11.9
Employment by Sector (Percent of Workers):					
Agriculture	5.7	4.5	2.9	3.6	2.9
Mining	0.9	15.2	10.4	0.6	1 2
Manufacturing	31.8	17.9	18.1	39.3	22.4
Percent of Families:					
With No Workers	12.0	20.2	17.4	13.0	12.8
With One Worker	31.7	40.5	40.3	31.8	33.0
Female Head No Husband Present	13.4	11.4	11.2	11.0	13.9
Percent Rural	66.8	81.7	76.1	73.6	26.3
Persons in Families In Poverty (Percent)	14.7	22.1	13.9	13.2	10.6
Percent of Persons In Families	87.8	91.5	87.8	89.7	87.6

Figure 8. Percent of Nonmetro Families with Children in Poverty by Family Type and ARC Appalachian Subregion, for Three Levels of Selected County Economic Characteristics.

Percent of Families with Children in Poverty, By Family Type and Region
By Nonmetropolitan County Economic Characteristics
For Five State Region

	Female head, no husband present				Non-female headed			
	Non-ARC	Central	North	South	Non-ARC	Central	North	South
Unemployment Rate:								
Less than 20%	43.0	43.3	44.3	33.4	10.3	14.0	10.9	9.4
20% - 25%	46.0	52.6	40.9	42.2	12.5	17.9	11.3	13.5
More than 25%	48.6	57.8	52.9	49.7	14.3	24.4	17.8	20.9
Labor Force Nonparticipation Rate:								
Less than 35%	41.6	44.1	37.0	34.7	9.7	13.9	8.8	9.6
35% - 45%	48.9	50.6	42.8	40.0	13.6	19.8	11.4	13.2
More than 45%	45.5	55.8	49.7	---	10.9	20.3	15.3	---
Percent Rural:								
Less than 70%	42.6	50.1	37.3	36.6	9.7	15.7	10.1	10.0
70% - 90%	43.8	52.4	46.2	36.1	11.3	18.4	11.7	10.7
More than 90%	48.4	55.1	49.4	39.3	14.3	22.7	15.3	14.5
Agriculture Employment (Percent of Workers):								
Less than 4%	36.5	53.0	43.1	36.1	7.5	18.1	12.0	10.2
4% - 8%	46.1	49.9	45.5	37.9	11.4	19.2	11.6	12.5
More than 8%	49.1	56.9	46.7	43.0	14.6	26.7	14.3	17.1
Mining Employment (Percent of Workers):								
Less than 5%	43.7	50.5	45.1	36.5	10.9	20.3	10.6	11.0
5% - 15%	43.2	52.8	40.2	45.2	11.1	22.1	11.7	15.1
More than 15%	39.8	54.1	47.2	---	11.5	17.7	13.9	---
Manufacturing Employment (Percent of Workers):								
Less than 15%	40.0	53.3	44.2	32.1	9.0	17.8	12.7	9.6
15% - 30%	46.5	53.5	43.2	36.4	11.5	21.6	12.0	11.4
More than 30%	42.4	49.1	45.5	36.9	10.8	20.8	10.0	11.1

Figure 9. Inexpensive Food Plans, Weekly Allowances.

A. The 1975 Thrifty Food Plan of the U.S. Department of Agriculture. This is an update of the 1961 USDA Economy Food Plan used by Orshansky to determine poverty thresholds. Only the diet for adults age 20-54 is given here; pregnant and nursing women have a more generous diet.

		Male Age 20-54	Female Age 20-54
Milk, Cheese, Ice Cream	(Qt.)	2.57	2.81
Eggs	(Number)	4.0	4.0
Meat, Poultry, Fish	(Lb.)	3.03	2.41
Dried Beans & Peas, Nuts	(Lb.)	.44	.27
Dark-Green & Deep-Yellow Vegetables	(Lb.)	.39	.52
Citrus Fruit, Tomatoes	(Lb.)	1.80	1.86
Potatoes	(Lb.)	2.02	1.51
Other Fruit & Vegetables	(Lb.)	3.69	3.39
Cereal	(Lb.)	.89	.90
Flour	(Lb.)	.92	.67
Bread	(Lb.)	2.29	1.41
Other Bakery Products	(Lb.)	1.33	.67
Fats & Oils	(Lb.)	.95	.57
Sugar & Sweets	(Lb.)	.86	.57
Accessories (E.g. coffee & spices)	(Lb.)	1.24	1.18

B. The 1945 Subsistence Diet (G. Stigler, J. Farm Econ. 27:303). Stigler's estimate of $59.88 as the 1945 annual cost of this diet is often quoted in today's economics textbooks, without mention of intervening inflation, as evidence that even the very poor have a great deal of latitude to make "economic" decisions.

Brown Rice	10.25 Lb.
Cabbage	2.05
Spinach	.25
Pancake Flour	2.57
Pork Liver	.48

Figure 10. Food Expenditures as a Percentage of Income, By Family Size and Income, 1972-1973. The poverty threshold in 1972 for a nonfarm family of four was $4275 ($4540 in 1973). Asterisks flag entries considered unreliable due to small sample size; this includes all of the entries relevant to the crucial poverty level family of four. Orshansky's poverty threshold was determined by multiplying the cost of the Economy Food Plan by a factor of 3.0, which corresponds to spending 33.3% of income on food. This data does not contradict that decision, but it doesn't support it either, because the relevant entries are unreliable and vary widely.

	Number of Persons in Family						
Income	1	2	3	4	5	6+	Total
All Families	16.7	15.3	17.0	17.4	18.6	22.1	17.4
Under $3,000	35.8	53.5	73.8	96.2*	130.4*	108.2*	47.6
3,000-3,999	21.7	33.8	40.3*	40.6*	45.4*	51.0*	31.8
4,000-4,999	16.1	27.3	30.2	38.8*	38.3*	41.4*	25.7
5,000-5,999	16.8	20.4	25.1	30.3*	30.6*	40.1*	23.4
6,000-6,999	12.6	20.3	23.1	29.0*	30.1*	37.9*	22.3
7,000-7,999	12.6	18.0	20.7	24.5	26.1*	32.9*	20.0
8,000-9,999	11.5	15.2	18.6	20.6	24.4	26.5	18.0
10,000-11,999	12.0	13.3	17.0	18.6	22.5	22.2	16.9
12,000-14,999	9.6	12.0	14.5	16.5	17.7	21.3	15.0
15,000-19,999	10.0*	10.2	12.4	14.5	15.1	18.5	13.3
20,000-24,999	8.1*	8.8	10.4	12.0	13.9	16.3	11.8
25,000+	5.3*	6.0	8.2	8.2	9.5	10.1	8.0

Source: The Measure of Poverty, Technical Paper VIII: The 1972-73 Consumer Expenditure Survey.