DOCUMENT RESUME

ED 275 481 RC 015 979

AUTHOR	Couto, Richard A.
TITLE	Appalachia--An American Tomorrow. A Report to the Commission on Religion in Appalachia on Trends and Issues in the Appalachian Region.
INSTITUTION	Vanderbilt Univ., Nashville, TN. Center for Health Services.
SPONS AGENCY	Commission on Religion in Appalachia, Washington, D.C.
PUB DATE	Aug 84
NOTE	163p.; Some tables may not reproduce well due to small, broken type.
PUB TYPE	Reports - Research/Technical (143)
EDRS PRICE	MF01/PC07 Plus Postage.
DESCRIPTORS	*Economic Factors; Economic Status; Educational Needs; Employment Patterns; Family Role; Federal Government; *Futures (of Society); Government Role; Health Needs; Housing Needs; *Human Services; Income; Industry; Institutional Role; *Political Issues; *Population Trends; Poverty Areas; Regional Characteristics; Rural Areas; *Trend Analysis
IDENTIFIERS	*Appalachia

ABSTRACT

The human needs of Appalachia relate to developments of a post-industrial economy in America, where social attitudes and political policies toward dependent populations (the young, the old, the disabled, and the unemployed) and toward ownership and management of capital and resources have contributed to the extensive poverty of the region. These American attitudes and policies combine presently to create profound consequences especially for women and members of racial minorities. These consequences have required and will continue to require changes in the roles of labor, families, non-profit groups, men and women, schools and churches. These consequences and changes in Appalachia parallel and excede those which are apparent nationwide. This report examines economic and social trends and issues in the Appalachian region for the past decade or more and relates Appalachia's recent economic experiences to national trends. Information is organized under five broad headings: population changes; economy, industry, and employment; unemployment and income; human needs and services; and institutional contexts. Information includes 40 figures and illustrations and a bibliography of 79 entries. Appendices contain a supplementary report on the region's economic structure with recommendations for economic development. (JHZ)

ED275481

APPALACHIA - AN AMERICAN TOMORROW

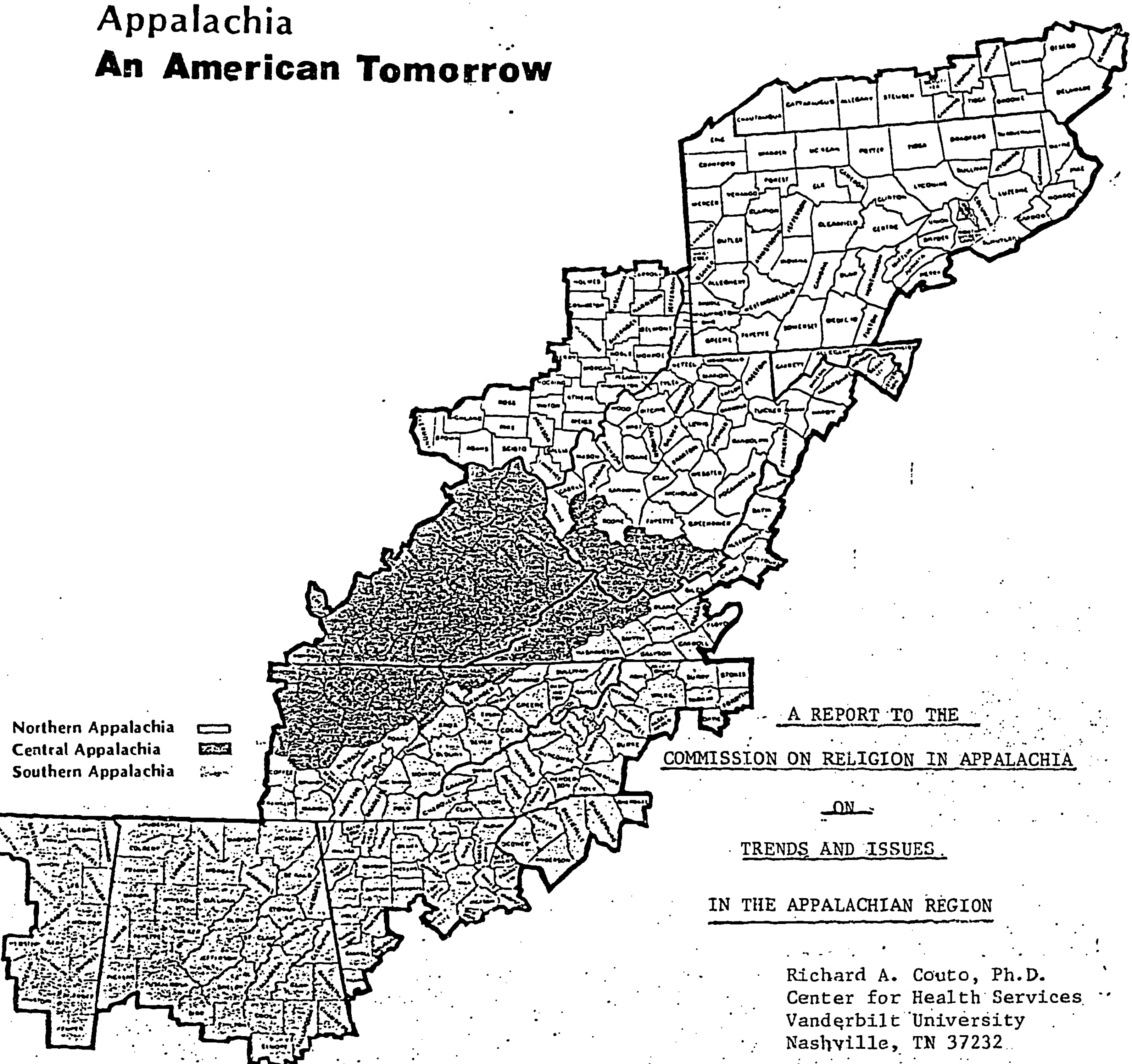
A Report to the Commission on Religion in Appalachia

on Trends and Issues in the Appalachian Region

Richard A. Couto, Ph.D.
Center for Health Services
Vanderbilt University
Nashville, Tennessee 37232

August 1984
Revised

Appalachia
An American Tomorrow



A REPORT TO THE

COMMISSION ON RELIGION IN APPALACHIA

ON

TRENDS AND ISSUES

IN THE APPALACHIAN REGION

Richard A. Couto, Ph.D.
Center for Health Services
Vanderbilt University
Nashville, TN 37232

January 1984

TABLE OF CONTENTS

Appendix

Summary and Implications for Regional Economic Development in Appalachia, Report to the Appalachian Regional Commission, Arthur D. Little, Inc.

Major Mineral Production in Appalachia

Actual and Projected Employment by Industry, 1959-95

Bibliography

Figures and Illustrations

Tables

Appalachia: An American Tomorrow

Report to the Commission on Religion in Appalachia on Trends and Issues in the Appalachian Region

Introduction

There is no single Appalachia. There are several. Some geographic definitions of Appalachia are broad such as the thirteen state definition of the Appalachian Regional Commission (ARC). Some geographic definitions are limited such as a holler, a town or a county. Offical definitions like that of the ARC emphasize the region and analyze common socioeconomic and demographic measures within the region. The definitions of local residents emphasize a place as home and the socioeconomic and demographic measures are lived-experiences. There is an array of other definitions between the regional emphasis and the local emphasis. There is even a definition of an Appalachia which cannot be found on a map. By this definition Appalachia is less of a place and more of a process of economic development and exploitation which happened in a particular region over a period of time. This definition of Appalachia is a standard with which to measure national tolerance for inequality, fairness, environmental degradation, and human need. It generally means levels of income, housing, education, and employment below the American national level on the average and shockingly lower than American standards in some instances. It generally means long term economic depression or at least very hard times. But it does not mean the complete absence of wealth; merely an organization and development of wealth that coincides or results in these other conditions. This definition of Appalachia as a process sometimes takes the verb form, to Appalachianize. To Appalachianize is a transitive verb which refers to the development and extraction of great wealth, especially natural resources, in a manner that eventuates in substandard levels of human welfare and services for people closest to the development.

There are some who define Appalachia as somehow anomalous to the United States. To them it is a region of economic hardship and problems which remains apart from the general prosperity of the American economy for unique and peculiar reasons. They differ markedly from those who define Appalachia as directly related to the American economy. These divergent definitions parallel national differences. For example, there are those who are confident in the soundness of the principles of capitalism and who invoke supply-side economics as a means to deal with the present sluggish economy. This theory simply restates a belief in an "invisible hand" as the prime mechanism of the distribution of social and economic benefits. Two centuries after Adam Smith almost casually coined the phrase, official policy is still premised on the hypothesis that each person pursuing the maximization of his or her own utility will bring about maximum common benefit. Those who disagree with this view advocate government intervention in the economy but differ among themselves from those who urge modest reform to those who urge major restructuring of the economy. State regulation, public control, democraticization of the work place and/or an increased welfare state are various strategies to get the invisible hand out of its own pocket or out of the pockets of the poor and working classes. These critics to various degrees hypothesize a time when corporate managers if left in charge will spoil the earth and society for everyone else and ultimately haggle over the price of the rope with which to hang themselves. This report suggests that Appalachia by any definition is an appropriate place to apply either or both hypotheses.

This report examines economic and social trends and issues in the Appalachian region for the past decade or more. Appalachia is a place of acute and obvious human need. It is partly a region of great mineral wealth and economic activity which by a sleight of the invisible hand leaves large portions of its people impoverished and with human services far below national standards and with more than its share of enduring and new economic problems. It is a region where supply side-economics exacts costs rather than provides benefits. Indeed the explanations for economic conditions in the region which supply-side economics is premised upon suggest deficiencies of individuals and groups in the region thus taking away even the vestige of dignity in adversity. Other explanations suggest that the region's industry and needs exemplify the excesses and abuses of our economic system which requires reform or radical change.

This report also relates the region's recent economic experiences to national trends. It suggests to those who see Appalachia as a region apart that Appalachian economic characteristics, especially since World War II, bear similarity to national socioeconomic trends and issues which newspapers now report daily. It reports to those who understand Appalachian needs as part of past regional economic development that presently there are regional trends and issues which are part of a profound national economic change and suggests that regional problems will require national as well as regional solutions that do more than address historical patterns of abuse. Appalachia is an American tomorrow in a double sense. Its past and current experiences are illustrative of national changes at present and to come. Its own future is now, as it has always been, dependent upon American institutions and practices.

One cannot conduct a survey of trends without a great deal of help to acquire data and to overcome the trepidation of such a task. The people at the Commission on Religion in Appalachia helped me on both counts. Judy Morelock provided information and critical responses and Jim Sessions provided the challenge and the enthusiasm. Secondly, the staff of the Appalachian Regional Commission helped; in particular Joseph Cerneglia and Jerome Pickard. Third, numerous individuals - workers, professionals, men and women, young and old, community residents and community organizers have shared their experiences with me which provided a "shore" for an ocean of data. In particular Harris Raynor provided me with critical and useful comments. I am grateful to all these people and happy to share with them credit for the strengths of this report. The shortcomings are my own as well as the opinions contained in it.

I have revised the report in light of comments I have received. Chris Weiss of Women and Employment, Inc. in West Virginia, in particular, provided comments and information which I have incorporated. In addition, the comments of others lead me to believe that while the emphasis on the relation of the region and the nation and the mutuality of issues is accurate, some of the issues may have been understated. Therefore, let me make my conclusion clear. The human needs of Appalachia relate to developments of a post-industrial economy in America. Economic changes have occured much faster than our political or social adaptations. American social attitudes and political policies towards dependent populations - the young, the old, the disabled and the unemployed - have contributed to the extensive poverty of the region. The negative results of these attitudes and policies have been compounded by extremely limited employment opportunities which stem from another set of social attitudes and political policies toward the ownership and management of capital and resources. These American attitudes and policies toward dependent populations and capital combine presently to create profound consequences especially for women and members of racial minorities. These consequences have required and will continue to require changes in the roles of labor, families, non-profit groups, men and women, schools and churches. These consequences and changes in Appalachia parallel and excede those which are apparent nation wide.

Chapter 1 Statement of Purpose

1A CORA's Self-Assessment

The Commission on Religion in Appalachia (CORA) set out on a self-study in 1982. CORA's desire "to maintain and improve its positions of ecumenical religious leadership in the region and to assist its new staff in their leadership functions" prompted this self-study (CORA: 1). CORA began in 1965 with a mission "to deal with the religious, moral, and spiritual implications inherent in the economic, social and cultural conditions in the Appalachian region" (CORA: 1). Its present self-study now involves an examination of emerging needs of the region and CORA's past, present work.

This specific report covers regional Appalachian socioeconomic trends and issues as part of CORA's effort to identify emerging needs in the region and to lead in responding appropriately to them. It shares two goals of CORA's overall self-assessment: first, to understand the region as a dynamic area undergoing change; and second, to provide more analysis of the northern and southern parts of Appalachia in addition to Central Appalachia. In addition to these goals, CORA set the following specific objectives for this report (CORA: 5):

- to collect and review research and reports of agencies, universities, and organizations such as the Appalachian Alliance;

- to summarize this research and these reports in a form useful to CORA, and the Task Force for Assessment and Planning;

- to specify regional economic issues - including employment and developments in big industries - demographic trends, environmental concerns, educational issues, family and gender role changes, and religious trends;

- to note national trends, including federal budget allocations, for their potential impact on the region and CORA's work; and

- to combine social science, knowledge of the Appalachian region and ethical sensitivity.

I have worked to achieve these objectives and to report on issues which are regional and national. I have avoided duplicating information already available. Figures on church membership are available in CORA's Atlas of the Church in Appalachia. Likewise, the Appalachian Alliance's study, Landownership Patterns and Their Impacts on Appalachian Counties, is an excellent source on land use as well as landownership (Appalachian Alliance; Beaver).

1B Overview

This report deals with Appalachia not as a region set apart but as a region integrated with the national and international economy. The regional conditions of unemployment, dislocated workers, low incomes and needed human services represent a fundamental challenge to the United States to devise mechanisms to distribute goods and services with more equity so that all citizens enjoy some reasonable share of the national standard of the quality of life. But this challenge is not merely regional. In fact, the Appalachian region is a reflection of a national economy and a precursor of national changes. These changes include new employment patterns; new educational needs of workers and the young; new roles of organized labor; new roles for men and women in the labor force; new demands on the family; and increased needs of the very young and the old. In capsule form, the region offers lessons of the consequences of automation, of changed patterns of ownership and management, of the increased internationalization of the economy on employment and wages and of national attitudes towards dependent populations - the young, the old, the disabled, and the unemployed - who do not participate in the workforce as it is presently defined. The region awaits further consequences of these same factors especially on the "new poor," that is, those households with recently unemployed blue collar workers who have few prospects of returning to jobs in the same industry. Automation and internationalization are apparently inevitable and perhaps preferable, in some instances, but the region's recent experience makes clear we must find better methods to deal with their consequences. Changed patterns of ownership and management have obvious adverse social consequences that require public attention and response. Likewise, national attitudes towards the dependent require change to assure that each person has adequate opportunity for health at birth, education during youth, employment as an adult and dignity and security in old age.

One consensus among the many analysts whose information was used in compiling this report is that national economic recovery will be slow and it will not not mean automatic economic benefits for the Appalachian region (ARC, 1983C:4). This is a change from the optimism about the American economy's capability to ameliorate Appalachian ills. The reviving American economy is filled with problems, some of which are particularly acute for the industries on which the Appalachian region was particularly dependent.

Consequently, the apparent needs of Appalachia for jobs, income, education, and human services are part of a complex web of technological change, capital formation and management and federal budgets and programs.

The trends within the Appalachian region are not encouraging and are indicative of serious national economic problems, attendant social changes and the complexity of selecting appropriate solutions. But this report deals with trends not inevitablities and human beings can alter the trends which their actions put in motion previously. The hope inferred in this report is the concern of agencies such as CORA which prompted it. Local leadership and regional organizations, like CORA, are absolutely necessary to extrapolate local efforts and needs to larger programs and to provide the necessary elements for the democratic and participatory implementation of large scale programs which Appalachian conditions suggest are needed. People at the local level working for change or merely trying to cope should examine their work for its regional and national importance. Regional and national agencies can assist in this by examining local efforts for the root causes of the problems which call the efforts forth and for the means to develop leadership to deal with those causes. The report underscores the importance and wisdom of the adage that one should act locally but think globally in assessing both problems and solutions in Appalachia as elsewhere.

Two other cautions of trends are necessary. First, the economic picture of Appalachia is a fast changing one and affects other aspects of Appalachian life quickly. Unemployment may reach record highs and record lows in the space of a few years. Discovering trends entails collecting and synthesizing a series of static measures taken at different times and sometimes with a variety of instruments. Census figures taken every ten years, for example, may not reveal significant changes during a five year period in that decade. Second, trends do not anticipate the unexpected; they simply project the past and our understanding of the present. They suggest futures which we may want to welcome or avoid. In addition, these futures are themselves only one part of a range of possibilities which unexpected human and natural events may shape. Three Mile Island, for example, altered the nuclear future of America, if not the world. Likewise, other unplanned events may have profound impacts on the future. Consequently, if hindsight is 20/20, foresight is vision through opaque lenses marked IF/THEN.

1C Sources

The sources used in this report come primarily from studies of the Appalachian Regional Commission which detailed economic conditions within the region. In many cases data on employment and industrial performances were available up to 1983 and almost always up to 1980. On the other hand, data on income, poverty, family make-up, education and other social indicators were less current and are only now being reported from the 1980 census. A special study comparing socioeconomic measures in the region from 1970 to 1980 was attempted with ARC's assistance but proved too formidable a task. This report reflects the availability of data and is thus more detailed and current on economic and employment matters. The availability of data, in turn, infers a set of priorities. The fact is that we do not know as much about human needs and services, the status of women, children and minorities within the Appalachian region as we should. This is because policy makers gave these issues less attention than the issues for which there is ample data. Consequently, this report is far less detailed on trends in human services and needs because their measures within the Appalachian region have not been taken uniformily and regularly. I have tried whenever possible to report comparable data from different time periods to illustrate trends. When such measures for Appalachia do not exist, for example the status of women in poverty, it is impossible to demonstrate a trend or measure the problem. This does not mean that such problems do not exist. Rather they are problems without measures.

The severe recessions beginning in 1979 and the general sluggish economic performance of the 1970s have stimulated numerous studies of present and future national economic trends. Several of these were used to establish a context to assess the present and future of the Appalachian economy and social consequences. A summary of the Arthur D. Little, Inc. report is appended to this report because of the important overview it gives of the changing structure of the Appalachian economy.

Examining information sources about Appalachia makes one aware of the changes since 1965. There are now official government sources of information and numerous university-based centers and programs of Appalachian studies. The market of information has been transformed. Before 1965, that market was primarily an extractive economy of films, photographs, and sensational reports controlled and operated for or by audiences outside the region. At the same time, there was a more modest local economy of pamphlets, reports and analyses at the community level, almost a black market which Helen Lewis first identified (Lewis, 1970). Harry Caudill and Jack Weller changed this by satisfying or creating a mass market for Appalachian information with their books Night Comes To The Cumberlands and Yesterday's People. ARC has stimulated numerous studies about Appalachia which are region-wide and which provide information about trends and conditions within the region. Appalshop and the Appalachian Studies Conference are other examples of regional efforts to improve the market for Appalachian information. Community groups and non-proit organizations are also important consumers, producers, and distributors of information. This information is also much better organized now than before (Fisher). This increase of amount, quality, and organization of information are indications of changes towards an information and service economy. But there is additional significance as well. The recently completed study of the Appalachian Alliance on land ownership culminated almost two decades of local efforts to document land ownership, taxation policies, and consequences for public resources for public services. The support of the ARC made it more available and acceptable to a regional and national market. This was an example of the temporary integration of formerly distinct producers. The Appalachian information industry is still undergoing change and faces a certain decline if the ARC ends as it is scheduled to in the near future.

The profound changes in the Appalachian information economy enable us to know more about things that need to be changed. However, we also learned enough now to know that knowledge is only a starting point and that knowing something about a problem is not doing something about it. Knowledge may enable us to act effectively if there are organizations and institutions with the capacity to act on information. Because there is a need for action there must be attention to sources of knowledge after ARC and the institutional context for action. Consequently, CORA and any other group concerned with human needs and services must be mindful of the politics and consequences of information economics as part of an overall strategy of change just as they would any other form of economic activity.

1D Subregions

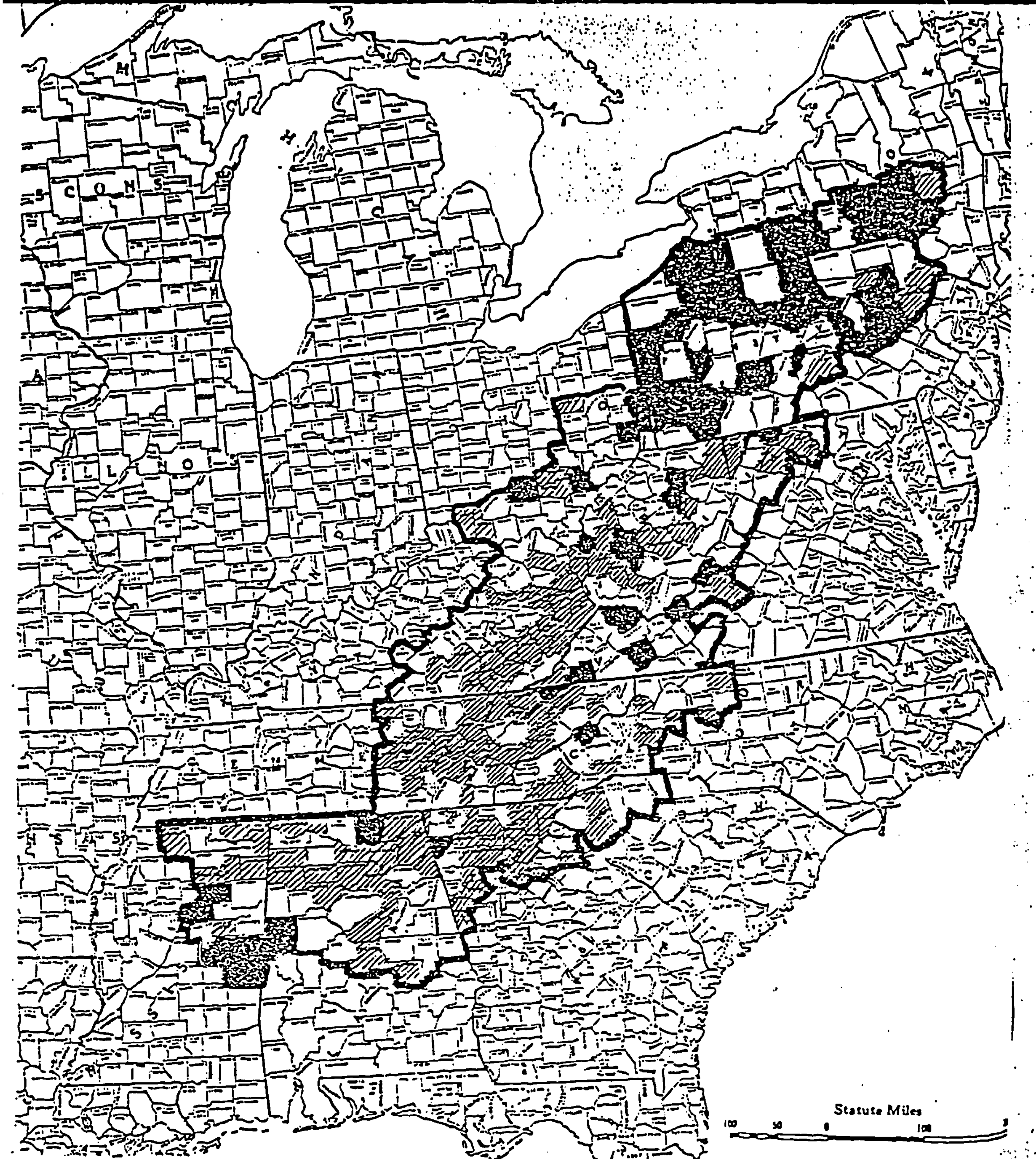
The Appalachian region as defined by the Appalachian Regional Commission is the creature of politics and a mechanism to incorporate as many states and congressional districts as possible. Thirteen states were included within the Appalachian region providing twenty-six senators and fifty-nine members of the House of Representatives as potential supporters for the programs of the Appalachian Regional Commission because they touched the districts and states represented by these members of Congress. In addition, local political and business elites in 397 counties were organized into economic development activities and provided local support.

The logic of this definition extends beyond mere political expediency however. Each part of the region has definite economic and human needs. These are reported here. However, the region is very diverse and its needs vary by kind and degree. The region extends from Southern New York to Eastern Mississippi and has over twenty million people residing within it. It is contiguous with major metropolitan areas including Atlanta, Cincinnati, Harrisburg, Lexington, Memphis, and Montgomery. Other major cities including Albany, Baltimore, Buffalo, Cleveland, Columbus, Nashville, New York, Philadelphia, and Washington D. C. are within a hour's drive of its borders. Generalizations about such a region and so many people are nearly impossible. Consequently, this report emphasizes analysis by subregions. We will follow ARC's convention of reporting on Northern, Central, and Southern Appalachia whenever possible. Each subregion experienced different economic changes since 1965 and different human consequences. Likewise subregions often mask the different experiences of counties within a subregion. We will report the differences that we know. However, it is important to note that we are not dealing with a homogeneous geographic entity. There are important differences within the region and even within subregions between rural and urban areas. The geography and subregions are so important to this report that they are indicated on the cover.

Chapter 2 Population Changes

It was regional and national news when ARC announced that outmigration from the Appapachian region had ended and that by the mid-1970s a net migration into the region was apparent. This was a reversal of two decades of outmigration. Because of this reversal the region's population increased at a rate almost equal to that of the nation from 1970 to 1980. But there were important differences in population change and migration among the subregions. As Figure 2-1 indicates there were some counties with only modest growth and some counties with population declines from 1970 to 1980. It is evident that the most rapid growth occurred in Central and Southern Appalachia. This was due, in part, to the boom in coal in Central Appalachia. There may be at least two explanations in Southern Appalachia. First, the economy performed relatively well there. Second, there are Appalachian Georgia counties which are contiguous to Atlanta and whose incredible growth was a combination of economic activity and urban sprawl. In Northern Appalachia a continued slow population growth or decline was apparent and indicative of continued outmigration.

In addition to increases and decreases in numbers the distribution of the Appalachian population by age changed from 1970 to 1980. There are fewer children in the region; more young working age people; and more older people of pre-retirement and retirement age. While the number of children declined overall, some areas had increases in their numbers and their needs may increase because of increased employment of women outside of the home and changed family patterns (see section 4C) and changes in public programs. The number of older people coupled with more of them living



Map 2.1

POPULATION CHANGE 1970-80

alone suggests a present and future need for increased services for the elderly.

2A Demographics

In 1970, 18.2 million people lived in the Appalachian region. In 1980, 20.2 million people lived in the region. This was an 11.1 percent increase while nationally the population increased 11.4 percent. In numbers, the population of the Appalachian region increased by about two million people between 1970 and 1980. This ended two decades of very slow growth in population from 1950 to 1970. The entire population growth of this twenty year period was only 839,000 people. By 1985 the population of the Appalachian region is expected to reach 21.2 million people. Population figures by state for 1960, 1970, and 1980 and percentages of change are given in Table 2A.1. They indicate significant changes in coalmining areas like Virginia, Kentucky, and West Virginia from population decreases to population increases. There are slow or declining rates of growth in Maryland, New York, and Pennsylvania but rapid and increased growth in Appalachian Alabama, Georgia, Mississippi, North Carolina, South Carolina, and Tennessee. All of these latter states had population growth rates in excess of the regional and national averages.

These changes and growth rates should not obscure the population distribution indicated in Table 2A.2. About half of the region's population is in the north, almost one-third in Pennsylvania; one-tenth is in Central Appalachia; and about 40 percent in Southern Appalachia. Even within subregions there are important patterns to this population growth.

TABLE 2A.1

POPULATION GROWTH IN THE APPALACHIAN REGION

	1960	1970	1980	% Change 60 - 70	Rank	% Change 70 - 80	Rank
United States	179,323,175	203,302,031	116,504,825	13.4		11.4	
Appalachian Region	17,726,567	18,216,957	20,234,335	2.8		11.1	
Alabama	1,982,286	2,137,404	2,427,024	7.8	5	13.6	8
Georgia	675,024	813,844	1,103,941	20.6	1	35.6	1
Kentucky	922,152	876,501	1,077,095	-5.0	11	22.9	2
Maryland	195,808	209,349	220,132	6.9	6	5.2	12
Mississippi	406,187	418,644	482,712	3.1	8	15.3	7
New York	1,000,064	1,056,552	1,083,266	5.6	7	2.5	13
North Carolina	939,740	1,038,956	1,217,723	10.6	3	17.2	5
Ohio	1,119,555	1,129,855	1,262,558	0.9	9	11.7	10
Pennsylvania	5,930,784	5,930,522	5,995,097	-	10	6.1	11
South Carolina	586,523	656,325	791,587	11.9	2	20.6	3
Tennessee	1,607,689	1,734,503	2,073,647	7.9	4	19.6	4
Virginia	500,334	470,265	549,909	-6.0	12	16.9	6
West Virginia	1,860,421	1,744,237	1,949,644	-6.2	13	11.8	9
Northern Appalachia	9,705,600	9,734,022	10,082,868	.0		3.6	
Central Appalachia	1,879,100	1,744,891	2,099,705	-7.0		20.3	
Southern Appalachia	6,141,800	6,738,044	7,948,298	10.0		18.0	

Source: ARC and Little

Central Appalachia is the only predominantly rural area. Seventy-five percent of the population is in rural counties in Central Appalachia compared with 25 percent in the region, 18 percent in Northern Appalachia and 23 percent in Southern Appalachia. Central Appalachia's population increase was predominantly in rural counties, 75 percent. Northern Appalachia's population increase from 1970 to 1980 was only 3.6 percent but 65 percent of that was in rural counties. Fifty percent of the population increase in Southern Appalachia was in metropolitan counties and only 23 percent in rural counties.

Throughout the region the major metropolitan areas declined or had slower than regional average growth rates except for Southern Appalachia. Counties peripheral to major metropolitan areas had fast growth in all the subregions. This was especially true in Southern Appalachia. Counties surrounding Birmingham, Atlanta, and Greenville, S.C. recorded large increases in population. In fact, the counties reporting the most rapid growth, that is, all counties with a 40 percent increase in population or more between 1970 and 1980 are counties contiguous with major metropolitan areas, mainly in the South (ARC/1). A majority of them were also on the edges of the region. Table 2A.2 records population increases by the size of counties. This table makes clear that the increase in population in rural and peripheral metropolitan counties is much faster than in metropolitan counties within the region. Again however, in terms of absolute numbers more people, almost half, live in major metropolitan areas within the region than in either urban counties, 25 percent, or rural counties, 26 percent.

TABLE 2A.2

Population Trends and Annual Rates of Change Appalachian Region, Subregions and County Groups 1970-1980

Geographical Division	Population: April 1, 1980 (Census)*	Population: April 1, 1975 (Estimate)	Population: April 1, 1970 (Census)†	Population Change: 1970-1980 (Number)*	Population Change: 1970-1980 (percent)*
Appalachian Region	20,130,868	19,034,389	18,216,957	1,913,911	10.5%
Metropolitan Counties	9,842,082	9,461,039	9,217,806	624,276	6.8
Major Metropolitan	8,136,895	7,983,843	7,920,922	215,973	2.7
Peripheral Metropolitan	1,705,187	1,477,196	1,296,884	408,303	31.5
Urban Counties	5,086,662	4,807,277	4,580,036	506,626	11.1
Rural Counties	5,202,124	4,766,073	4,419,115	783,009	17.7
Subregions					
Northern Appalachia	10,082,865	9,890,543	9,734,022	348,843	3.6%
Metropolitan Counties	5,314,332	5,328,175	5,353,698	-39,366	- 0.7
Major Metropolitan	4,866,788	4,922,014	4,974,668	-107,880	- 2.2
Peripheral Metropolitan	447,544	406,161	379,030	68,514	18.1
Urban Counties	2,930,960	2,848,779	2,770,257	160,703	5.8
Rural Counties	1,837,573	1,713,589	1,610,067	227,506	14.1
Central Appalachia	2,099,705	1,888,286	1,744,891	354,814	20.3%
Metropolitan Counties	214,618	199,621	194,334	20,284	10.4
Major Metropolitan	122,329	114,277	112,676	9,653	8.6
Peripheral Metropolitan	92,289	85,344	81,658	10,631	13.0
Urban Counties	376,319	335,971	309,412	66,907	21.6
Rural Counties	1,508,768	1,352,694	1,241,145	267,623	21.6
Southern Appalachia	7,948,298	7,255,560	6,738,044	1,210,254	18.0%
Metropolitan Counties	4,313,132	3,933,243	3,669,774	643,358	17.5
Major Metropolitan	3,147,778	2,947,552	2,833,578	314,200	11.1
Peripheral Metropolitan	1,165,354	985,091	836,196	329,158	39.4
Urban Counties	1,779,383	1,622,527	500,367	279,016	18.6
Rural Counties	1,855,783	1,699,790	1,567,903	287,880	18.4

Source: ARC staff tabulations from 1980 Census of Population and Housing, *Preliminary Reports* (PHC80-P-2 through PHC80-P-52), for the Appalachian states.

*Preliminary 1980 Census population.
†1970 Census population as revised.
‡1975 estimates from interpolated revenue sharing Census estimates.

BEST COPY AVAILABLE

2B Age Cohorts

The Appalachian population, since 1970, has seen an increase in the percentage of people age sixty-five and over. The region has 11.2 percent of its population in this age group as compared to a national average of 10.5 percent. Generally, people sixty-five and older constitute a larger portion of the Northern Appalachian counties than the Southern subregion and Central Appalachian figures fall between them. The Appalachian Pennsylvania population has 13.4 percent of its population 65 and over, for example, whereas Appalachian Georgia has 9.6 percent and South Carolina has 10 percent of their populations in this age category. One-third of older Appalachians live in Pennsylvania.

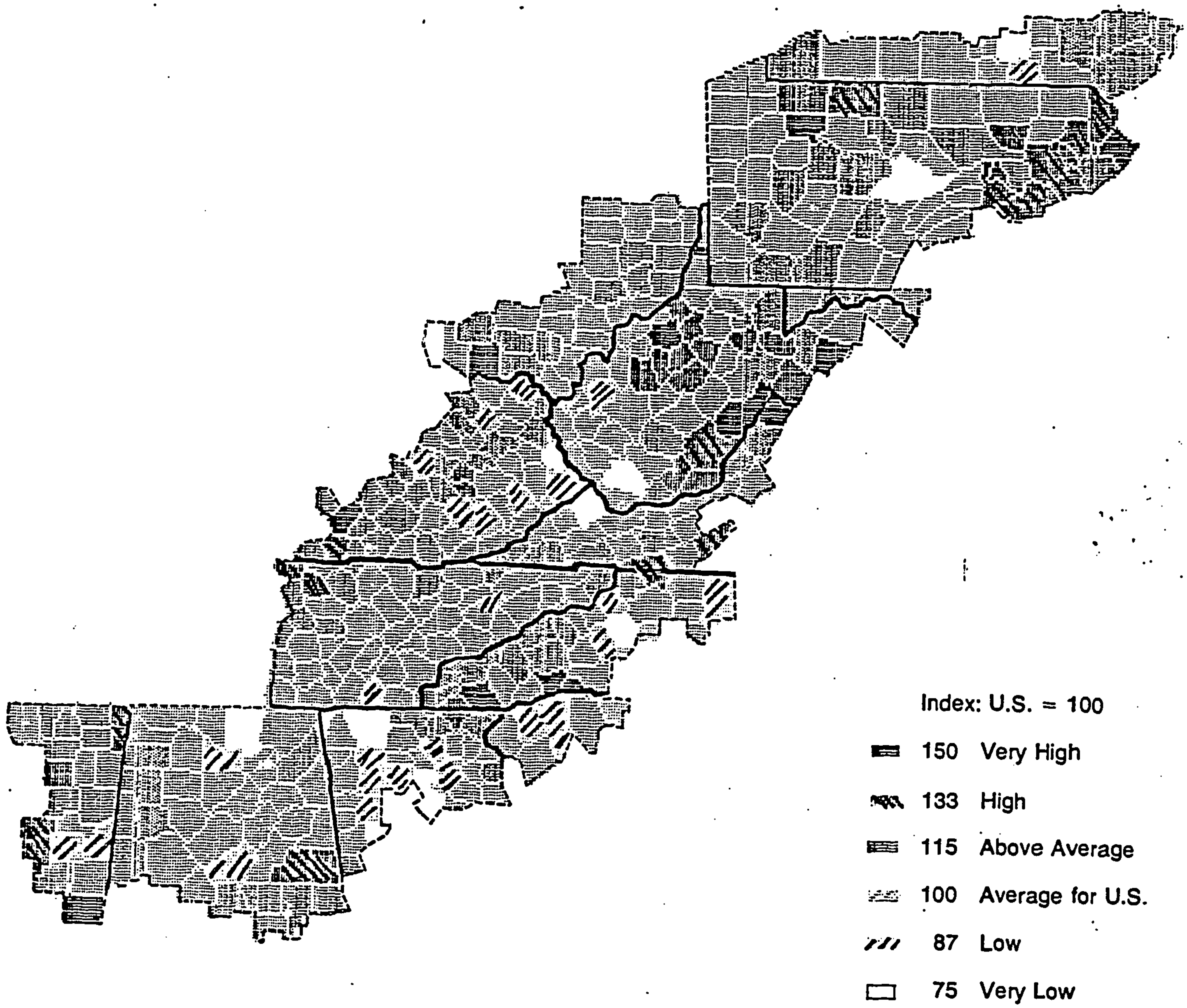
There are important variations in the number of older people within each state and each subregion. There are, for example, twelve counties in the region with an older population equal to 15.8 percent or more of the total county population. Figure 2B.1 gives an indication of the population sixty-five years and older as indexed against the national average for the year 1975. In general, rural plateau counties and mountain counties have larger percentages of elderly people. Likewise, urban and metropolitan counties especially in Northern Appalachia also have larger percentages of an elderly population for the same reasons: relatively low economic development encourages younger people to outmigrate.

The population figures broken down by age make clear that there has been an increase in the absolute number of older people living in Appalachia and not merely a relative increase vis-a-vis the rest of the

FIGURE 2B.1

Index of Population 65 Years of Age and Older as a Percent of Total Population 1975

Appalachian Region by County

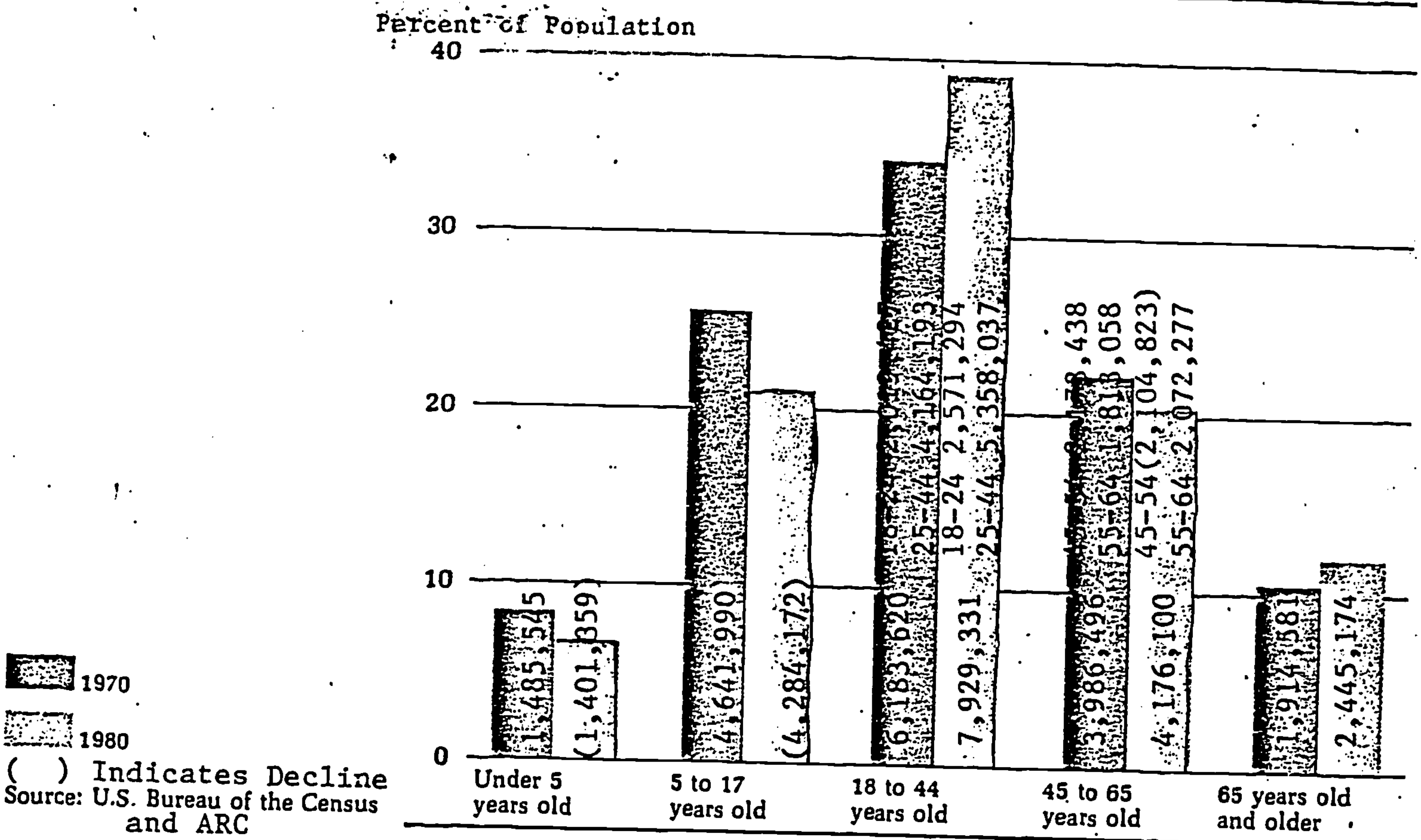


Source: U.S. Bureau of Census 1975 population estimates provided by the U.S. Department of Health, Education and Welfare, Administration on Aging. Virginia independent cities are combined with counties. Map produced by composite mapping system developed by the U.S. Department of Commerce, Economic Development Administration and furnished to the Appalachian Regional Commission.
Note: Water bodies and areas with less than 7.9 percent population 65 years of age and older shown as blank.

population. In 1980 there were one-half million more people of ages sixty-five or older than in 1970. This was almost 27 percent of the region's population increase during that decade. The older population will continue to increase in absolute numbers and proportionately as long as life expectancy keeps increasing. Figure 2B.2 shows populations in 1970 and 1980 by age. The percent of the population under eighteen years of age decreased. This is a decline in absolute numbers as well. Overall the data indicate that the natural growth rate in the region is slower than that of the nation and its own previous rate. There are two important exceptions in Kentucky and West Virginia. Both states had increases in the population under five. In fact, although the region's population under five years of age declined by about 100,000 from 1970 to 1980, Kentucky gained almost 13,000 such people and West Virginia more than 7,000 according to unpublished estimates of the ARC. These increases in the baby population is a reflection of the growth in the young adult population in these states as well as higher birth rates.

Figure 2B.2 is useful also in showing the important pattern of the changes in the working age population. The population of ages 45-54 decreased. The population of ages 55 to 64 years increased by more than one-quarter million or about 13 percent of the region's entire population increase. Part of this increase represents a return of previous outmigrants who were faced with structural unemployment or incentives for early retirement. The number and locations of this segment of the population increase are important but difficult to determine. These people may aggravate the serious employment problem of portions of the region and well compound the need of the region for services for the elderly eventually.

Figure 2B.2
AGE COMPOSITION OF POPULATION CHANGE, 1970-80



The population of ages 18-24 increased by more than one-half million or 27 percent of the total regional population increase. The age categories are not precise enough to assess the place of the population of the baby boom but it is likely that the relative decline in young people and relative increase in the young working age population is due to the aging of people born between 1948 and 1960. These people who were between twenty and thirty-two years of age in 1980 are now part of a larger, younger work force that will be looking for work for a long time. In addition, the region may hear an echo of this baby boom population which is now fully of child bearing age. This increase in the older population along with high unemployment and limited employment opportunities for the young work force which we shall detail is a regional replication of the national problem with our social security program of beneficiaries increasing at a pace faster than the younger work force.

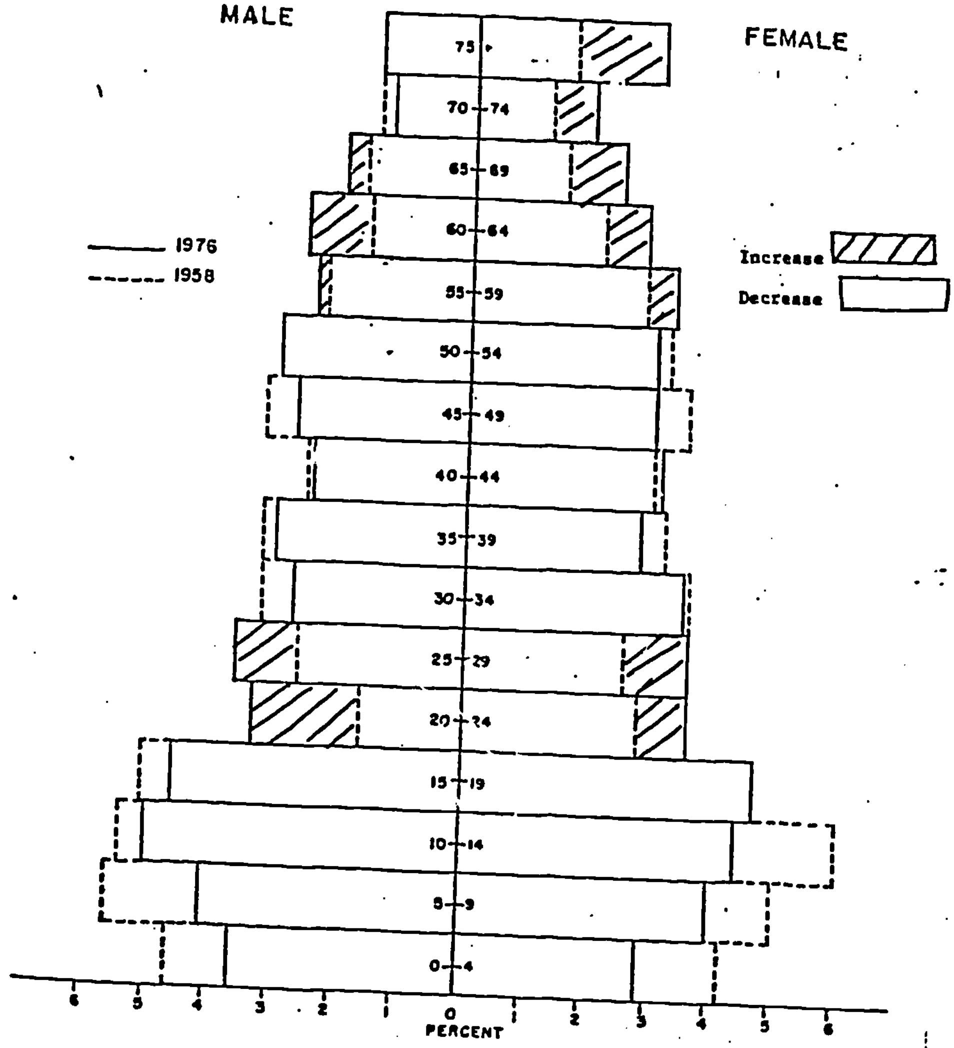
Thomas Ford conducted a study of the family in Central Appalachia (1983). His comparison of families in 1958 and 1976 offers some further evidence of the changes among age cohorts. The only age groups to show increases from 1958 to 1976 were those of the baby boom population, those 20-24 and 25-29, and the older population, those 55 and older. His figures are given in Figure 2B.3. They indicate a substantial increase in the number of older women in Central Appalachia. The five year intervals offer a more complete picture of the age cohorts but his data are only for 1958 and 1976 and for the Central Appalachian region. Nevertheless they are consistent with data on regional changes from 1970 and 1980 and may offer refinements of the broader regional data and indications of the increased severity of recent and future recessions because of increases in the young work force.

2C Migration

The region's overall population increase was assisted by a reversal of migration in the decade 1970 to 1980. Table 2C.1 indicates the nature of migration in and out of the region since 1950. The migration since 1970 has been a net inward flow to the region. This immigration had wide variations within the region which paralleled the economic activity within the region. Economic activity around cities such as Atlanta and Knoxville attracted a working-age population. Economic activity in the coal fields did the same. It may also be that economic decline in other areas pushed former outmigrants back to the region. In any event, between 1970 and 1980 Central and Southern Appalachia received the greatest share of migrants most of whom were probably young working-age and pre- or post-retirement age.

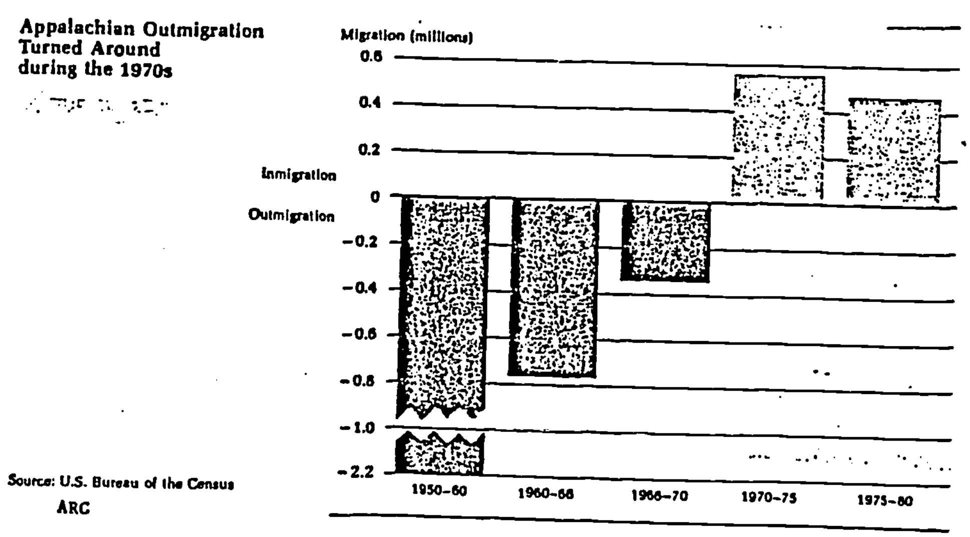
A study by ARC in the 1960s (Saunders) identified areas by varying degrees of economic activity. Those which had relatively high employment in food products and fabricated textiles, very low employment in mining, high labor force participation, higher per capita income and relatively low unemployment account for more than 60 percent of the population increase within Appalachia between 1970 and 1980. These areas include the Appalachian portions of Alabama, Georgia, North Carolina, South Carolina, and Tennessee. Other areas, such as Kentucky, West Virginia, and Virginia had far less favorable economic characteristics in the 1960s but increased activity in coal mining in the 1970s. Consequently, there was heavy

FIGURE 2B.3



Percentage Distribution of the Household Population by Age and Sex, Central Appalachia, 1958 and 1976. Source: Ford:57

FIGURE 2C.1



population increase in portions of these states which amounted to 24 percent of the region's total population increase. Even in these relatively good times, however, these areas continued to have low levels of participation in the labor force, high unemployment, and low per capita income as we shall see.

There are other noteworthy patterns to the population shifts attributable to migration and economic activity. Northern Appalachia was an area of low economic growth and decline and saw negligible net inmigration or continued outmigration. On the other hand, the Southern Appalachian region, an area of growth in excess of national figures up to 1975, saw net inmigration greater than 10 percent. This figure is inflated by the population growth around the Atlanta region which doubled in population between 1970 and 1980. In fact, the counties of the Atlanta metropolitan region accounted for 10 percent of the net population increase within the entire Appalachian region between 1970 and 1980. Gwinnett County alone grew by 94,000 people which is about 5 percent of the entire region's increase during this time. This growth indicates that the population increase by inmigration was greatest in areas on the edges of the Appalachian region especially in Georgia, North Carolina and South Carolina. Counties peripheral to Birmingham, like those around Atlanta also reported population increases in excess of 40 percent. Only Chattanooga and Knoxville recorded similar growth in metropolitan regions well within the region. In addition, Powell, Martin, and Laurel, Kentucky recorded population increases of 40 percent or more and were the only rural counties in the region to do so. Kentucky reported a 23 percent population increase or just more than 200,000 people from 1970 to 1980. Areas where outmigration continued include East Central Mississippi, central West Virginia, New York, and southwestern Pennsylvania.

Since 1980 the population growth of the region has slowed. There is a continuing net outmigration for Northern Appalachia including parts of West Virginia. Net inmigration into the Carolinas and Georgia continues although at a slower rate. Contributing to these migration patterns are the recessions since 1975 and the economic decline which has hurt the region more than the nation (see Chapter 3). Between 1981 and 1983 an estimated 400,000 jobs were lost in the Appalachian region and unemployment rates exceeded national unemployment rates by 50 percent (ARC, 1983A).

2D Summary

For the past thirty years the Appalachian region has had outmigration and inmigration. The form and degree of migration has varied depending upon economic activity in various parts of the region and the economic activity outside the region. The migration of the 1970s seems to be a combination of regional economic activity and economic decline elsewhere. The coal boom of the mid-1970s attracted inmigrants to Kentucky and Virginia especially and to West Virginia less so. The growth of some urban areas, especially in Southern Appalachia also promoted inmigration.

Analysts' opinions about migration have changed in twenty years. There are fewer references to "relatively rural and non-viable regions" and fewer recommendations that outmigration be encouraged (Saunders:87). The Appalachian regional experience with migration is indicative that previous ideas towards natural shifts in the labor market are not as relevant and that more has to be done to employ people where they are. Shifts in labor pools may occur when a labor surplus exists in one place and labor shortages exist in other areas; general growth in employment is also necessary. However, in the seventies we witnessed the baby boom generation enter the work force just as the economy slowed down. More jobs were created but at a rate slower than the growth of the work force. Consequently there were labor surpluses or unemployment overall. The migration into the region is in part related to the preservation of jobs in Southern Appalachia because of lower labor costs there. But as long as a labor surplus exists within or even beyond our national boundaries there will be incentives to lower labor costs below Southen Appalachian levels and this will influence employment. Another pressure on employment will be automation. Together the search for lowest labor costs and automation will mean less employment growth and perhaps a decline in employment in the region's industries especially in areas dominated by textiles and apparels. These are the counties that reported the largest inmigration previously. As a consequence, population growth there should continue to slow down. Northern Appalachia is far advanced in this process of economic decline due to new production techniques and a search for lower labor costs. Hence, the population there declined or showed very low growth. On the other hand, economic changes and declined unemployment outside the region may stimulate a return to the region of former outmigrants if they worked in industries faced with structural unemployment.

The population changes which took place in Appalachia recently not only represent reactions to economic activity inside and outside the region; they represent future issues as well. There are increases in population segments most vulnerable to poverty and hence most dependent upon public programs. These are the older people and, especially, older women. Moreover, while the population of children did not increase from 1970 to 1980 their number is likely to increase after 1980 as an echo of the baby boom. Children remain vulnerable in whatever number. Young members of the work force are most likely to be parents of the youngest, most vulnerable children. The growth of the younger portion of the work force in Appalachia and its predominant part in childbearing makes the question of employment and unemployment more acute than before. For example, in Kentucky 66 percent of the 1970-1980 population increase was among the population 18 years to 44 years. Such increases make it imperative that we stimulate the economy to create new jobs and that we renew our commitment for public support of the vulnerable. Otherwise we can only hope for economic expansion outside the region, a labor shortage and a new round of outmigration. This series of events is unlikely and provides only a temporary solution as experience has shown.

The year 1983 ended with conflicting economic news. On the one hand, there was the good news that inflation came down, interest rates declined, unemployment declined slightly to 1980 levels and the leading economic indicators confirmed that the economy was making a modest recovery from the recessions which gripped it since 1979. On the other hand, there was bad news. More people were working but there were fewer high paying manufacturing jobs and basic industries, like steel, were in decline. The experience of U.S. Steel indicated the mixed signals of the economy. On December 27, 1983, U.S. Steel announced cutbacks that would eliminate 15,400 high paying, union jobs. On the same day its stock rose five-eighths of a point to 29 7/8 in active trading on the New York Stock Exchange.

The American economy is undergoing substantial change with important implications for American society. Increased international economic arrangements and increased labor productivity through technological innovation have made possible higher rates of profit and seemingly contradictory experiences of profitable companies in declining industries. U.S. Steel is an example of a case in which a major cutback encouraged investors to anticipate increased profits. There was other evidence of profound changes at the end of 1983. General Motors agreed to build small cars jointly with Toyota in California and to build jeeps on its own in the Peoples Republic of China. Labor unions of bus drivers, miners and auto workers conducted strikes or considered options to limit the concessions in wages and benefits they were asked to make or anticipated management and industry asking of them. Workers acted differently on January 11, 1984 in

Weirton, W. VA. when steelworkers purchased the mill at which they worked to continue its operation. Together this news indicated how our economy now combines increased internationalization, increased labor productivity, high unemployment rates, a decline in basic industries, and a decline in the wages and benefits of many workers.

In many ways 1979 and not 1983 may be the benchmark for the national economy. The recession which began in 1979 marked a serious change in the national and Appalachian economy. It lasted until the middle of 1980 and was followed in mid-1981 by another recession. These changes hurt the region's economy much more severely than they hurt the national economy and signs of recovery in the region came later and were less strong than in the rest of the nation. As we shall see, economic forecasters predicted slow growth in the manufacturing sectors of the American economy so that employment in many sectors of manufacturing in 1995 will not equal the number of people employed in those sectors in 1979. This will have a profound influence on the economy of the region because of its heavy reliance on these manufacturing sectors of primary metals, textiles, and apparels.

It may very well be that in retrospect the past four years will appear merely as a recurrence of a boom and bust cycle in the region and a glitch in the national economy. But national analysts suggest otherwise. They suggest we are in the midst of serious economic change. Past evidence, projected trends and the specifics of the region's economy suggest that the Appalachian region is also in the midst of these national economic changes. Economic changes within the region, and in the nation, as well as socioeconomic measures are best analyzed by organizing three time periods: 1965–73, a time of rapid expansion nationally; 1973–79 economic stagnation and escalating energy prices; and 1979 - recent recessions. Events during these periods made clear that the region has many of the serious challenges which are predicted for the nation in the future. In a word, the economic outlook for the region is discouraging.

3A Industry

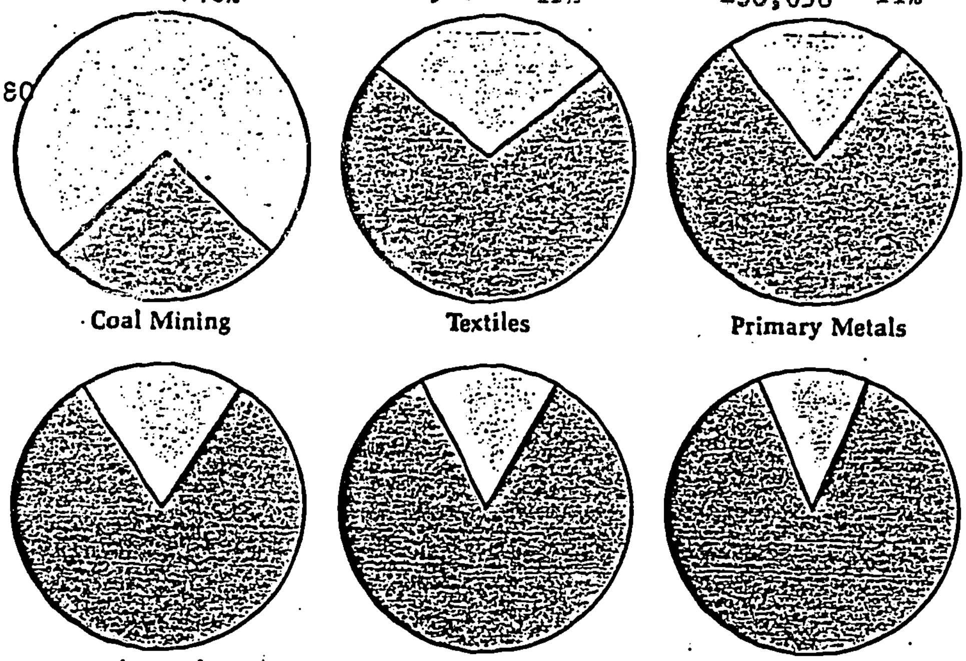
The economy of the Appalachian region is dominated by a few major industries which include mining, metals, textiles and apparel, and wood products. Employment in the region is concentrated in these industries in excess of the portion of the U.S. labor force. For example, in 1980, 7.7 percent of the American labor force lived in Appalachia but 73.7 percent of all coal miners could be found there. Figure 3A.1 portrays Appalachian employment in selected national industries. It also indicates employment levels in those industries in the region for 1974 and 1980 and the percent of change. The percent of Appalachian workers in manufacturing declined from 30 to 27 from 1974 to 1980.

With the exception of mining, the major industries of Appalachia employed fewer people in 1980 than in 1974. In 1981 and 1982 the decline in employment escalated and 400,000 jobs were lost in the region. That is almost two-thirds of the number of jobs acquired since 1974. Most of these jobs, 75 percent, were lost in the manufacturing sector. Coal employment declined significantly as well. Forty thousand jobs were lost in this two year period, a decline of 22 percent from the 1980 level. In these two

FIGURE 3A.1 MANUFACTURING EMPLOYMENT IN APPALACHIA

Appalachia Is Heavily Dependent on Traditional Manufacturing Jobs and Mining

	Percent of total U.S. 1980
Coal Mining	3.7%
Textiles	8.1
Primary Metals	20.3
Apparel	18.0
Stone, Clay and Glass	15.2
Chemicals	12.2
Lumber and Furniture	18.0



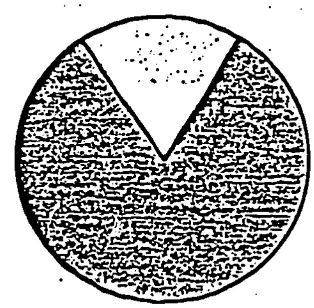
	Coal Mining		Textiles		Primary Metals	
1974	127,124		280,134		267,486	
1980	178,454	+40%	239,288	-15%	238,056	-11%

	Apparel		Stone Clay and Glass		Chemicals	
1974	244,134		107,939		123,020	
1980	230,807	-5%	95,943	-11%	112,972	-8%

Appalachia

Non-Appalachian United States

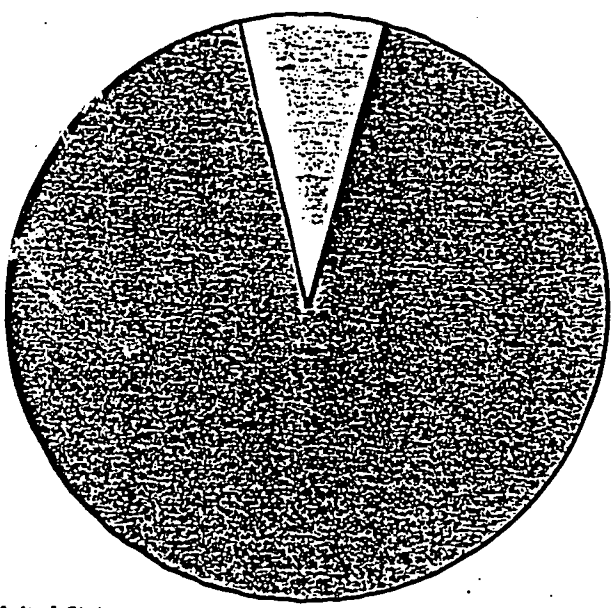
Source: U.S. Bureau of the Census



Lumber and Furniture

1974	161,078	
1980	159,650	-1%

1980 Appalachian Employment Was 7.7 Percent of U.S. Employment



Appalachia

Non-Appalachian United States

Source: U.S. Bureau of the Census

1974	7,340,000
1980	7,962,000

ARC and Little

Manufacturing Employment Appalachia

1974	2,199,394	(30%)
1980	2,164,775	(27%)

years, the Appalachian region lost two and one-half manufacturing jobs for every one it had gained from 1970 to 1980.

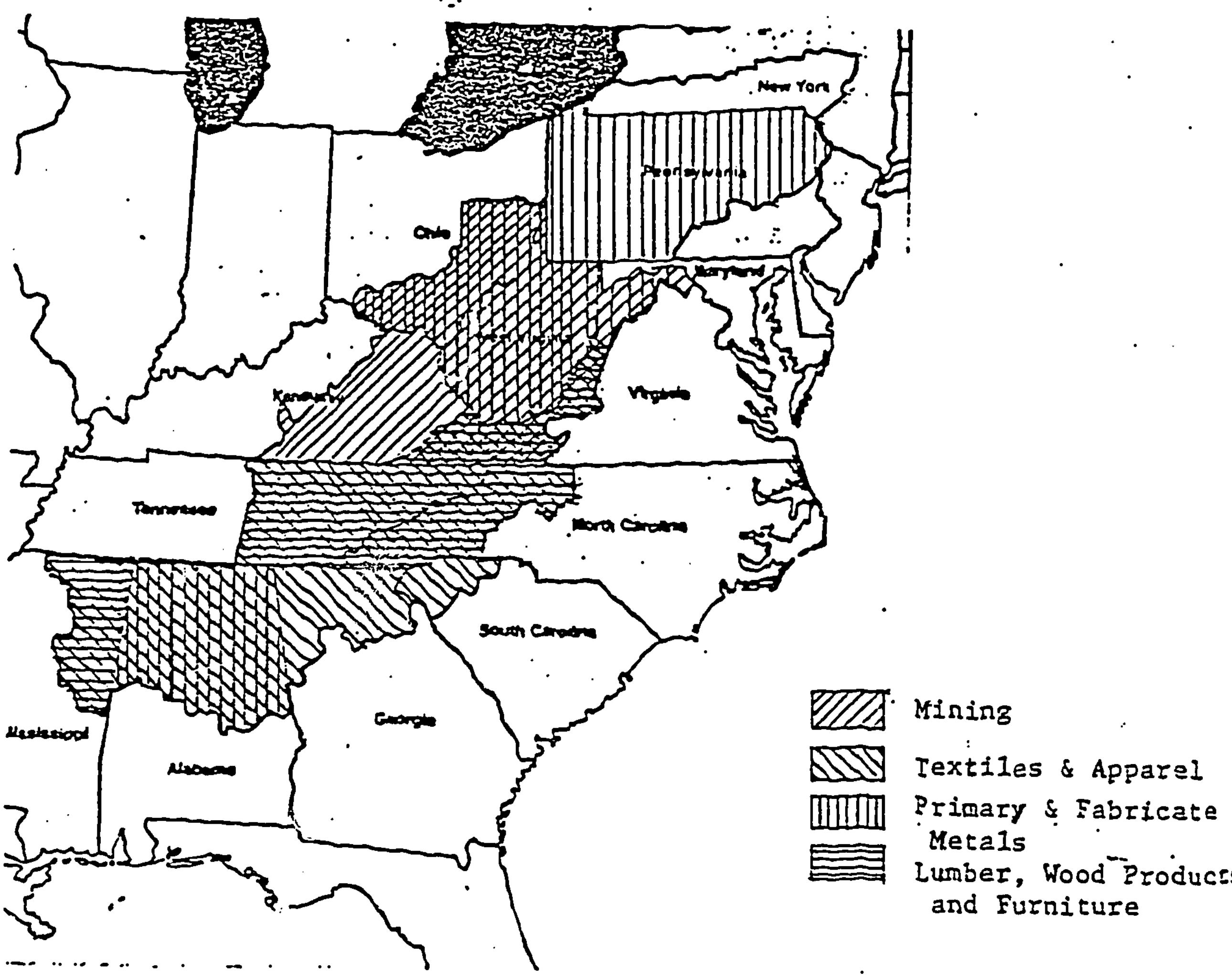
When one examines the sporadic recessions from 1973 to 1975 and the recession of 1979 to mid-1980 and from mid-1981 until 1983, various sectors of the Appalachian economy reacted differently. The coal industry boomed strongly during the earlier recession which was caused, in part, by the increase of energy prices which fostered a general economic decline. After 1979 the coal industry declined, especially metallurgical coal. Textile, steel and furniture regularly declined more sharply in each recession than the general national economy; although there were variations in each industry and among subregions.

Analysts have changed their interpretation of the economy of the Appalachian region. A study conducted in the mid-1960s described the region as "a good textbook example of a regional pocket which is lagging behind much of the rest of the United States in many categories of economic development" (Saunders: 1). Recent scholarship makes it obvious that it was the historical form of economic development in Appalachia and not a lag in economic development categories that explain, in part, economic conditions in the region (Billings; Eller; Gaventa; Lewis; and Walls). In a slightly different vein a study of the Appalachian economy in 1982, related economic development problems to an industrial base which is "relatively mature" with stable or declining demand for products and production processes which are labor intensive, import sensitive and resource based (Little: 1). These latter two assessments suggest that current economic changes exacerbate regional economic problems associated with historical patterns of development.

One measure of economic development is the location coefficient of industries within the region. The percentage of employment in a particular industry in a county when divided by national employment figures in that industry yields the location coefficient (Saunders, 11; ARC, 1983A). When a county has a larger percentage of its work force in a particular industry than the national average then its location coefficient will be greater than 1. It is assumed in such a case that a county with a location coefficient of 1 or greater has some advantage to attract industry to that area. Obviously, some industries are located in particular counties because of the unique location of resources related to the industry. For example, coal mining and steel making are more heavily concentrated in counties where there are the appropriate minerals. Concentrations of the work force in furniture can be found in counties where there is an abundance of timber. Concentrations in the chemical industry are associated with usable water and according to the analysis, low environmental regulation within the region (Saunders: 61).

It is important to understand that the region has industry and the spatial concentrations of those industries. Figure 3A.2 identifies the major industries and their locations within the Appalachian region in very general terms. Primary metals are located in North Appalachia, West Virginia, Pennsylvania, and New York as well as in Southern Appalachia around Birmingham. Textile and apparels are concentrated in New York, Pennsylvania, and especially in South Carolina, North Carolina, and Appalachian Georgia. Coalmining activities are predominantly in Central

FIGURE 3A.2



Substate portions of Appalachia with concentration rates more than twice the national average for selected industries.

GEOGRAPHIC DISTRIBUTION OF MAJOR INDUSTRY CONCENTRATION IN APPALACHIA--1977

Source: U.S. Bureau of Census, County Business Patterns, 1977.

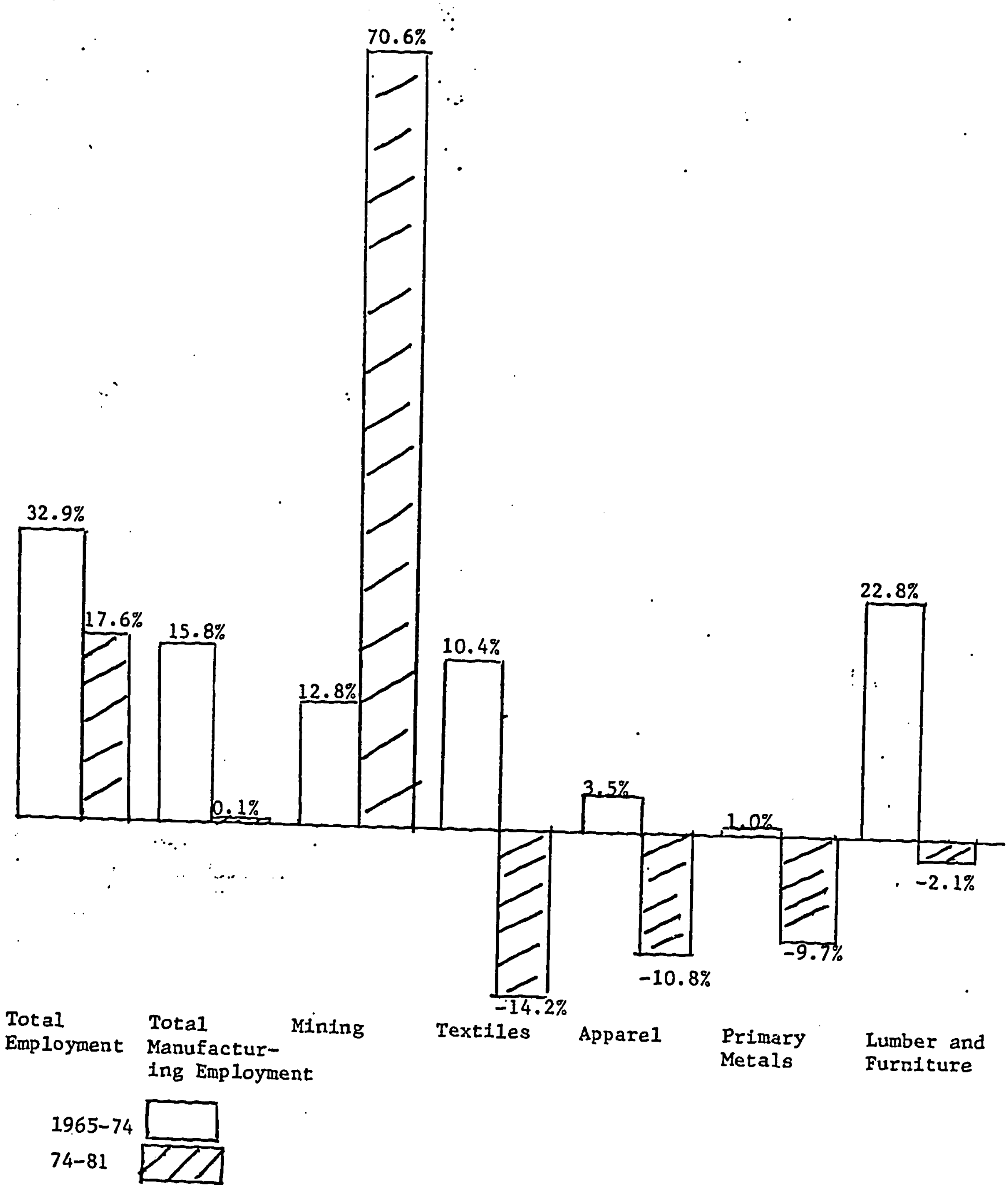
Appalachia, with some in Southern Appalachia in Alabama and Northern Appalachia in Pennsylvania, West Virginia, and Ohio. Tennessee, North Carolina, Georgia and Mississippi are areas where timber and lumber industries are concentrated.

These industries are "mature" in the sense that there is little prospect for growth in domestic demand and that the plants have been undercapitalized. These industries are also resource based and labor intensive. They are sensitive to product substitution, e.g. plastic for wood, and shifts to newer, more efficient production centers with more automation and/or lower labor costs. These industries are very basic to the industrial nature of any economy. Coal, steel and textiles are historically the essence of the industrial revolution. The Appalachian economy is in trouble because the industrial economy of America is changing. Its manufacturing industries are in decline especially those which are predominant in Appalachia, steel and textiles. Coal mining continues a pattern of boom and bust.

Figure 3A.3 illustrates how the Appalachian dominant industries have performed from 1965 to 1981. In general, U.S. manufacturing industries have had employment growth rates significantly lower than national employment growth rates and among Appalachian dominant industries only coal mining and lumber have had employment growth rates equal to or better than the national figures for manufacturing. Textiles, apparels and primary metals are significantly lower than the national employment figures for manufacturing. Thus, mature industries mean declines in employment in most cases.

FIGURE 3A.3

Industrial Growth Rates in Appalachian Dominant Industries, 1965-74, 74-81.

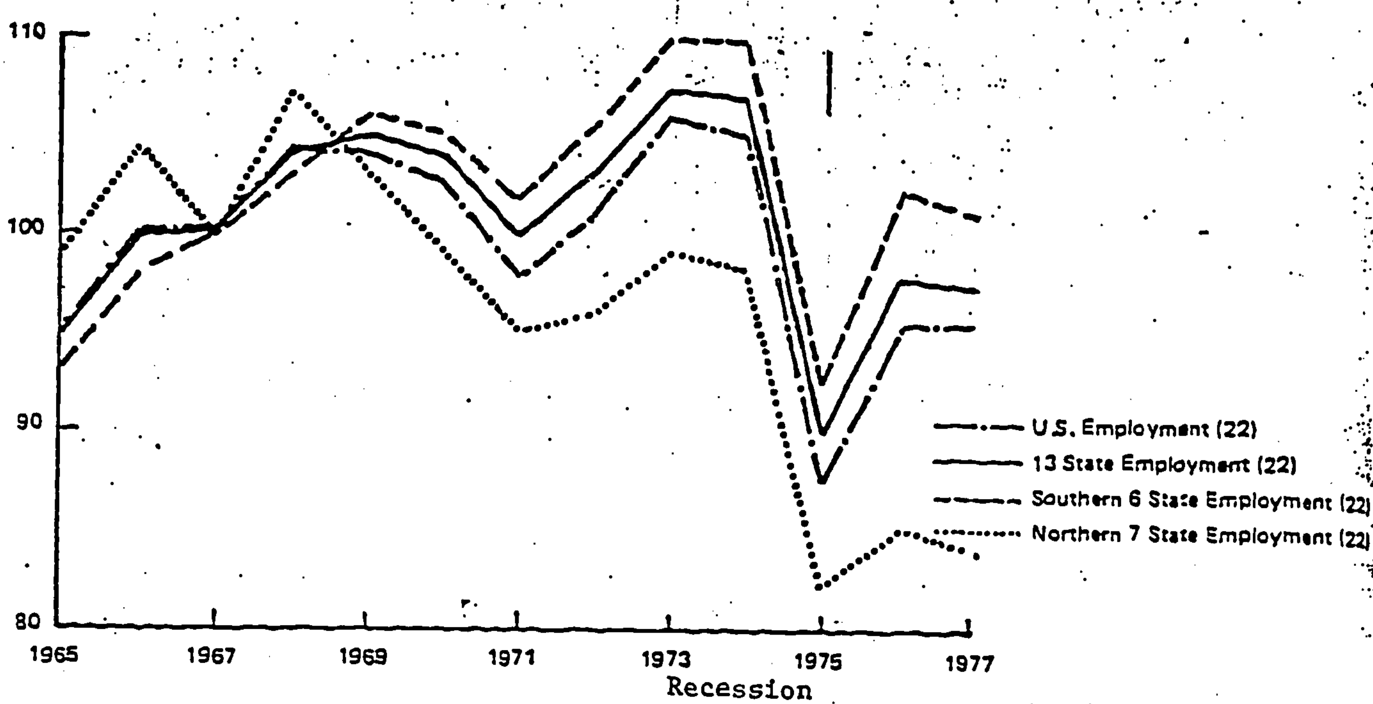


These figures need some reinterpretation to appreciate their significance for the region. Figure 3A.4, 3A.5 and 3A.6 portray the employment rates in textiles, apparel, and wood products from 1965 to 1977. Separate figures are given for the United States, Appalachia, Northern Appalachia, and Southern Appalachia. The graphs are for the entire state and not just the Appalachian portion. Nevertheless, these figures suggest that from 1968 forward the Southern Appalachian states grew in their relative share of employment in declining industries. A frost belt to sun belt industrial employment transition occurred in the actual numbers of jobs and especially in the relative share of employment. Some industries were declining slower in Southern Appalachia. But this was most likely a transition which continued and the same forces which influenced the shift to the South are at work to shift the relative share of employment elsewhere. Figure 3A.7 displays employment levels within the region relative to the national figures. It is apparent that Southern Appalachia has done considerably better than the Northern region since the 1975 recession and during the current recession. From 1975 to 1977, Southern Appalachia had a rapid increase in employment rates which exceeded national rates. Growth slowed and paralleled national employment rates in the recent recessions. The dominant industries of each subregion have impacted and will impact those subregions differently in terms of employment and economic activity.

Coal

The Appalachian region contained 24 percent of the nation's coal

FIGURE 3A.4



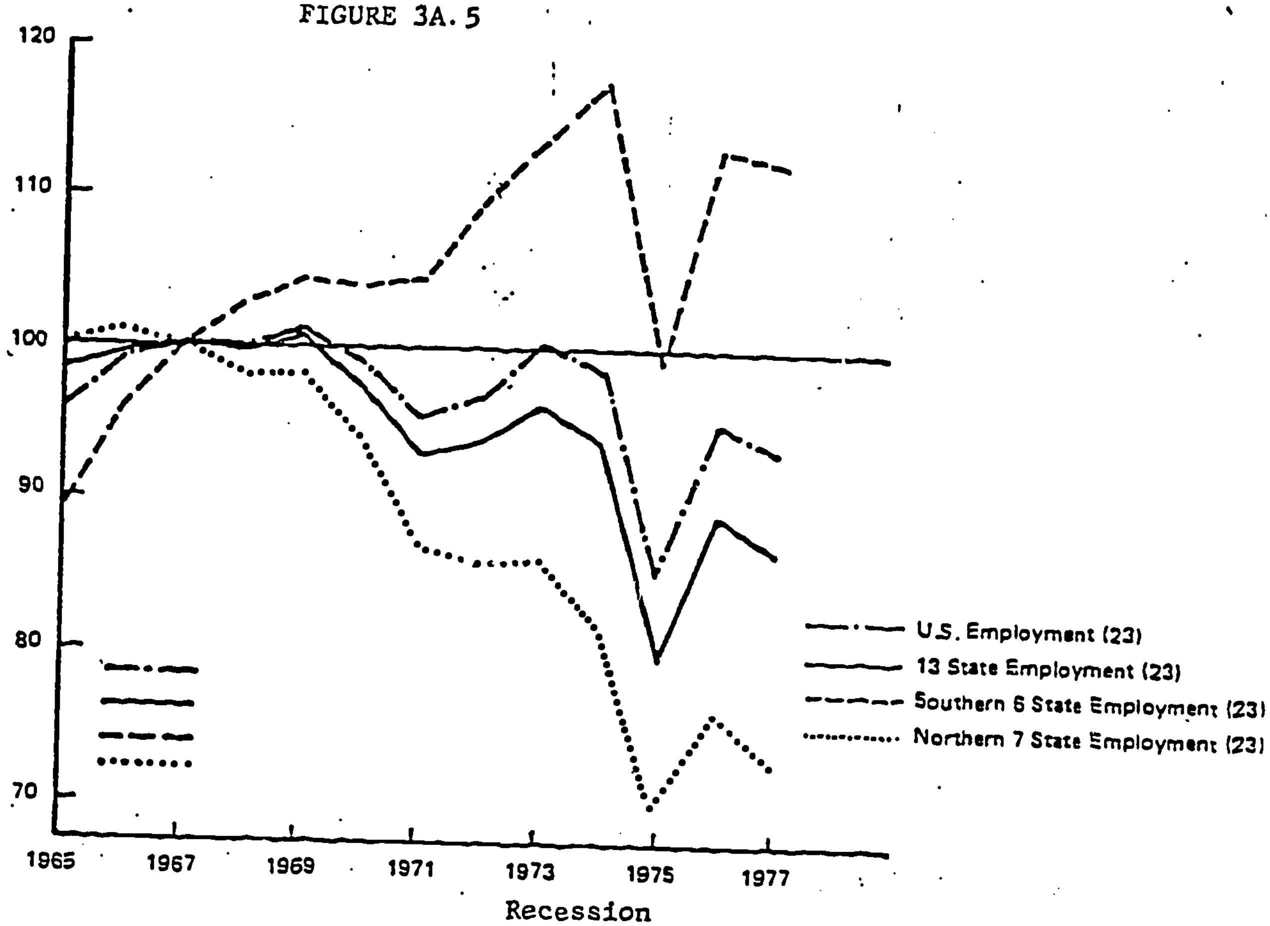
Northern Appal. States (entire)	1967	1977	% Change 1967-77
New York	56,318	39,889	-29.2
Pennsylvania	66,236	46,743	-29.4
Ohio	9,356	7,024	-24.9
Maryland	2,794	1,750	-37.4
West Virginia	1,505	698	-53.5
Kentucky	2,950	7,247	+145.7
Virginia	38,969	45,770	+17.5
Northern Appal. States	178,126	149,121	-16.3

Southern Appal. States (entire)	1967	1977	% Change 1967-77
North Carolina	250,819	246,943	- 1.6
Tennessee	30,393	27,647	- 9.0
South Carolina	142,137	142,713	+ 0.4
Georgia	107,866	115,320	+ 6.9
Alabama	39,917	45,275	+13.4
Mississippi	6,443	7,595	+17.9
Southern Appal. States	577,575	585,493	+ 1.4
13 Appalachian States	755,701	734,614	- 2.3
U.S. Total	925,159	883,161	- 4.5

TRENDS IN TEXTILE INDUSTRY EMPLOYMENT 1965-1977 —
13 APPALACHIAN STATES
1967 = 100

Source: U.S. Bureau of Census, County Business Patterns

FIGURE 3A.5



Northern Appal. States (entire)	1967	1977	% Change 1967-77
New York	302,578	194,400	-35.8
Pennsylvania	179,726	132,952	-26.0
Ohio	21,004	19,393	- 7.7
Maryland	24,294	16,302	-32.9
West Virginia	5,536	5,698	+ 2.9
Kentucky	27,470	26,812	- 2.4
Virginia	32,025	35,582	+11.1
Northern Appal. States	592,633	431,139	-27.3

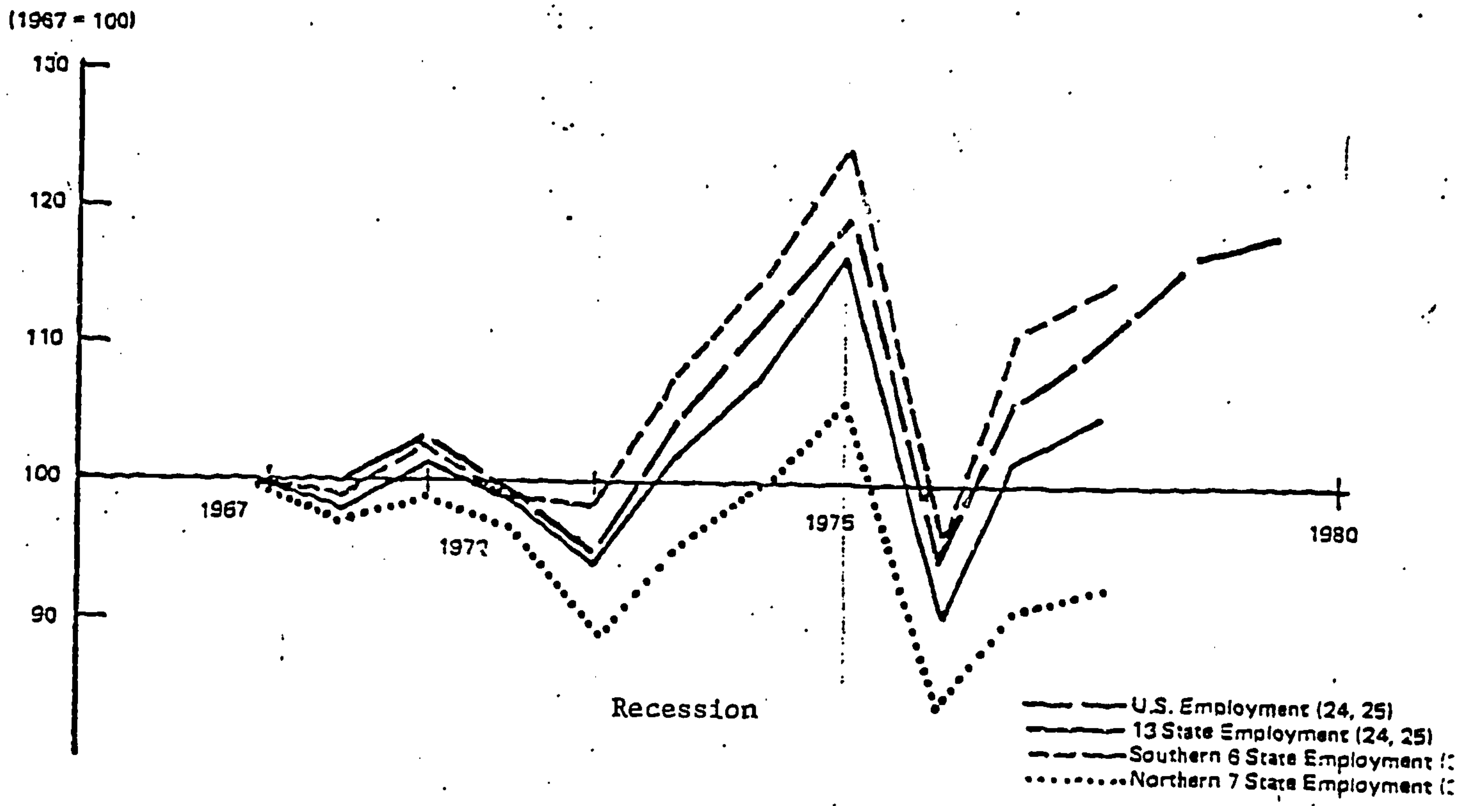
Southern Appal. States (entire)	1967	1977	% Change 1967-77
North Carolina	64,460	74,315	+15.3
Tennessee	69,297	69,114	- 0.3
South Carolina	39,705	44,[illegible]	+11.2
Georgia	63,845	74,216	+16.2
Alabama	39,420	51,031	+29.5
Mississippi	35,530	38,389	+ 8.1
Southern Appal. States	312,257	351,233	+12.5
13 Appalachian States	904,890	782,372	-13.5
U.S. Total	1,390,846	1,296,208	- 6.8

TRENDS IN APPAREL INDUSTRY EMPLOYMENT 1966 - 1977 —
13 APPALACHIAN STATES
1967 = 100

Source: U.S. Bureau of the Census, County Business Patterns

BEST COPY AVAILABLE

FIGURE 3A6



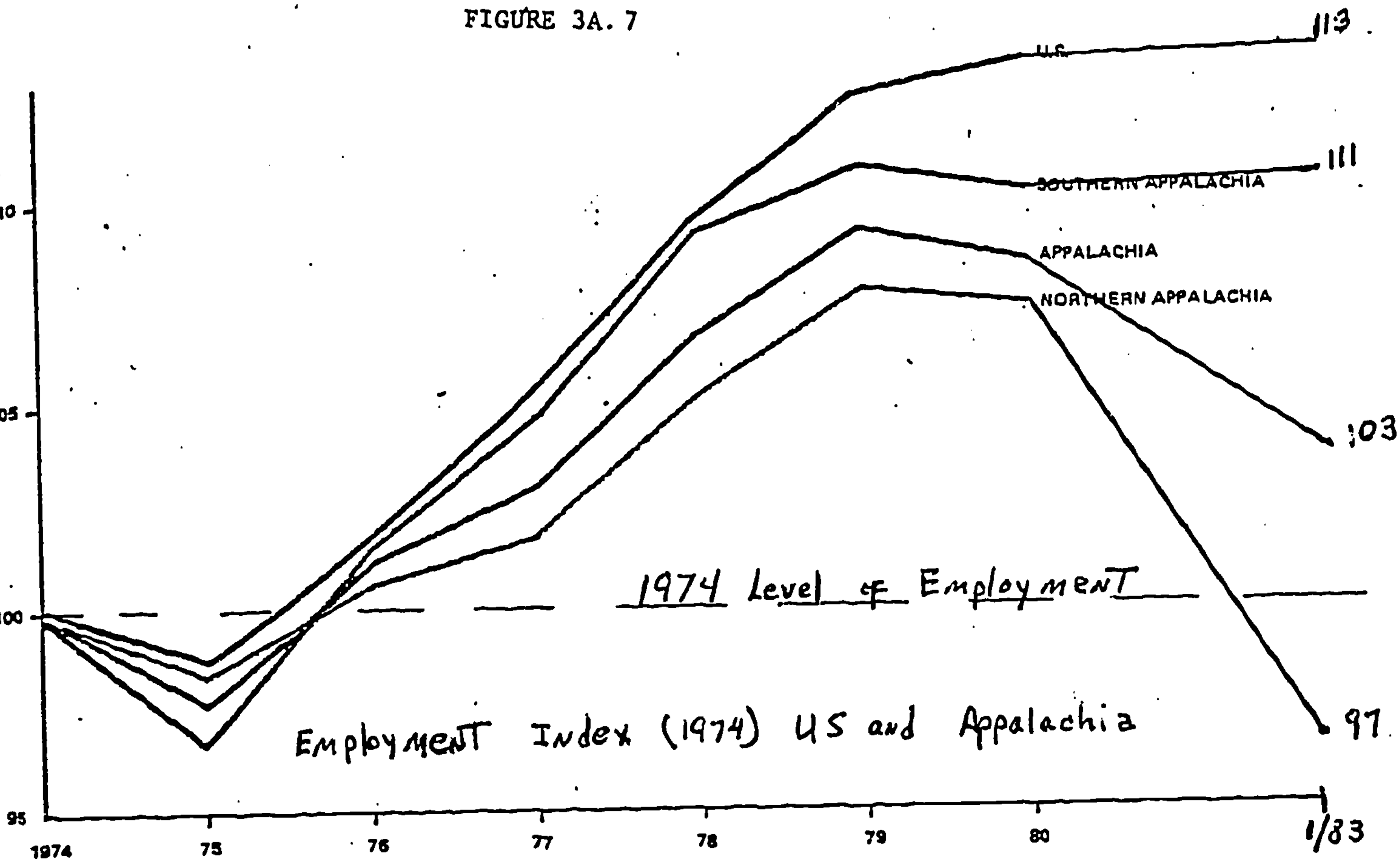
Northern Appal. States (entire)	Lumber, Wood Products and Furniture Employment 1967	1977	% Change 67-77
New York	51,510	37,461	-27.3%
Pennsylvania	40,758	40,272	- 1.2%
Ohio	27,988	30,046	+ 7.4%
Maryland	10,284	7,954	-22.7%
West Virginia	7,926	6,588	-16.9%
Kentucky	14,731	13,751	- 6.7%
Virginia	45,854	48,254	+ 5.2%
Northern Appal. States	199,051	184,326	- 7.4%

Southern Appal. States (entire)	Lumber, Wood Products and Furniture Employment 1967	1977	% Change 67-77
North Carolina	89,463	108,718	+21.5%
Tennessee	40,006	42,249	+ 5.6%
South Carolina	19,363	19,128	- 1.2%
Georgia	32,431	35,140	+ 8.4%
Alabama	27,907	33,363	+19.6%
Mississippi	32,652	38,542	+18.0%
Southern Appal. States	241,832	277,140	+14.6%
13 Appalachian States	440,883	461,466	+ 4.7%
U.S. Total	1,009,946	1,124,813	+11.4%

TRENDS IN LUMBER, WOOD PRODUCTS AND FURNITURE INDUSTRY EMPLOYMENT 1967-1977 — 13 APPALACHIAN STATES

Source: U.S. Bureau of Census, County Business Patterns.

FIGURE 3A. 7



		74	75	76	77	78	79	80	74-80 CHANGE
	#	429.5						453.1	23.8
APP. N.Y.	I	100.0	98.3	99.0	99.2	103.0	106.9	105.5	
	#	2306.4						2392.8	84.8
APP. PA.	I	100.0	98.3	100.1	99.7	102.3	104.3	103.7	
	#	423.6						483.8	51.2
APP. OHIO	I	100.0	97.0	99.5	101.9	100.4	114.0	111.8	
	#	84.3						91.9	7.6
APP. MD.	I	100.0	94.8	96.2	95.8	101.1	102.4	189.0	
	#	185.0						220.0	15.0
APP. VA.	I	100.0	104.6	111.7	111.8	113.7	118.0	118.9	
	#	625.5						696.0	69.5
APP. W. VA.	I	100.0	96.4	100.4	102.8	107.6	111.7	111.1	
	#	324.8						372.3	47.5
APP. KY.	I	100.0	100.6	105.3	114.0	116.6	115.1	114.6	
	#	4389.1						4709.9	320.8
N. APPAL.	I	100.0	98.3	100.8	101.8	105.2	107.9	107.3	

		74	75	76	77	78	79	80	74-80 CHANGE
	#	479.9						527.3	47.4
APP. N.C.	I	100.0	98.8	104.4	107.8	112.2	111.7	109.8	
	#	308.7						337.4	28.7
APP. S.C.	I	100.0	95.2	103.4	106.4	109.5	111.8	109.3	
	#	398.7						457.8	58.3
APP. GA.	I	100.0	91.0	94.8	98.8	111.7	114.5	114.6	
	#	739.5						796.6	57.1
APP. TENN.	I	100.0	97.3	101.1	103.1	104.5	106.8	107.7	
	#	844.8						940.8	96.0
APP. ALA.	I	100.0	99.0	102.8	106.5	111.6	113.0	111.4	
	#	179.5						193.4	13.9
APP. MISS.	I	100.0	93.9	100.9	102.5	102.6	106.9	107.7	
	#	2951.1						3252.3	3064
S. APPAL.	I	100.0	96.7	101.5	104.6	109.2	110.9	110.2	
	#	7340.2						7962.4	622.2
APPAL.	I	100.0	97.7	101.1	103.0	106.2	109.1	108.5	
	#	85938.1						97270.0	11131.9
U.S.	I	100.0	98.7	101.8	105.4	109.8	112.8	113.2	

Source: Arthur D. Little, Inc., based on published sources.

TOTAL APPALACHIAN EMPLOYMENT 1974–1980
(INDEX 1974 = 100)

reserve and produced one-half of the nation's coal in 1980. This represents a decline however, from nearly 70 percent in 1970. Most of the coal in the United States, approximately 72 percent, is used to generate steam in the production of electricity. This portion of the coal market is still relatively healthy although it is increasingly characterized by surface mining techniques and nonunion labor. The metallurgical portion of the coal market, tied as it is to steel production, is still relatively depressed and is subject to declines in demand because of product substitution including electric furnaces in the processing of scrap metal and more efficient coal-fired furnances. Some areas have a very high dependence on coal. Kentucky, West Virginia, and Virginia for example, report one-third of all industrial and manufacturing jobs to be coal related. Coal employment was about 105,000 in 1970; reached a high of almost 200,000 in 1978; and declined to about 140,000 by the beginning of 1983.

The present market slump for coal has had a special and adverse impact on coal mined by union miners. This is because the boom and bust of the coal industry varies for surface and deepmined coal. The underground production of coal declined by about 28 percent in Appalachia between 1970 and 1977. Surface mine production has increased by more than one-third over the same time. Surface mine production now exceeds underground production in Appalachia. Surfacemined coal generally comes from newer mines, goes to electric utilities, and is more likely to be mined by workers who are not UMW members. The UMWA reports unemployment among its members at 25 percent. Some districts in the Central Appalachian region reported unemployment among union miners as high as 40 percent and individual communities like Gary, West Virginia have reported as high as 95 percent at times in the past two years.

But changes in the Appalachian coal industry extend beyond the organization of labor. Because Appalachia has a relatively small share of surface mineable coal reserves (14 percent), this shift from deep to surface production nationally explains, in part, the region's declining share of U.S. production, the relatively small (15 percent) share of future mine development and the limited expansion estimated for Appalachian coal between 1981 and 1990 (Little: II-2; ARC, 1983A).

The future of coal in the United States is tied to the future of environmental regulations on both the production and uses of coal, the future of nuclear power and a host of international considerations. Concerns with air quality and acid rain are especially likely to prompt additional regulations on coal use. The regulation of coal production is less likely to increase. The implementation of existing regulations varies widely and has never been to the extent of the law (Seltzer). High interest rates influence the accumulation and investment of capital in new equipment and mine development that will also influence coal production. Another factor influencing the future of Appalachian coal is transportation including the regulations of railroads which serve the area, mergers among these railroads, and ports for the export of coal to Europe (Booz-Allen and Hamilton). The exporting of steam coal is one factor of predicted growth in the coal market. Since the Appalachian region now provides 90 percent of the export market to Canada and Europe this market could be very important to the coal industry in the region. Appalachia's major competitors for the European market are likely to be South Africa and Poland. This export market is subject to booms and busts like other aspects of the coal industry. It boomed when Polish coal exports to Europe were interrupted by the strikes of Solidarity but Japan recently and unilaterally influenced the spot market by decreasing the price it was willing to pay for coal from $66 to $55 a ton FOB (Government Accounting Office, 1983).

Primary Metals

The steel industry has seen employment decline since 1957. Nationally there are 278,000 fewer jobs in steel in 1983 than there were in 1957. Projections for the steel industry vary between 60,000 more jobs in 1990 to 85,000 fewer jobs. Steel mills of the United States are operating at 53 percent of capacity (Marchione and Tabac). This has had an impact on coal and steel areas within Northern, Central, and Southern Appalachia. Appalachia has three times the United States employment concentration in primary metals and about 20 percent of the 1980 national work force in primary metals. Employment in primary metals in Appalachia dropped by almost 30,000 jobs or 11 percent from 1974 to 1980. In 1981 and 1982, 90,000 jobs in primary metals were lost in Appalachia. This loss continued in 1983 but its rate is not known (ARC, 1983A).

The complexity of the Appalachian regional economy is explicit in relating steel, coal, and energy. The oil embargo of 1973 created demands for fuel efficient cars and hence fewer domestic automobiles and less steel in those manufactured. This meant a decline in demand for steel and metallurgical coal. But the oil shortage in general meant a boom in coal prices, production, and employment. Thus primary metals industries in Appalachia lost about 30,000 jobs from 1974 to 1980 while coal gained more than 50,000.

Of course the energy crisis was only one factor in these changes. The Appalachian economy in general and the steel industry in particular invite a reassessment of American management techniques. Between 1972 and 1977, U.S. companies reinvested less money in the steel industry than Japan, West Germany, and Great Britain and had higher net incomes as a percent of fixed assets (Metzgar: 35). Because U.S. steel companies have consistently underinvested in their existing plants many American steel facilities are technologically behind and more expensive to operate. Openhearth furnances have an average life span of 33.2 years, yet 43 percent of those in the United States are over 33 years of age as of 1979. Forty percent of plate mills, which have an average operating life span of 25.6 years, are more than thirty years old (Marchione and Tabac).

Simply put, steel companies illustrate that once decline begins in an industry, the means to make profits is to foster obsolesence and diversify investment which in turn hastens decline. A declining industry need not be an unprofitable one. Between 1974 and 1982 when primary metal employment was cut almost in half in Appalachia the companies in the steel industry recorded average profit rates of 8 percent. In particular 1974 and 1981 were record years for profits. Steel production fluctuated from a high of 145 million tons to a low of 110 tons from 1974 to 1981 (Metzgar). The fundamental problem is that companies are not making <u>enough</u> profits to use them and depreciation allowances to keep up with reinvestment requirements. Consequently, as the Wall Street Journal reported, "Retirement of aging and technologically obsolete capacity has emerged as a prime element of domestic steelmakers' strategy to firm up prices when a recovery does come" (DuBois, 13). The strategy which emerges is one of less production at less cost for higher profit rates. At present the capacity of the American steel industry is actually below the level of demand in previous good years. Part of this strategy is also to gain concessions from workers to lower labor costs. But the strategy for seeking higher profit rates for the company is not limited to measures inside of the steel industry. American steel companies are diversifying. This prompted the often cited comment of U.S. Steel Chairman David Roderick, "U.S. Steel is not in the business of making steel. It is in the business of making money" (Metzgar:26). To prove the point, U. S. Steel used record profits in 1981 which were acquired through tax cuts and generous depletion allowances as well as labor concessions to purchase Marathon Oil in 1982. Only two of the top seven steel companies increased their investments in steel in 1982 (Metzgar:32). Thus while the steel industry averages 8 percent profit annually that rate is below the 15 percent of all manufacturing industries and the 18 percent of the general economy. Thus the rate of profit of the steel industry is not high enough to hold or attract the capital of even the steel companies.

There are other problems the industry faces as well. Other metals and products and imported steel, sometimes financed with American capital, compete with domestic steel. The industry's past disinvestment is such that cash flow is one-half of what is needed for a thorough modernization program according to the American Iron and Steel Institute (Metzgar:53). The cost of competing in the steel industry presently can be measured by the price the 10,000 steel workers in Weirton, W. VA. paid. They bought out the company for $386.1 million, assumed $192 million in the company's liabilities such as pensions, cut wages 18% and agreed to no wage increase for six years. They hope to keep the mill operating, to make and share profits, and most importantly to keep their jobs.

Textiles and Apparels

Textiles account for 12 percent of all manufacturing employment within the region. Most of the textile plants within the region are small and employ 250 people or less. Only 2.5 percent of these plants employ 1,000 or more workers. Of the 1,287 plants within the region, one-third are located in Appalachia Georgia. Regional employment in the industry dropped from 280,000 in 1974 to 236,000 in 1980. Between January 1, 1982 and April 1983, 1 out of 7 jobs in the textile industry was lost nationally. The exact loss in the region is not known but because the region's employment rate in textiles is so much higher than the national rate it is significant. One hundred and twenty Appalachian counties have a location coefficient greater than 1 in the textile and apparel industry and of them sixty-two have unemployment greater than the 1982 national average (ARC, 1983).

The apparel industry is one of the most competitive in the world and it is characterized by new technology and cost saving devices. Between 1970 and 1980, output in the apparel industry increased by 30 percent.

During a comparative time, 1968-81, employment decreased by 10 percent. The apparel industry nationally and within Appalachia was and is faced with increased productivity and decreased employment. About 26 percent of national employment in the apparel industry is in the region. Apparel employment declined greatly in Northern Appalachia at the same time it increased in Alabama, Georgia, and North Carolina. The apparel industry is under severe pressure from imports. Like many other of the industries within the region, textiles and apparel reflect the increased internationalization so that textiles are exported and apparels made from the same materials are imported.

The future of textiles is in for some "big shocks" according to Business Week. The industry faces increased competition from imports including trade from the People's Republic of China. Capital expenditures will increase in the 80s to a level three times that of the 70s. These expenditures will transform the industry from labor intensive to capital intensive. In the process, one out of three jobs will be eliminated. Part of the pressure to modernize is coming from the Occupational Health and Safety Administration and its enforcement of lower cotton dust levels in the plants. Cotton dust is associated with byssinosis or brown lung. In addition, companies will use capital to merge with other companies in the same industry to acquire new capacity. This will mean fewer, larger companies and far fewer plants, an estimated 7,000 less. In addition, textile companies are expected to diversify their holdings and to acquire control of companies in other businesses. For example, Dan River, a textile company, derived 21 percent of its corporate sales from Seabrook Foods, Inc. in 1978.

Wood Products

The Appalachian region contains 20 percent of the national supply of hard woods. This supply and other forest areas support an array of jobs. Of all United States jobs in wood and wood products, 10.2 percent or about 208,000 jobs are located within the Appalachian region. Pennsylvania, Alabama, Tennessee and North Carolina have particular concentrations in this industry and together account for 59 percent of regional employment in wood and wood products (ARC, 1983A). Paper and allied products employed about 42,000 people in 1979 or 6.5 percent of the national workforce in this sector. The furniture industry employed more than 90,000 people in 1979 or about 17.8 percent of the nation's furniture industry workforce. This industry is concentrated in North Carolina, Tennessee, Mississippi, and Pennsylvania (Little, II-26).

The furniture industry's future is a bright spot in the region's economy. It is subject to competition from imports and production substitution and it reacts adversely to recessions. Likewise, projections in the industry see fewer and larger firms. But employment has remained about the same since 1970 and the industry is likely to remain as labor intense as it is. Forecasts for sales and earnings are also good as analysts predict a surge in furniture buying as members of the baby boom begin buying homes and furnishings. One threat to the industry is the mismanagement of forests or the destruction of wooded areas by acid rain.

3B Service Sector

Service is one part of the economy which has grown dramatically. When combined with some parts of retail trade, the growth in service sector employment is staggering. Between 1969 and 1982 this sector gained almost nine million jobs across the nation; an increase of about 60 percent. This increase was 45 percent of all new jobs nationally.

Within the Appalachian region there were similar developments. Between 1970 and 1980 the service sector expanded by almost 400,000 jobs or 59%. This equalled about one-third of all new jobs in the region. Among the fastest growing sectors were the following:

Table 3B.1 Service Jobs' Growth in the Appalachian Region, 1970-80

	New Jobs 1970-80	Percent Change 1970-80	Percent of All New Employment 1970-80
Health Services	177,041	84	14.9%
Eating and Drinking Places	134,754	95	11.4%
Social and Related Services	68,002	71	5.8%
Business Services	62,891	94	5.3%
Food Stores	58,921	58	5.0%

(Source: ARC, 1983C)

These figures compare with the figures for mining, the leading industrial sector, in employment gains.

Coal Mining	77,588	76	6.6%

This increase in service jobs meant other changes as well including more low wage jobs with fewer benefits for unorganized labor. The simultaneous decline in industry and increase in service is tantamount to a decrease of middle income opportunities in the region. These changes are occurring at a time when more women are entering the work force. These trends are likely to lead to the increased feminization of low wage work in the region as well as the nation. This form of genderfication follows from and coincides with the feminization of poverty. Data available do not make it evident which subregions and areas, rural or urban, had the greatest increases in the sector of service employment.

3C High Technology

A discussion of the economic future inevitably involves a discussion of high technology industries. High tech suggests an industry that is scientifically based and thrives on the rapid development and implementation of new techniques. Consequently, there is much more research and development and a higher percentage of technicians, scientists and engineers employed. In the production process, high tech is labor intensive rather than capital intensive. In practice, high tech is increasingly internationalized and utilizes low cost labor in many different parts of the world.

Some analysts suggest that the region is competitive in attracting this industry. The Arthur D. Little, Inc. study, for example, suggests that a portion of the region's surplus labor from apparel and textiles could be absorbed by high tech industries if there is an aggressive marketing of lower costs, labor surpluses and government incentives. It is unlikely, that high tech will play a major role in the region's future economy. First of all, much of high tech is military related and proportionately the region does only modest military business especially in weapons. Second, 95 percent of all new jobs will not be high tech. Third, Appalachia already has about its proportion of high tech jobs. If it were to gain 9 percent of all new high tech jobs, a proportion of its labor force to the national labor force, it would have about 95,000 new jobs (ARC, 1983B). This is far less than the 400,000 jobs lost in 1981 and 1982 alone. High tech seems to be a possible but limited avenue of economic development for the Appalachian region. Finally, it is most probable that the sector of high tech industries that will locate in the region will be component manufacturing which is under pressure to find the lowest labor costs as are the textile and apparels industries already. Thus, if the region does acquire a greater share of high tech industry it will not be the glamour portion of high tech. It is much more likely to be the less-skilled, low wage component manufacturing not being sent to Pacific Rim nations and economically depressed areas like Northern Ireland. The Arthur D. Little, Inc. study suggested that the region could be competitive in acquiring high tech industries and Ronald S. Jonash, an economic development consultant with them, made the terms of the competition explicit.

> The (Appalachian) region...may represent one of the few areas of the country that can compete with offshore locations for lower cost component manufacturing and assembly operations in the industry. If the United States is to retain these high growth segments under such intensive international pressure, it will be in lower cost, labor surplus production regions such as Appalachia where development incentives

> and special training efforts will have to be provided to offset the aggressive programs of other nations (Jonash, 7).

Presently efforts are underway to attract high tech industries near counties of weapons manufacturing in the region like Oak Ridge-Knoxville and Huntsville, Alabama. In addition, similar efforts are underway in Pittsburgh.

3D Deindustrialization and Appalachia

As is evident in even a cursory examination, the present economy of the Appalachian region is integrated substantially with a set of international and national considerations. Technological innovation, the strength of the dollar and international relations affecting the trade of energy commodities all impact upon the Appalachian region. Likewise, disinvestment in old plants and a search for lower labor costs and higher profit rates have affected the region. Northern Appalachia was adversely impacted in textiles and metals, while Southern Appalachia benefitted and maintained lower unemployment rates than the nation up to the 1975 recession because of the continuation of its textile and apparel industry. The steel industry around Birmingham is in a serious decline.

Table 3D.1 illustrates several factors which may account for this lower unemployment in Southern Appalachia and offers a sketch of developments within the region. The table shows a relationship among the following factors: union membership, average manufacturing hourly wage, unemployment and population increases. The data are not all comparable; for instance, union membership and wages are statewide figures while

TABLE 3D.1

MEASURES OF THE SOCIAL WAGE, UNEMPLOYMENT AND POPULATION
SOUTHERN APPALACHIA

State	Percent of Non-* agricultural Work Force In Unions	Average Hourly* Wages In Manufacturing	Unemployment 1980	Unemployment 1982	Population Increase 1970-80
North Carolina	6.5	$5.37	6.4	9.6	17.2
Rank	1	1	2	2	4
South Carolina	6.7	$5.59	6.2	11.1	20.7
Rank	2	3	1	3	2
Georgia	13.6	$5.77	7.0	8.8	35.7
Rank	4	4	3	3	1
Tennessee	17.7	$6.08	7.9	13.0	19.6
Rank	5	5	4	4	3
Alabama	19.2	$6.49	9.3	14.9	13.7
Rank	6	6	6	6	6
Mississippi	12.7	$5.44	8.3	12.2	15.3
Rank	3	2	5	5	5
Regional Average	20.9	$6.72	8.4	12.5	11.2
U.S. Average	20.1	$7.16	7.1	9.7	11.4

*Figures include the entire state and not just the Appalachian portion.

Sources: Little and ARC

unemployment and population increases are for the Appalachian portion of the states alone. Likewise, different years are used for the measures. Nonetheless, the following picture emerges: population increases occurred in larger portions where unemployment was lowest; and unemployment was lowest in states with lowest union membership and manufacturing wages. This association is even stronger if we omit the exceptionally large population increase around Atlanta, and consider the rest of Appalachian Georgia and its smaller population increase. In the 1970s, Southern Appalachia epitomized a national economic trend towards employment in lower wage, nonunion manufacturing. By 1982 unemployment in the Appalachian portion of most of these states increased by 50 percent suggesting that the search for lower operating costs continued. Textiles and apparels are going abroad or modernizing to capital intense processes just as steel and coal preceeded them.

In some ways Appalachia is a standard for the changes going on. When Robert S. Small, the chairman of Dan River, Inc., pinned his hopes for the resurrection of the textile industry on the emergence of a fewer number of larger and more efficient companies, (Business Week: 66), he echoed the discussions of union and company officials in the coal industry immediately after World War II. Other company officials make explicit reference to events today and events yesterday in Appalachia. For example, William Roesch, president of U.S. Steel, compared the problem of dislocated workers in the steel industry today to his experience in the coal industry where he began his career after World War II (DuBois: 15).

The coal industry is instructive because it shows how increased mechanization leads to dislocated workers and unemployment. But equally important the coal industry illustrates how companies in an industry change by mergers and diversification so that the promise of increased savings and higher profits for reinvestment is broken and savings and profits are used to pursue higher rates of profit in or outside of an industry at home or abroad.

Appalachia is part of a deindustrialization of America as Bluestone and Harrison have described it. They attribute this development in part to the organization of capital and its capacity for international transactions which exceeds the capacity of other institutions such as unions and even government to keep up. Other analysts see this development as the normal consequence of institutional investors seeking a healthy show of quarterly earnings. As Robert B. Reich points out, these healthy earnings are not to be found in long term strategies of investment in plant and retraining of workers. Rather those earnings come from phasing out outmoded processes, locating new plants in areas with lowest operating costs or acquiring other firms whose assets can be integrated in operations or liquidated. Practically, this means Pittsburgh banks invest in steel-exporting countries like Brazil and Japan to compete with American steel; and Exxon develops the coal reserves of Colombia to compete with Appalachian coal for the European steam coal market by the 1990s. This is a worldwide phenomenon. Japan, for example, uses the cheaper labor of South Korea and other Pacific Rim nations (Reich: 3.). It may even be a good phenomenon in some ways. Ray Marshall, former Secretary of Labor, points out that 600 to 700 million jobs will be needed in third world countries to keep unemployment from rising there. But this pressure for jobs plus the mobility of capital and technology and a search for high rates of profit erode labor standards in the high-wage countries (Marshall: 3-4). The "social wage" in these countries including earned wages, benefits, and public forms of assistance and social services is underbid in countries with fewer social programs and lower per capita income. Table 3D.1 indicates Southern Appalachia has underbid other regions with lower wages and fewer union members. But Southern Appalachia is now being underbid by developed and developing countries as are many other sectors of American industry.

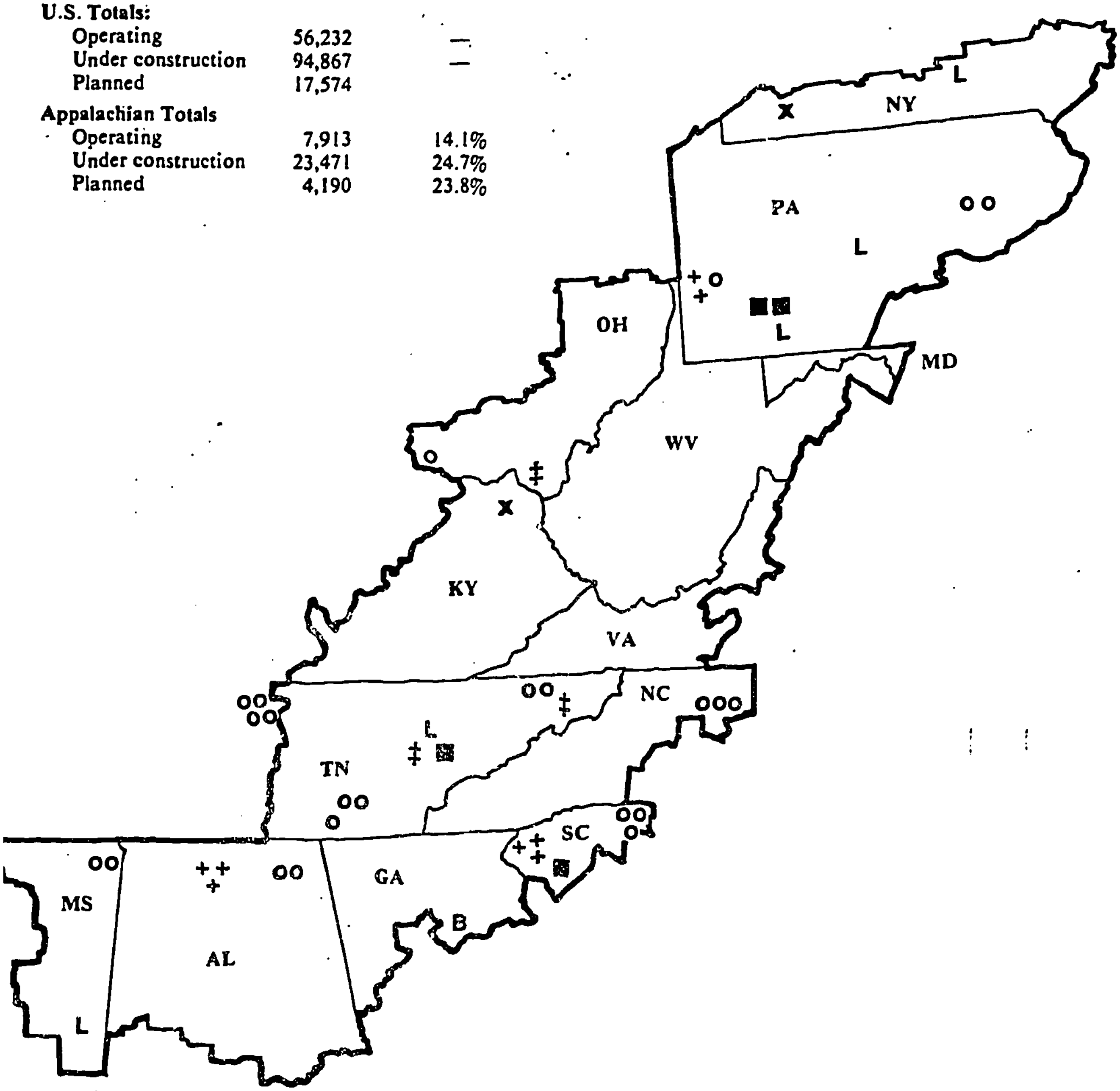
Congress has reacted to this problem and has considered legislation to protect U. S. goods from foreign competition by requiring a certain portion of any product such as automobiles to be U.S. made or by restricting imports. Others contend that we should do as little as possible to interfere with free trade (Ulmer); while still others suggest new regulations for the investment of capital (Bluestone and Harrison). Regardless of the prescription for action, two things are clear. First, we have more jobs than before but they are different. Service jobs insulated from foreign competition grow in number and the manufacturing jobs which remain are increasingly assembly work of foreign manufactured components. These jobs pay less and require fewer skills. Secondly, we have too few jobs to absorb new workers and dislocated workers. Appalachian industries and unemployment are part of this process of more but too few jobs which have changed and in some ways the region is far advanced in the process.

Whether one looks at the allocation of capital, the management of hard wood forest, or the attitude towards safety within coalmines, the practice

FIGURE 3D. 1

Nuclear Appalachia

	Net Megawatts	Percentage of U.S.
U.S. Totals:		
Operating	56,232	—
Under construction	94,867	—
Planned	17,574	
Appalachian Totals		
Operating	7,913	14.1%
Under construction	23,471	24.7%
Planned	4,190	23.8%



+ Operating Nuclear Power Plants
o Under Construction
‡ Uranium Enrichment for Weapons and/or Fuel Cycle
■ Fabrication Facilities
x Waste Storage
L Nuclear Laboratories
B Nuclear Bomb Dispenser Adapter Kits

of American corporate management raises important questions. The pursuit of higher profits quarter after quarter without acknowledgment of long term consequences is acute within the steel and coal industries of the region and offers substantial lessons to the nation about the necessity of government regulation to curb the social and environmental consequences of an unbridled market mentality. The region is in some way a test to determine if standard American management techniques are inevitably opposed to the social and environmental well-being of this or any other region and whether or not the inherent pressures for profit and reduced costs fatally compromise the social responsibility of companies. In this regard it should be noted that the United States is either alone or among a very few countries that have left industries like coal and steel under the control of private managers and investors.

There is evidence from within the region that management does have the ability to conduct business and to be responsible but that it varies widely in the expression of that ability. The National Academy of Sciences recently conducted a study of underground coalmining and found that safety could be directly correlated to the commitment of management. In studying the nineteen largest coal companies in the United States, the researchers found that the average disabling injury rate of workers varied from a rate of 4.5 per 200,000 employee hours for the safest company to a rate of 18.9 for the least safe company. They concluded:

> There are persistent and large differences between the injury rates of companies that control underground coal mines. These differences could not be explained by physical, technological, or geographical conditions, but are due to factors internal to the companies. In our opinion, the most important of these factors are:

A. Management's commitment, as reflected by the attention and resources it devotes to improving safety.

B. Cooperation between management and labor in developing and implementing safety programs.

C. The quality of training of employees and managers of coal mining companies (National Academy of Science: 5).

In the coal industry especially, one can see a history of economic relationships for the net export of benefits from the region. This carries over to other energy forms as well. Figure 3D.1 illustrates the development of a nuclear industry within the region. This nuclear development also indicated the simultaneous processes and geographic proximity of deindustrialization and high technology. The Appalachian region with 10 percent of the nation's population hosts 14 percent of the nation's operating nuclear plants; and almost 25 percent of nuclear plants which were under construction and/or planned up until 1982 (Horton and Einstein: 28). While this provides many welcomed jobs for the near future those jobs are temporary and the risks of plant operation and of radioactive waste remains in the region for much longer periods of time while the ongoing benefit of electrical power is exported. The coal industry impacts nuclear power as well as being imported by it. West Virginia is without nuclear plants in part because of the coal companies and miners. The region's minerals other than coal will also influence the extractive economy of Appalachia. A list of major minerals and their production and value is given in the Appendix.

In addition to these major developments which dominate the region there are alternative economic arrangements: cooperatives for community and economic development. Though most are modest they are alternative forms of management and capital formation that are important. Housing, crafts, and food co-ops are important expressions of local initiatives to devise alternative economic arrangements. The success and the necessity for such arrangements within the region are part of national economic practices and ultimately must relate to these practices in the purchase of supplies, including capital, or the sale of finished products. In practice co-ops seem to function best as alternative forms of capital accumulation and as a modest alternative of management to provide services within an otherwise unchanged economic system. Co-ops of various forms numbered almost 10,000 in 1977 (Arnold) within the Appalachian region and provided a wide variety of services including telephone and electricity. The vast majority were credit unions of various sizes. The Weirton buyout is another, much larger, form of alternative economic arrangement which shares the origins and challenges of the more modest co-ops. It is an important effort to determine if the alternative management of one company can better serve workers within an industry beset with problem not of their own making.

3E Economic Futures

The Arthur D. Little, Inc. study of the Appalachian economy concludes "Appalachia has a major stake in the private and public efforts to improve the competitiveness of U.S. industry through reindustrialization and improved productivity" (9). The good news is that the technology needed to keep pace with productivity increases is available. The bad news is that it does not pay some companies, such as steel companies, sufficient rates of profit to spend money to modernize and when companies do spend money on technological change it means increased productivity and a loss of jobs. In some cases there will be permanent displacment of members of the work force such as the region saw in the coal industry beginning after World War II and more recently in steel, textiles, and apparel. It is estimated, for example, that new technology and automated production could result in an estimated 20 to 30 percent decline in U.S. employment in the textile industry by 1995 (Little: III 8-9).

The region is part of an increased internationalization of the econom which will influence the future. Steel imports may reach a point where our government acts to prevent increased dependence on foreign sources for defense related material as it did in the case of oil. Wood from the Appalachian region is exported overseas and furniture made from the wood i imported to the United States. Similarly department stores sell "Appalachian Trail" boots made in Rumania. The future of coal is also partly international. A study by the Appalachian Regional Commission on synfuels and the coal market indicates that coal to oil conversion will depend on the nation's need to reduce balance of payment deficits, the nee to increase the security of energy supply for both economic and international policy reasons and the need to minimize world oil prices (Perry). Another important future market for Appalachian coal will be the export market for steam coal of which Appalachia now has 90 percent. Appalachia's chief competitor for the European market will be South Africa whose competitive advantage is lower labor costs inherent in the wage differentials between white and black miners.

Appalachia's past is a portent of its future as well as the nation's future. An examination of Table 3E.1 shows that the projected employment sectors for the nation between 1979 and 1990 are strikingly similar to the sectors of growth in the Appalachian region: eating and drinking places, health services, retail trade, etc. The Bureau of Labor Statistics made detailed projections for national employment, one of which is appended with the leading sectors of the Appalachian region underlined. If these projections hold up then the vast majority of new jobs identified in Table 3E.2 will be janitors, nurses aides, sales clerks, cashiers, waiters and waitresses, etc. The projection for the service economy infers an erosion of the middle income sector and an increased feminization of the low wage spectrum as we noted earlier. The dislocations of workers in some industries will be moderate in areas where there is diversification and some elements of the economy remain dynamic according to Daniel Saks in his study for the National Planning Association on distressed workers (48). The inverse of this is bad news for the Appalachian region where industry is not diversified but concentrated in subregions and a decline is more likely to mean prolonged unemployment for dislocated workers.

TABLE 3E.1

Employment Levels and Changes by Industry, 1969-90

25 Greatest Job Creators	Employment (1,000s) 1979 Total	Employment (1,000s) Change 1979-90	Annual Growth Rates (%) 1969-79	Annual Growth Rates (%) 1979-90	Annual Growth Rates in Output per Hour* 1969-79	Annual Growth Rates in Output per Hour* 1979-90
Eating & drinking places	4,857	1,979	5.6	3.2	−1.4	−0.1
Retail trade, except eating & drinking places	11,951	1,879	2.1	1.3	1.9	1.1
Hospitals	2,614	1,354	3.9	3.9	2.0	0.4
Business services	3,173	1,142	6.5	2.8	−1.5	−0.4
Medical services, exc. hospitals	1,373	939	7.7	4.9	−0.5	−1.0
Wholesale trade	5,501	866	2.8	1.3	1.2	1.5
Construction industry	4,653	844	2.6	1.5	−2.2	0.4
Nonprofit organizations	2,072	566	1.6	2.2	2.1	1.3
Doctors' & dentists' services	1,345	552	5.3	3.2	−0.4	0.8
Banking	1,498	484	4.3	2.6	0.1	0.1
Educational services	1,718	381	3.4	1.8	−2.6	4.0
Professional services	1,803	376	5.6	1.7	−0.4	0.5
Insurance	1,748	373	2.5	1.8	2.0	0.6
Truck transportation	1,554	368	2.5	2.0	0.8	0.5
Real estate	1,367	365	4.8	2.2	0.3	0.2
Hotels & lodging places	1,543	344	3.8	1.8	0.3	2.3
Automobile repair	834	334	3.9	3.1	0.0	0.0
Credit agencies & financial brokers	900	274	3.3	2.4	−1.0	0.1
Amusement & recreation services	768	261	4.4	2.7	0.8	0.8
Computers & peripheral equipment	339	213	4.2	4.5	5.7	2.9
Maintenance & repair construction	1,224	200	4.4	1.4	−2.1	0.9
Plastic products	494	165	4.4	2.6	3.1	0.2
Communications, exc. radio & TV	1,121	159	2.0	1.2	5.8	0.6
State & local gov't. enterprises, nec.	541	154	4.4	2.3	−3.0	0.8
Coal mining	261	151 (75)**	6.6	4.2 (2.0)**	−3.5	1.8 (3.0)**

Source: Saks

TABLE 3E.2

Occupations Projected to Have Highest Growth by 1990, Rate Versus Number of Employees

20 Highest Growth Rate Occupations	Percent Growth in Employment, 1978-90	Growth in Employment (in 1,000s), 1978-90
Data processing machine mechanics	147.6	93
Paralegal personnel	132.4	38
Computer systems analysts	107.8	199
Computer operators	87.9	148
Office machine & cash register servicers	80.8	40
Computer programmers	73.6	150
Aero-astronautic engineers	70.4	41
Food preparation & service workers, fast food restaurants	68.8	492
Employment interviewers	66.6	35
Tax preparers	64.5	18
Correction officials & jailers	60.3	57
Architects	60.2	40
Dental hygienists	57.9	31
Physical therapists	57.6	18
Dental assistants	57.5	70
Peripheral EDP equipment operators	57.3	26
Child-care attendants	56.3	20
Veterinarians	56.1	17
Travel agents & accommodations appraisers	55.6	25
Nurses aides & orderlies	54.6	594
Total		2,152

20 Highest Growth (in Numbers) Occupations	Growth in Employment (in 1,000s), 1978-90
Janitors & sextons	671.2
Nurses aides & orderlies	594.0
Sales clerks	590.7
Cashiers	545.5
Waiters/waitresses	531.9
General clerks, office	529.8
Professional nurses	515.8
Food preparation & service workers, fast food restaurants	491.9
Secretaries	487.8
Truck drivers	437.6
Kitchen helpers	300.6
Elementary school teachers	272.8
Typists	262.1
Accountants & auditors	254.2
Helpers, trades	232.5
Blue-collar worker supervisors	221.1
Bookkeepers, hand	219.7
Licensed practical nurses	215.6
Guards & doorkeepers	209.9
Automotive mechanics	205.3
Total	7,790

Source: Max L. Carey, "Occupational Employment Growth Through 1990," *Monthly Labor Review* (August 1981), p. 46.

Source: Saks

When coal miners went out on strike at the Jericol mine in Harlan County a few years ago, the company attempted to recruit strike breakers and retrofitted a school bus with steel plate for protection from possible sniper fire and to transport the strike breakers to and from the mine. The parents of school age children were outraged. They feared that a bus load of children might become the target of striking miners who would mistake their bus for that of the strike breakers.

Striking workers and strike breakers often generate great animosity but underlying this occurrence at Jericol and scenes like it around the country are conflicts over the limited opportunity to work. Patterns of cooperation within unions, communities and even families change and decline as jobs are lost or change in remuneration. Most importantly, many innocent people can be hurt not only by gunfire but by long periods of unemployment and low income. The Jericol incident occurred because Harlan County has known poverty and the intense conflict for jobs which it stimulates. Consequently, its occurrence may afford an extreme but pertinent preview of events which await us with an increase of the "new poor," that is, people who had jobs and lost them and after long periods of unemployment are without unemployment benefits as well. Increased numbers in the young working force, the increased participation of women in the work force, high unemployment and a decline in well paying jobs not only increase the "new poor" but create difficult access to work and tension on the social fabric. At the end of 1983 as unemployment hovered at 8 percent there were reports that the middle class declined from 55 percent to 42 percent in the previous five years. One-fourth of these people with changed status had more income than before but three-fourths of them had less income and slipped below the middle class range (Pear).

This change in the nation was felt in the region. Unemployment figures for Appalachia changed drastically in the past few years and highlighted some important long term trends. Employment growth in Appalachia has slowed since 1979, and unemployment is now significantly above the national average. The Appalachian region included 8 percent of the U. S. civilian force but 10 percent of the U. S. unemployed in 1982. There was a loss of 50,000 jobs between 1979 and 1980 within the region compared to a gain of 350,000 in the nation. In 1981 and 1982, 400,000 additional jobs were lost within the region (ARC, 1983A). This decrease in jobs and increase in unemployment coupled with previous inmigration means a large surplus labor pool within parts of the Appalachian region. The labor pool expanded also because women increased their participation in the Appalachian work force. Their entry into the work force, in the vast majority of cases represents an attempt to establish, maintain, or increase family incomes for essentials. Household incomes were influenced by other changes in their source including transfer payments.

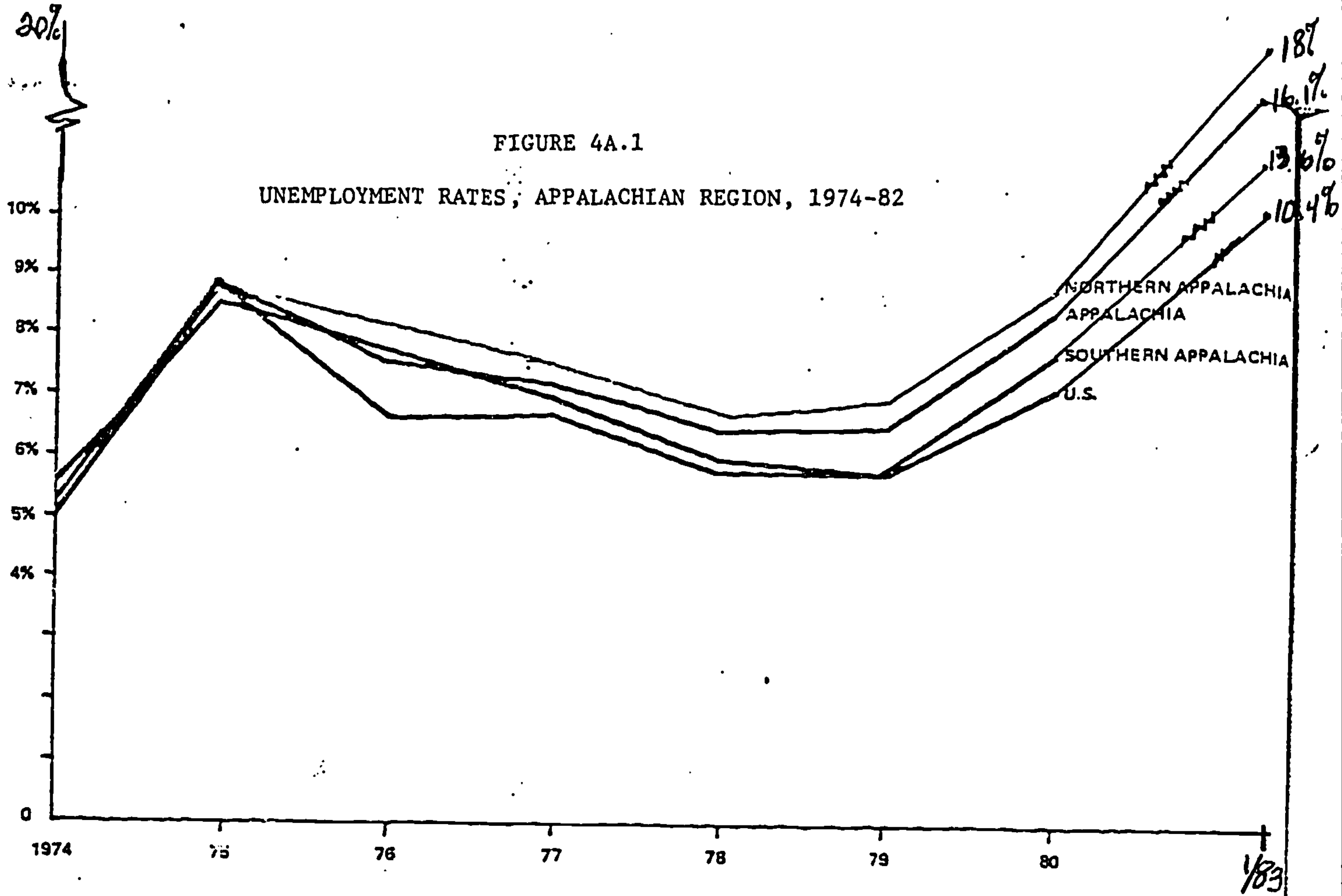
4A Unemployment

In general, there were higher rates of unemployment and more unemployed people in Northern Appalachia than Southern Appalachia. Northern Appalachia beginning with the recession of 1975 exceeded the national average of unemployment. States with coal booms like Virginia, Kentucky and West Virginia had modest unemployment increases until after the peak production year of 1978 and the 1980 recession. Unemployment throughout the region increased in 1978 and in 1979. Unemployment in Southern Appalachia has been at a higher rate than the U.S. rate since 1979 after having consistently lower rates since 1970. If we compare unemployment and employment from figures 3A.7 and 4A.1 we find in Northern Appalachia, 320,800 more jobs and 229,400 more unemployed persons from 1974 to 1980. In Southern Appalachia the corresponding figures are 306,400 and 112,300. From 1980 onward unemployment increased dramatically. Figure 4A.1 portrays unemployment rates from 1974 to January 1983 and gives unemployment rates for selected years.

Regional and statewide figures hide some of the characteristics of the unemployment. Figure 4A.2 for example, shows that the counties with the lowest unemployment in 1974-7 were by and large on the boundaries of the region and in the South. In general, unemployment rates in rural counties were one-eighth to one-sixth higher than rates in metropolitan areas. Moreover, consideration of unemployment must take into account labor force participation or the ratio of those in the labor force to the population. Since it is only people who are in the labor force and actively looking for work who are reported as unemployed a much larger number of people may be without work. Figure 4A.3 illustrates the labor force as a percentage of the population between 1970 and 1975. Only Southern Appalachia had a participation rate which at times exceeded and at other times slightly lagged behind the national rates. The Appalachian population, in general, trailed the American population in the percent of labor force participation by about 4 percent. In Central Appalachia the figure rose to approximately

FIGURE 4A.1

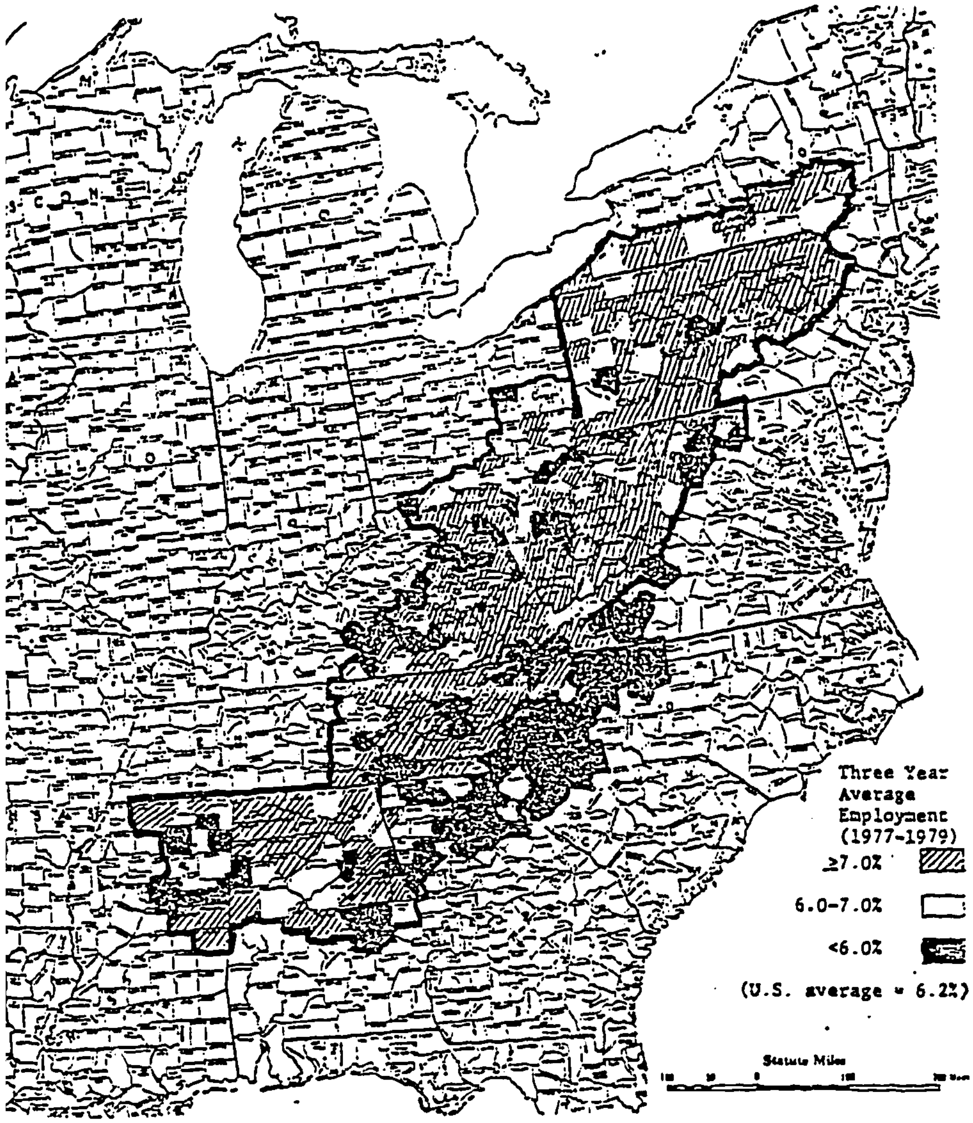
UNEMPLOYMENT RATES, APPALACHIAN REGION, 1974-82



		74	76	78	80	74-80 CHANGE	82
APP. N.Y.	#	25.0			35.0	10.0	
	%	5.5%	9.1	6.8	7.2		9.3
APP. PA.	#	111.2			232.1	120.9	
	%	5.6%	8.3	7.2	8.8		13.0
APP. OHIO	#	20.8			51.5	30.8	
	%	5.6%	8.8	6.3	9.6		14.5
APP. MD.	#	4.7			10.2	5.5	
	%	5.3%	10.1	8.5	10.0		14.8
APP. VA.	#	10.4			17.2	6.9	
	%	5.3%	7.1	7.4	7.2		12.7
APP. W. VA.	#	38.6			72.0	33.4	
	%	5.8%	7.5	6.3	9.4		13.5
APP. KY.	#	18.5			40.7	222	
	%	5.4%	11.4	6.6	9.8		13.0
N. APPAL.	#	229.1			456.5	229.4	
	%	5.6	8.1	6.7	8.8		

		74	76	78	80	74-80 CHANGE	82
APP. N.C.	#	23.7			36.2	12.5	
	%	4.7%	6.0	4.0	6.4		9.6
APP. S.C.	#	14.5			22.2	7.7	
	%	4.5%	6.2	4.9	6.2		11.1
APP. GA.	#	22.3			34.6	12.3	
	%	5.3%	8.3	5.5	7.0		8.8
APP. TENN.	#	42.2			68.0	25.9	
	%	5.4%	6.2	6.3	7.9		13.0
APP. ALA.	#	51.1			96.5	45.5	
	%	5.7%	7.1	6.3	9.3		14.9
APP. MISS.	#	8.9			17.4	8.5	
	%	4.7	6.5	3.7	8.3		12.2
S. APPAL.	#	162.7			275.0	112.3	
	%	5.2	6.7	5.9	7.8		
APPAL.	#	391.8			733.5	341.7	
	%	5.4	7.6	6.4	8.4		12.5
U.S.	#	5099.0			7448.0	2350.0	
	%	5.6	7.1	6.0	7.1		9.7

Source: Arthur D. Little, Inc. and ARC

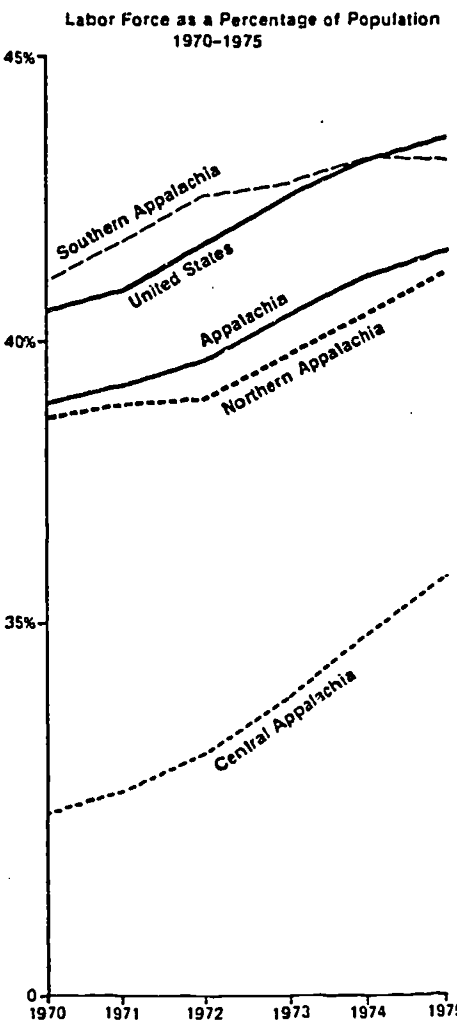


UNEMPLOYMENT IN THE APPALACHIAN REGION, 1977-1979

FIGURE 4A.2

Source: Arthur D Little

FIGURE 4A.3



Source: ARC

BEST COPY AVAILABLE

9 percent.

This last figure indicated the relatively low participation of women in the work force from 1970 to 1975. Figures for West Virginia in 1982 indicated that 39 per cent of black women and 36 percent of white women were labor force participants. Nationally 53 percent of adult women participated in the labor force in 1982 (Hall:3). There are many reasons why women participate at rates lower than men and why in Appalachia women participate at rates lower than women elsewhere. Employment opportunities for women are clustered among relatively few occupations which are low paying. In addition, women, in some cases, are still compensated less than men for work which is the same as of comparable value. Figures from West Virginia in 1982 showed 80 percent of women worked in 25 out of 420 occupational listings and as a study of Women and Employment, Inc. pointed out:

> Working women earn less than do working men. Median income of full-time, full-year workers in West Virginia show that women earn 52 cents for every dollar men earned in 1979. Nationally that year, women earned about 63 cents for every dollar men earned (Hall:2).

Women must balance their wage and employment opportunities with the cost of acquiring care for children and other dependents, if it is available. Very often the lack of such care or its cost makes labor force participation and work impossible or unprofitable.

These lower participation rates are a hidden segment of unemployment among men and women within the region and especially Central Appalachia. Unemployment figures underreport the severity of the employment problem in the region and especially Central Appalachia because the discouraged worker who drops out and some people who never enter because of the scarcity of jobs are not counted.

This underreporting and the boom in mining after 1973 explains, in part, why in 1975, a recession year, Central Appalachia had the lowest unemployment rate in the region and was below the national average in unemployment. However, by 1979, the Central Appalachian unemployment rate was once again highest in the region and above the national average. Twenty-three of the eighty-five Central Appalachian counties had unemployment rates in excess of 10 percent. Of these twenty-three counties, eleven were significant coal producers and five of the eleven had major dependence upon coal employment, that is more than 30 percent of the counties' total employment was in coal mining. It was common to hear offical unemployment rates of 25 percent or more in Central Appalachian counties and unofficial rates near to double that. The UMWA estimated unemployment among its members in late 1983 at 27 percent. By July 1983, 72 counties within the Appalachian region still recorded unemployment rates at or above twice the national average. Unemployment was concentrated in counties with textile and apparel manufacturing in addition to coal producing counties (ARC, 1983).

The serious problem of the present unemployment has underlying questions associated with employment and income within the region. Many of the unemployed are not temporarily unemployed but are structurally unemployed because of changed production processes or the relocation of industry. This technological displacement means reductions in the number and security of jobs. It not only has repercussions for employment but for income as well. Many of these manufacturing jobs are being replaced by service sector jobs or manufacturing jobs requiring less skill and paying lower wages. Displaced workers nationally return to work at wages 22 percent lower than the wages at their previous work (Marchione and Tabac:19).

4B The Work Force: Male and Female

Changes in the nature of jobs and employment opportunities coincide with an increase in the number of women entering the job market. Between now and 1995 it is estimated that two-thirds of all new entrants into the job market will be women and most of them will be between the ages of sixteen and twenty-four. In addition, women are participating in the labor force in a different manner than previously. They are staying in the work force through child bearing and rearing ages. Figure 4B.1 illustrates that by 1990 the nature of participation in the work force for women will be approximately the same as that of men in 1970, although more men will be in the work force at a higher rate in 1990 and their pattern of labor force participation may also change by then. Additionally, the fastest growing, lower paying service sectors of employment as well as the lower paying manufacturing jobs are more likely to be filled by women. Women are entering the labor force at a time when jobs seem to be increasing either in management, the high paying end, or in service and less skilled manufacturing, the low paying end. New entrants into the labor force will have fewer high paying oppor . .nities and more competition for them. This simply underscores the observation of Pat Choate, "If women workers are to make the contributions of which they are capable, discrimination against women in nontraditional jobs must be reduced, and quality of life considerations, such as flexible work schedule and day care, must be given higher priority" (3).

In addition to changes in the rate and nature of work force participation of women, the status of women as primary wage earners is also changing. Women who are heads of households continue to earn necessary income for their families. In addition, women in families reported as headed by males have increased their participation and in 12 percent of American husband-wife households, the wife earned more than the husband in 1982. Some women were dubbed "female superstars" in the Census Bureau study reporting this finding. But they were only about 14.5 percent of the six million wives. The more common case is one in which the wife works in a non-professional job and her husband has "labor force difficulities." Wives have increased their status as wage earners because the status of many men as wage earners has declined. In some cases the men were retired but in more than half the cases where husband and wife both worked and the wife earned more than the husband, he worked less than full time. Unfortunately one change underway is that wages for men are falling and thus equality is developing among those of lesser wages. This will undoubtedly have profound impact on gender roles and family incomes. In fact, Ford's data suggest that increased female labor force participation in Appalachia is related to an effort to maintain or increase levels of family income (30). Wives have gone to work in the region and the nation in part to help achieve a family income to provide for middle class expectations in housing, transportation, education and health care.

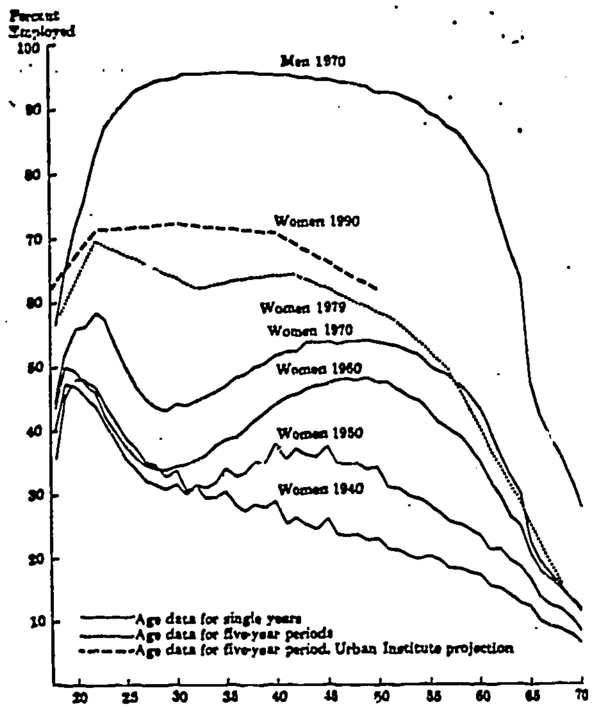
Marshall also makes the point that this development leaves only 15 percent of American families as "typical" in the sense of one male wage earner (Marshall: 6). Choate estimates that 39 percent of Appalachian women with children under six work outside the house paralleling the change going on nationally (Choate: 3).

The recent recession demonstrated another new form of female labor force participation. The unemployment rate of women did not increase faster than that of men. This was the first recession where rates for both sexes were about the same (Marshall: 13). In general, however, a tight labor market diminishes opportunities for women to gain higher paying jobs and professional achievements.

Some research suggests that developments of women's participation in the Appalachian work force within the region matched or exceeded national developments. Ford's study of Appalachian families in the Central Appalachian region compared census data from 1958 to 1976 and did not give us indications of the impact of the most recent economic changes on the family. Nevertheless, the study is valuable in that it is the most indepth view of changes within the Appalachian region in that eighteen year period and the trends that have emerged. In terms of women and the work force, Ford's study (77-81) makes the following points clear. There is a decrease in the labor force participation of male heads of families and a slight increase in the labor force participation of female family heads. The most dramatic increase in the participation of women in the work force comes from among women in husband-wives households. This rate doubled from 18.2 percent in 1958 to 38.1 percent in 1976 (See Table 4B.1). Ford identified

FIGURE 4B.1

Labor Force Participation Rates for Men and Women by Age, 1940-90



Source: Saks

Source: George Masnick and Mary Jo Bane. *The Nation's Families: 1960-1990* (Cambridge, Mass.: Joint Center for Urban Studies of MIT and Harvard University, 1980). Reproduced with permission.

TABLE 4B.1

Labor Force Participation of Family Heads, by Sex, and by Wives of Family Heads, by Type of Family, Central Appalachia, 1958 and 1976

Family Status and Type of Family	Percent in Labor Force 1958	1976
Male Head, All Family Types	86.7	73.9
Primary Families	86.7	73.9
Subfamilies	85.7	85.9
Female Head, All Family Types	33.3	39.6
Primary Families	35.0	39.5
Subfamilies	25.0	52.4
Wife of Family Head, All Family Types	18.2	38.1
Primary Families	18.4	39.0
Subfamilies	10.0	24.6

Source: Ford:79

the increased participation of women in the work force as the most important economic change in households and family structures and observed consequent gender role changes.

> The employment of wives had a number of significant consequences. One of these... was a continued decrease in the number of children. This reduction of childbearing is only one aspect of a major change in the traditional role of the Appalachian women. No longer simply the housewife and mother, she moves into a status of greater equality by earning income. And this greater equality also gave her a stronger voice in family decisions including how many children she would bear (Ford: 105).

Another consequence of the change in women's labor force participation is increased income for families in which both husband and wife work. Wages are still low in the region but two wage earners make it possible for a working class family to rise well above a subsistence level and into middle class consumption patterns. Figures from census data on West Virginia indicate that the 1976 median income for husband-wife families was $12,691. But those households in which the wife and husband were both employed had a median income of $15,489 while those in which the wife was not employed had a median income of $10,946 (Ford:80). These same figures indicate that the working wives in West Virginia contributed 41 percent to their families' income compared with the U.S. average of 32 percent (Ford:79). Wives' incomes in West Virginia had much greater marginal value representing a larger percentage of a smaller amount.

The changes of women as wage earners within the family extend beyond male-female households. The precise figures on the increase of Appalachian women living alone or as the head of a family are not available. We do know, from Ford's study, Table 2B.3, of the likely increase in the number of women 65 years and older. Another study showed that 40 percent of women in West Virginia are single, separated, divorced, or widowed (Hall:2). Figures provided by Women and Employment, Inc. show that in 1980 the median income of families headed by women was $6,504 which was 36 percent of the median income of two-parent families $18,347. Moreover, a female-headed family was four times more likely to have a below poverty income than a male-headed family. Forty-three percent of female-headed families in West Virginia are in poverty and 11 percent of male-headed families are (Hall:1-2).

Men and women are undergoing profound change as wage earners in Appalachia and America. This is caused, in part, by changes in the family but importantly, changes in the economy contribute to changes of and within the family. These changes of the family often have profound and negative consequences for women and children.

4C Per Capita Income

Regional per capita income increased steadily especially in Central and Southern Appalachia until 1975. Between 1975 and [illegible] per capita income grew slower than the national rate. Nevertheless, between 1965 and 1975 the gap in personal income between the region and the nation narrowed from 78 percent to 84 percent. There are several limitations to the use of the per capita income figure as a socioeconomic measure. First, it is an average which does not indicate the range or distribution of income levels. Because we are dealing with a larger portion of low incomes, the higher incomes in the region move the per capita figure upward to some degree.

Second, increases in per capita income do not infer increases in the quality of life if goods and services are not increasingly available or if their costs increase more quickly.

In addition, there are important variations in the per capita income figure. Northern Appalachia between 1965 and 1975 increased in personal income from 87 percent to 90 percent of the national average. Southern Appalachia increased from 73 percent to 79 percent of the national average. Central Appalachia increased from 52 percent to 70 percent of the national average. Within Central Appalachia, Appalachian Kentucky generally recorded the lowest per capita income level of any section of that subregion or any part of Appalachia. Figure 4C.1 illustrates per capita incomes and locates Clay County Kentucky in the center of the region and of a vortex of counties with declining per capita incomes. But at the same time, the Central Appalachian region made the greatest gain relative to the national per capita income from 1965 to 1977. Table 4C.1 lists the regions and states and per capita incomes for 1965, 1969 and 1977. Note that Appalachian New York and the non-coalmining section of Appalachian Virginia fell further behind in relation to the nation during this time while other parts of Northern Appalachia stayed the same or made only modest increases.

These increases occurred in proportion to existing per capita incomes in some regards so that rural counties still have the lowest per capita incomes within the region. Rural counties in Central Appalachia made the greatest gains relative to national per capita income but they were still the category of counties with the lowest per capita income in the region.

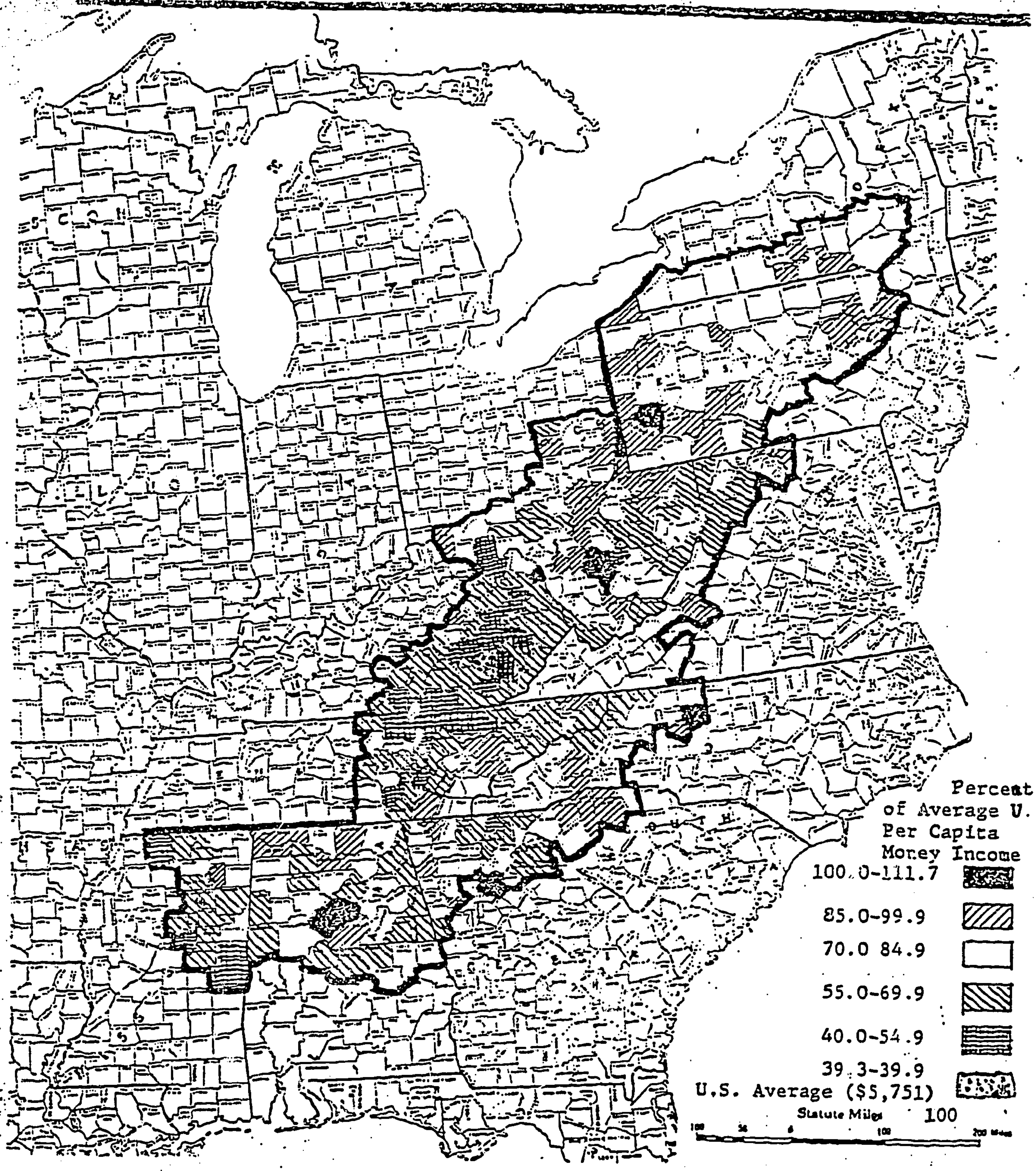


FIGURE 4C-E 1977 MONEY INCOME PER CAPITA
APRIL, 1978

Source: Appalachian Regional Commission.

TABLE 4C.1

PER CAPITA MONEY INCOME WITH 1969-1977 TREND ADJUSTED FOR INFLATION APPALACHIAN REGION AND UNITED STATES

Geographical Division	Population[1] July 1, 1978 (000)	Population[1] April 1, 1970 (000)	Per Capita Money Income[1] 1977 ($)	Per Capita Money Income[1] 1977 (1969 $)	Per Capita Money Income[1] 1969 ($)	1969-1977 Income Change[2] Total Change (%)	1969-1977 Income Change[2] Annual Rate (%)	Per Capita Income Index (U.S.=100) 1977	Per Capita Income Index (U.S.=100) 1969	1965
United States	218,228	203,302	$5,751	$3,551	$3,119	13.8%	1.6%	100.0	100.0	100.0
Appalachian Region	19,426	18,217	$4,830	$2,982	$2,505	19.1%	2.2%	84.0	80.3	78.0
Northern Appalachia	9,907	9,734	$5,049	$3,118	$2,698	15.1%	1.8%	87.8	86.5	87.0
Maryland	215	209	4,806	2,967	2,599	14.2	1.7	83.6	83.3	81
New York	1,075	1,057	4,679	2,889	2,845	1.5	0.2	81.4	91.2	90
Ohio	1,215	1,130	4,632	2,860	2,443	17.1	2.0	80.6	78.3	76
Pennsylvania	5,914	5,931	5,230	3,229	2,790	15.7	1.8	90.9	89.5	90
West Virginia	1,488	1,408	4,972	3,070	2,421	26.8	3.0	86.5	77.6	80
Central Appalachia	2,004	1,745	$3,892	$2,403	$1,824	31.7%	3.5%	67.7	58.5	52.0
Kentucky	1,008	877	3,670	2,266	1,732	30.8	3.4	63.8	55.5	49
Tennessee	390	335	3,873	2,391	1,931	23.8	2.7	67.3	61.9	53
Virginia	233	197	4,162	2,570	1,807	42.3	4.5	72.4	57.9	49
West Virginia	373	336	4,342	2,681	1,966	36.3	3.95	75.5	63.0	59
Southern Appalachia	7,515	6,738	$4,790	$2,958	$2,402	23.1%	2.6%	83.3	77.0	73.0
Alabama	2,310	2,137	4,932	3,045	2,430	25.3	2.9	85.8	77.9	75
Georgia	1,007	814	4,732	2,922	2,419	20.8	2.4	82.3	77.6	70
Mississippi	458	419	3,939	2,432	1,861	30.7	3.4	68.5	59.7	53
North Carolina	1,143	1,039	4,832	2,984	2,437	22.5	2.6	84.0	78.1	75
South Carolina	742	656	5,092	3,144	2,571	22.3	2.55	88.6	82.4	78
Tennessee	1,562	1,400	4,780	2,952	2,438	21.1	2.4	83.1	78.2	75
Virginia	293	273	4,336	2,677	2,281	17.3	2.0	75.4	73.1	76
State Parts[3]										
Tennessee	1,951	1,735	$4,599	$2,840	$2,340	21.3%	2.45%	80.0	75.0	
Virginia	526	470	4,259	2,630	2,082	26.3	3.0	74.1	66.8	
West Virginia[4]	1,861	1,744	4,851	2,995	2,333	28.4	3.2	84.4	74.8	

[1] U.S. Bureau of the Census population and per capita income estimates for revenue sharing for 1978 (1977 income); per capita money income data detail published in Current Population Reports, (Series P-25, Nos. 882-886) June 1980.

[2] 1977 income expressed in approximate 1969 dollars to eliminate inflation. The factor used is 1977/1969=1.61957 based on a weighted index composed of disposable personal income (84.9%) and government purchase of goods and services (15.1%). 1969-1977 income change is measured after adjustment for inflation.

[3] Figures for two subregional portions of these three states, the only states in two subregions, are combined here.

[4] Entire state.

Source: ARC and Arthur D Little

Table 4C.2 gives figures for 1970 and 1978 demonstrating per capita income for rural, urban, and metropolitan counties.

The increase in per capita income in Central Appalachia raises the question of source. Table 4C.3 indicates that mining was 19.6 percent of personal income in 1975, a growth of 165 percent during the period of 1970 to 1975. Transfer payments more than doubled during that same period and by 1975 represented 21.1 percent of personal income. This was a higher rate than the other subregions and exceeded the national average which was 13.8 percent. Transfer payments such as welfare, black lung, disability, and social security increased faster than any other form of income in all three subregions and obviously contributed to gains in the ratio of per capita incomes. With the decline in employment growth and general increase in unemployment, transfer payments are increasingly important to maintain present levels of per capita income in the subregions of Appalachia.

Some groups of individuals severely lagged in income gains. Women living alone, according to Ford's study, showed a decrease in income from $3,300 to $3,287 between 1958 and 1975. That is explained in part by the great increase in the number of women, especially older women, living alone. New forms of transfer payments to them made living alone possible but provided barely sufficient means for them to do so (Ford:62).

4D Poverty

Levels of poverty within the region decreased from 1960 to 1980 according to Table 4D.1. Nationally however, the poverty population

Table 4C.2

Total Personal Income, per Capita Data and Relative Levels Appalachian Region, Subregions and County Groups (metro, urban, rural) 1970-1978

Geographical Division	Population July 1, 1978 (thousands)	Total Personal Income 1978 (millions)	Total Personal Income per Capita 1978 (dollars)	1977* (dollars)	1970* (dollars)	Percent of U.S. Average 1978	1977*	1976*	1970*
United States	218,059	$1,709,616	$7,840	$7,038	$3,893	100.0%	100.0%	100.0%	100.0%
Appalachian Region	19,443	$ 128,325	$6,600	$5,946	$3,161	84.2%	84.5%	84.7%	81. %
Metropolitan Counties	9,598	70,152	7,309	6,589	3,513	93.2	93.6	93.7	90.
Major Metropolitan	8,021	60,635	7,559	6,814	3,622	96.4	96.8	96.8	93.
Peripheral Metropolitan	1,577	9,517	6,035	5,420	2,849	77.0	77.0	77.3	73.
Urban Counties	4,888	31,197	6,383	5,764	3,092	81.4	81.9	82.2	79.
Rural Counties	4,957	26,976	5,442	4,874	2,497	69.4	69.3	69.4	64.
Subregions									
Northern Appalachia	9,899	$ 69,340	$7,005	$6,324	$3,430	89.3%	89.9%	90.0%	88. %
Metropolitan Counties	5,292	40,419	7,637	6,898	3,712	97.4	98.0	97.9	95
Major Metropolitan	4,866	37,645	7,736	6,984	3,750	98.7	99.2	99.2	96.
Peripheral Metropolitan	426	2,773	6,509	5,900	3,208	83.0	83.8	83.0	82.
Urban Counties	2,853	18,618	6,525	5,902	3,232	83.2	83.9	83.5	83.
Rural Counties	1,754	10,303	5,875	5,265	2,835	74.9	74.8	74.4	73.
Central Appalachia	2,007	$ 10,993	$5,478	$4,951	$2,365	69.9%	70.3%	70.5%	61. %
Metropolitan Counties	209	1,509	7,209	6,455	2,821	91.9	91.7	91.1	83.
Major Metropolitan	121	948	7,853	7,014	3,538	100.2	99.7	98.8	91.
Peripheral Metropolitan	89	561	6,331	5,695	2,821	80.8	80.9	80.7	72.
Urban Counties	358	2,215	6,193	5,639	2,706	79.0	80.1	81.1	69.5
Rural Counties	1,440	7,268	5,049	4,563	2,144	64.4	64.8	64.8	55.
Southern Appalachia	7,537	$ 47,992	$6,367	$5,707	$2,979	81.2%	81.1%	81.3%	76.5%
Metropolitan Counties	4,097	28,224	6,889	6,188	3,239	87.9	87.9	88.1	83.
Major Metropolitan	3,034	22,041	7,263	6,528	3,402	92.6	92.8	92.7	87.
Peripheral Metropolitan	1,062	6,183	5,821	5,202	2,689	74.2	73.9	74.2	69.
Urban Counties	1,679	10,363	6,182	5,554	2,915	78.8	78.9	78.9	75.
Rural Counties	1,764	9,405	5,332	4,737	2,431	68.0	67.3	67.7	62.

Source: 1978, 1977 and 1976 data from U.S. Department of Commerce, Bureau of Economic Analysis, special tabulations for the Appalachian Region. Separation of major and peripheral metropolitan counties by ARC staff from county income tabulations by the Bureau of Economic Analysis prepared in 1980. 1970 data compiled from same source by ARC staff. 1970 per capita incomes based on ARC estimated population for July 1, 1970, interpolated to conform to Census estimated state totals.

Note: Total personal income (TPI) includes nonmoney imputed income, including net rental value of owner-occupied homes; payments in kind; value of food consumed on farms; employer fringe benefits; food stamps, etc. TPI income in 1975 was 21.4 percent higher, and in 1972 and 1969 was 20 percent higher for the U.S. expressed in dollars, than personal money income (U.S. Bureau of Census revenue-sharing data series).

*Revised data for 1977, 1976 and 1970.

Source: ARC

BEST COPY AVAILABLE

TABLE 4C.3

Total Personal Income Sources Appalachian Region and United States

1970-1975

1970

Geographical Division	Total Personal Income	Labor and Proprietors Earnings: Total	Farm	Government	Pvt. Nonfarm	Nonearned Income: Total	Transfer Pymts.	Other
United States	$808,223,200	$640,948,000	$20,394,000	$112,337,000	$508,217,000	$167,275,200	$79,107,200	$88,168,000
Appalachian Region	57,295,698	45,226,848	1,116,102	6,346,204	37,764,542	12,068,850	6,975,462	5,093,388
Northern Appalachia	33,352,350	25,984,748	395,261	3,411,203	22,178,284	7,367,602	4,155,130	3,212,472
Central Appalachia	4,039,053	3,066,884	163,319	458,114	2,445,451	972,169	718,412	253,757
Southern Appalachia	19,904,295	16,175,216	557,522	2,476,887	13,140,807	3,729,079	2,101,920	1,627,159

1975

Geographical Division	Total Personal Income	Labor and Proprietors Earnings: Total	Farm	Government	Pvt. Nonfarm	Nonearned Income: Total	Transfer Pymts.	Other
United States	$1,257,535,000	$951,018,000	$33,878,000	$173,324,000	$743,816,000	$306,517,000	$173,778,000	$132,739,000
Appalachian Region	92,019,419	68,590,426	1,482,028	10,249,310	56,859,088	23,429,000	15,631,030	7,797,976
Northern Appalachia	51,249,862	37,760,272	511,970	5,392,617	31,855,685	13,489,590	8,863,261	4,626,329
Central Appalachia	7,672,413	5,596,924	233,104	730,087	4,633,733	2,075,489	1,617,424	458,065
Southern Appalachia	33,097,144	25,233,230	736,954	4,126,606	20,369,670	7,863,914	5,150,345	2,713,569

1970-1975 Percent Change

Geographical Division	Total Personal Income	Labor and Proprietors Earnings: Total	Farm	Government	Pvt. Nonfarm	Nonearned Income: Total	Transfer Pymts.	Other
United States	56%	48%	66%	54%	46%	83%	120%	51%
Appalachian Region	61	52	33	62	51	94	124	53
Northern Appalachia	54	45	30	58	44	83	113	44
Central Appalachia	90	82	43	59	89	113	125	81
Southern Appalachia	66	56	32	67	55	111	145	67

Source: U.S. Department of Commerce, Bureau of Economic Analysis, special tabulations for Appalachian Regional Commission.

Note: Total personal income (TPI) includes nonmoney imputed income, including net rental value of owner-occupied homes; payments in kind; value of food consumed on farms; food stamps, etc. TPI income in 1972 and 1969 for the U.S. was 20 percent higher (expressed in dollars) than money income (census data series).

TABLE 4D.1

Poverty Status of Total Household Population Appalachian Region and United States 1960, 1970 and 19[illegible]

Geographical Division	Approximation Below Poverty Level in 19[illegible]: Number of Persons (thousands)	Percent of Household Population	Poverty Index	Census Below Poverty Level in 1970: Number of Persons (thousands)	Percent of Household Population	Poverty Index	Census Below Poverty Level in 1960: Number of Persons (thousands)	Percent of Household Population	Poverty Index
United States	27,383	12.4%	100.0	27,125.0	13.7%	100	38,684.5	22.1%	100
Appalachian Region	2,771	14.0%	113.1	3,228.4	18.1%	132	5,446.6	31.2%	141
Subregions									
Northern Appalachia				1,268.3	13.4%	97	2,082.2	21.9%	99
Maryland	25	11.9%	96.3	30.2	14.8	108	47.9	24.9	113
New York	124	12.0%	97.1	116.9	11.5	84	165.1	17.1	77
Ohio	159	12.9%	104.0	176.4	16.0	117	287.1	26.1	118
Pennsylvania	587	10.0%	80.9	663.8	11.4	84	1,126.9	19.3	88
West Virginia	not available			280.9	20.4	149	455.2	31.6	143
Central Appalachia				597.5	34.7%	254	1,012.5	54.1%	245
Kentucky	275	26.0%	209.8	334.4	38.8	284	536.1	58.4	264
Tennessee				102.6	31.1	227	173.2	53.6	242
Virginia				61.4	31.3	229	121.6	53.0	240
West Virginia	not available			99.2	29.8	217	181.6	45.4	205
Southern Appalachia				1,362.6	20.6%	151	2,351.9	38.7%	175
Alabama	395	16.6%	133.6	463.3	22.1	161	762.3	38.8	175
Georgia	134	12.3%	99.4	136.0	16.9	124	258.8	38.5	174
Mississippi	105	22.1%	178.5	138.6	33.8	246	225.9	56.0	253
North Carolina	164	13.8%	111.4	190.4	18.8	137	341.9	37.2	169
South Carolina	97	12.6%	101.3	104.0	16.2	118	195.9	34.0	154
Tennessee				278.5	20.3	148	459.4	36.3	164
Virginia	not available			51.8	19.4	141	107.6	40.1	181
State Parts†									
Tennessee	337	16.6%	134.0	381.1	22.4%	164	632.6	39.9%	180
Virginia	83	15.2%	122.9	113.2	24.4	178	229.2	46.0	208
West Virginia‡	287	15.0%	120.8	380.1	22.2	162	636.8	34.6	157

Source: Compiled by Appalachian Regional Commission from fourth count tabulations of the 1970 Census of Population, 1960 data file on computer tape furnished by the Office of Economic Opportunity (now the Community Services Administration). All data totals are independently rounded from unrounded source data; totals may not add due to rounding. 1976 poverty levels approximated from Survey of Income and Education, state data in *Consumer Income* (Series P-60, Nos. 110-112), and special tabulations of the three Appalachian subregions. Trends defined by linear regression analysis using per capita income estimates for 1975 and Census income data for 1969, by county.

*Average of data from Current Population Survey and Survey of Income and Education.
†Figures for the two subregional portions of these three states, the only states which fall in two subregions, are combined here.
‡Entire state.

Source: ARC

BEST COPY AVAILABLE

increased by 17 percnt to a record high of 34,000,000 from 1980 to 1983. The proportion of poverty population is greatest in the Central Appalachian region. The decrease in the number of the poverty population coincides with the figures on the increase in per capita income. Government policies of transfer payments are very important to the income levels of people especially within the Central Appalachian region and therefore changes in domestic policies can and undoubtedly have led to an increase in numbers of poor people and lower incomes for people in the poverty category. It should also be noted that in Southern Appalachia a much higher proportion of black families are in poverty than white families. Likewise, persons 65 and over especially in the Central Appalachian region have rates of poverty incomes which far exceed the poverty rates for other categories of people (ARC, 1977:47). Precise figures for women and children in Appalachia who fall into the poverty category are not available. However, nationally, and most likely within the region, the poverty population has become increasingly young and female.

There was a disturbing nature to the 1983 economic recovery. A decline in public services and high unemployment meant that some Americans faced deprivation in the necessities of shelter, food, education, and health care. Newspapers and magazines reported government studies on the increase in the homeless population in our nation's cities; as many as 2,000,000 people which was the Depression level. A presidential advisor controverted claims that hunger was prevalent despite the evidence of increased lines at soup kitchens and new public and private food distribution programs. Americans, public and private, vied with each other to detail the crisis of our nation's schools. And a national foundation found new problems in health care access for poor people and those recently unemployed. These groups often found themselves ineligible for public programs of medical assistance and without health insurance provided by employers (Johnson). Many of the people with these problems were the "new poor" working class people previously independent but who were now out of work, and without benefits, or who had exhausted unemployment benefits and now needed assistance from public services which the Reagan administration was reducing in size and number.

The problems of the "new poor" simply compound the problems of areas of concentrated and enduring poverty. There is as there has been a wide variation in every measure of well-being between the Appalachian region and the nation. Although some subregions of Appalachia are better off than others, the region in general offers a stark appearance of low incomes, low labor force participation, high unemployment, a series of severe human needs, and a depletion of human services. A study of the Levisa Fork area, which is the center of the coal fields within the Central Appalachian region, offers this description of that area during a time of "a revitalized coal industry and significant improvements in the overall economy."

> The dependency ratio is disturbingly high, and almost one-third of the population is supported entirely or in part by transfer payments from various government agencies. Approximately 40% of the people have incomes below the poverty level. Only about one-half of the working age population is employed or is actively seeking work. The levels of education in all the counties fall below state and national levels. A serious housing shortage exists and almost one-third of existing housing is substandard (Cox:64).

This assessment of human needs and inadequate services in the Appalachian region during good times indicates that economic recovery by itself will not ameliorate many problems in the short run and probably not in the long run either.

5A Education

The children of Appalachia and the adult population of working age both have educational needs. Table 5A.1 compares the educational attainment of adults between 1970 and 1980. There were obvious improvements in measures of educational attainment during that period. There were decreases in low levels of educational attainment and increases in higher educational attainment. However, the regional improvements lagged behind national rates in almost all instances. Moreover, there were important subregional differences once again. In 1976, 45 percent of the adult population in Central Appalachia still had eight or fewer years of education. Sixty-two percent of the Central Appalachian population had less than a high school education. Southern Appalachia had a rate of 50 percent of this same level of educational attainment. In general, Northern Appalachians had the highest levels of educational attainment. Part of the change in adult educational attainment in 1976 may be attributable to immigration and not merely changed educational practices or improved institutions within the region. Young adults and pre-retirement workers returned to the region and brought their educational attainment with them. Consequently, it is difficult to separate changes caused by the educational achievements of Appalachian children in the region's schools and the educational achievements of the immigrants. Table 5A.2 indicates a decline in the drop-out rate of young adults, 18-24 years of age. But again we cannot ascertain the influence of the educational institutions or migration in changing drop-out rates.

However, a recent survey of schools in Central Appalachia offered discouraging information. The study used measures of student scores on standard achievement and proficiency tests. This research found that Central Appalachian county school systems in Kentucky and West Virginia constantly had student scores less than school systems elsewhere in those states. Coal counties in Virginia also had worse student scores than other counties as did the eastern most counties in Tennessee. Independent school systems generally reported better student scores than county systems. Additionally, Appalachian Kentucky counties and coal counties in Virginia reported less government revenues in general and a smaller proportion spent on education in particular (De Young). The recent and numerous criticisms of American public schools makes this critical

TABLE 5A.1

Adult Educational Attainment, Appalachian Region and United States, 1970 and 1980

1970	Number of Persons 25 Years and Older	Persons 25 Years and Older: Elementary 0–8 Years (Percent)	High School 1–3 Years (Percent)	High School 4 Years (Percent)	College 1–3 Years (Percent)	College 4 Years or More (Percent)
United States	109.899,359	28.3%	19.4%	31.1%	10.J%	10.7%
Appalachian Region	10.068,768	38.4	19.8	29.3	7.2	7.3
1980						
United States	132,778,552	18.3	15.3	34.4	15.7	18.3
Appalachian Region	11,982,059	25.2	17.4	35.4	10.8	11.2
Appalachian Portion of State						
Alabama	1,410.081	24.5	18.8	32.1	12.5	12.1
Georgia	838.992	29.0	21.8	28.0	11.1	10.1
Kentucky	598.878	45.1	14.4	25.5	7.6	7.4
Maryland	134.099	23.0	18.1	39.8	9.9	9.2
Mississippi	287.196	30.7	19.6	28.5	10.9	10.3
New York	622.775	15.2	18.6	38.7	14.5	15.0
North Carolina	740.853	27.4	20.4	28.2	12.2	11.8
Ohio	729.813	21.3	18.9	42.2	9.2	8.4
Pennsylvania	3,670.055	16.9	18.1	43.0	10.3	11.7
South Carolina	460.783	26.7	22.2	25.7	12.5	12.9
Tennessee	1,235.123	31.2	15.8	30.4	11.0	11.8
Virginia	327.789	39.6	17.9	25.3	9.8	7.4
West Virginia*	1,147.042	28.0	18.8	35.6	10.0	10.4

*Entire state

Source: U.S. Bureau of the Census

Source: ARC

TABLE 5A.2

Decrease in Dropouts, Appalachian Region, 1970 and 1980

	1970 Number of Persons 18–24 Years Old	1970 Less than High School Education (Percent)	1980 Number of Persons 18–24 Years Old	1980 Less than High School Education (Percent)
Appalachian Region	1.998.005	31.5%	2,561,640	25.3%
Appalachian Portion of State				
Alabama	237.219	37.9	313.810	29.1
Georgia	92.637	45.8	129.394	35.4
Kentucky	97.044	45.5	137.070	38.1
Maryland	22.878	29.7	27.881	22.5
Mississippi	49.539	39.9	64.605	31.2
New York	128.588	22.2	161.792	17.0
North Carolina	117.505	38.8	147.171	29.2
Ohio	119.570	29.9	156.138	26.2
Pennsylvania	616.920	21.0	752.522	18.8
South Carolina	78.429	38.2	108.089	28.7
Tennessee	198.839	38.6	260.087	29.5
Virginia	48.776	50.4	82.614	38.1
West Virginia*	190.061	32.5	242.869	27.2

*Entire state

Source: U.S. Bureau of the Census

Source: ARC

assessment all the more serious.

Ford's study on the family indicates a trend which other figures on educational attainment obscure. In his comparison of Appalachian populations in 1958 and 1976 he found an increase in the percentage of family heads with less than eighth grade education. This was true of families headed by males and females although female heads of households with less than an eighth grade education increased more, from 38.5 percent to 43 percent. Moreover, the median years of education for the female heads of families remained unchanged between 1958 and 1976 at 9.6 grades. The figure for women living on their own actually decreased from 9.1 grades to 7.4 over the same period of time. This may have been due to an increase in the age of women in this category. Ford's figures are given in Table 5A.3.

Two factors suggest an urgency for educational programs in the Appalachian region. First, the levels of educational attainment of adults is less than the nation as a whole. In addition to the measures already given, estimates on functional illiteracy of adults in Appalachia is 30 percent. An estimated 46 percent of unemployed adults are functionally illiterate (ARC, 1982D:IV). Second, analysts are unanimous in their opinions that education is necessary to help distresssed workers adjust from declining industries to new jobs. The changes of the economy within the Appalachian region indicate structural unemployment and hence dislocated workers and a substantial educational need of the work force population for retraining. Choate identified the following challenges for training work force population: first, to provide remedial education and

TABLE 5A.3

Percentage Distribution of Household Heads by Level of Schooling, by Sex and by Kind of Household, Central Appalachia, 1958 and 1976

Kind of Household and Level of Schooling	Male Heads 1958	Male Heads 1976	Female Heads 1958	Female Heads 1976
Primary Family, all	100.0	100.0	100.0	100.0
Less than 8th grade	31.8	34.7	38.5	43.0
Some high school	34.1	15.8	28.2	17.4
Completed high school	17.7	28.7	15.4	29.0
Some college	7.9	10.5	1.3	3.4
College graduate	8.5	10.4	5.1	7.4
Median years	10.1	11.9	9.6	9.6
Primary Individual, all	100.0*	100.0	100.0	100.0
Less than 8th grade	50.0	46.3	44.1	53.8
Some high school	25.0	13.0	20.6	10.2
Completed high school	12.5	16.0	17.6	17.4
Some college	0.0	9.3	14.7	10.7
College graduate	12.5	15.5	2.9	7.9
Median years	8.0	9.1	9.1	7.4

*Based on fewer than 10 cases Source: Ford:69

training for those already in the work force; second, to furnish entry level training for people changing jobs or entering a job for the first time; third, to increase the skills of those already employed where they are employed or where skills are becoming obsolete; fourth, to train people to fill critical skills shortages which have been identified; and fifth, to assist displaced workers in gaining skills in other sectors of the economy (Choate:6). The Council for the Advancement of Experiential Learning (CAEL) is formulating a specific mechanism to meet these challenges. It is an educational maintenance organization fashioned around the concept of a health maintenance organization. The idea is that industry, unions, and government would contribute to educational programs for workers before they are threatened with displacement or other severe economic dislocation. It presumes the continuing need of workers to adapt to a changing work environment and situation. It is a preventive measure applied to education in order to provide workers with more basic economic security by increasing their flexiblity.

However emphasis on education cannot offset the trends in employment only adjust to them. That is, education is needed because higher paying jobs will require more education and skills. However, the fastest growing sector of employment will continue to be in low skilled, low paying jobs requiring minimum education. Educational improvements, while necessary, are not sufficient guarantees of improved individual or regional economic prospects. The increased labor force participation of women, the changed nature of labor opportunities, and the lower educational attainment of women suggest that educational programs are especially necessary to increase the number of women who can seize the declining opportunities for better employment. In general however, as Saks suggests, (48) education is a more effective tool for worker readjustment where there is economic diversity including some growing manufacturing sectors. This is not the case in the Appalachia region in general nor in the area of severest need in particular.

5B Housing

Figures from 1970 indicate that housing within the Appalachian region was approximately 74 percent of the average value of other American homes. While 9 percent of U.S. housing was categorized as deficient in some way, the percentage was much higher within the Appalachian region. Thirteen percent of the housing in Northern Appalachia, 21 percent in Southern Appalachia, and 38 percent in Central Appalachia were categorized as deficient. Seventy percent of the deficiency involved at least plumbing (ARC,1979:76-80). These ratios dropped precipitously by 1980 primarily because of a change in definition.

We have not used standard measures such as median value to compare housing for the entire region between 1970 and 1980 but there is fragmented evidence of a serious housing problem. Northern and Southern Appalachia increased housing starts faster than in Central Appalachia where the population increased sharply in some sections, such as Eastern Kentucky. New housing and some housing improvement in the Central Appalachian region has come through the increased utilization of mobile homes. The study of the Levisa Fork area indicated that 85 percent of new housing in portions of that area was supplied by mobile homes (Cox:43). Pat Gish director of the Eastern Kentucky Housing Development Corporation reported that 50 percent of the total housing units of seven Eastern Kentucky coal counties was mobile homes. The median value of all homes was $19,400 or slightly more than one-half of the median value of houses in Kentucky. Equally important one-fourth of all housing in the seven county area was valued at $10,000 or less (Gish). The dire and obvious need for housing has stimulated numerous housing co-op ventures. But funding is a problem. Mortgages are difficult to find and some loans are tied to housing forms, styles and locations ill-suited to the region and people's incomes. In addition, whereas the federal government spends $106 per capita on housing for urban residents; the rate for rural residents is $5 (Hanson:45). Finally, foreclosure on mortgages is a new variation of the housing problem in Appalachia because of the problem the "new poor" have in keeping up payments during periods of extended unemployment and decreased income.

5C Health

The health service sector was the fastest growing service sector in employment within the Appalachian region from 1970 to 1980. This fact is one indication that health services have increased in numbers, and new public forms of payment for health care - Medicaid, Medicare, and black lung were available. Although the region lags the nation in terms of the number of physicians per population, this ratio has declined as the number of physicians has increased faster than the general population. The distribution of physicians within the region varies. Physician-patient ratios are lowest in northern metropolitan counties and are highest in southern rural counties (ARC, 1977:58).

Community groups and the UMWA have responded to the necessity of providing health care by the establishment of several health programs. This is part of a long standing tradition of innovating health services in the region where market forces were not sufficient to attract for-profit health providers (Couto, 1983). The region has health maintenance organizations and other innovations in health care provision including a set of community-sponsored clinics. These clinics have been proving grounds for health team approaches and the use of nonphysician providers such as nurse practitioners (Coogan; Couto, 1983). National legislation for medicare reimbursement for nurse practitioners in rural clinics was based on regional experience.

The finances of these clinics and other health services, are precarious. They are dealing with the most severe problem of access: providing services to the poor and unemployed who have no means to pay fees for health services (Johnson, 1983). Several factors will impinge on these services in the future. An attempt to curb increased health costs may establish ceilings for reimbursement for services and reduce reimbursements for medicaid and medicare patients. The desire to control record federal budget deficits has and will lead some to cut back in funding for Medicaid and Medicare. Increased unemployment and decreased employment in union jobs will not only decrease the numbers of people who can pay, but it will decrease the numbers of people with health insurance, which is often a benefit associated with higher paying jobs. Decreases in national programs such as the National Health Service Corps and the Rural Health Initiative have or may reduce the federal share of future financial assistance to the clinics. Rural health was not among the programs turned over to states to support through block grant appropriations, and consequently, the clinics have had continued assistance recently.

The rate of infant mortality steadily declined between 1960 and 1977. The decline within the region paralleled that of the nation although regionally Appalachia lags behind the nation a bit. There are important regional differences in infant mortality rates with Northern Appalachia generally recording lower infant mortality rates than Central and Southern Appalachia. Likewise, there are important differences among counties. Thirty-eight counties within Appalachia recorded average infant mortality rates at least 50 percent above the national average. This figure ranged from a low of 22.7 per one thousand births to 41 per one thousand births. Likewise, these figures mask racial differences. While the infant mortality rate within the region is 9 percent higher for whites than the national average, the black rate was higher. In fact, although blacks accounted for only 11 percent of the births within the region, black children accounted for one-sixth of the total Appalachian infant mortality. Unusually high infant mortality rates in several Southern Appalachian states contribute to the high infant mortality rates for black children (ARC, 1981A:27).

The region's birth rate of 14.6 was lower than that of the national rate of 15.4 for 1977. However, there are important subregional differences in these rates. Northern Appalachia had the very lowest birth rate in 1977, 13.6 per thousand population. This low figure correlates with net outmigration and an increased older population. In that subregion

Pennsylvania, New York, and Maryland all recorded birth rates lower than that subregional average. On the other hand, Central Appalachia, especially West Virginia (19.5) and Kentucky (17.5) had higher birth rates than the national average and higher than the Central Appalachian average of 17.2 (ARC, 1981A:27).

Health issues within the Appalachian region extend beyond vital statistics and questions of access to health care providers. There is increasing concern about the impact of the environmental degradation on health. Toxic materials including radioactive waste are present in the region. The region has several groups and coalitions organized around environmental and toxic issues. Likewise, workers in Appalachia have pioneered in occupational health issues both brown lung and black lung.

Another health concern related to occupation are the hazards that come with unemployment. Bluestone and Harrison compiled data to show the health deterioration of the unemployed. A 1 percent increase in unemployment correlates with 37,000 additional deaths including 20,000 heart attacks. Other studies found that suicide among terminated workers involved in plant closings was 30 percent higher than the national rates. Other conditions associated with unemployment are increased homicide and liver and cardiovascular disease. There is less documented evidence of increased spouse and child abuse during periods of high unemployment as well.

5D Environment

The Appalachian region is illustrative of America's environmental future without increased regulations. The legacy of one hundred years of industrialization and detrimental industrial practices has left the region with substantial environmental costs. Past practices of toxic waste disposal far exceeds our knowledge of its extent or consequence. Old mines in Pennsylvania are filled with noxious fumes and fires. Two million acres of the eight million acres mined are subsiding and an estimated two million acres will subside by the year 2000 involving a cost of 30 million dollars per year (HRB-Singer, Inc.; Merrifield).

Symptomatically, the region has not done well in dealing with the refuse of the coal industry. One ton of refuse is generated for every six to seven tons of coal mined. That leaves approximately 50 to 100 million tons of refuse per year. That has been seen as a local problem sometimes with inadequate solutions and disasterous results as was seen in Buffalo Creek, West Virginia where an improper slag dam broke and sent a wave of coal slurry down a narrow valley killing 125 people. Ninety-three percent of the streams in the United States contaminated by acid run-offs from mines are within the Appalachian region - some 6,300 miles of regional streams. Interpretations of the contribution of stripmining to flooding within the region differ. However, it is clear that stripmining has an influence on increasing sedimentation in creeks and rivers. Coal's influence on the build up of CO2 in the atmosphere may be regulated in the future with impact on coal industry (Seltzer). Chronic inversions in the region compound problems of contaminants in the air including SO2 resulting from coal burning emissions (Cox; Merrifield). The EPA has noted damage to the forests of the Great Smokeys due to acid rain. Acid rain has a two-fold consequence for the region. First, coal burning is likely to be regulated. Secondly, acid rain can cause extensive damage to forests and hence the furniture industry of the region. Likewise, synfuels may involve more waste and increased use of water and land within the Appalachia region and result in negative environmental consequences (Perry). Finally, nuclear plants operating within the region result in radioactive materials requiring tens of thousands of years of care and storage.

5E Food Production

Economic analysts and their forecasts, at least those of ARC, pay less attention to food production and farming than industry in Appalachia. We do not have a comprehensive picture of land use and food production. Ford's study portrays a dramatic trend in Central Appalachia from 1959 to 1978 to far fewer, larger farms and a decline in total areas farmed. His figures are in Table 5E.1. Much more work needs to be done to understand the means of increasing food production within the region including small scale agriculture.

Table 5E.1 Number of Farms, Total Farm Acreage, and Mean Farm Size for the Total Central Appalachian Region, and Each State Area: 1959, 1969 and 1978

	1959	1969	1978
Central Appalachia			
Number of Farms	113,112	68,830	51,706
Total Farm Acreage (In 1000s)	13,445	10,265	8,491
Mean Farm Size (In acres)	118.9	150.6	164.2
Kentucky			
Number of Farms	30,541	17,981	12,910
Total Farm Acreage	2,839	2,061	1,534
Mean Farm Size	93.0	114.6	118.8
West Virginia			
Number of Farms	44,011	23,142	17,461
Total Farm Acreage	6,063	4,341	3,528
Mean Farm Size	137.8	187.6	202.1
Virginia			
Number of Farms	38,560	27,707	21,335
Total Farm Acreage	4,543	3,863	3,429
Mean Farm Size	117.8	139.4	160.7

Source: U.S. Bureau of The Census, 1961a, 1972, 1980 Source: Ford:46

During Thanksgiving week of 1983, Senator Edward Kennedy visited Floyd and Letcher Counties in Eastern Kentucky as part of his national fact-finding effort on hunger in America. His visit paralleled that of his brother Robert to the same area in 1968 and stimulated testimony related to the hardships in the region already outlined here which were compounded by economic recessions and cut-backs in government programs, especially those dealing with nutrition. The visit gave others the opportunity to reflect on changes since 1968; changes in the amounts and processes of welfare programs; changes in occupational safety and health, strip mine regulation and taxation policies; changes in employment and population and women's role in the labor force.

Pat Gish, executive director of the Eastern Kentucky Housing Development Corporation, gave testimony assessing changes from 1968 to 198. On balance she noted improvements. These improvements came, she said, because of:

> A majority view that the federal government had a responsibility to find a national solution for national problems. The result was the development and implementation of a whole range of federal legislation that addressed the(se) problems...

But recently, she added,

> With respect to every significant social program from low income housing to employment training to mine safety to meals on wheels, we have seen either cutbacks in services, the abandonment of dedicated enforcement of existing laws, or both, and in some cases, as with CETA, for example, we have had the terrible experience of eliminating useful federal employment programs in the midst of an employment

crisis (Gish).

Obviously, federal programs made conditions better at one time and aggravated problems more recently. But the changes in government programs were only part of the changes of institutions which impact Appalachia. Other institutions changed during this period and a renewed commitment to form national programs for problems evident in the Appalachian region must take the public and private institutional context into account. This section examines part of the institutional context of the region's economy, human services, and needs.

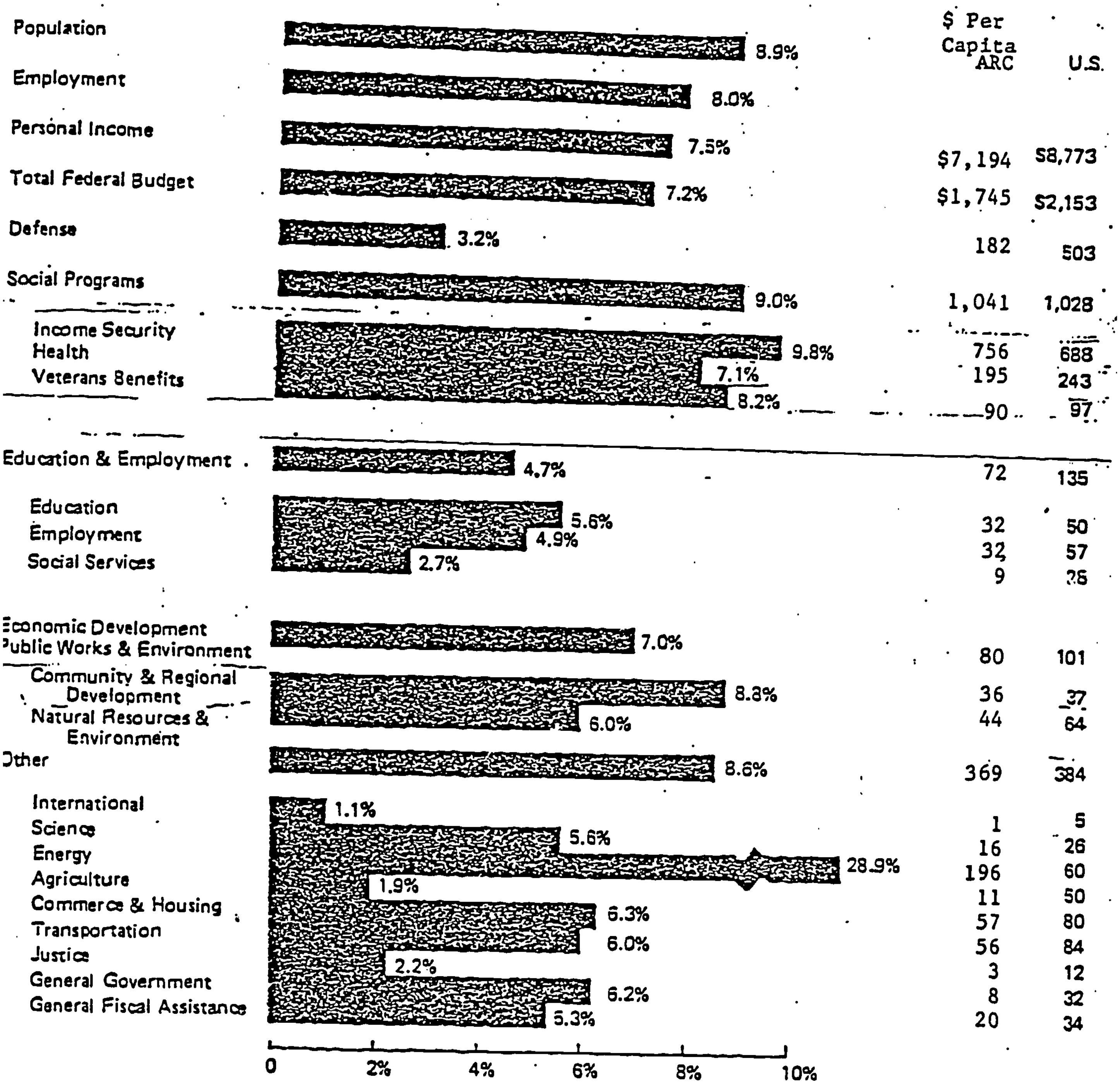
6A. Federal Government

Enough has been said about the Appalachian economy to make obvious the region's stake in specific national policies towards manufacturing industries and trade relations. Present national policies to restore free markets have been costly for the region. Coal reserves on federal lands, for example, were recently leased for private development. Because the sale took place at a time when the coal market was depressed, the government gained far less than its average market value in the sale. Moreover, the purchasers now have a price advantage in developing those coal reserves which simply creates more competition for Appalachian coal. Deregulation, is another policy with adverse consequences for the Appalachian region. It has made transportation services, for example, less available and more costly especially in rural areas. Services such as transportation, telephone and electricity have been regulated and organized to create economies by which the most expensive sectors to serve are integrated with the least expensive sectors to serve. This practice spreads the cost of serving the least profitable over the entire system of operation. What can happen with deregulation is illustrated by events in air transportation in the region. Less profitable routes are abandoned or cut-back while intense competition and special fares are conducted for the most travelled, most easily served routes. Smaller suppliers and commuters re-establish services at increased costs which reflect their higher per unit cost. The region has two large hubs for air transportation, Pittsburgh and Atlanta, which have increased passenger service. Every other category of airport has experienced decreases (Little: II 37-51).

Air transportation within the region is not a major crisis relative to other needs. But the organization of services which it represents is of grave concern. The region, with a dispersed population and below average incomes, cannot generate the profits for services that more populated and richer areas can. This is true for health services and the non-profit sector as well. The Appalachian region is dependent upon a social and national commitment to the organization of services and even the redistribution of wealth through taxation to see that some adequate level of service is maintained.

Figure 6A.1 indicates how the region fared in terms of federal expenditures, one form of redistribution, in fiscal year 1979. By population, the area received far in excess of its share in federal dollars in energy programs due mainly to TVA and spending on the Clinch Breeder reactor. It received its share of social programs funds and income security. There was a short-fall in federal expenditures on education and employment which are grave regional needs.

FIGURE 6A.1



Notes: All regional allocations were made by CSA. Expenditures are based on obligations. Some categories of spending (principally interest, unemployment insurance) were not included in CSA totals.

Per capita income estimates are based on data from the Bureau of Economic Analysis and are for calendar year 1979.

Source: Community Services Administration, *Geographic Distribution of Federal Funds Report.*

SHARE OF FEDERAL BUDGET EXPENDITURES IN THE APPALACHIAN REGION BY FUNCTION (FY 1979) Source: Arthur D. Little

This pattern of spending preceded the serious and adverse impacts on the region which recent federal fiscal programs have had. A dual approach of cutting taxes to stimulate economic growth and of cutting federal expenditures on social programs to bring the federal budget in line with reduced revenues offers little advantage to the region. Tax cuts, at least the cuts legislated, have yielded less return per capita in Appalachia than the rest of the country. It was estimated that in 1983 the average Appalachian resident paid an increased social security tax slightly more than a non-Appalachian and had an overall tax cut of $86 compared with $114 for non-Appalachians. At the same time, total federal expenditures were cut back within the region by $172 per capita compared with a decline of $65 in the non-Appalachian region. A Census Bureau study in 1984 revealed that the 1982 incomes of households increased on the average 1.7 percent to $18,910. But households headed by women with no husband present fell 3.8 percent to $10,870. In addition, the taxes paid by households with incomes below $10,000 rose 4.2 percent while taxes paid by other income groups fell. Approximately 55.4 percent of all families headed by women with children and no husband present fell into this category of reduced income and increased taxes. A 1984 Congressional Budget Office report showed the same trend of income from the bottom to the top income brackets (The [Nashville] Tennessean). In 1982 and 1983, years of high unemployment, West Virginia lost federal aid at a rate of $479 per person which was fifth highest in the nation. West Virginia ranked fifth in per capita losses in social services; sixth in per capita losses in health services; rehabilitative services and waste water programs; second in per capita losses in social security benefits for the disabled; and seventh in per capita losses in food stamps (AFSCME). Figures for other states are not broken down by Appalachian counties and are unavailable. It is clear however, from this and other evidence, that supply side economics has resulted in relatively more taxes and relatively less federal expenditures in the Appalachian region and less income for the middle class, low income groups and dependent populations. Tables 6A.2 and 6A.3 give the federal tax and expenditure figures.

Compounding the problem of the region's economy is the nature of federal budget increases for the military. These have contributed to record deficits thus off-setting any government savings from past social service cut-backs and exerting new pressures for further cuts in a host of social programs which are important to industrial expansion in the region such as Medicare and Medicaid. These deficits have also hiked interest rates. In exchange Appalachia received a slightly increased share of military spending increases. There is an additional impact, though indirect, that the present defense emphasis has. In so far as our military policies support regimes opposed to social and economic changes which increase the "social wage" of its citizens and oppose those regimes that support such changes, then we prolong the existence of low cost labor markets which erode the status of workers in other manufacturing nations including our own. Similarly, government contracts could be used as levers to improve wages and working conditions in general but they are not and in some cases they contribute to lowering wages and conditions. (Schlesinger et al). Tax increases, if properly constructed, or decreases in military spending could result in more federal expenditures in the Appalachian region for increased social services than the present exercise of supply

TABLE 6A.2

ESTIMATED DISTRIBUTION OF SHIFTS IN ALLOCABLE FEDERAL TAX CUTS

	1981 ($ millions)	1981–1982∆ 1981$ constant ($ millions)	1981–1983∆ 1983$ constant ($ millions)
APPALACHIAN REGION			
Personal income tax cuts	$ 20,327	($ 778)	($ 1,730)
Social Security tax	14,614	595	674
Total Appalachian Region	$ 34,941	($ 183)	($ 1,056)
Total Per Capita	$ 1,736	($ 26)	($ 86)
NON-APPALACHIAN REGION			
Personal income tax cuts	$265,573	($10,172)	($22,605)
Social Security tax	168,086	6,855	7,751
Total Appalachian Region	$433,659	($ 3,317)	($14,854)
Total Per Capita	$ 2,101	($ 37)	($ 114)
ENTIRE UNITED STATES			
Personal income tax cuts	$285,900	($10,950)	($24,335)
Social Security tax	182,700	7,450	8,425
Total United States	$468,600	($ 3,500)	($15,910)
Total Per Capita	$ 2,068	($ 35)	($ 110)
Nonallocable			
Corporate	$ 61,100	($18,000)	($5,000)
Other	59,600	9,360	3,790
Total	$120,700	($ 8,640)	($ 1,210)

Income tax cuts allocated on the basis of Internal Revenue Service data on Federal income tax collections by geographic area.

Social Security tax increase allocated on the basis of the Region's share of covered employment.

Source: Budget of the United States Government, Fiscal Year 1983.
Arthur D. Little

TABLE 6A.3

ESTIMATED DISTRIBUTION OF SHIFTS IN ALLOCABLE FEDERAL EXPENDITURES[1]

	1981 ($Millions)		Change 1981-1982 (Constant $-1981 Millions)		Change 1981-1983 (Constant $-1981 Millions)	
	BA	O	BA	O	BA	O
APPALACHIAN REGION						
Defense-Military	4,853	4,136	592	395	1,268	860
Department of Commerce	1,139	1,134	(436)	(222)	(642)	(564)
Health Human Services	20,459	20,780	396	482	647	680
Labor Department	3,318	3,360	(338)	192	(406)	(432)
Transportation	1,902	1,332	(262)	(221)	(330)	(340)
All Others[2]	11,781	11,523	(320)	(808)	(2,137)	(2,797)
TOTAL APPALACHIAN REGION	43,452	42,315	(368)	(182)	(1,630)	(2,593)
Per Capita[3,4]	2,137	2,106	(40)	(30)	(126)	(172)
NON-APPALACHIAN REGION						
Defense	173,533	151,910	18,131	11,833	41,503	28,495
Department of Commerce	10,021	10,350	(1,475)	(538)	(2,160)	(2,449)
Health, Human Services	205,385	207,335	5,213	4,311	4,065	6,703
Labor	26,134	26,724	(4,599)	(741)	(6,354)	(6,932)
Transportation	21,808	20,677	(4,756)	(3,350)	(7,492)	(5,366)
All Others[2]	113,008	105,757	(9,744)	(8,104)	(23,455)	(22,950)
TOTAL NON-APPALACHIAN REGION	554,889	522,753	2,770	3,411	6,107	(2,999)
Per Capita[3,4]	2,662	2,598	(14)	(8)	(24)	(65)
ALL U.S.						
Defense	178, 386	156,096	18,723	12,228	42,771	29,355
Department of Commerce	11,160	11,484	(1,911)	(760)	(2,802)	(3,013)
Health, Human Services	225,844	228,115	5,609	4,793	4,712	7,383
Labor	29,452	30,084	(4,937)	(549)	(6,760)	(7,364)
Transportation	23,710	22,509	(5,018)	(3,571)	(7,872)	(7,206)
All Others[2]	129,789	117,280	(10,066)	(8,912)	(25,592)	(24,747)
TOTAL U.S.	598,341	565,568	2,402	3,229	4,457	(5,392)
Per Capita[3,4]	2,615	2,472	(15)	(11)	(32)	(75)
Non-Allocable[1]	153,408	125,227	(16,641)	6,673	(26,148)	6,946

[1] Non-Allocable Expenditures include: other funds to the president (non-ARC), Executive Office of the President, Legislative and Judiciary Branches, Departments of State and Treasury, and parts of HUD, Interior and Agriculture Departments.

[2] Other includes Defense Civilian, EPA, NASA, Interior, HUD, Agriculture, Justice, Veterans Administration, other independent agencies, and Appalachian Region Development Fund.

[3] Based on 1980 population; Appalachian = 20,130,368; Non-Appalachian = 206,373,957; U.S. = 226,504,325; assuming 1% population growth per year.

[4] Per capita estimates of constant dollar changes are derived by converting current dollar totals to current dollars per capita, dividing by the inflation index (1981 = 1.000), and taking the difference between constant dollar per capita estimates.

Source: Budget Authority (BA) and Outlay (O) numbers are from FY 1983 Budget; Allocations of budget shifts are based on program by program allocations of FY 80 expenditures as tabulated by Community Services Administration.

Source: Arthur D. Little

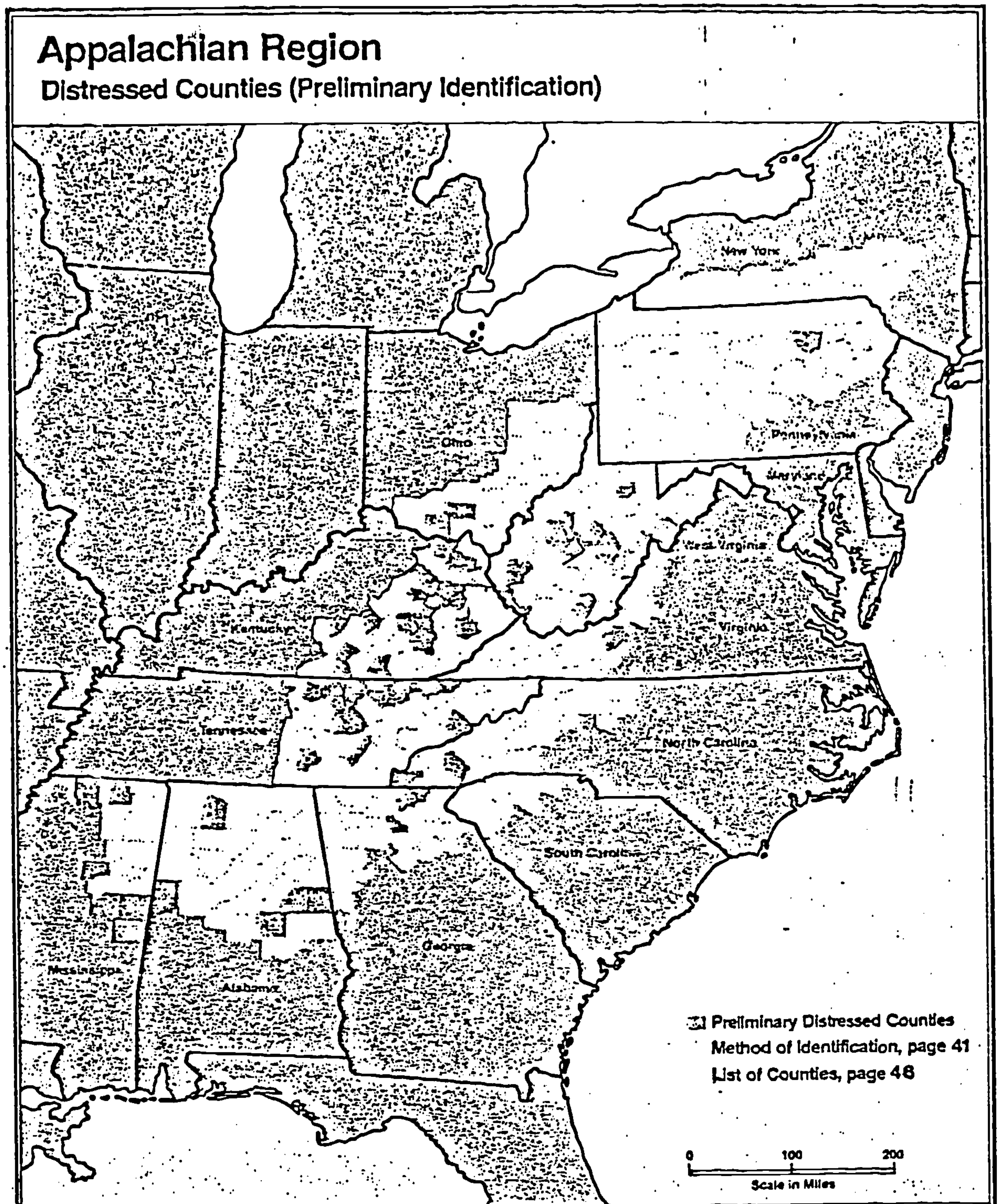
side economics.

6B TVA and the Appalachian Regional Commission

The Tennessee Valley Authority celebrated its fiftieth anniversary in 1983. The Appalachian Regional Commission marked its eighteenth year of operation in that same year. Both federal agencies have reduced economic development activities because of reductions in government spending. The Appalachian Regional Commission is now in a phase out stage and may not survive beyond 1986. In this phase out stage ARC has prioritized sixty "distressed" counties based on four measures: per capita income; unemployment rates; poverty rates; and infant mortality. Figure 6B.1 and Table 6B.1 identify these counties. They were selected before the increased unemployment and lowered income since 1981 and would surely be expanded if new measures were taken today. The majority of distressed counties are in Central Appalachia; almost one-third of them are in Eastern Kentucky.

The Tennessee Valley Authority is an institution that has endured successfully in part because it has conducted fewer and fewer non-energy programs. The non-energy policies of TVA at present are severely reduced. In the late 1970s TVA assessed its non-energy policies to help in the redefinition of the human service mission of that agency. After several months of staff investigations and reports on conditions within the valley, the agency concluded that it could address human and social questions only indirectly through its power program (TVA, 1980). Congressional appropriations for TVA's programs of human services and community

FIGURE 6B.1



Source: ARC

BEST COPY AVAILABLE

TABLE 6B.1

Distressed Counties
Based on Four Indicators of Social and Economic Conditions
(Preliminary Identification)

Alabama

4 Indicators	3 Indicators
Lawrence	Clay A,C,D
Pickens	Coosa A,C,D
Randolph	

Georgia

4 Indicators	3 Indicators
	Dawson A,C,D
	Towns A,C,D
	Union A,C,D

Kentucky

4 Indicators	3 Indicators
Lewis	Bath A,B,C
McCreary	Carter A,B,C
	Clay A,B,C
	Clinton A,C,D
	Jackson A,B,C
	Knott A,B,C
	Lawrence A,B,C
	Lee A,B,C
	Lincoln A,B,C
	Magoffin A,B,C
	Menifee A,B,C
	Morgan A,C,D
	Owsley A,B,C
	Powell A,B,C
	Russell A,B,C
	Wolfe A,B,C

Mississippi

4 Indicators	3 Indicators
Kemper	Marshall A,C,D
Noxubee	Tippah A,C,D
Winston	Webster A,C,D

North Carolina

4 Indicators	3 Indicators
	Cherokee A,C,D
	Jackson A,C,D

Ohio

4 Indicators	3 Indicators
	Adams A,B,C
	Pike A,B,C

Pennsylvania

4 Indicators	3 Indicators
	Sullivan A,B,D

Tennessee

4 Indicators	3 Indicators
Claiborne	Ca[illegible]bell A,B,C
Fentress	Co[illegible]e A,B,C
Grundy	C[illegible]rland A,B,C
	Ha[illegible]k A,B,C
	Jackson A,B,C
	Meigs B,C,D
	Overton A,B,C
	Pickett A,B,C
	Scott A,B,C

West Virginia

4 Indicators	3 Indicators
Calhoun	Braxton A,B,C
Clay	Lincoln A,B,C
Roane	Mingo B,C,D
Summers	Pendleton A,C,D
	Pocahontas A,C,D
	Taylor A,B,D
	Webster A,B,C

Indicators:
- A Per Capita Market Income
- B Unemployment Rate
- C Poverty Rate
- D Infant Mortality

Source: ARC

Method of Identification, Page 41.

development have declined. TVA remains relatively active in community development by forging cooperative ventures with federal, state, and private agencies in the region and is likely to continue this. While the past performances of these agencies should not go without criticism, it is important to note some of the recent changes in TVA which were responses to some long standing criticisms. TVA's emissions from coal burning plants are cleaner and its rate structure has changed to create incentives for conservation, for example. President Reagan and Congress will appoint a new TVA board member to succeed S. David Freeman in 1984. TVA's future depends very much on that appointment. Indeed, TVA's recent experience makes clear that appointments to agencies can make dramatic differences in the manner in which agencies conduct their work. The potential of these programs as well as their positive contributions in the past will be missing or diminished in the region in the future. In the case of the ARC, these contributions include: more than 2,600 miles of highway and access roads; 700 vocational educational facilities, 300 plus new or modernized hospitals, 400 primary care sites; child development projects reaching approximately 200,000 families each year; and 1300 water and sewage systems (Newman). In the case of the TVA, community groups have been able to acquire technical assistance or the loan of equipment to initiate programs. On a broader scale TVA has initiated Valley-wide programs on water quality (TVA, 1978) and other environmental issues and has expressed interest in initiating a model program to deal with the toxic wastes of manufacturers in the Valley. Between ARC and TVA, the region has an infrastructure to help attract industry and jobs and which is a necessary but not sufficient element for the economic diversification which Saks identified as essential to mitigate structural unemployment. Finally, TVA and ARC are two federal agencies with missions which are regional and entail the development of human resources. The demise of ARC especially will hinder information gathering which is region-specific.

6C Local Governments

The present federal emphasis on private efforts for the public good has fostered calls for more local efforts, including partnerships between industry and local government, for improvement of local conditions. Industrial development through bonds and industrial parks have been successful in some cases (Good). The successes came in relatively good economic times of industrial expansion. Efforts to replicate these successes increase the competition of one community against the other in relatively poor economic times and encourage the successful communities to borrow larger and larger amounts against their own future in order to make gains in the present.

The Appalachian region has made strong local efforts. Fiscal resources are low given existing assessment and taxation policies, consequently, more effort is required to raise fewer public revenues. Appalachian states do not get more federal money per capita but federal revenues represent a larger share of local budgets. Consequently, federal cuts in aid to state and local governments of 30 percent in the past several years have meant greater negative impacts on the budgets of local government. Local governments have depended for up to 15 percent of their budgets on federal grants (Little: II 79-84).

Like other matters within the Appalachian region, local government has substantial differences among the subregions. Appalachian Ohio, New York, and Pennsylvania contain 44 percent of the entire region's population and 65 percent of the numbers of local governments. In Central Appalachia, there has been an increase in special districts assigned with various catagorical responsibilities such as economic development (ARC, 1977: 76). Much of Central Appalachia is rural and unincorporated and thus there is less local government and county government is the ordinary form of government for most of its population. This hinders direct action and decision-making on the local, community level.

The economic recession has had substantial impact on some local governments of the region. Gary, West Virginia is often cited as a small community particularly hard hit by the decision of U.S. Steel to close down its mines for more than a year and then to reopen it with approximately one-third of the original work force (Couto, 1984). City services including street lights have been cut back. Midland, Pennsylvania is another example of a small community severely affected by economic decline. Its entire budget was based on a wage tax tied to a steel mill. This tax base was lost with the closing of the steel mill (Marchione and Tabac).

Local governments' revenues in 1976-7 in Appalachia lagged far behind the revenues of other local governments in the nation and so did its expenditures. Local governments' revenues are not equal to the financial requirements of basic services such as education, health, and housing. Again, there are wide variations and the Northern and Southern states have more revenues and make more expenditures than the Central subregion. In addition, the region has additional needs far beyond the capacity of local government to respond. In some cases these are related to industrial activity of the past. It is estimated for example, that 6800 miles of coal haul roads require 4 to 5 billion dollars in repairs. Annual maintenance on these roads alone would amount to 66 to 81 million dollars. In addition, there are up to 13,000 bridges requiring approximately 600 million dollars in repairs and reinforcement (Creighton: 10).

In the face of staggering demands and limited resources partnerships between the private sector and governments within the Appalachian region for building a "viable and enduring policy of human resource development" (ARC, 1983D: II) seem unlikely in the future. Expediency may transform these partnerships into euphemisms for arrangements that continue the preferred treatment for companies which they have enjoyed or engender new concessions.

There are encouraging signs that local governments have achieved new revenues. Severance taxes, some of which return to coal producing counties, have increased revenues in the past just as proposed unmet mineral taxes would do in the future. There are also encouraging signs that local government will seek new policies of property assessment and taxation in order to increase revenues (Schlesinger: 125). This means challenging some companies such as Union Carbide in Oak Ridge which have used their quasi-public function to keep taxes low; coal companies and land companies which continue to enjoy the historical pattern of low taxes (Appalachian Alliance); and steel companies which exert new pressure for concessions from local governments as well as unions.

TABLE 6C.1

Local Government Finances
Appalachian Region and United States
Fiscal Year 1976-1977

Geographical Division	Fiscal Year 1976-1977 Revenues: General Revenues (millions)	General Revenues per capita	Locally Raised Revenue per Capita	Locally Raised as Percent of General Revenues	State Aid as Percent of General Revenues	Fiscal Year 1976-1977 Expenditures: General Expenditures (millions)	General Expenditures per Capita	Education Expenditures Percent of General Expenditures	1972-77 Percent Increase in per Capita Expenditures
United States	$179.044.9	$834	$476	57.1%	33.7%	$170,938.1	$796	44.3%	54.2%
Appalachian Region	$ 10,922.3	$569	$290	51.0%	39.5%	$ 10,783.3	$562	51.7%	63.9%
Subregions									
Northern Appalachia	$ 6,177.0	$624	$317	50.8%	40.0%	$ 6,099.2	$616	53.2%	60.7%
Maryland	150.9	700	308	44.0	42.6	152.1	705	59.6	75.0
New York	1,125.1	1,036	481	46.5	45.5	1,138.7	1,048	45.5	50.6
Ohio	643.6	540	274	50.8	43.1	625.5	525	56.2	62.8
Pennsylvania	3,530.9	595	319	53.6	36.5	3,481.4	587	53.0	60.6
West Virginia	.726.5	495	226	45.5	45.1	701.4	478	62.6	75.4
Central Appalachia	$ 785.9	$403	$152	37.7%	53.1%	$ 779.6	$400	65.1%	66.7%
Kentucky	357.2	364	126	34.6	55.5	347.8	355	66.8	69.1
Tennessee	172.4	460	207	45.1	44.9	174.1	465	53.8	61.0
Virginia	102.4	451	180	40.0	50.2	108.7	479	65.7	88.7
West Virginia	153.9	421	149	35.3	58.8	149.0	408	74.1	55.0
Southern Appalachia	$ 3,959.4	$539	$291	53.9%	36.1%	$ 3,904.5	$532	46.5%	70.6%
Alabama	1,253.5	554	312	56.3	32.7	1,244.5	550	40.8	78.9
Georgia	527.0	540	336	62.2	32.9	510.2	523	50.9	65.8
Mississippi	238.1	531	230	43.3	48.8	229.9	513	48.7	67.8
North Carolina	643.1	575	250	43.5	46.0	654.9	585	50.8	75.2
South Carolina	341.7	474	254	53.5	36.4	320.0	444	52.1	51.4
Tennessee	837.0	548	319	58.3	29.9	831.7	544	44.2	67.8
Virginia	119.0	414	167	40.4	50.0	113.3	394	61.8	64.9
State Parts*									
Tennessee	$ 1,009.3	$531	$297	56.0%	32.4%	$ 1,005.8	$529	45.8%	66.6%
Virginia	221.4	430	173	40.2	50.1	222.0	431	63.7	75.9
West Virginia†	880.4	481	210	43.7	47.5	850.4	464	64.6	71.4

Source: Compiled from U.S. Bureau of the Census, *1977 Census of Governments*, Volume 4, Number 5, "Compendium of Government Finances, Table 54. Data for Yadkin County, N.C. from Volume 5, "Local Government in Metropolitan Areas." Per capita data based on U.S. Bureau of the Census, revised population estimates for July 1, 1976.

*Figures for the two subregional portions of these three states, the only states which fall in two subregions, are combined here.
†Entire state.

Source: ARC

BEST COPY AVAILABLE

6D Capital

As was already pointed out, the economic institutions of the nation and the region have shown a proclivity to the short term profit, high rates of profit, and an inability or reluctance to manage for the long term. This has had deliterious effects in extractive economies like coal and is now being felt in textile industries and the steel industry. Just as in other economic matters there may be a law of diminishing returns to successive quarters of high rates of profit. Deindustrialization, for example is a consequence of the performance of American capital both within and outside the Appalachian region. More f orable consequences to the performance of capital are possible given its proclivities but the region has few of the measures most often associated with these favorable consequences. These measures include: the relative profitability and growth potential of local industry; the relative concentration of corporate headquarters or locally owned companies; the accumulation of personal and corporate wealth; and available incentives that are competitive with other regions for private investment (Little, 8).

6E Unions

Unions of organized labor have been important intermediate organizations within the Appalachian region. Their net effect has been to mitigate some of the worst consequences of economic conditions and policies. Innovative health programs, improved working conditions, and improved wages have resulted from their efforts. These positive consequences accrue not only to the members of the unions but to community residents and workers in companies without unions as well. The unions create a standard for comparison. The current economic crisis is calling for a new role for organized labor which is only slowly evolving. Union membership is declining and major new producers are beginning without union labor. During this time of crisis, management is demanding and acquiring greater control over labor and concessions in the social wage which labor previously gained.

Unions in the region have important challenges. First, there are the unions of the central industrial core, such as coalmining and steelmaking. Both unions have made significant concessions in wages and benefits in recent contracts. Both unions have had rank and file reform attempts. The UMW especially was characterized by wildcat strikes and a rank and file more militant than its leadership, including sometimes even its reform leadership. Unions in these industrial sectors will have a major stake in future reindustrialization policies of the nation.

The coal industry is undergoing changes in the Eastern coal fields which will be significant for its members (Simon, 1981; 1981A). There is, of course, more competition from the coal fields of the West and the competition will increase in the future. At present a trend exists in coal production in Appalachia with production shifting from West Virginia to southern Virginia and eastern Kentucky, from deep mining to surface mining, from union work force to non-union work force, and from metallurgical coal to steam coal. These shifts will have important impacts on the number of union miners. The increased supply of non-union coal from the eastern fields may seriously erode the UMW's bargaining position in 1984 by severely curtailing the UMW's ability to control the supply of coal in the east (Simon, 1981). Another important change is the number of coal companies which are leaving the Bituminous Coal Operators Association which has been the major producers association since shortly after World War II. As the BCOA gets smaller an industry-wide contract for the UMW becomes more difficult and the union will be in a position of negotiating contracts on a company by company basis which is more difficult and encourages each company to seek the lowest labor cost acquired by a competitor. The changes in the companies of the coal industry probably influenced their attitude toward the BCOA. That is, as conglomerates, energy and otherwise, entered the coal business they had less interest and incentive in stabilizing the labor-management of the industry than companies the business of which was more narrowly coal.

Organized labor within the Appalachian region is beset with what Choate describes as "the most sensitive and volatile workers' issues in the United States and Appalachia" (Choate: 9). These issues involve workers who are displaced by product substitution, automation and the increased internationalization of the economy. The changes have eroded the middle income employment sector and increasingly require two wages per family to meet middle class expectations. While these changes have taken place in the economy there have been changes within organized labor within the region as well. Between 1977 and 1979 nonagricultural unions lost 2.5 percent of their membership in the thirteen states which comprise Appalachia. This was less than the national decline of 3.9 percent. However, Pennsylvania, Ohio, Kentucky, Virginia, and West Virginia all recorded declines of 5.4 to 9.3 percent. These declines coincided with the UMW national strike in 1978 (Little: II-35).

Labor unions of miners and steelworkers will be increasingly important in the future because of economic changes and dislocated workers. Other unions have equally important roles. Unions of textile and apparel workers are faced with industries with serious problems and the ability to relocate in new areas with newer plants and lower labor costs. The future of these unions and the furniture workers will entail consideration for the competitiveness of the industry and job security for workers in addition to wages.

The unions' ability to deal with the unfavorable impacts of the internationalization of the economy and consequent issues will be important for women. One half of all women union members belong to only eight unions among which are retail clerks and clothing and textile workers. Women comprise 41 percent of the workers in industries adversely impacted by international trade and 29 percent of those favorably impacted (Marshall: 4). In addition, future employment opportunities in the service and information sectors are likely to be filled by women and to require organization to protect workers' rights and wages. The recent victory of the American Federation of State, County, and Municipal Employees in Washington State in acquiring equal pay for jobs of comparable value is a challenge to a prevalent form of sex discrimination nationally and an example of the significance of union efforts for women (Marshall: 20-1; Freeman).

On the other hand, the increased participation of women in the labor force is important for unions. In fact, as Marshall points out, "the relationships between women and unions is mutually important" (Marshall: 20). Unions cannot ignore the gender which contains the majority of new workers. Women's union membership is increasing and concentrated. Almost seven million women, 15 percent of women workers, were union members in 1978 compared to just under three million women in 1954. Women constituted 24 percent of union membership in 1978. The common ground of unions and women has boundaries with conflicts of interest, however. Established union seniority systems will do little to improve the job opportunities or situations for women in a tight labor market. Also, despite the numbers of women union members in 1978, only 7 percent of union board members were women (Marshall: 19-20).

6F Regional and Local Organizations

Conditions within the Appalachian region have traditionally elicited community and local responses. Efforts to network these responses along issue lines are frequent. Such networks and alliances are important to support local efforts, encourage new ones, disseminate successful efforts, demonstrate the public nature of what might appear to be private matters, and to elicit legislative and administrative changes whenever possible. Appalachia abounds with voluntary associations on the local and statewide level organized around an array of issues including health, food, children, women, housing, taxes, taxation, economic development, unemployment and so on.

There are important differences among regional organizations. Some have institutional support and others do not. Some have a focus on a single issue and some take in several issues. Depending upon their institutional base and the popularity of the issue, regional organizations have more or less success in raising funds. Foundation support is essential to many local groups and regional organizations and it is inherently limited by time. That is, an organization can expect a maximum of three to six years of foundation support to either organize or to address an issue. After that time the organization must have developed some additional capacity for support and/or be prepared to address other issues. Institutionalization is difficult for regional organizations since few major organizations like churches, government, foundations, etc. are organized on a regional basis. Institutionalization is easier when there are other sets of congruent institutions with which to relate. For example, statewide or nationwide organizations relate to government structures on a comparable level. Regional electrical utilities such as TVA and the American Electric Company have fostered regional organizations to influence their policies with success. Likewise institutionalization of organizations is easier when there is a large membership with specific interests and the means to support the organization. The interest of most people in regional organization is diffuse and not specific. That is, few people have any more stake in a better environment or improved taxation than others. Consequently, there are circumstances mitigating the ability to form stable, multiple issue regional organizations that endure. This does not mean that temporary organizations formed around a limited set of issues should not be established and encouraged. In fact, the success of labor unions, organizations of unemployed, churches and others in late 1983 in gaining state legislation in Pennsylvania to impede foreclosure on home mortgages of the recently unemployed is an important model of organizing to acquire precedent-setting legislation (Hornblum). Most importantly however, in all circumstances regional and local organizations have the important consequence of training local residents in active roles of citizenship and entrepreneurship. This function of local groups and coalition needs to be taken very seriously by institutions with the capacity to support and encourage them even temporarily.

The Appalachian Alliance is an example of a recent regional organization. Its most recent publication, Appalachia In the Eighties: A Time for Action, the Alliance identified a need for coalitions and the purpose of those coalitions. The roles of additional coalitions include opposition, advocacy, and the creation of alternatives. While much of this is done locally, coalitions of local efforts greater strength and support. In addition to these three roles, institutionalization, however difficult, should take its place among the roles of the coalitions. That is, coalitions need to work to find or create public and private resources for the ongoing continuation of services or functions which they or their members initiate. In addition, leadership training and development should be understood as a common element of every role of coalitions.

6G Family

The Appalachian family has undergone transitions important for the future partly because low wages and poverty impact family structure and functions. Black families especially reflect the unequal distribution of wealth with a higher incidence of unemployment for black males and poverty for blacks. In a study of Central Appalachian families comparing data from 1958, very bad economic times, with data from 1976, which were relatively good economic times in the coal fields, the following changes could be noted. First, there is an increase in single person households. Second and relatedly, the size of the average household decreased. Third, there is an increase in the proportion of all households headed by females. The Appalachian region has a higher portion of female heads of households and families than do white families in other parts of the nation.

Central Appalachian women participated in the work force at increased rates but at rates still lower than their U.S. counterparts. The greatest change in terms of increased women's participation in the work force was the number of wives who went to work. Their percentage doubled from 18.2 to 38.1 from 1954 to 1976. The figures for female family heads only increased slightly from one-third in 1958 to 40 percent in 1976. The increase in family income disguises the relatively low income of single wage families and households. Futhermore, families headed by women have lower incomes than those headed by men (Ford: 77-85).

The most striking difference of single parent families in Ford's study is the percentages of families with female heads who are divorced or widowed. The 1976 figures for Central Appalachia are the reverse of national figures suggesting that in that subregion female headed families are much more often caused by widowhood than divorce. Table 6G.1 gives these figures.

Table 6E.1 Percentage Distribution by Marital Status of Household Heads by Sex and by Kind of Household, Central Appalachia, 1958 and 1976, and U.S. White Households, 1976

Kind of Household and Marital Status of Head	Male Heads			Female Heads		
	Central Appalachia		U.S. White	Central Appalachia		U.S. White
	1958	1976	1976	1958	1976	1976
Family Household						
All	100.0	100.0	100.0	100.0	100.0	100.0
Single	1.0	1.1	0.8	7.7	9.3	9.0
Married	97.6	97.7	97.7	0.0	2.7	4.7
Separated or divorced	0.4	0.7	0.9	28.2	33.9	51.0
Widowed	1.0	0.5	0.7	64.1	54.1	35.4
Primary Individual						
All	100.0*	100.0	100.0	100.0	100.0	100.0
Single	25.0	36.6	46.9	13.9	15.6	23.3
Married, spouse absent	0.0	4.2	4.2	0.0	1.0	1.4
Separated or divorced	25.0	35.8	31.7	11.1	15.8	16.0
Widowed	50.0	23.3	17.1	75.0	67.6	59.3

*Base of fewer than 10 cases.

Source for U.S. White Households: U.S. Bureau of the Census, 1977

Source: Ford:67)

Ford attributes increased importance to the family where well-organized community services are lacking. Moreover he maintains confidence in the family.

> The people of Appalachia still face severe problems, and the family is still the major organization for dealing with many of them. If the problems of raising children, of helping young adults get a start in the world of work both outside and within the region, of tiding over those who have been laid off until they can get back to work, of looking after the aged to make sure they are all right and have gotten their prescriptions filled and are taking their medicines as they should--if these and all other problems that the Appalachian family system still continues to cope with should disappear, then the family itself may dissolve. But at present it appears that it will be around for a good many more years (Ford: 107).

This confidence is of course well placed but the functions of the family which he enumerates are predominantly the roles of women which change with changing family patterns. Male and female roles as wage earners have changed and women have increased their role as primary wage earner. Consequently there have been changes in the Appalachian family including gender role changes, more out-of-home care for children and more elderly people living apart. Given the dynamic nature of the Appalachian region and its economy, the Appalachian family will continue to have the challenge to find means to cope with changed circumstances.

Chapter 7 Concluding Notes

Any report on trends and issues runs the risk of becoming dated rapidly as events and people move beyond the circumstances of yesterday and today that it reports. That risk increases the more conclusive such a report tries to appear. For that reason this report will not offer conclusions. Instead this chapter will summarize important issues, identify general trends and encourage the commencement of further thought and discussion as a prelude to action. This is in keeping with our earlier observations that knowledge can only become action within an institutional context and that the specific goal of this report is to provide some direction to members of a regional group.

Government programs of the past have had a profound impact on the Appalachian region. The present wave of efforts of the federal government to diminish and downgrade its functions will also have an extraordinary impact. Since the New Deal, government action has swung like a pendulum from initiation of reform to restraint and cutbacks. The arc of the pendulum has coincided with Democratic administrations initiating reform and Republican administrations restraining reforms. The time of Republican control and restraint, the Eisenhower administration for example, served as a time for new reform measures to develop within the Democratic Party and the Congress. In the Reagan administration, government measures far exceeded restraints on previous reforms and represent the initiation of dramatic conservative reform. Without party discipline and a majority in the Senate, the Democratic Party has reacted to the conservative initiatives without formulating its own package of reform measures. Consequently, there is no or little backlog of reform measures to consider with a change in administration such as accompanied the Roosevelt and Kennedy-Johnson administrations. This suggests the federal government in the next few years can be expected to continue conservative reform or restrain those conservative reforms by restoring programs at previous budget levels. Creative ideas for progressive reform will have to emerge from local and state experiences. Regional organizations within Appalachia and their counterparts will have an important role to play in that emergence and they have started to appear and to offer analyses of problems and suggestions for policies (Rural Coalition).

The need for positive government intervention is apparent.

The Appalachian region has vulnerable populations of the very young, the old, the poor, the disabled, and the structurally unemployed.

The Appalachian region has every form of American business management. It has giant corporations whose absent officers decide their actions by the bottom line of profits. It also has small, family run plants, factories, and mines some owners of which are paternalistic in style. These styles are undergoing change and workers and government have an important task to change their own past performances vis-a-vis different and new management styles in order to create collaborative and coercive measures to prevent past abuses and their present negative consequences.

The history of migration to and from the region in search of work is one aspect of Appalachian experience as America's tomorrow. Appalachia shares with the nation the task of creating economic opportunities locally because it seems unlikely that huge labor demands will occur to encourage or warrant migration. In addition, the migration of the 1970s brought to the region increased numbers of young working people who will be looking for work a long time. This too is part of the national challenge to employ the "baby boom" population. Unfortunately, the negative consequences of the recent recession have been more intense in the region. More jobs have been lost in the region after young workers returned and this makes the challenge of employment more urgent.

The Appalachian region falls below American norms in education, housing, employment, health care and per capita income.

The public resolve to address these apparent needs and problems will depend, in part, on at least two insights which the region offers the nation.

First, the region is a precursor of events to come. As Choate asserts, "Tomorrow, America's newest, most advanced and most productive industries will face the same intense foreign competition that plagues firms and workers in older industries" (Choate:5) such as those found in the Appalachian region.

Second, the region exemplifies the negative social consequences of capital's logic of pursuing the highest rates of profit. Pat Gish observed that in 1983, "The poorest people, the most abused land, and the richest corporations are still found right here in Eastern Kentucky" (Gish). When the social consequences of allegedly private or corporate acts reach the degree that they have in Appalachia, then the social nature of those acts are apparent and enter the realm of public and democratic decisionmaking.

Regardless of the national resolve there are matters to address within the region. These are matters of services and priorities.

There is first of all the question of definition. If the ARC phases out as it is expected to do, the region will be without an official definition. The consequence of this is that data will be more difficult to attain for portions of the several states we identify as Appalachian. This will make issues more difficult to identify. The lack of definition is the first element of government inaction and public unawareness. Before 1963 we had poverty but no definition of it nor programs. In 1983 it was apparent to some that we had hunger but this was controverted by government officials because without definitions we have only anecdotes. Given the present proclivity for government restraint on social problems we can expect little effort to redefine Appalachia or its issues. Clearly an effort to continue a public and common identification for the region is important. Such an effort must be mindful of the important differences among the subregions as well as their similarities. Likewise, an effort to maintain a public and common definition of Appalachia must be mindful of the rural counties of the region and how they exceed other categories of counties in percentages of the old, the very young, low labor force participation, unemployment, poverty, and low incomes. ARC's list of distressed counties is not only an unfinished agenda but it may serve as the start of a new definition of the region as a place as well as a set of processes.

Organizations in the region must also address the services needed in the region. Housing is obviously critical and could be an economic and employment stimulant with sufficent government support. The environment is obviously a pressing priority because our quality of life is intrinsically woven from the quality of the place we live. Children must be a focus of services and this infers greater attention to the economic changes that women have undergone and which they require to provide for themselves and others. The Appalachia family is under many of the same stresses of families in other regions and requires supportive services offered by agencies in cities and by neighbors in rural areas. To build on the tradition of neighborly service to meet the present and future needs of the rural Appalachian family and the very young may require new training programs for men and women and entrepreneurship to utilize existing public programs in new ways. Day care for the young and old come to mind in these respects. Community organizations will maintain their important role as entrepreneurs in rural areas because of a lack of local government and the lack of profit in services to attract private entrepreneurs.

The definition of the region and the need to address needs implies and underscores the need for information. Community organizations have been and will need to be even more consumer, producers and distributors of information. Surveys which they may conduct are important in defining local issues and in placing small tiles of information in the regional mosaic. In addition, the several programs of Appalachian studies could be invaluable in calculating census information for Appalachian counties in their state. If several such efforts were coordinated by one program, we would be able to continue to define problems on a regional basis even if ARC ceases to operate.

Before new services and programs are undertaken, we must be careful to protect what we have started and gained. The region has a network of health innovations with uncertain finances. These and other long standing organizations and services need to be maintained as best as possible lest communities lose not only services but the encouragement to attempt new forms of local change.

There are several regional organizations of health services which serve as indicators that local services seem inevitably bound to acquire broader regional and national links if they are to maintain themselves. This sometimes results in less local control which is an unfortunate trade-off but insofar as the new regional and national organizations can be influenced by local efforts there is modest institutional change which is the slowest and most difficult form of change but the form which best protects the interests of the local efforts from where it came. Thus we return, in a sense, to where we started with a statement of the importance of acting locally and thinking globally. And that serves as a reminder of a premise of this report that it is an error to view the Appalachian region as an appendage to the nation, a pocket of poverty, or a region left behind. In practice, it is a place where central questions of the appropriate mix of public and private enterprise; the appropriate trade-offs between today's benefits and tomorrow's cost; the appropriate mix of individual profit and public good; the maintenance of institutions and the necessity for change; and the relationship of social responsibility and individual need are all being worked out for better or for worse.

SUMMARY AND IMPLICATIONS FOR REGIONAL ECONOMIC DEVELOPMENT IN APPALACHIA

Introduction

This report on the Appalachian economy consists of three parts:

- Part I provides an overview of the Region's economic structure and performance and its sensitivity to macroeconomic factors, national policy and industrial shifts.

- Part II profiles the key economic development resources of Appalachia--coal and timber, labor, transportation, and public and private capital.

- Part III describes in more detail some of the Region's key industries, their important characteristics and some of the implications for Appalachia.

The report is based largely on work conducted by Arthur D. Little, Inc. for the Appalachian Regional Commission (ARC) over the last year, but it also incorporates work done on several other recent ARC studies as well as inputs from ARC staff.

The basic framework for these studies is illustrated in Exhibit I which shows the various types of Regional economic activities and resources across the top and the various types of factors affecting Regional economic development down the left hand side. The interaction of these key economic activities and factors in turn creates the dynamic that results in changing economic performance and helps explain how and why the Region's economy has been changing over the last fifteen years and how it is likely to change in the future. While not all interactions can be discussed in a report of this kind, it is hoped that these profiles will help provide the basis for more detailed analyses of economic development potentials, risks, and strategies in the Region.

Summary

The Appalachian Region has certain characteristics and needs which distinguish it from the rest of the country. Its industrial base consists largely of industries which are relatively mature, labor intensive, import sensitive, and resource based. Its geographic isolation and dispersed settlement patterns have resulted in a fragmented economic and institutional structure.

The ability of the Appalachian Region to meet its basic needs for essential economic development activities is limited. Despite an overall tax effort in the 13 states which is 5% above the rest of the nation, its fiscal resources and capacity are below the national average and the Region's fragile economy and low per capita income make it difficult to access additional resources to meet basic needs. Furthermore, the Federal budget cuts are expected to have a disproportionately severe effect on the Region. The significant disparity between the Appalachian Region's special needs and its ability to devote additional resources to meet these needs will need to be addressed at both the state and Regional level through federal/state-local/private partnerships clearly focused on economic development.

Part I of this report provides an overview of the Region's economic structure and performance and its sensitivity to macroeconomic factors, national policy, and industrial shifts.

1. <u>The structure of the Region's economy differs substantially from that of the rest of the country.</u>

   - Although the Region has about 8% of U.S. employment overall, it has 31% of the plastics and synthetics industry; 28% of the textile industry; 27% of the wood furniture industry; 23% of the primary metals industry; 17% of the apparel industry; 11% of the lumber and primary wood products industry; and 11% of the primary pulp and paper industry.

   - Relative to the rest of the country, the Region's employment is therefore concentrated in industries which are relatively mature with little prospects for growth in domestic demand and with production shifting to the newer, larger, more efficient plants.

   - Many of the older, resource-based and labor-intensive industries are also most sensitive to imports: 12% of domestic apparel supply, 11% of iron and steel supply, and 9% of lumber and wood products were imported in 1978.

2. <u>The Region's overall economy and its basic mining and manufacturing industries have generally performed better than the rest of the country over the past 15 years, but the situation has deteriorated in the past 3 years, employment growth has slowed and unemployment is now significantly above the national average.</u>

   - Over the past 15 years, the Region's employment has grown at about the same rate as the nation's. However, in the past 5 years the Region's employment has grown at only one-half the national rate, and between 1979 and 1980 the Region's employment actually declined while the nation's continued to grow (-0.6% versus +0.3%). This altered performance is primarily due to the significant weaknesses which have developed in recent years in primary metals and textiles/apparels industries which are highly concentrated in Appalachia.

- Much of the growth in jobs in Appalachia occurred in the southern portion of the Region. However, this disparity between north and south has shown signs of disappearing in recent years. New jobs in southern states occurred in industries which were particularly vulnerable in recent recessions and southern Appalachia's rate of employment growth has slowed dramatically.

- Over the past 10 years the Region's unemployed have almost doubled, and the unemployment rate in 1980 was 8.4% in Appalachia compared with 7.1% in the United States. In the early 1970's the Region had a lower unemployment rate than the national average as industry prospered, but the boom was located primarily in southern states and was short-lived. The number of unemployed in the Region now exceeds the peak 1975 recession level. During the past 2 years, unemployment in southern Appalachia increased faster than in the north; for the first time in 10 years, the rate in the southern states of Appalachia actually exceeded the national rate in 1980 (7.7% compared to 7.1%).

3. <u>Largely because of the Region's unique economic structure, the Appalachian economy has sensitivities to national policies and macroeconomic factors which differ from the rest of the country.</u>

   - The Appalachian economy tends to be more sensitive to recession and interest rates than other rural areas of the country. Southern Appalachia is generally more sensitive to these national factors than other parts of the Region. This is in large part due to the Region's heavy concentration of recession-prone industries (e.g., textile, apparel, primary metals) and construction-dependent industries (furniture, lumber and wood products, primary metals).

   - Appalachia's economy tends to be more sensitive than other areas to the changing U.S. and world energy picture. This is due to the important role of coal in the Region's economy, to the important role of TVA as a source of relatively low-cost power, to the heavy concentration of energy research projects and Federal energy expenditures in the Region, and to the relatively high concentration of energy-intensive industries (such as chemicals, textiles, pulp and primary metals) which are particularly dependent on shifting worldwide price advantages for power and input feed stocks.

   - Appalachia's economy tends to be more sensitive to international trade regulation policies and the strength of the dollar than other areas, due in large part to the Region's relatively heavy concentration in industries with high degrees of export and import sensitivity (e.g., electronics, textiles/apparel, coal, chemicals, primary metals).

- Appalachia's economy tends to be more sensitive to environmental regulation than other areas due to the high concentration of energy and water intensive industries which have had to pay for a large portion of the environmental improvements (e.g., primary metals, pulp and paper, mining), to its high concentration of extractive industries (e.g., lumber, coal), and to the difficulty of the terrain.

- Appalachia's economy tends to be less sensitive to Federal defense expenditures than other parts of the country due to the extremely low level of per capita defense expenditures in the Region. It is also more sensitive to Federal transfer payments and public works expenditures. The Region's relatively low income levels make Federal transfer payments (which are comparable to the U.S. average on a per capita basis) and public works funding (which is lower than the national average) more important to its economy. Appalachia's economy also tends to be somewhat less sensitive than other areas to Federal tax shifts because of the Region's relatively low per capita incomes and relatively mature industries.

- Because of these differences it is estimated that per capita Federal expenditures would decline to 80.8% of the national average in FY 1983. Based on the geographic distribution of Federal expenditures by program in Fiscal Year 1980[1], we have estimated that the estimated Fiscal Year 1982 outlays[2] will result in a net constant dollar <u>reduction</u> of $180 million in the Appalachian Region (compared to a net constant dollar <u>increase</u> of $3.4 billion in the rest of the nation). Using the same methodology, we have estimated that the proposed Fiscal Year 1983 outlays[2] will result in a net constant dollar reduction from Fiscal Year 1981 of $2.6 billion (compared to a net constant dollar reduction of $3.0 billion in the rest of the nation). Based on this analysis, the Appalachian Region, with about 10% of the nation's population, will absorb almost 50% of the proposed net reduction in Federal expenditures for Fiscal Year 1983. For Fiscal Years 1982 and 1983, the Region will experience cumulative net expenditure reductions exceeding the cumulative total for the entire United States; in other words, the non-Appalachian portion of the U.S. would experience net expenditure increases during this two-year period while Appalachia experiences net decline.

---

[1] Community Services Administration, <u>Geographic Distribution of Federal Funds Fiscal Year 1980</u>.
[2] <u>Budget of the United States Government, Fiscal Year 1983</u>.

- The $2.6 billion reduction in Federal expenditures estimated to occur in Appalachia under the proposed Fiscal Year 1983 budget would be equivalent to an estimated reduction of at least $4.6 billion in personal income in the Region and possibly more if less conservative assumptions were applied. However, if the Region were to experience the same per capita expenditure reduction as elsewhere in the United States, the net Federal expenditure reduction of about $250 million would result in an estimated reduction of about $440 million in personal income in the Region. The disproportionate impact of the Fiscal Year 1983 budget shifts is, therefore, estimated to be equivalent to about $2.35 billion in reduced Federal expenditures or about $4.16 billion in reduced personal income. This $4.16 billion would be equivalent to the income generated by 138,000 jobs. This number of jobs is, in turn, equivalent to the total number of increased jobs in the Region between 1978 and 1980 or, alternatively, about 1.7 percentage points on the unemployment rate.

Part II of the report profiles the key economic development resources of Appalachia--including coal and timber, labor, transportation, and public and private capital.

1. <u>Over half of U.S. coal production is in Appalachia; however, Appalachian coal production has been affected by market shifts and restricted by a number of development constraints so that its share of U.S production has fallen from 69% in 1970 to 55% in 1979.</u>

   - Smaller mines, fragmented ownership, and outdated mining facilities and transportation systems have all made Appalachian production particularly sensitive to both environmental regulation, high interest rates, and railroad deregulation.

   - In addition to reducing the U.S. dependence on imported oil, Appalachian coal plays a major role in the expanding U.S. export market--representing over 90% of the 80 million tons of coal exported in 1980.

2. <u>Over 20% of U.S. hardwood production is in Appalachia; however, there are many parts of Appalachia where growth/removal ratios are quite high, indicating relatively low management and resource utilization levels.</u>

   - Decades of mismanagement, high grading and fire have left the Region's timberland as some of the least productive in the nation.

- The national furniture industry as well as the eastern housing and pulp and and paper industries are heavily dependent on the Region's production of timber.

- Public ownership of timber in Appalachia is limited and the scattered nature of quality timberland tends to discourage the acquisition and holding of large timber acreages by industry.

- Opportunities for increased utilization of Appalachia's timber resources will depend on such factors as alternative tax structures, harvesting technologies that lower cut and haul costs, special ownership and management incentives, and geographically closer and higher value markets for final products.

3. The Region's labor resources are also an essential input to many U.S. industries and the Region's skilled labor resources as well as its relatively low cost labor represent an important asset for U.S. competition in the world market.

   - About 8% of the U.S. civilian labor force lives in Appalachia but about 10% of the unemployed labor force is in Appalachia and the 1980 unemployment rate was 8.4%.

   - Although U.S. employment increased by about 325,000 between 1979 and 1980, Appalachian employment declined by 50,000.

   - A large portion of the labor force has been employed in traditional manufacturing industries which are continuing to show substantial employment declines--despite continuing increases in production. This productive and relatively low cost labor force will continue to need retraining.

   - The Region has a relatively low labor force participation rate for women and further Regional economic development is needed to tap this resource.

4. The Appalachian Region has greatly improved its transportation facilities in recent years, but deregulation in many sections is resulting in substantially reduced levels of service.

5. The Appalachian Region has less local, state, and Federal resources available on a per capita basis than the rest of the country but these resources tend to be more important to the Regional economy. Private resources for collective efforts are likely to remain in extremely short supply.

   - Although overall Federal expenditures are 19% lower per capita in the Appalachian Region than in the rest of the country, the Region will be disproportionately hurt by the

Federal cuts because Federal expenditures in the Region are concentrated in areas targeted for the heaviest cuts, such as energy and social programs, and are minimal in defense, where expenditures will increase. In addition, because of the relatively low incomes, the Region will receive less benefit from the Federal tax cuts.

- A comparison of the taxing ability (estimated by applying average tax rates to the states' tax base for different taxes) of the 13 states which comprise the Appalachian Region to their tax effort (actual taxes collected) shows that the Appalachian states' tax utilization rate (excluding the primarily local property taxes) was more than 12% higher than the rest of the country in 1979 (the most recent year for which data were available).

- The major portion of local government tax revenues--69% in the 13 Appalachian states--comes from property taxes. In the Appalachian Region, per capita income was an estimated $7,194 in 1979, only 82% of the national average. This limits the ability of local governments to generate additional revenues.

- A disproportionately large amount of the Federal budget cuts will take place in Federal aid to state and local governments: while these grants represent 15% of Federal expenditures, they would absorb 31% of the original cutbacks proposed in the Fiscal 1982 budget. Although the 13 Appalachian state governments do not receive more Federal aid than the national average (on a per capita basis), Federal aid constitutes a larger share of their budget revenues.

- There are not any generally accepted measures that can be used to assess the Regional financial capacity of the private sector, but several characteristics provide a useful indicator of this potential: (1) the relative profitability and growth potential of local industry, (2) the relative concentration of corporate headquarters or locally owned companies, (3) the accumulation of personal or corporate wealth in the Region, and (4) the availability and competitiveness of Regional incentives for private investment. Although statistical measures of these charcteristics are not readily available for the Appalachian Region, it is clear that this Region will generally be at a disadvantage in terms of all these factors.

Part III of the report describes in more detail some of the Region's key industries, their important characteristics and some of the implications for Appalachia.

1. With a heavy concentration of relatively low-wage and labor-intensive industries and a heavy concentration of relatively mature capital-intensive industries, Appalachia has a major stake in the private and public efforts to improve the competitiveness of U.S. industry through "reindustrialization" and improved productivity.

- Appalachia has about three and one half times the average U.S. concentration of the textile industry, with particularly heavy concentrations in cotton and synthetic weaving mills, floor covering and threads. This industry has experienced significant employment reductions in recent years despite expanding output. As mill relocations to southern Appalachia have slowed, Appalachian employment in the textile industry has also begun to decline. In order to remain competitive and continue to expand export markets, this industry is anticipated to need to continue to rapidly adopt new technology and automated production processes—resulting in an estimated 20-30% decline in U.S. employment over the next ten years. The health of the textile industry in Appalachia and elsewhere will depend largely on the health of the U.S. apparel and furniture industries (now being buffeted by imports) and by the reduction in barriers to export markets.

- Appalachia has over two times the average U.S. concentration in the apparel industry with particularly heavy concentrations in mens' and boys' trousers and work clothes and mens' and womens' shirts and blouses. This industry has experienced significant domestic market erosion from imports in recent years with some segments, such as shirts and blouses, having in excess of 20% of domestic consumption accounted for by imports. In order to retain or expand market share, domestic producers are anticipated to need to adopt more automated manufacturing processes which, if successful, will lead to substantial employment declines in the industry even with increased output.

- Appalachia has a heavy concentration in the U.S. hardwood industry and the wood and upholstered furniture industry. The hardwood industry has not experienced the growth of the softwood lumber industry in recent years and, while the Region's furniture industry has grown in recent years, prospects for the future are mixed and depend upon continued access to competitively priced raw materials.

- Appalachia has close to three times the average U.S. concentration of the primary metals industry with particularly strong concentrations in iron and steel. Although there have been major reductions in industry employment over the last ten years, with increasing imports, product substitution and decreasing output improved manufacturing processes and reinvestment could stabilize both the industry and its employment.

- Programs are needed to take maximum advantage of the resources of regions such as Appalachia to assure that they continue to provide the necessary basis for secondary development in other parts of the country.

2. The Region is beginning to experience growth in some of the higher technology sectors and represents one of the few areas of the country that can compete with offshore locations for lower cost component manufacturing and assembly operations in the industry.

- Reduced employment opportunities in traditional labor intensive industries (such as apparel) and in industries undergoing rapid automation (such as textiles) could be offset by growth in the high technology sector. However, this sector is under extremely stiff competitive pressure from other governments, with areas as close as Canada offering such incentives as 40% grants for plant and equipment, six months paid training programs, 25% investment tax credits, major public investments and grants to cover a portion of the average one year payroll.

- If the United States is to retain these high growth segments under such intensive international pressure, it will be in lower cost, labor surplus production regions such as Appalachia, where development incentives will have to be provided to offset the aggressive programs of other nations.

- If the United States were to lose its edge in attracting capital investments of this kind, it could represent a permanent loss of substantial magnitude to both the United States and Appalachia. There may be few other opportunities to absorb the labor surplus likely to develop in Appalachia as the textile industry automates and as the apparel industry becomes less protected.

3. With a heavy concentration of energy-intensive industry, with large reserves of both low and high sulfur coal, and with the previously high levels of public investment in Regional energy projects (nuclear, coal, synfuels), Appalachia also has a major stake in shifting domestic and world-wide energy situations.

- Efforts to encourage conversion to coal and increased coal utilization will be needed to support continued mine development and stabilized or increased production levels in Appalachia.

- Appalachia now accounts for over 90% of U.S. coal exports, but effort to maintain market share will require continued attention to both inland transportation and port development issues.

- A continued relatively low-cost Regional energy and power base will be needed to maintain the Region's competitiveness in key energy intensive industries such as synthetic fibers, pulp and paper and primary metals.

4. <u>With an extremely low concentration of Federal defense expenditures and a relatively high dependence on Federal expenditures in energy research, in public works and in income transfer programs, Appalachia also has a major stake in shifting government priorities.</u>

- If efforts to equalize the Regional impact of Federal budget shifts are not successful and/or if state and local fiscal capacity and private investment cannot offset the impact of reduced Federal expenditures, the Region's economy could also be more seriously affected than the rest of the country.

<u>Implications</u>

Given these critical issues, an aggressive economic development strategy will be needed to assure that Appalachia can help make U.S. industry more competitive and continue to share in the nation's growth. Such a strategy should include the following:

- Mitigation of the negative economic impacts of transportation deregulation and Federal budgetary shifts which fall disproportionately in Appalachia.

- Continued collective Regional attention on major trade, development and industrial policies of the United States that most strongly affect key Appalachian industries including coal and hardwood lumber furniture, textiles and apparel, iron and steel, etc.

- Increasing state and Regional efforts to assure that U.S. policies and programs are adequate to keep the United States competitive for high technology manufacturing operations and to prevent adverse U.S. impacts of foreign, non-tariff barriers and special development incentives.

- Special efforts geared toward the Region's maturing industries (e.g., textile and apparel, steel) which are most likely to have their competitive positions and employment in the United States affected by automation and new technology applications.

- An aggressive state and Regional development program targeted on the segments of the high technology industry which are most rapidly growing and most suitable for an Appalachian location; this program must recognize the stiff national and international competition for these activities while at the same time deal with the strong likelihood that these activities represent principal opportunities for growth in Regional employment opportunity to offset almost certain decline in the Region's more mature industries.

- Special assurances to small and new business in Appalachia who may have special problems associated with access to manufacturing and process technologies as well as to venture capital in the Appalachian Region.

- Accelerated efforts to improve or maintain the competitive positions of key resources (particularly hardwood lumber and coal) for the Regional, national, and export markets.

- Continued efforts to complete major infrastructure development programs of the last 10 years (Appalachian Highway Development Programs, water and sewer) and to assure that service levels are adequate to keep the Region competitive with other areas of the country.

- Efforts to attract a more proportional share of financial and service industry growth to the Region and assure that capital flows do not adversely affect the Region's availability of investment capital.

- Continued monitoring of the changing labor and employment situation to assure adequate training and retraining programs that can enhance one of the Region's greatest assets: its labor force.

Table 1

Major Mineral Production in Appalachia

Note: Appalachia has 6% of the land area in the United States and 9% of the population.

	Percent of the U.S. Total
FUELS	
Bituminous Coal	62% of production and 81% of value
Anthracite	99% " " " 99% " "
Petroleum	.5% " " " .7% " "
Natural Gas	2% " " " 2% " "
FERROUS METALS	
Steel	24% of metal capacity
Ferroalloys	52% " " "
NONFERROUS METALS	
Aluminum	20% of metal capacity
Beryllium	29% " " "
Cadmium	23% " mine "
"	36% " metal "
Zinc	21% " mine "
"	49% " metal "
NONMETALLICS	
Barite	8% of production
Cement	11% " "
Clays	18% " "
Feldspar	56% " "
Gypsum	1% " "
Lime	12% " "
Mica	62% " "
Perlite (Expanded)	1% " "
Pyrite	96% " "
Salt	10% " "
Sand & Gravel	4% " "
Stone	13% " "
Talc	3% " "
Tripoli	1% " "
Vermiculite (Exfoliated)	5% " "

Table 5. Actual and projected employment by industry, 1959–95
[In thousands]

Industry	Actual 1959	Actual 1969	Actual 1979	Actual 1982	Projected 1990 Low	Projected 1990 Moderate	Projected 1990 High	Projected 1995 Low	Projected 1995 Moderate	Projected 1995 High
Agriculture:										
Dairy and poultry products	1,551	813	463	429	378	384	387	344	360	367
Meat animals and livestock	979	756	544	524	474	473	475	429	445	450
Cotton	565	172	60	61	55	54	55	50	50	51
Food and feed grains	960	635	602	603	585	589	593	571	577	585
Other agricultural products	1,436	1,119	1,192	1,198	1,138	1,151	1,162	1,096	1,118	1,141
Mining:										
Iron and ferroalloy ores mining	33	30	31	16	25	25	22	25	26	23
Copper ore mining	23	34	33	25	27	27	26	33	35	36
Nonferrous metal ores mining, except copper	31	25	38	34	34	34	33	35	34	34
Coal mining	201	138	261	242	299	286	275	310	317	322
Crude petroleum and natural gas (except drilling)	200	157	212	311	275	291	282	332	338	307
Stone and clay mining and quarrying	105	99	104	90	85	87	92	72	77	87
Chemical and fertilizer mineral mining	19	18	25	24	31	31	31	35	35	35
Construction:										
New construction (including oil well drilling)	3,163	3,594	4,679	4,067	5,242	5,263	5,366	5,936	6,043	6,091
Maintenance and repair construction	662	792	1,224	1,424	1,778	1,700	1,685	1,861	1,882	1,912
Manufacturing:										
Durable goods:										
Ordnance	50	175	73	79	90	87	88	88	85	90
Complete guided missiles and space vehicles	94	107	81	105	130	130	127	149	140	143
Logging	143	138	150	126	130	131	133	124	128	130
Sawmills and planing mills	305	230	237	179	192	196	210	206	209	215
Other millwork, plywood, and wood products	261	310	394	317	400	406	416	414	419	427
Wooden containers	43	36	19	15	12	12	13	10	11	12
Household furniture	259	316	329	270	334	346	368	346	357	392
Furniture and fixtures, except household	124	153	176	180	193	199	205	200	206	208
Glass	153	188	202	173	198	201	205	211	212	214
Cement and concrete products	209	228	255	209	222	240	250	215	240	257
Structural clay products	78	64	52	34	35	37	39	29	30	33
Pottery and related products	49	45	52	40	44	45	45	46	49	50
Other stone and clay products	125	140	165	132	156	164	173	175	182	191
Blast furnaces and basic steel products	588	644	571	394	420	435	430	433	447	444
Iron and steel foundries and forgings	269	312	324	221	247	255	258	264	270	275
Primary copper and copper products	137	160	161	135	157	160	164	166	170	178
Primary aluminum and aluminum products	111	153	170	140	167	174	175	168	179	183
Primary nonferrous metals and products	78	93	93	80	83	84	86	83	85	90
Metal containers	75	87	80	64	67	69	70	61	62	66
Heating apparatus and plumbing fixtures	71	76	76	61	72	73	80	77	78	88
Fabricated structural metal products	344	440	535	461	537	572	598	563	619	664
Screw machine products	88	114	117	92	112	115	117	118	121	122
Metal stampings	189	255	245	187	234	249	253	236	252	259
Cutlery, handtools, and general hardware	135	165	185	143	177	184	188	198	200	204
Other fabricated metal products	231	315	376	331	388	414	413	399	430	436
Engines, turbines, and generators	90	112	145	113	151	152	152	165	167	170
Farm machinery	120	141	184	139	164	170	173	167	172	178
Construction, mining, and oilfield machinery	162	202	276	254	315	321	325	[illegible]	357	368
Material handling equipment	65	95	106	87	110	113	120	123	125	136
Metalworking machinery	251	347	379	319	371	388	393	373	400	415
Special industry machinery	164	206	205	176	206	207	211	210	213	221
General industrial machinery	221	231	329	288	336	342	343	350	356	362
Other nonelectrical machinery	166	246	313	292	323	331	341	339	345	362
Computers and peripheral equipment	111	224	339	428	586	586	593	665	694	706
Typewriters and other office equipment	28	52	59	47	55	60	64	67	69	73
Service industry machines	97	147	188	[illegible]	190	199	211	208	214	232
Electric transmission equipment	157	207	221	215	235	245	246	246	256	263
Electrical industrial apparatus	176	223	251	[illegible]	255	261	275	284	288	313
Household appliances	157	187	178	[illegible]	175	183	193	185	188	202
Electric lighting and wiring	134	205	225	187	229	239	246	251	253	253
Radio and television receiving sets	114	156	116	[illegible]	95	106	110	106	113	116
Telephone and telegraph apparatus	105	146	165	[illegible]	177	185	199	[illegible]	209	230
Radio and communication equipment	252	409	357	424	452	433	440	532	460	463
Electronic components	213	394	525	561	725	745	793	862	850	855
Other electrical machinery and equipment	111	125	176	153	162	170	180	192	194	209
Motor vehicles	696	912	991	707	794	834	828	847	860	871
Aircraft	722	805	632	629	716	680	664	761	709	701
Ship and boat building and repair	151	193	230	223	260	254	248	277	270	263
Railroad equipment	41	51	74	37	45	47	47	47	50	52
Motorcycles, bicycles, and parts	9	14	20	14	17	18	19	19	20	21
Other transportation equipment	23	89	103	74	87	96	108	104	109	121
Scientific and controlling instruments	166	195	215	226	294	292	292	345	349	359
Medical and dental instruments	45	82	144	158	205	203	210	270	272	274
Optical and ophthalmic equipment	85	75	81	77	83	86	89	88	92	98
Photographic equipment and supplies	69	111	134	140	167	169	173	175	177	184
Watches, clocks, and clock-operated devices	30	35	28	18	22	22	23	23	21	22
Jewelry and silverware	67	78	92	76	75	82	88	96	98	109
Musical instruments and sporting goods	116	149	145	130	134	140	144	143	146	150

Table 5.Continued— Actual and projected employment by industry, 1959–95
[In thousands]

Industry	Actual 1959	Actual 1969	Actual 1979	Actual 1982	Projected 1990 Low	Projected 1990 Moderate	Projected 1990 High	Projected 1995 Low	Projected 1995 Moderate	Projected 1995 High
Other manufactured products	229	233	245	218	210	214	224	216	218	238
Nondurable goods:										
Meat products	324	344	363	352	359	357	359	368	372	380
Dairy products	326	260	189	171	137	144	156	119	127	131
Canned and frozen foods	249	291	316	293	331	335	341	336	341	353
Grain mill products	139	137	147	135	143	145	145	140	144	147
Bakery products	313	286	238	227	203	210	209	164	174	177
Sugar	38	36	31	29	30	30	31	27	28	30
Confectionery products	79	87	80	73	77	78	80	69	71	76
Alcoholic beverages	107	97	86	87	83	86	85	76	80	83
Soft drinks and flavorings	111	142	153	145	164	168	169	159	167	171
Other food products	144	151	160	152	171	171	168	177	182	182
Tobacco manufacturing	95	83	70	68	61	62	64	50	52	58
Fabric, yarn, and thread mills	619	616	531	442	448	461	457	471	474	482
Floor covering mills	39	58	61	49	52	56	63	57	58	62
Other textile mill products	74	82	71	60	69	72	75	65	67	74
Hosiery and knit goods	221	251	227	205	207	218	218	224	236	240
Apparel	1 100	1,244	1 125	1 009	1,056	1,074	1,061	1,117	1,125	1,093
Other fabricated textile products	143	182	198	171	220	223	228	234	238	243
Paper products	415	483	494	475	513	516	524	526	533	551
Paperboard	175	231	214	189	190	201	209	179	192	208
Newspaper printing and publishing	328	376	432	445	492	494	491	517	535	543
Periodical and book printing and publishing	156	210	230	248	296	298	304	330	338	344
Other printing and publishing	446	550	640	668	733	758	751	745	789	803
Industrial inorganic and organic chemicals	260	296	328	329	362	358	353	371	379	381
Agricultural chemicals	54	65	70	65	81	84	84	82	88	93
Other chemical products	82	124	99	95	107	111	121	116	120	121
Plastic materials and synthetic rubber	81	108	100	89	110	114	119	113	116	124
Synthetic fibers	79	132	112	97	110	116	124	121	124	134
Drugs	106	143	193	199	253	254	252	276	281	284
Cleaning and toilet preparations	89	123	140	147	166	168	166	167	176	178
Paints and allied products	62	72	69	62	68	71	72	65	70	73
Petroleum refining and related products	217	182	210	202	185	183	182	179	182	183
Tires and inner tubes	105	119	127	105	100	102	104	101	104	108
Rubber products except tires and tubes	178	162	167	140	147	151	157	146	150	159
Plastic products	94	320	494	460	565	636	653	654	716	741
Leather tanning and industrial leather	36	29	20	19	15	16	16	11	12	14
Leather products including footwear	341	316	232	206	166	170	172	147	154	144
Transportation:										
Railroad transportation	930	651	559	433	353	373	429	327	351	377
Local transit and intercity buses	311	315	303	314	345	341	345	350	361	385
Truck transportation	1,001	1,214	1,555	1,454	1,720	1,701	1,702	1,750	1,774	1,793
Water transportation	239	234	222	206	197	210	214	204	214	216
Air transportation	184	357	443	450	522	532	528	561	568	573
Pipeline transportation	24	18	20	22	22	24	25	24	24	27
Transportation services	70	111	198	224	261	269	250	295	302	302
Communications:										
Radio and television broadcasting	90	131	191	221	301	308	292	355	357	359
Communications except radio and television	749	919	1,121	1,199	1,384	1,379	1,434	1,543	1,593	1,603
Public utilities:										
Electric utilities, public and private	430	460	608	684	686	712	714	730	740	746
Gas utilities, excluding public	215	220	220	230	220	218	219	205	207	211
Water and sanitary services, except public	61	88	94	106	140	133	135	144	147	154
Trade:										
Wholesale trade	3,349	4,163	5 507	5,585	6,162	6,298	6,387	6,622	6,734	6,745
Eating and drinking places	1 960	2,812	4 864	5,159	5,908	5,951	5,959	6,669	6,742	6,772
Retail trade, except eating and drinking places	7 936	9 729	11 981	11,792	13,815	14,106	14,303	14,473	15,070	15,342
Finance, insurance, and real estate										
Banking	644	987	1,498	1,655	1,954	1,954	1,968	2,098	2,120	2,146
Credit agencies and financial brokers	389	652	901	1,038	1,313	1,350	1,364	1,507	1,518	1,549
Insurance	1,137	1,370	1 750	1,870	2,187	2 169	2,168	2,237	2,272	2,307
Real estate	753	855	1,374	1,336	1,567	1,640	1,168	1,764	1,774	1,787
Services:										
Hotels and lodging places	868	1,065	1,549	1,693	1,914	1,915	1,891	2,004	2,010	2,034
Personal and repair services	1,157	1,232	1,239	1,305	1,466	1,519	1,621	1,547	1,592	1,734
Barber and beauty shops	538	634	632	624	652	660	685	707	733	760
Miscellaneous business services	814	1,691	3 178	3,743	4 951	5,172	5,331	6,148	6,183	6,229
Advertising	121	134	165	186	213	218	221	228	234	238
Miscellaneous professional services	746	1,046	1,814	2,147	2,573	2,640	2,620	2,916	3,004	3,099
Automobile repair	422	569	839	910	965	1,029	1,101	1,113	1,141	1,186
Motion pictures	228	243	311	310	325	315	316	323	326	337
Amusements and recreation services	372	497	769	870	1,035	1,059	1,082	1,173	1,193	1,248
Doctors' and dentists' services	605	806	1,351	1,503	1,876	1,897	2,036	1,971	2,005	2,095
Hospitals	974	1,776	2,614	3,016	3,895	3,963	3,889	4,471	4,477	4,665
Medical services except hospitals	303	672	1,431	1,664	2,089	2,208	2,279	2,649	2,688	2,744

Table 5. Continued— Actual and projected employment by industry, 1959–95
[In thousands]

Industry	Actual				Projected					
	1959	1969	1979	1982	1990			1995		
					Low	Moderate	High	Low	Moderate	High
Educational services (private)	839	1,229	1,721	1,882	2,447	2,157	2,001	2,311	2,396	2,411
Nonprofit organizations	1,331	1,764	2,073	2,095	2,387	2,406	2,440	2,455	2,505	2,606
Private households	2,574	2,322	1,723	1,635	1,443	1,400	1,392	1,295	1,346	1,368
Forestry and fishery products	60	55	83	84	73	79	89	96	92	99
Agricultural, forestry, and fishery services	285	329	489	585	640	623	613	704	711	716
Government enterprises										
Post office	574	732	661	662	620	597	595	537	581	594
Other federal enterprises	104	152	155	150	182	178	182	182	189	198
Local government passenger transit	71	87	130	173	207	209	215	228	233	251
Other state and local government enterprises	225	351	541	496	610	623	649	700	723	781

NOTE Data include wage and salary workers, the self-employed, and unpaid family workers

BEST COPY AVAILABLE

BIBLIOGRAPHY

AFSCME (American Federation of State, County, and Municipal Employees).
1984 The States, the People and the Reagan Cuts: An analysis of Social Spending Cuts.

Appalachian Land Ownership Task Force.
1981 Land Ownership Patterns and Their Impacts on Appalachian Communities, 7 vols. Boone, N.C.: Center for Appalachia Studies.

Appalachian Regional Commission.
1968 The Status of Secondary Vocational Education in Appalachia.

1976 Appalachian Mineral Resources Evaluation Conference. Proceedings. Washington, D. C.

1977 Appalachia - A Reference Book, 1st Edition.

1977A Appalachia - An Economic Report.

1979 Appalachia - A Reference Book, 2nd Edition.

1979A Appalachia Into the 80s. Conference Proceedings. Binghampton, N.Y.

1979B "ARC Sponsors Conference on Raising a New Generation in Appalachia," Appalachia (January-February), pp. 1-56.

1981 Annual Report.

1981A Appalachia - A Refference Book: Supplement to Second Edition.

1981B A Report to Congress from the Appalachian Governors.

1983 "The 1983 Unemployment Stituation in Appalachia" (Mimeo).

1983A "Report on the States of the Region's Economy," #001.

1983B "Report on the State of the Region's Economy," No. 002.

1983C Job Skills for the Future. Conference Prodeedings. Jackson, Mississippi.

1983D Job Skills for the Future. Workshop Reports I, II, III, and IV. Jackson, Mississippi.

Arnold, E. Carroll.
1978 "Appalachian Cooperatives: Economics of the Third Kind," Appalachia (December 1977-January 1978), pp. 20-7.

Beaver, Patricia D.
1983 "Participatory Research on Land Ownership in Rural Appalachia," in Allen Batteau (ed.) Appalachia and America, Lexington: University Press of Kentucky, pp. 252-66.

Billings, Dwight B., Jr.
1979 Planters and the Making of the "New South:" Class, Politics and Development in North Carolina 1865-1900. Chapel Hill: University of North Carolina Press.

Bluestone, Barry and Bennett Harrison.
1982 The Deindustrailization of America: Plant Closings, Community Abandonment and the Dismantling of Basic Industries. New York: Basic Books.

Booz-Allen and Hamilton, Inc. Transporting Export Coal from Appalachia.
1982 Washington, D. C.: Appalachian Regional Commission.

Business Week.
1979 "More Gloom for U.S. Textiles," Business Week (April 9), pp. 68-9.

Checchi and Company.
1969 Capital Resources in the Central Appalachian Region. Washington, D.C. ARC.

Choate, Pat.
1983 "Training Implications of the Changing Economy." Paper presented at ARC Conference, Job Skills for the Future. Jackson, Mississippi.

Commission on Religion in Appalachia.
1982 "Assessment and Planning for the 80s" (mimeo).

Coogan, Merch Hardie.
1977 "Another Perspective: Physician Extenders as Magnets," Appalachia (April-May), pp. 29-33.

Couto, Richard A.
1982 Streams of Idealism and Health Care Innovation: An Assessment of Service Learning and Community Mobilization. New York: Teachers College Press.

1983 "Appalachian Innovation in Health Care," in Allen Batteau (ed.), Appalachia and America, Lexington: University Press of Kentucky.

1984 "Healthy, Wealthy and Otherwise: Rural Health Economics," Health PAC (February).

Cox, Gary.
1982 Current and Projected Socio-economic Conditions of the Levisa Fork of the Big Sandy River Basin of Kentucky and Virginia. Morehead, Kentucky, Appalachian Development Center, Morehead State University.

Creighton, Ragu L. and Vitale, James E.
1979 "Future Transportation Issues Facing the Appalachian Region," Paper presented at ARC Conference, Appalachian Into the 80s. Binghampton, N.Y.

DuBois, Tom.
1983 "Steel: Past the Crossroads" in Labor Research Review (Winter) Chicago: Midwest Center for Labor Research, pp. 5-25.

Eller, Ronald.
1982 Miners, Millhands and Mountaineers: Industrialization of the Appalachian South, 1980-1930. Knoxville: University of Tennessee Press.

Fisher, Stephen L., J. W. Williamson and Juanita Lewis.
1977 A Guide to Appalachian Studies, Appalachian Journal (Autumn).

Ford, Thomas R., Thomas A. Arcury, and Julia D. Porter.
1981 Changes in the Structure of Central Appalachian Mountain Families and Households, 1958-1976. Lexington: University of Kentucky, Center for Developmental Change.

Freeman, Jo.
1984 "Comparable Worth in Washington: She Worked Hard for Less Money," In These Times (January 18-24), p.4.

Gaventa, John.
1980 Power and Powerlessness: Quiescence and Rebellion in an Appalachian Valley. Urbana: University of Illinois Press.

General Accounting Office.
1983 Prospects for Long-Term U.S. Steam Exports to European and Pacific Rim Markets. Gaithersburg, M.D.

Gish, Pat.
1983 "1983 is a Lot Like 1968," The Mountain Eagel (November 30), p. B11.

Good, Daniel.
1974 "Industrial Parks: How to Succeed in Business by Really Trying," Appalachia (October-November), pp.54-68.

Hall, V. Aileen.
1984 Poverty and Women in West Virginia. Women and Employment, Inc. Charleston, W. Va.

Hanson, William E.
1980 "Building Homes in Appalachia: The Nonprofit Motif," Appalachia (January-February), pp. 38-48.

Hayes, Charles and John Kimbrough.
1977 "Decent Housing: The Unmet Agenda," Appalachia (August-September), pp. 1-8.

Holub, Sharon Bright.
1979 "The Energy Corporation of the Northeast: A Discussion of Structure Functions and Potential Benefits." Paper presented at ARC Conference Appalachia Into the 80s Binghampton, N.Y.

Hornblum, Allen.
1984 "Legal Victory Bodes Well for Homeowners," In These Times (January 11-17), p.4.

Horton, Bill and Frank Ernstein.
1982 Appalachia in the Eighties: A Time for Action. New Market, Tennessee: Appalachia Alliance.

HRB-Singer, Inc.
1975 Overview of Subsidence Potential in Pennsylvania Coal Fields. Washington, D. C.: Appalachian Regional Commission.

ICF, Incorporated.
1981 Potential Role of Appalachia Producers in the Steam Coal Export Market. Washington, D.C.: Appalachian Regional Commission.

Johnson, Robert Wood Foundation.
1983 Updated Report on Access to Health Care for the American People. Princeton, N.J.: Robert Wood Johnson Foundation.

Kanter L. Enrick and James J. McSweeny.
1982 Coal Export Financing: How It Is Done and Who Does It. Washington, D.C.: Appalachian Regional Commission.

Lewis, Helen M.
1970 "Fatalism or the Coal Industry?," Mountain Life and Work (December), pp. 6ff.

1978 et al., Colonialism in Modern America: The Appalachian Case. Boone, N.C.: The Appalachian Consortium Press.

Little, Arthur D. Inc.
1982 Regional Economic Development in Appalachia. Washington, D.C.: Appalachian Regional Commission.

Marchione, Thomas and Betsy Tabac.
1982 "Economic Crises in Eight States of Our Industrial Heartland: A Background Paper prepared for the Regional Strategy Meeting of Ecumenical Agencies. Ohio Council of Churches (mimeo).

Marshall, Ray.
1983 Work and Women in the 1980s: A Perspective on Basic Trends Affecting Women's Jobs and Job Opportunities Washington, D.C. Women's Research and Education Institute.

Merrifield, Juliet.
1980 We're Tired of Being Guinea Pigs! A Handbook for Citizens on Environmental Health in Appalachia. New Market, TN.: Highlander Research and Education Center.

Metzgar, Jack.
1983 "Would Wage Concessions Help the Steel Industry?" in Labor Research Review (Winter) Chicago: Midwest Center for Labor Research, pp.26-37.

Nation Research Council.
1982 Toward Safer Underground Coal Mines. Washington, D.C.: National Academy Press.

Newman, Monroe.
1983 "The Job Future in Appalachia," Paper presented at ARC Conference, Job Skills for the Future, Jackson, Mississippi.

Pear, Robert.
1983 "Unequal Income Distribution Shrinking Middle-Class America," The (Nashville) Tennessean. (December 12), p. 3-13.

Perry, Harry.
1979 "Coal Conversion To Synthetic Fuels," Paper presented at ARC Conference, Appalachia Into the 80s Binghampton, N.Y.

Personick, Valerie A.
1983 "The Job Outlook Through 1995: Industry Output and Employment Projections," Monthly Labor Review, (November).

Raymond M. Susan Ueber.
1983 "Improving Basic Skills," Paper presented at ARC Conference, Job Skills for the Future Jackson, Mississippi.

Reich, Robert B.
1982 "Take the Money and Run", The New Republic (November 15) pp. 28-32.

Saks, Daniel H.
1983 Distressed Workers in the Eighties, Washington, D.C.:National Planning Association.

Saunders, Robert J.
The Spatial Concentration of Industry in Appalachia: An Analysis of the Potential for Import Substitution. Washington D.C.: Appalachian Regional Commision.

Schlesinger, Tom; John Gaventa; and Juliet Merifield.
1983 Our Own Worst Energy: The Import of Military Production on the Upper South. New Market, Tennessee Highlander Research and Education Center.

Seltzer, Curtis.
1979 "Occupational and Environmental Health Issues of Coal Production, Combustion and Synthetic Fuels," Paper presented at ARC Conference, Appalachia Into the 80s Binghampton, N.Y.

Simon, Richard M.
1981 "Coal Miners, Energy Crisis and the President's Commission on Coal: Collective Bargaining in the Bitumuimans Coal Industry" (mimeo).

1981 "Hard Times for Organized Labor in Appalachia", (mimeo).

The (Nashville) Tennessean.
1984 "Tax Cuts Aided Affluent, Worsened Lot of Others" (July 21), p. 8A.

Tennessee Valley Authority.
1978 Where the Water Isn't Clean Anymore: A Survey of Water Quality in the Tennessee Valley. Knoxville: Tennessee Valley Authority.

1980 Final Report: Core Policy Analysis Group. Knoxville: Tennessee Valley Authority.

1981 The 1979 Summer Policy Study: The Role of TVA Programs in Regional Development. Knoxville: Tennessee Valley Authority.

1983 Economic Outlook. (Knoxville: TVA, 1983).

Tuttle, Francis.
1983 "State Training in Support of Economic Development," Paper presented at ARC Conference, Job Skills for the Future Jackson, Mississippi.

Ulmer, Melville J.
1983 "Economic Futures," Commentary (February), pp.50-2.

Walls, David.
1978 "Internal Colony or Internal Periphery? A Critique of Current Models and an Alternative Formulation," in Lewis et al. (eds) Colonialism in Modern America: The Appalachian Case. Boone, N.C.: Appalachian Consortium Press.