

DOCUMENT RESUME

ED 285 935

UD 025 725

**AUTHOR** Larson, Donald K.  
**TITLE** Employment Growth Helps Some but Not All Nonmetro Households: A Case Study in 10 Georgia Counties. Rural Development Research Report No. 67.  
**INSTITUTION** Economic Research Service (DOA), Washington, DC. Agriculture and Rural Economics Div.  
**PUB DATE** Jul 87  
**NOTE** 31p.  
**AVAILABLE FROM** National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161 (paper copies \$10.00, microfiche \$6.50, \$3.00 handling charge per order).  
**PUB TYPE** Reports - Research/Technical (143)  
**EDRS PRICE** MF01/PC02 Plus Postage.  
**DESCRIPTORS** Black Employment; Economic Factors; \*Economic Progress; \*Employment Opportunities; Employment Problems; \*Family Income; \*Poverty; \*Rural Areas; Rural Economics; Socioeconomic Status; Wages; Whites  
**IDENTIFIERS** \*Georgia

**ABSTRACT**

Rapid employment growth in a 10-county nonmetro area in southern Georgia provided jobs, but not for most longer term resident households whose head lived in the area during the years from 1976 through 1981. Despite the area's impressive job growth during these years only 20% of the long term resident households had more workers in 1981 than in 1976, and only 27% had a stable economic history. Their average income levels fell. The 1976-81 income gap was stable between households headed by the elderly and nonelderly, between blacks and whites, and between males and females. Employment did not assure escape from poverty and did not reduce the area's overall poverty rate. Age or disability kept many of the poor from working. Most working poor households were headed by blacks whose weekly wages were far below those of whites. A few poor households benefitted from the area's expanding job opportunities, but as many households entered poverty as escaped poverty. Factors, other than employment, which increased income were: (1) household size; (2) number of household members working; (3) hours worked; (4) real weekly wages; (5) education; (6) health status; and (7) other sources of income. This case study report includes a 57-item list of references and an appendix which describes the analysis procedures used in the study. (Author/VM)

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United States Department of Agriculture

Economic Research Service

Rural Development Research Report Number 67

# Employment Growth Helps Some But Not All Nonmetro Households A Case Study in 10 Georgia Counties

Donald K. Larson

ED285935



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**Employment Growth Helps Some But Not All Nonmetro Households: A Case Study in 10 Georgia Counties.** By Donald K. Larson. Agriculture and Rural Economics Division, Economic Research Service, U.S. Department of Agriculture. Rural Development Research Report No. 67.

## **Abstract**

Rapid employment growth in a 10-county nonmetro area in southern Georgia provided jobs, but not for most longer term resident households whose head lived in the area through 1976-81. Despite the area's impressive job growth during 1976-81, only 20 percent of the longer term resident households had more workers in 1981 than in 1976. Average income levels for longer term residents plunged as more household members no longer worked (quit, retired) or reduced their annual hours worked. But households headed by women, blacks, and the elderly maintained their income position. The expanded employment enabled some households to escape poverty, but did not reduce the area's overall poverty rate because age or disability kept many of the poor from working.

**Keywords:** Rural employment growth, income status, poverty status, households, blacks, females, elderly, longer term residents, regression model.

## **Acknowledgments**

James Schaub and Victor Oliveira shared their knowledge on the Georgia household data file and the Statistical Analysis System programming necessary to begin analyzing this data file.

Douglas Kleweno and Lawrence S. Williams helped develop the sample and survey materials. Shirley Zonner assisted in data preparation. Robert Coltrane and Thomas Carlin supervised the study, and James Schaub was the project leader. Many thanks go to the enumerators for collecting the data. Joyce Su prepared the variance program used in statistical hypothesis testing. Claudia White did the programming work to generate the data in the tables. Sharon M. Davis and Wanda Petty helped prepare the actual report.

# Contents

	<i>Page</i>
<b>Summary</b> .....	v
<b>Glossary</b> .....	vi
<b>Introduction</b> .....	1
Employment Growth and Changes in Income .....	1
Study's Objectives .....	2
<b>Local Population and Income Status</b> .....	2
Households .....	2
Income Status .....	2
Factors Affecting Income Status .....	3
<b>Study Area and Data</b> .....	3
<b>Characteristics of Households</b> .....	4
All Households .....	4
Residents .....	5
<b>Change in Household Income Status, 1976-81</b> .....	6
Factors Affecting Change in Income Status .....	6
Change in Income Status .....	8
Employment and Household Size .....	8
Changes Among Household Groups .....	9
<b>Poverty Status and Change</b> .....	11
Poor Households in 1981 .....	11
Change in Poverty Status, 1976-81 .....	12
<b>Strategy</b> .....	12
<b>Implications</b> .....	14
<b>References</b> .....	15
<b>Appendix: The Regression Analysis</b> .....	18

## Summary

Rapid employment growth in a 10-county nonmetro area in southern Georgia provided jobs, but not for most longer term resident households whose head lived in the area through 1976-81. Despite the area's impressive job growth during 1976-81, only 20 percent of the longer term resident households had more workers in 1981 than in 1976. Only 27 percent had a stable economic history: no changes in employment, hours worked, wages, or household size.

Average income levels fell despite the area's employment growth. Although incomes for some households rose as additional members entered the labor force, more households lost ground when members no longer worked (quit, retired) or reduced annual hours. Income positions improved when household size decreased, but other income positions slipped as children were born because more persons shared the household's income.

The 1976-81 income gap was stable between households headed by the elderly and nonelderly, between blacks and whites, and between males and females. Households headed by women, blacks, and the elderly maintained their income positions. Blacks and women got as many jobs as did whites or men. Real income levels for the elderly stayed constant because Social Security and Supplemental Security Income, major sources of income among the elderly, are indexed for inflation and adjusted for the cost of living through the Consumer Price Index.

Employment did not assure escape from poverty and did not reduce the area's overall poverty rate. Age or disability kept many of the poor from working. Although 12 percent of the poor households had more earners in 1981 than in 1976, their incomes were still below the poverty line. The same was true for nearly 35 percent who had one or more members employed in 1981. Most of these households—the working poor—were headed by blacks. Weekly wages for employed blacks were far below those for whites.

But not all the poor remained poor. A few benefited from the area's expanded job opportunities. The area's overall poverty level did not change significantly during 1976-81: about as many households entered poverty as escaped poverty.

This report examines how employment growth affects nonmetro areas and how that growth is distributed among its residents, especially if it improves incomes of longer term residents, minorities, and the poor. The data show that factors other than employment may increase income, such as household size, number of household members working, hours worked, real weekly wages, education, health status, and other sources of income.

## Glossary

### Statistical testing:

**Significant difference.** Two variables were significantly different at the 95-percent confidence level when the observed difference was greater than twice the standard error of the difference. Totals, ratios, percentages, dollar values, and so forth were the variables tested.

### Survey sample design:

**Area frame.** The area frame consisted of a two-stage stratified cluster sample, where the first stage involved sampling segments and the second stage involved sampling establishments and households. The area frame provided a sample of establishments and households not identified by the list frame. The area frame and list frame together represented the total population of establishments and households.

**List frame.** The list frame consisted of a list of private-sector establishments and government units located in the 10-county area. A sub-sample of employees was drawn from the surveyed list frame establishments which subsequently became the list frame sample of households.

**Primary sampling unit.** Primary sampling units (PSU's), which are associated with the frame sample, serve as the base for deriving variances in a complex survey design. For the list frame, establishments were the PSU's; for the area frame, land segments of varying size were the PSU's.

### Household and related terms:

**Household.** A group of persons, not necessarily related by blood or marriage, who resided in a house, mobile home, an apartment, a group of rooms, or a single room occupied as separate living quarters. Also includes a single person residing in a house, mobile home, and so forth.

**Existing household.** The household existed in both 1976 and 1981 regardless of its location, and the head and/or spouse in 1976 was still present during the survey period, January-February 1982.

**Longer term residents.** Household members who lived in the 10-county area during both 1976 and 1981, whose head and/or spouse in 1976 was still present during January-February 1982.

**Newer residents.** Members of households existing in both 1976 and 1981 but whose household was located outside the study area in 1976. Head or spouse in 1976 was still present during January-February 1982.

**Newly formed households.** Households not existing in 1976, and households whose head or spouse in 1976 was no longer the head in January-February 1982.

**Elderly heads.** The household head was 65 years old or older at the time of the survey.

**Nonelderly heads.** The household head was younger than 65 years old.

**Race of heads.** Determined by respondents. Whites and blacks were the statistically significant racial groups in the 10 Georgia counties. Although included in the overall population, such groups as Hispanics, Asians, and American Indians made up less than 0.5 percent of the population, a statistically insignificant proportion. These groups were, therefore, included in the "black" grouping.

**Household income.** Money income received by all household members from all sources except income received from the sale of land, buildings, stock, or other capital assets during the year. Data on household income for 1976 were not collected from the new households.

**Income status.** The ratio of total household money income divided by the household's poverty threshold value. An income status ratio was derived for 1976 and 1981 for longer term resident households that reported income for both years.

**Poverty threshold.** The poverty thresholds published each year by the U.S. Bureau of the Census, U.S. Department of Commerce. A family of four had a weighted average poverty threshold of \$9,287 in 1981. This threshold was further adjusted by factors such as family size, head's age, and presence of children under 18 years old.

### Sources of income:

**Earnings.** Total annual money earned (before deductions) by persons working as employees, including net income from nonfarm businesses, partnerships, professional practices, and family farms.

**Employment-related.** Payment for unemployment or worker's compensation.

**Public assistance.** Payment received from Aid to Families with Dependent Children (AFDC), Supplemental Security Income (SSI), or other State or local public assistance programs, excluding Food Stamps and Medicaid.

**Retirement.** Benefits received from Social Security, railroad retirement, private pension or annuities, government employee pensions, or military retirement.

**“Other” sources.** Income received from veteran’s payments, interest from savings or bonds, alimony, dividends or stocks, child support, net rental income or royalties, estates or trusts, or any source not already mentioned.

**Transfer payments.** Money disbursed by government, in return for which no services are rendered. Public assistance payments and Social Security benefits collectively are referred to as transfer payments.



# Employment Growth Helps Some But Not All Nonmetro Households

## A Case Study in 10 Georgia Counties

Donald K. Larson\*

### Introduction

Expanding job opportunities through industrial growth in nonmetropolitan (nonmetro) areas is perceived to improve the economic status of nonmetro residents (2, 5, 7, 30, 34).<sup>1</sup> Improving their status, particularly for the nonmetro poor, is one major objective of Federal rural development efforts (55). Money income often reflects the economic status of households or families, and changes in money income can measure how expanding job opportunities affect residents (34). However, how employment growth is distributed among nonmetro residents has not been examined extensively even though studies suggest that employment growth may not equally affect all population segments (25, 41, 42).

The U.S. Department of Agriculture's (USDA) Economic Research Service has conducted a series of studies of the distributional effects of economic growth in nonmetro America. The idea was to identify a number of small geographic areas that typified general nonmetro economic conditions and to examine the source and distribution of jobs and income.

Between 1976 and 1981, employment grew at a relatively high rate in a 10-county nonmetro area in southern Georgia (31). This report examines how household income in that area changed among the area's longer term residents, especially for poorer longer term residents. The 1981 household data, collected in January-February 1982, are the most recent data available for a study of this nature in nonmetro Georgia.

This report, the second of three areas studied, discusses how employment growth was distributed in a nonmetro area. The first nonmetro area studied

was a nine-county area in south-central Kentucky where manufacturing was the primary economic base, but where the employment in 1974-79 grew mostly in services. In the second study, the Georgia area's economy was based on government, wholesale-to-retail trade, and manufacturing. But unlike the other two areas, the Georgia area contained a large black population and an important commercial agricultural sector. The third area studied was a 10-county area straddling the Missouri-Arkansas border, an economy based on retirement and recreation. The data collection procedure was the same in all three areas, enabling a comparison of findings. The data for all three areas directly link the industries creating the jobs and changes in employment with characteristics of the sampled population, particularly changes in household income status.

### Employment Growth and Changes in Income

Income for people in many nonmetro areas rose as industrial growth generated new jobs (1, 4, 16, 21, 33, 35, 38, 40). But one cannot always link income gains solely to employment growth. Increases in government transfer payments or growth in property income could have raised aggregate income as (for example) government transfer payments grew nearly 200 percent during 1969-77 in the nonmetro South (19). While research shows sizable income changes in nonmetro areas experiencing employment growth, income has not been distributed equally among individuals or households. Sometimes employment growth resulted in negligible income gains among the area's residents (1, 2, 9, 33, 35, 36, 39), or gains were less than anticipated (22). Other research shows that employment growth improved the income distribution by reducing inequality or by increasing the residents' income (12, 23, 34, 43, 56).

Changes in income status from employment growth were analyzed for a multicounty area in Kentucky (24). Overall employment growth did not benefit all

\*The author is an agricultural economist in the Agriculture and Rural Economics Division, Economic Research Service, U.S. Department of Agriculture.

<sup>1</sup>Italicized numbers in parentheses cite sources listed in the References section.

households or residents there. Although some households improved relative incomes from employment gains, others lost ground when members retired or when others reduced their annual work hours. Understanding the relationship between employment growth and changes in household income is important because many government programs use income to gauge the need for public assistance.

## Study's Objectives

This report identifies factors that explain changes in household income status in 10 Georgia counties, examines how the most important factors affected changes in household income status, and examines how the area's poverty rate changed as new jobs were introduced. The employment variables used in this analysis, such as change in number of workers in the households, reflect the household's behavior when employment expanded in the study area. The households' responses reflect the dynamic nature of employment status and how changes in employment status affect household income status.

**Employment Growth and Income Status.** Little information exists on the extent that employment growth improves the overall economic well-being within a rural area or community. An increase in the number of jobs is one way to raise economic well-being (6). However, a community's income level is sensitive to a number of factors, so changes in the overall level of income may differ from the expected (13, 14, 26, 34). Second, little is known about how employment growth is distributed among all households in a local economy (40).

Local residents, as opposed to immigrants, are frequently the focus of debates about rural development policy. Yet little is known about how local resident households share in employment growth and how such growth affects their income status. For example, most Kentucky households did not increase their work efforts nor did overall incomes increase significantly during the rapid job expansion in 1974-79. Also, little information exists about how households headed by blacks share in employment growth and how employment growth affects their income status.

**Employment Growth and Poverty.** Whether rural employment growth alleviates poverty has not been well established (2, 5, 7, 18), although some information exists on how expanded employment opportunities aid households once considered poor to escape poverty. Working more helped some Kentucky

households escape poverty, but an equal number became poor. Thus, the Kentucky area's overall poverty rate did not change during the job expansion. These relationships are examined further in this Georgia study.

## Local Population and Income Status

I examine three aspects of the local population in the 10-county Georgia study area: households, their relative income status, and factors affecting changes in household income status.

### Households

Individuals, households, families, and communities are frequently studied to determine how employment growth affects income distribution (6, 12, 14, 23, 26). The household is the appropriate unit for analysis in this report because about 10 percent of the surveyed units contained unrelated persons living together, whereas families comprise people related by blood or marriage. The households sampled represented the community in January-February 1982; there was no similar representation for 1976. The individual is too narrow a concept because it ignores dependencies among individuals in a household. For example, decisions on how to spend income are often joint decisions of household members. Also, earnings from two or more household members are often pooled, so a single member's income may not reflect the relative economic status of all household members.

This report focuses on the income status of longer term resident households when employment opportunities expanded and when many people moved into the area (immigration). Longer term residents are households where the head resided continuously in the 10-county area during 1976-81 (see Glossary for these and other definitions).

### Income Status

Measuring income status helps us examine how household income status changed as employment grew (6, 14, 15, 17, 26, 52, 53). The following equation presents a ratio of total nominal household income divided by the official poverty threshold. The change in household income status (HISCG) is measured by the difference between ratios for two different time periods:

$$\text{HISCG} = \frac{\text{NHI81}}{\text{OPT81}} - \frac{\text{NHI76}}{\text{OPT76}}$$

where: NHI81 = Household money income for 1981,

NHI76 = Household money income for 1976,

OPT81 = A household's official 1981 poverty threshold, and

OPT76 = A household's official 1976 poverty threshold (14, 26).

The difference between the ratios reflects a real change in income status because the fraction's denominator—the official poverty threshold for any given size family—is adjusted each year to reflect increases in the cost of living as measured by the Consumer Price Index (CPI). Therefore, if a household has the same number of persons each year, the difference between OPT81 and OPT76 reflects differences in the cost of living between the 2 years. A similar measure from the University of Michigan (14, 26) helped analyze households for the Kentucky study area in 1974-79, allowing comparisons of the economic status in Kentucky with that of the Georgia area.

The ratio in the above equation reflects changes in money income from a household member changing employment status and changes in the number of household members who share the income. With the official poverty standards in the denominator, the ratio further accounts for household economies of scale in consumption and other basic needs among various sized households. (That is, it costs less per person to feed and clothe larger households.) The ratio's value is easy to interpret and its statistical properties are easy to analyze. The ratio's value has no units, is not a percentage change, and is a continuous value showing negative, zero, or positive changes.

### Factors Affecting Income Status

To understand how an area's personal income distribution may change under rapid employment growth, the factors influencing changes in household income status must be explored (9, 10, 12, 14, 23, 26, 31, 36, 40).

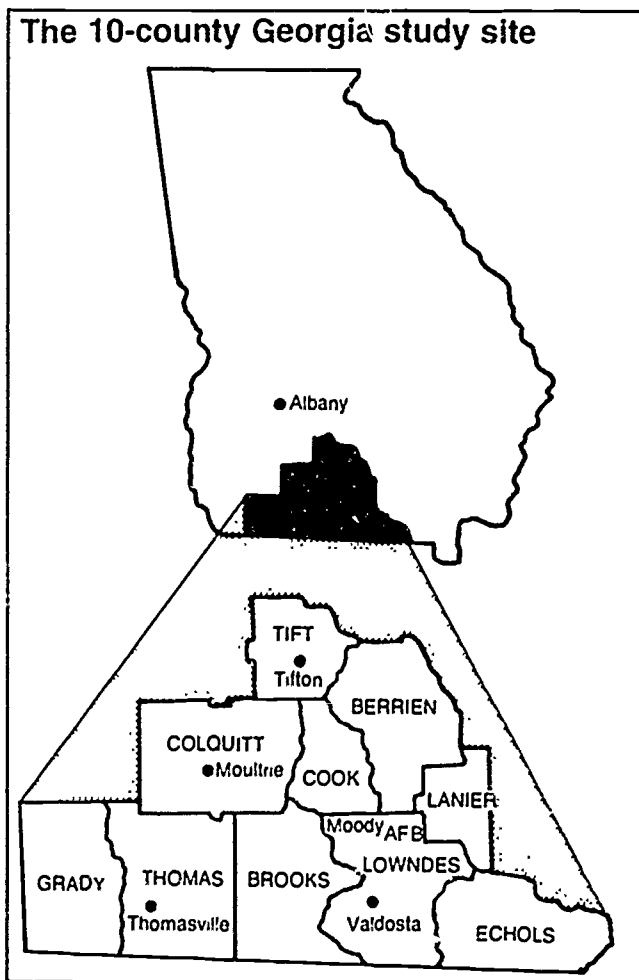
Change in household size is negatively related to change in income status: if household size increases (with no other changes), income status declines (14, 26). Household head's gender and race affect household income status: female and black household heads

had lower incomes than did males and whites (40). Age also affects a person's ability to benefit from expanding job opportunities: the elderly do not compete for jobs in a growing labor market as much as younger workers (10, 31, 40). Educational attainment is positively associated with income status: those with more education generally earn higher incomes. Changes in health alter the annual hours worked by household members, thus affecting a household's income status. Household income can increase as members enter the paid labor force, increase hours worked, or work in a higher paying job. Household income can also increase through higher interest, rents, and transfer payments (unearned income).

### Study Area and Data

The data analyzed in this report came from households sampled in Berrien, Brooks, Colquitt, Cook, Echols, Grady, Lanier, Lowndes, Thomas, and Tift counties in southern Georgia during January-February 1982 (see figure).<sup>2</sup> The data provide detailed

<sup>2</sup>See the Appendix and (31) for details about the sample design. The survey used a randomly stratified multiple-frame design.



information on household composition, employment of household members, and household income in 1981 and 1976. Data on households residing in the study area during 1976 but not in 1981 were not available. Thus, the 1976 data cannot represent the population residing in that area in 1976; it reflects characteristics only from the present (1981) residents' responses about 1976.

The 10-county area in 1980 had approximately 81,580 households with 238,680 people (see 48, census has only total data reported for 1980. Our sample is representative of that total; see next section). Employment increased about 12 percent between 1976 and 1981, and population increased about 5 percent, compared with 9 and 6 percent, respectively, in all nonmetro areas (31). Most employment grew in the private services and production sectors. The area's economy, primarily based on manufacturing, had a relatively large agricultural commerce: 40 percent of its 5,400 farms had sales exceeding \$20,000 (46). Five counties depended primarily on farming; four counties depended on manufacturing (3). Brooks was the only persistently low-income county in 1969 (11). But this county's income rose by 1979 enough to escape its low-income status (20).

## Characteristics of Households

This section examines basic characteristics of the area's households, including comparisons with other nonmetro areas, and characteristics of subgroups of the sampled households.

### All Households

The Georgia household survey represented 75,130 households in 1981, or about 214,000 people (table 1). Households in the 10 Georgia counties averaged 2.8 persons, similar to the average for nonmetro Georgia and nonmetro America (44, 49, 51). The distribution of household heads by gender and age also resembled that of other nonmetro areas. The 1981 mean household income in the 10 Georgia counties was nearly \$4,000 below the national average for all nonmetro households, and about \$2,400 below the average for the nonmetro South (45). But the below-average incomes may reflect the smaller number of workers per household. The surveyed households contained an average 1.2 income earners, well below 1.8 nationally (44). This difference may partly explain the higher incidence of poverty in the 10 counties compared with that in nonmetro America. Lower wages may also have affected the area's higher incidence of poverty, as

most wage levels lagged behind the national average (31).

The southern Georgia area had a large black population: nearly 27 percent of the surveyed

Table 1—Households in the 10-county Georgia study area and in selected nonmetro areas, 1981

Household characteristics	10-county study area <sup>1</sup>	Nonmetro Georgia <sup>2</sup>	Nonmetro United States <sup>4</sup>
	Number		
Total households	75,130	732,370	26,627,000
Total people (all ages)	213,780	2,131,750	73,470,000
	Percent		
Household size:			
One person	20.4	19.6	20.9
Two persons	31.4	29.7	32.2
Three persons	18.3	13.8	17.4
Four persons	16.4	16.5	15.7
Five or more persons	13.5	15.4	13.8
	Number		
Average	2.8	2.9	2.8
	Percent		
Head of household: Race— <sup>2</sup>			
White	73.2	77.9	92.0
Black	26.8	22.1	8.0
Gender—			
Male	72.5	71.5	75.5
Female	27.5	28.5	24.5
Age—			
19-34 years	29.4	28.5	28.8
35-49 years	34.0	33.0	31.0
50-64 years	14.9	16.3	16.1
65 years and older	21.7	22.2	24.1
	Number		
Average	47.6	43.4	49.2
	Dollars		
Household money income:			
Mean	15,500	NA	19,435 <sup>5</sup>
Median	13,950	NA	16,259
	Percent		
Household poverty status:			
Not poor	77.8	NA	88.0 <sup>5</sup>
Poor	22.2	NA	12.0

NA = Not available.

<sup>1</sup>Data collected in January-February 1982.

<sup>2</sup>See Glossary.

<sup>3</sup>Sources: (48, 49).

<sup>4</sup>Sources: (45, 47, 50, 51).

<sup>5</sup>Sources: (45, 47).

household heads were black, compared with 8 percent for nonmetro America (table 1). Blacks in the 10 Georgia counties completed fewer years of school than did whites. Average (mean) schooling was 9.2 years among black adults, 11.1 years among white adults (27, 31).<sup>3</sup> Black households were larger and more often headed by a woman than were white households. Mean 1981 income for black households was nearly \$7,300 below that for whites.

## Residents

Households were classed in three duration of residency groups, based on the head's residency status: longer term resident households, newer resident households, and newly formed households. Heads of the longer term resident households resided continuously within the study area for 5 years before the survey. Most households (72 percent) were longer term residents (table 2). Nine percent of the surveyed households were newer resident households (heads resided outside the study area in 1976). About 19 percent were newly formed households (households that did not exist in 1976).

Noneconomic and nonjob-related factors were frequent reasons (80 percent) why newer resident household heads relocated there (23, 28, 57).<sup>4</sup> Thus, intangible factors (that cannot be satisfactorily controlled in the analysis) other than money income influenced households' decisions to move.

On average, newer resident households had more members than did longer term residents and newly formed households (table 2). Surveyed household heads' age followed an expected pattern: elderly heads were more concentrated among the longer term resident households, while younger heads were more prevalent in newly formed households. Most newer resident household heads during the seventies were white (31). However, the racial mix did not differ significantly between longer term resident households and newly formed households. Income/poverty status favored the newer resident households compared with the other two residency households in 1981, partly because of the lower concentration of black household heads in the newer residency group. There was a large portion of female heads in the newly formed households from changes in household

**Table 2—Households in the 10-county Georgia area by residency status, 1981<sup>1</sup>**

Household characteristics	All households	Longer term residents <sup>2</sup>	Newer residents <sup>2</sup>	Newly formed households <sup>2</sup>
Total households	75,130	53,730	7,350	14,050
	Percent			
Household size:				
One person	20.4	20.3	10.3 <sup>3</sup>	26.4
Two persons	31.4	32.0	32.8	28.5
Three persons	18.3	16.0	18.7	27.3
Four persons	16.4	16.2	23.3	13.2
Five or more persons	13.5	15.5	14.9	4.6 <sup>3</sup>
	Number			
Average	2.8	2.9	3.1	2.5
	Percent			
Head of household:				
Race— <sup>2</sup>				
White	73.2	70.2	90.4	75.4
Black	26.8	29.8	9.6 <sup>3</sup>	24.6
Gender—				
Male	72.5	73.7	79.9	64.1
Female	27.5	26.3	20.1	35.9
Age—				
19-34 years	29.4	15.3	38.3	78.6
35-49 years	34.0	31.3	32.6	14.6
50-64 years	14.9	25.8	17.3	2.8 <sup>3</sup>
65 years or older	21.7	27.6	11.8 <sup>3</sup>	4.0 <sup>3</sup>
	Number			
Average	47.6	52.8	42.8	30.2
	Dollars			
Household money income:				
Mean	15,500	15,390 <sup>4</sup>	19,330 <sup>5</sup>	13,970
Median	12,950	12,510	15,340	12,070
	Percent			
Household poverty status: <sup>6</sup>				
Not poor	77.8	75.2	89.8	81.5
Poor	22.2	24.8	10.2 <sup>3</sup>	18.5

<sup>1</sup>Data collected in January-February 1982.

<sup>2</sup>See Glossary.

<sup>3</sup>Estimate based on fewer than 10 unweighted observations.

<sup>4</sup>Excludes 920 households (12 unweighted observations) that did not report 1981 household income.

<sup>5</sup>Excludes 260 households (3 unweighted observations) that did not report 1981 household income.

<sup>6</sup>Official poverty thresholds for 1981 were used to determine poverty status (47).

<sup>3</sup>The surveyed household heads' average years of schooling was 10.6, somewhat below the mean 11.4 years in the nonmetro United States (50).

<sup>4</sup>Respondents indicated the major reason they moved to the area. They were given a choice that included both job and nonjob-related reasons.

composition such as separations and divorces during 1976-81.

The employment growth benefited all three classes of households. That is, many members in each household group were employed in 1981 and participated in the area's job expansion. However, the detailed analysis that follows will focus only on the longer term resident households and how well they fared. An objective of this study was examining how household income status changed for blacks as jobs expanded, and there were few black households among newer resident households.

Newly formed households result from marriage, divorce, single people moving from parental households, and other changes in composition which greatly influence changes in a household's income status (13, 14, 26). Because these households technically did not exist in 1976, they were identified at the interview so household income data for 1976 were not collected.

### Change in Household Income Status, 1976-81

Not all households' income gained as employment opportunities expanded; more declined. The average income status for longer term resident households fell substantially between 1976 and 1981 (the mean change of -0.189 differed significantly from zero, table 3). The relative income status for the majority of longer term resident households declined.<sup>5</sup> But gains in income status among some households can be offset by declines among others.

#### Factors Affecting Change in Income Status

Economic growth, and its subsequent expansion in employment opportunities, is not the only answer to raising a household's income status. Changes in household size, number of members working, hours worked, real wages for household heads, and incidence of unearned income other than transfer payments also affect the income status of households during employment expansion. (See the Appendix for a discussion of the regression analysis and methods used to reach these findings. Results of the

<sup>5</sup>From the 53,730 longer term resident households, 1,580 (about 3 percent) were eliminated from the analysis because of nonresponses regarding 1976 or 1981 household income data. These nonresponses were a random event and not associated with any particular sample or household characteristic, such as race, gender, or age of head.

Table 3—Change in relative income status for longer term resident households in the 10-county Georgia area, 1976-81

Item	Longer term resident households
	Number
Total longer term resident households in 1981	52,150
	Ratio value
Mean change in income status ratios <sup>1</sup>	-0.189
	Percent
Change in income status: <sup>2</sup>	
Decrease	41.8
Little or no change	32.0
Increase	26.2

<sup>1</sup>The average value of the difference between the 1981 income status ratio and that for 1976.

<sup>2</sup>Income status changes were:

Decrease = ratio difference was equal to or less than -0.160,

Little or no change = ratio difference was -0.159 to +0.159, and

Increase = ratio difference was equal to or greater than +0.160.

multiple regression analysis are shown in appendix table 1.) How do these changes influence a household's income status?

**Household Structure.** Increased household size, or more persons sharing the income, lowered household income status (changes in household size were significant and had a negative coefficient, see app. table 1).

Compared with the omitted classes, changes in household income status were not significantly different between households headed by women and men (HDSEX) or between households headed by blacks and whites (HDRACE) (these coefficients in the regression analysis were not significantly different, see app. table 1). The gap in income status did not widen significantly. Therefore, the expanded employment did not realign the distribution of jobs that left women and blacks in poorer economic positions than before the expansion of jobs.

**Employment and Related Variables.** Income status improved when additional members became employed (CHGEAR), already employed members worked more hours in 1981 than in 1976 (CHGHRS), or the head's weekly wage level (CHGHWG) rose faster than the inflation rate (these variables had positive coefficients, see app. table 1).

**Unearned Sources of Income.** Households receiving transfer payments in 1981 (variables INCTRP, NCGTRP) maintained their relative income position over the study period [coefficients for transfer payment variables (INCTRP, NCGTRP) were not significantly different from zero, see app. table 1]. Because most transfer payments, such as Social Security, were indexed for inflation, nominal increases in transfer payments kept recipient households from losing ground on income status (households with workers were the omitted class against which changes in income status were measured). About 20 percent more households reported transfer payments in 1981 than in 1976. Income status did not fall significantly, as expected, among households reporting transfer payments (variable DECTRP) in 1976 but not 1981 (only about 3 percent had a nonzero value for this variable).

Households reporting "other" sources of income in 1981 but not 1976 (variable INCOTI) increased income status, (INCOTI had a significant, positive coefficient, see app. table 1). But only a few households (8 percent) reported "other" sources of income. Income status did not decline significantly, as expected, for households reporting "other" sources of income in 1976 but not in 1981 (variable DECOTI) (only about 1 percent of the households had a nonzero value for this variable).

There was no reason to expect households reporting "other" sources of income (NCGOTI) in both 1976 and 1981 to have a significant coefficient in the regression. Why the income status of these households rose more than households never receiving this source of income cannot be detected from the data.

**Household Well-Being.** With all other variables held constant, significant changes in household income status were not spread across all income levels. Therefore, the expanded employment opportunities did not even out the area's income status. In this analysis, variables measured changes in 1976 income (in 1981 dollars) by quintile. The positive or negative sign and the magnitude of the coefficients for each variable shows the extent that households in a particular income level gained or lost relative to the omitted households (third quintile). Income status for the higher income households did not rise more after employment expansion than income status for the omitted households [only the two highest income quintiles (RHI4, RHI5) had significant, negative coefficients, see app. table 1]. While the two lowest income quintiles had gains (positive coefficients), their coefficients were not statistically significant.

Exits from the labor force, such as retirement, largely produced the negative coefficients on the two highest income quintiles.

**Characteristics of the Household Head.** The job expansion did not lower the economic status of the elderly; their already lower income status was not lowered further during 1976-81 (HAGE4 was negative but not significant, see app. table 1). Elderly household heads (HAGE4) were expected to have a significant fall in income status compared with the omitted heads in the prime working age (35-49) group (HAGE3). The elderly maintained their relative income status over the study period because most elderly households received Social Security and/or other retirement benefits, which were indexed for inflation.

There was no difference in the change in income status between household heads educated beyond high school (HEDC3, the omitted class) and those with high school (HEDC2) or less than high school (HEDC1) training (although the coefficients were negative, changes in income status for household heads were not significant, see app. table 1).

Changes in the head's health status (CHGHLT) was expected to affect the amount of labor supplied between 1976 and 1981 and thus affect household income status through the amount of earnings received, but they did not (the coefficient for CHGHLT was not significant, app. table 1). Only about 5 percent of the working household heads reported a change in either a positive (improved health) or negative (poor health) direction.

Early immigrants competed more successfully for jobs and obtained higher paying jobs than did longer term residents, but the early immigrants did not continue to reap the higher paying jobs. The change in household income status for early immigrants did not differ significantly from that for longer term residents (app. table 1). Very few heads of early immigrants households changed jobs or occupations during 1976-81. Also, members of early immigrant households who entered the area's labor force in 1976-81 took jobs with similar pay as members from longer term resident households who also entered the area's labor market.

The regression analysis was the first step in explaining changes in household income status between 1976 and 1981. The following section examines the relationships between most of these factors and income status. A household's composition and economic activity changes over time. About 27 percent of the

area's households had no changes in the number of members, members' labor force participation, annual hours worked, or head's real wages. Most households (73 percent) reported changes in household composition and/or economic activities that affected income status. These findings parallel the Michigan study findings that households are dynamic units (14, 26).

### Change in Income Status

Overall income status for longer term resident households fell during 1976-81. The dynamic nature of employment status and other changes sometimes negatively affect an area's average household income status.

Employment among longer term resident households was generally stable but economic status was not. Reductions in annual hours worked and declines in the head's real weekly wage offset gains of those households reporting increased hours worked and higher head's real wage. Therefore, overall income status for all longer term resident households fell. Income status for many households hinged on unearned sources of income such as Social Security because 20 percent had members who were not employed during the entire 5-year period.

### Employment and Household Size

Only a small portion of the longer term resident households enjoyed the area's employment expansion in 1976-81. About 20 percent had more workers in 1981 than in 1976; their income status rose significantly (table 4). But nearly half of the households had no change in number of members working. Their income status did not remain constant, it fell. About 25 percent of the households with no change in the number of workers worked fewer hours in 1981. The head's real weekly wage declined for 48 percent of households whose head worked in both periods.

Change in household size significantly altered income status. About 20 percent had larger households, and their relative income status fell (table 4). The income status increased for the 15 percent with smaller households. Household size remained unchanged for nearly 66 percent of the longer term resident households.

Some longer term resident households changed counter to what we might expect from employment growth. About 12 percent had fewer members working between 1976 and 1981 (table 4), 70 percent of whom retired. Among the 25,350 longer term resident households where there was no change in the

**Table 4—Factors affecting income status for longer term resident households in the 10-county Georgia area, 1976-81**

Item	Longer term resident households	Mean value change in income status, 1976-81 <sup>1</sup>
	Number	Ratio value
Total longer term resident households in 1981	52,150	-0.189 <sup>2</sup>
	Percent	
Employment status:		
No change in number working	48.6	-.362 <sup>2</sup>
More workers	19.5	.310 <sup>2</sup>
Fewer workers	11.9	-.508 <sup>2</sup>
None working in 1976 or 1981	20.0	-.015
	Number	
Change in annual hours worked <sup>3</sup>	25,350	-.376 <sup>2</sup>
	Percent	
Large decrease (-1,000 or more hours)	13.8	-.743 <sup>2</sup>
Moderate decrease (-200 to -999 hours)	14.0	-.398 <sup>2</sup>
Little or no change (-199 to 199 hours)	58.2	-.397 <sup>2</sup>
Moderate increase (200 to 999 hours)	6.4	.006 <sup>4</sup>
Large increase (1,000 or more hours)	7.6	.170 <sup>4</sup>
	Number	
Head's real weekly wage <sup>5</sup>	25,970	-.249
	Percent	
Large decrease (-\$100 or more)	14.3	-.877 <sup>2</sup>
Moderate decrease (-\$30 to -\$99)	33.7	-.343 <sup>2</sup>
Little or no change (-\$29 to \$29)	37.1	-.102
Moderate increase (\$30 to \$99)	11.6	.200
Large increase (\$100 or more)	3.3 <sup>6</sup>	.284 <sup>4</sup>
	Number	
Household size:	52,150	-.189 <sup>2</sup>
	Percent	
No change	66.1	-.178
More members	19.1	-.576 <sup>2</sup>
Fewer members	14.8	.267 <sup>2</sup>

<sup>1</sup>Represents an average of the difference between the 1981 income status and that for 1976.

<sup>2</sup>Indicates the mean change differed significantly from zero at the 0.01 confidence level.

<sup>3</sup>Pertains only to households where there was no change in employment status of household members.

<sup>4</sup>Statistical test not performed because there were fewer than 30 unweighted observations.

<sup>5</sup>Pertains only to households where the head worked for wages or salaries in both 1976 and 1981.

<sup>6</sup>Estimate based on fewer than 10 unweighted observations.



number of members working during 1976-81, nearly 29 percent reduced hours worked in 1981 by at least 200 hours since 1976 (the Nation's business downturn in 1981 may have contributed). This result affects income status because fewer hours worked lowers annual income. However, annual hours worked barely changed for most (58 percent) of these households. Only 14 percent had members increase annual hours work by at least 200 hours.

About 25,970 longer term resident household heads worked for wages or salaries in 1976 and 1981. Income for nearly half of these households fell considerably when inflation outpaced their real weekly wage rates (table 4). Only 15 percent experienced an exceptional real growth in weekly wages. Weekly wage levels for 37 percent generally kept pace with inflation.

These dynamic changes and the resulting magnitude of the changes produced the sizable fall in average household income status during 1976-81 (the mean ratio change of -0.189 in table 4 was significantly less than zero). Only 27 percent of the 52,150 longer term resident households had a stable economic history: no changes in employment, annual hours worked, head's weekly wage, and household size. The balance experienced a change in one or more of these factors; about 7 percent of which changed annual hours worked, head's real weekly wage, and household size while employment status remained unchanged. However, declines in income status among some households can offset gains among other households. For example, the magnitude of the decline in income status among households where annual hours declined by 200 hours or more greatly exceeded the gains in income status among households where annual hours worked increased by 200 hours or more.

The survey data do not provide sufficient information to consider how newly formed households affected the overall average household income status. Newly formed households, excluded from the analysis because their 1976 base income was not available, have claims on the area's employment growth and thus on the total income generated. But employment expansion accommodated the new household members into the workforce (recall that the area experienced net population outmigration about 25 years ago, primarily by the young). Also, there were no data available on households in the area during 1976 that left before 1981.

Newer resident households with employed household members also had claims on the area's income. But

their claims were relatively small. Only 10 percent of those working sometime in 1981 were members of newer resident households. The jobs taken by members of the newer resident households probably did not significantly affect the changes in the longer term resident household's income status.

### Changes Among Household Groups

Although employment opportunities were expanding, overall income status for longer term resident households fell during 1976-81. But at the same time, households headed by women, blacks, and the elderly maintained their relative income status.

Gender, race, and age were not significant variables associated with changes in a household's income status. Published research suggests that individuals not participating in expansion of employment opportunities may become relatively poorer (32, 40, 42). Therefore, households with people who do not benefit from an area's employment growth may be relatively worse-off economically after job opportunities grow. Twenty percent of the longer term resident households in the Georgia study were not directly affected by the area's employment growth because no member worked in either 1976 or 1981 (table 4). Nearly all households with no working members in both years were headed by the elderly. Other research suggests that households headed by blacks, women, and the elderly may be relegated to lower income positions once employment grows (8, 9, 27, 29, 37, 40, 41, 42). That is, their income status may fall compared with households headed by whites, men, and nonelderly people. This report's regression analysis refutes this contention in the Georgia study area. Income status did not significantly decline between households headed by whites and blacks, by women and men, and by elderly and nonelderly (table 5).

Income status for female-headed households who lost their spouse after 1976 declined, but not as much as that for households headed by men. Losing the male head reduced the flow of earnings if the former head worked in 1976, or could reduce unearned income if the former head was retired in 1976.<sup>6</sup> However, size of these households decreased from the loss of the spouse. This change in household size partly explains why the percentage change in income status was not larger, as the denominator of income status (the poverty threshold) accounts for changes in household size.

<sup>6</sup>Data were not available on what the former head of the household was doing in 1976.

**Table 5—Average income status for selected longer term resident households in the 10-county Georgia area, 1976-81**

Item	Longer term resident households	Average household income status ratio		
		1976	1981	Percentage difference
	Number	- Ratio	value -	Percent
Total longer term resident households	52,150	2.320	2.131	-8.1
Head of household: Race— <sup>1</sup>				
White	70.0	2.693	2.486	-7.7
Black	30.0	1.450	1.305	-10.0 <sup>2</sup>
Gender—				
Male	74.2	2.630	2.388	-9.2
Female	25.8	1.427	1.393	-2.4 <sup>2</sup>
Head both years	87.1	1.358	1.344	-1.0
Spouse of deceased head <sup>3</sup>	12.9	1.892	1.726	-8.8 <sup>2</sup>
Age— <sup>1</sup>				
Elderly	28.1	1.625	1.533	-5.7
Nonelderly	71.9	2.590	2.364	-8.7 <sup>2</sup>

<sup>1</sup>See Glossary.

<sup>2</sup>These percentages did not differ significantly between heads of household groups.

<sup>3</sup>These women lost their spouse before 1976. Women divorced or separated after 1976 were placed in the newly formed household group.

The income status gap between these groups was expected to widen during employment expansion. But several factors buffered a decline in income status of households headed by women and blacks, and employment growth was only one of the factors. Proportions reporting more workers did not differ significantly between households headed by blacks and whites and by women and men (table 6). While more female-headed households reported no one working in both periods, there were comparable percentage wage increases for working women and for men, yielding comparable increases in income status for female-headed households with working members.<sup>7</sup>

Households headed by an elderly person responded little to employment growth (table 6). Compared with their younger counterparts, the elderly rarely partook in new employment opportunities, a finding consistent with other studies (24, 29, 40, 42). Nearly 60 percent of the elderly-headed households had no working members in 1976 and 1981. Despite their relatively low tie with the area's labor market, the gap in household income status between the elderly and nonelderly did not expand significantly (table 5). Elderly-headed households depended on unearned sources of income, such as Social Security and public assistance payments. These transfer pay-

<sup>7</sup>There were comparable changes between wages for men and women during 1976-81. But men's wages were still significantly higher than women's (31).

**Table 6—Employment status and change by groups of longer term resident households in the 10-county Georgia area, 1976-81**

Household heads	Longer term resident households	Employment status and change			
		No change in number working	More workers	Fewer workers	None working in 1976 and 1981
	Number	Percent			
Race:					
Black	15,640	43.5	21.2	15.4	19.9
White	36,510	50.8 <sup>2</sup>	18.8 <sup>2</sup>	10.4 <sup>2</sup>	20.0 <sup>2</sup>
Gender:					
Female	13,450	29.3	14.2	15.6	40.9
Male	38,700	55.3 <sup>3</sup>	21.4 <sup>2</sup>	10.6 <sup>2</sup>	12.7 <sup>3</sup>
Age in 1981:					
Elderly	14,650	20.5	4.3 <sup>4</sup>	17.5	57.7
Nonelderly	37,500	59.6 <sup>3</sup>	25.5 <sup>5</sup>	9.7 <sup>2</sup>	5.2 <sup>5</sup>

<sup>1</sup>Based on household members' change in employment between 1976 and 1981.

<sup>2</sup>Proportions did not differ significantly between the household groups.

<sup>3</sup>Proportions differed significantly between the household groups at the 0.01 confidence level.

<sup>4</sup>Based on fewer than 10 unweighted observations.

<sup>5</sup>There were not enough observations, within at least one group, to test for significant difference.

ments are indexed by the Consumer Price Index (CPI). Indexing unearned income substantially buffered against a significant fall in the elderly's real income. Some healthy elderly people worked past the traditional retirement age of 65. Spouses often held jobs when the head was elderly and unable to work due to poor health. One or more members worked in 1981 in about 25 percent of elderly-headed households (table 6).

## Poverty Status and Change

Many of the Nation's persistently low-income nonmetro counties are in the South (11, 20). Rural economic development has been often advocated to aid the economically disadvantaged (55). This section examines the poverty status among the longer term resident households and the extent that the area's poor households increased their income status during the growth in the local economy and employment.

### Poor Households in 1981

The area's poor longer term resident households did not typify the poor in other areas. Nearly 25 percent of the area's households were poor (table 7), much higher than the near 14-percent level for all U.S. nonmetro areas and the South (47). An equal amount of the area's poor households were headed by blacks and whites. In nonmetro areas nationwide, a higher percentage of the poor were white (59 percent), but nearly 65 percent of the poor in the South were black (47). The elderly headed nearly 44 percent of the area's poor households (table 7), more than double the U.S. level (17 percent) for nonmetro areas (47). Median income among the area's poor households was \$3,820 (table 7) considerably below the \$4,640-median level for poor households across all U.S. nonmetro areas (47). The study area's poor households' average money income and income status ratio were about a quarter of that for nonpoor households. Poor households depended on retirement income, with earnings and public assistance the next two most important sources of income.

Employment alone does not guarantee exit from poverty. This Georgia area contained a substantial amount of working poor. Thirty-nine percent of poor households earned income in 1981 (table 7). Over half depended on retirement income, and another third received public assistance. Therefore, transfer payments were also not sufficient to keep households out of poverty during 1981.

**Table 7—Characteristics of longer term resident households in the 10-county Georgia area, by poverty status, 1981**

Characteristics	All households <sup>1</sup>	Household poverty status	
		Poor	Not poor
		Number	
Total longer term resident households	52,810	13,090	39,720
		Percent	
Share of longer term resident households	100.0	24.8	75.2
		Dollars	
Household money income:			
Mean	15,390	4,730	18,910
Median	12,510	3,820	16,030
		Ratio value	
Household income status:			
Mean	2.13	0.63	2.59
Median	1.77	.69	2.19
		Percent	
Source of income: <sup>2,3</sup>			
Earnings	72.8	39.3	83.9
Employment-related	6.0	3.4 <sup>4</sup>	6.9
Public assistance	13.6	34.2	6.8
Retirement	41.0	56.2	36.0
Other	26.3	8.3	32.3
Household head:			
Race— <sup>2</sup>			
White	70.0	47.8	77.4
Black	30.0	52.2	22.6
Gender—			
Male	73.7	49.4	81.8
Female	26.3	50.6	18.2
Age—			
16-34 years	15.4	12.4	16.4
35-49 years	31.2	23.1	33.6
50-64 years	25.5	20.7	27.1
65 years and older	27.9	43.8	22.7
		Years	
Average	52.9	58.5	51.0
		Percent	
Education—			
Less than high school	55.9	82.7	47.1
High school	26.0	12.0	30.6
Beyond high school	18.1	5.3 <sup>4</sup>	22.3
		Years	
Average years of school completed	9.9	7.1	10.8

<sup>1</sup>Excludes 920 households (12 unweighted observations) that did not report household income for 1981.

<sup>2</sup>See Glossary.

<sup>3</sup>Percentages will not sum to 100 because some households reported more than one source.

<sup>4</sup>Estimate based on fewer than 10 unweighted observations.

## Change in Poverty Status, 1976-81

A household's poverty status may change for a number of economic and/or noneconomic reasons (13, 17, 26).<sup>8</sup> Being poor need not be permanent. About 20 percent of poor households in 1976 were not poor in 1981 (table 8). Nine percent not poor in 1976 became poor in 1981. However, most of those poor in 1976 (80 percent) were still poor in 1981. Other research has found a substantial turnover in the U.S. poverty population during 1969-78, and only a small fraction (about 3 percent) were persistently poor (13). However, a typical profile of the poor cannot be assessed fully from the survey data. Data were not available to determine the extent of the area's poverty turnover prior to 1976 or between 1976 and 1981 (that is, the structure of the area's shorter and longer term poor). The overall level of poverty for the 5-year period remained unchanged at a relatively high level.

**Households Escaping Poverty.** The area's employment growth may have helped some households escape poverty. About 55 percent of the households escaping poverty between 1976 and 1981 had more earners in the household in 1981 than in 1976 (table 9). There were too few observations to specifically identify any other particular event that allowed these households to exit poverty. Households escaping poverty were more likely headed by whites (62 percent), men (72 percent), and people under 65 years old (72 percent).

**Households Entering Poverty.** When people leave employment, some of their households may enter poverty. Forty-six percent of households entering poverty during 1976-81 had fewer earners in 1981 than in 1976 (table 9). Working only part of 1981 encouraged entry into poverty.<sup>9</sup> Reduced hours worked contributed to some households becoming poor in 1981. There was a disproportionate share of blacks and women among the poor (table 9).

**Households Poor Both Years.** Background and demographic factors, such as race, gender, age, and education, influence households remaining poor over time (26, 47, 54). Within the study area, heads of households remaining poor were mostly black,

Table 8—Change in poverty status of longer term resident households in the 10-county Georgia area, 1976-81<sup>1</sup>

Item	Longer term resident households	Poverty status in 1981	
		Poor	Not poor
	Number	Percent	
Total longer term resident households in 1981	52,150	24.6	75.4
	Percent		
Poverty status in 1976:			
Poor	22.4	80.1	19.9
Not poor	77.6	8.6	91.4

<sup>1</sup>Official thresholds for 1976 and 1981 were used to determine poverty status (47, 54), but only for those households reporting income in both years.

female, had low levels of education, and had low rates of participation in the labor force (table 9). Nearly 55 percent had no one within the household working during the 5-year period. These households' heads were usually women and were evenly split between heads over 65 years old and those under 65. Social Security and public assistance were their main economic support.

Employment does not assure escape from poverty. Twelve percent of the households remaining poor had more earners in 1981 than in 1976 (table 9). Nearly 35 percent had one or more members employed in 1981. These households contained the area's working poor, who were primarily headed by blacks. Weekly wages for employed blacks in the area were significantly below those of employed whites (31). Their lower educational attainment appeared to limit their wages.

## Strategy

Economic development to generate employment opportunities should not be viewed as the only anti-poverty strategy or as a substitute for retirement benefits and public assistance programs. Slightly over half the households classed as poor in both years contained elderly people who probably would not seek employment. Thus, Social Security and public assistance will remain important income sources for the elderly, particularly for those households headed by elderly women.

Promoting employment growth will not necessarily remedy the poverty problem, especially for the working poor if they have limited education or job

<sup>8</sup>The terms "temporary" and "permanent" poor are often used to distinguish between those that move in and out of poverty from those seemingly trapped below the poverty line (26). Special data (annual income from a longitudinal sample) are required to make these two distinctions, but annual income data were not collected between 1976 and 1981 in this area. While the temporary and permanent distinctions could not be identified from the survey data, these two groups probably exist.

<sup>9</sup>A household member was considered employed in any year if he or she worked 1 or more weeks.

**Table 9—Poverty status and household characteristics of longer term resident households in the 10-county Georgia area, 1976 and 1981**

Characteristics	Longer term resident households	Poverty status in 1981:			
		Remained poor <sup>1</sup>	Escaped poverty <sup>2</sup>	Entered poverty <sup>3</sup>	Not poor <sup>4</sup>
			Number		
Total longer term resident households	52,150	9,360	2,330	3,470	36,990
			Dollars		
Household nominal money income:					
1981	15,440	4,640	12,680	4,710	19,360
1976	10,380	3,120	4,610	7,660	12,830
			Ratio value		
Household income status ratio:					
1981	2.1312	0.6483	1.4913	0.6204	2.6886
1976	2.3100	.6651	.8329	1.7381	2.8865
Average change in income status	-.188E	-.0168	.6584	-1.1177	-.1979
			Number		
Earners per household in 1981	1.2	.5	1.3	.6	1.4
			Percent		
Source of income in 1981: <sup>5,7</sup>					
Earnings	72.6	34.7	63.4	53.1	85.0
Employment-related	5.9	1.7 <sup>6</sup>	2.1 <sup>6</sup>	8.2 <sup>6</sup>	7.0
Public assistance	13.6	38.5	25.4 <sup>6</sup>	22.9 <sup>6</sup>	5.7
Retirement	41.3	59.0	56.4	50.0	35.1
Other	26.2	7.7 <sup>6</sup>	20.6 <sup>6</sup>	16.7 <sup>6</sup>	32.7
Household head:					
Race— <sup>5</sup>					
White	70.0	44.6	61.7	57.3	78.1
Black	30.0	55.4	38.3 <sup>6</sup>	42.7	21.9
Gender—					
Male	74.2	46.4	72.2	58.3	82.8
Female	25.8	53.6	27.8 <sup>6</sup>	41.7	17.2
Age in 1981—					
16-34 years	15.6	11.1	12.0 <sup>6</sup>	16.9 <sup>6</sup>	16.8
35-49 years	30.8	20.7	40.0 <sup>6</sup>	26.8	33.2
50-64 years	25.5	17.2	19.9 <sup>6</sup>	31.4	27.4
65 years and older	28.1	51.0	28.1 <sup>6</sup>	24.9 <sup>6</sup>	22.6
			Years		
Average	52.9	61.1	52.3	52.3	50.9
			Percent		
Education in 1981—					
Less than high school	56.8	91.9	7.4	72.8	45.6
High school	24.6	3.9 <sup>6</sup>	10.1 <sup>6</sup>	17.4 <sup>6</sup>	31.2
Beyond high school	18.6	4.2 <sup>6</sup>	12.5 <sup>6</sup>	9.8 <sup>6</sup>	23.2
			Years		
Average years of school completed	9.9	6.8	9.2	8.0	10.9
			Percent		
Status of employed household members in 1981:					
Same number of earners	48.6	22.4	16.1 <sup>6</sup>	39.8	58.2
More earners	19.5	12.3	54.9	5.7 <sup>6</sup>	20.4
Fewer earners	11.9	10.6 <sup>6</sup>	0	45.9	10.1
No earners both years	20.0	54.7	30.0 <sup>6</sup>	8.6 <sup>6</sup>	11.3
Status of household size in 1981:					
Same number of members	66.1	67.9	61.9	47.8	67.5
More members	19.1	17.8	32.8 <sup>6</sup>	27.0 <sup>6</sup>	18.0
Fewer members	14.8	14.3	5.3 <sup>6</sup>	25.2 <sup>6</sup>	14.5

<sup>1</sup>Household poor in 1976 and 1981. <sup>2</sup>Household poor in 1976 but not in 1981. <sup>3</sup>Household not poor in 1976 but poor in 1981.

<sup>4</sup>Household not poor in both 1976 and 1981. <sup>5</sup>See Glossary. <sup>6</sup>Estimate based on fewer than 10 unweighted observations. <sup>7</sup>Percentages will not sum to 100 because some households reported more than one source of income.

skills. The working poor may need relocation, training, supplemental income, or wage-subsidy programs to improve their economic plight. Some households escaped poverty, and employment gains assisted their exit. However, those escaping poverty by 1981 represented 19.9 percent of the 1976 poverty households, or 4 percent of all households analyzed. But 7 percent of all households analyzed entered poverty in this 5-year period. Therefore, the area's employment growth did not decrease the area's overall poverty rate.

## Implications

Not all households benefited directly from the growth-related jobs in the 10-county Georgia area. Not all households' incomes increased as employment opportunities expanded; incomes for some households even declined. The overall income status did not rise significantly when employment grew impressively; it declined significantly in the Georgia study area. Gains in income status among some households can be offset by declines among other households. Thus, the dynamic nature of changes among households can unexpectedly affect an area's average household income status. And, the growth in employment opportunities did not alter the incidence of poverty among the analyzed households.

Understanding the relationship between employment growth and changes in household income status (a relative measure) is particularly important as many government programs target public assistance according to relative income. Thus, it is important to know how an improved income status is distributed among an area's population when employment opportunities expand.

Findings in both Georgia and Kentucky show that employment growth does not directly benefit a substantial portion of households that have continuously resided in the area. Most of these households had a stable employment history in both areas. For household members already in the labor force, income levels are not likely to rise substantially unless labor is in short supply and area wage rates increase dramatically (not the case during the periods examined in either study area). Also, both areas had a sizable elderly population, typical of many other nonmetro areas. The elderly participate less often in the labor market and so do not usually take advantage of new job opportunities created by employment growth. The economic position of elderly households did not significantly fall below that of their younger counterparts as employment expanded.

The transfer payments, particularly payments indexed to the CPI, maintained the elderly's income status.

Rural development strategies to create jobs will not raise income status for all households. Increased income status among the households analyzed in both study areas was not the dominant trend as employment opportunities grew. Income status for some households rose significantly as additional members entered the labor force. But others lost ground when members quit working. Some households gained income status when young adults left their parent's households, reducing the number of persons sharing the income. But other households, headed by younger people who expanded their household size, had a decline in income status. Gains made by some households can be offset by declines in other households. Thus, overall net effect on income status can be negligible, as for Kentucky, or significantly negative as observed in Georgia.

Changes can run counter to what one would expect from employment growth. Income status declined significantly when household members left the labor force or reduced annual hours at work. A reduction in total annual hours worked was prevalent in Georgia, in contrast to that for Kentucky. The Nation's economic downturn in 1981 may have played a role in the Georgia area. Kentucky's study period of 1974-79 was at a time when the Nation was coming out of its economic slowdown of 1974. Also, one might expect employment growth to improve the distribution of income status gains among the area's households. However, an equalizing effect on the distribution of income status gains was not achieved in either study area.

Both studies indicate that local governments or community organizations can expand employment without hurting the income status of households headed by females, blacks, or elderly, especially if the transfer payments system remains intact. Expanding employment, while enabling some households to escape poverty, did not reduce the area's overall poverty rate because age or disability prevented a substantial share of the poor in both study areas from working. A wage subsidy, training, or relocation program may be needed to lift the working poor households out of poverty. If the goal of policies is to reduce differences in income status, particularly for blacks (data on blacks was not available in Kentucky), females, or the elderly, then current income security programs should be maintained while employment growth is stimulated.

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## Appendix: The Regression Analysis

Two types of analyses were used to examine why household income status changed among longer term resident households during the employment expansion. A multiple regression analysis explores and identifies which factors explain changes in household income status. The text tables show how the factors identified by the regression analysis were distributed among households, then examine differences in income status changes among population groups, such as blacks and whites, women and men, and elderly and nonelderly. Regression analysis findings then supported the tabular analysis findings.

Changes in income status was the dependent variable, that is, it depends on changes in other factors. This multiple regression model, developed for longer term resident households, helps determine changes in relative household income status (CHWRB) between 1981 and 1976:<sup>1</sup>

$$\text{CHWRB} = f(\text{CHS, CE, SI, I76, D})$$

where: CHS = Household structural variables,  
CE = Employment-related change variables,  
SI = Households reporting unearned sources of income,  
I76 = Household well-being levels for 1976 (transformed to real 1981 dollars), and  
D = Characteristics of household heads.

### Regression Model, Variables, and Relationships

The five general categories of independent variables determine income change (9, 12, 14, 23, 26, 30, 40) (see above equation).

**Household Structure.** Household structure (size, gender, and race) may affect a household's income status. Changes in household size (CHGSIZ), the number of household members in 1981 minus those in 1976, is a continuous variable in that it could have a negative value, zero for no change, or a positive value. With all other effects held constant,

<sup>1</sup>The expanded estimates were not used so as not to generate greatly reduced standard errors on the regression coefficients, a more accurate test of this hypothesis (10). The Statistical Analysis System (SAS) regression computer program package obtained weighted least-square estimates of the parameters. Thus, the relative importance of each observation is taken into account rather than treating each observation (such as household) as having an equal weight. Multicollinearity—high correlation between independent variables—did not exist in the model.

increased household size increases the denominator in the 1981 income status ratio, lowering the household's income status over the 5 years. If fewer household members were being supported in 1981, the household's income status rises (14, 26).

The household head's gender (HDSEX) and race (HDRACE) are discrete variables (not numerically continuous as in household size), with female heads denoted by 1 and male heads by 0. Black household heads were denoted by 1 and whites by 0. There was a substantial gap in income status between households headed by men and women and between those headed by whites and blacks. Variables HDSEX and HDRACE were used to examine whether the income status gap widened between men and women and between blacks and whites. A significant regression coefficient means that the change in income status was substantially different, thus the income status gap widened. A significant change in income status infers that expanded employment realigns the distribution of jobs such that women and blacks are placed in a relatively poorer economic position (40).

**Employment-Related Variables.** Employment-related variables (employment status, amount of hours worked, and wages earned) also affects income status. Change in household member's employment status (CHGEAR) was the total number of household members working in 1981 minus those working in 1976. With all other effects held constant, increased number of household members working by 1981 increases income status.

Change in annual hours worked (CHGHR) was the total annual hours worked by all working household members in 1981 minus that for 1976. CHGHR included only those households where the CHGEAR variable was 0 (persons in the household were employed and the number employed did not change during 1976-81) so as not to introduce multicollinearity and generate large standard errors. When annual hours worked increased, such as a household member switching from part- to full-time employment, the household's income status increases. Likewise, the household's income status falls when annual hours worked declined such as from an extended layoff.

Wage rates can change substantially over 5 years. Inflation effects were eliminated, and thus changes in household head's wages (CHGHWG) measures real change in weekly wages from 1976 to 1981. The 1976 weekly wage was adjusted to 1981 levels from the national Consumer Price Index (CPI). Income status improved when the head's real weekly

wage rose faster than the inflation rate. The area's expanded job opportunities should increase the demand for workers and pressure wage rates upward. So if the head's wage rate rose faster than inflation, the subsequent gain in household income status would likely be due to improved employment possibilities or management's desire to keep trained workers, particularly workers with high skills.

**Unearned Sources of Income.** Income from unearned sources (other than employment salaries) also affects a household's income status (see Glossary for types of income). Households may have gained, lost, maintained, or never have had transfer payments or "other" sources of income between 1976 and 1981. A 1 indicates the existence of either source of income in 1976 or 1981. Discrete variables were used here to measure only the effects of changes in households reporting transfer payments (INCTRP, DECTRP) and changes in "other" sources of income (INCOTI, DECOTI) (app. table 1). Variables NCGTRP and NCGOTI represent households reporting transfer payments and "other" sources of income in both years, respectively. Households that never received transfer payments or never received "other" sources of income were omitted. Income status should increase for households reporting transfer payments in 1981 but not in 1976 (INCTRP) or "other" sources of income in 1981 but not in 1976 (INCOTI). Household income status should fall for variables DECTRP or DECOTI, compared with the omitted classes.

**Household Well-Being.** Five variables measure changes in income status for households in different income classes in 1976 (household income for 1976 was adjusted to 1981 dollars). Changes in income status were analyzed by classifying the longer term resident households into approximate quintiles, and by entering each household's quintile into the regression model using a series of discrete (0, 1) variables (RHI1, RHI2, RHI4, RHI5). The third quintile variable (RHI3) was the omitted class against which the changes in household income status of the remaining four quintiles were tested. A positive regression coefficient indicates that income status for households in that quintile rose more than those in the omitted quintile. These variables were entered only to analyze changes in income status among the longer term resident households in various positions in the income distribution.

**Characteristics of Household Head.** Profiling the household head allows examining what characteristics (if any) affects the household's income status. Age, education, health, and residency status were variables entered into the regression equation to examine other

characteristics of longer term resident household heads. These variables were the control variables in the regression. These variables show how income status changed between other household groups, such as for elderly and nonelderly household heads and for households where the head had some college education and no college education.

Heads of households were distributed according to age (under 35, 35-49, 50-64, and 65 and older) by using a series of discrete (0, 1) variables (HAGE1, HAGE2, HAGE3, and HAGE4). Research suggests that job expansion might lower the economic status for older people since they do not compete for jobs as much as younger people (40). Younger household heads should compete more for jobs, hence greater income status gains, than would elderly household heads. The variable HAGE2 (35-49 years) was omitted because these households had the largest employment gains during 1976-81. Therefore, with all other effects held constant, employment gains would increase income status.

Education of the household head was classed into less than high school (HEDC1), completed high school (HEDC2), and beyond high school (HEDC3). The more educated household heads should have relatively greater gains in wages, leading to relatively greater household income status gains. Household heads educated beyond high school (HEDC3) were omitted.

Changed health condition alters the amount worked annually, thus a household's income status. Changed health status of the household head (CHGHLT) was specified using three discrete values. A -1 denotes a health condition that limited the amount of work in 1981 but not in 1976. Zero denotes that the head's health condition remained unchanged or never existed. A +1 denotes a health condition that limited the amount of work in 1976 but not in 1981.

Longer term resident households were made up of local residents and early immigrants. Local residents lived in the study area continuously between January 1967 through January 1982. Early immigrants were those who moved to the area between January 1967 and December 31, 1976, but resided in the area during 1976-81. Early immigrants competed more successfully for jobs and also obtained higher paying jobs than local residents so they should display higher income gains from the area's employment expansion, thus raising their household income status. Early immigrant residence status (EMG) was a discrete variable, indicated by a 1. Local residents were the omitted class.

Appendix table 1—Regression results: Changes in household income status for longer term resident households in the Georgia study area

Independent variables	Variable's prefix	Regression coefficients	
		Unstandardized <sup>1</sup>	Standardized <sup>2</sup>
<b>Household structure:</b>			
Change in household size (absolute number)	CHGSIZ	-0.2710 <sup>3</sup>	-0.2603
Households headed by women; where 1 = head was female, 0 = head was male	HDSEX	-.1086	-.0496
Households headed by blacks; where 1 = head was black, 0 = head was white	HDRACE	.0272	.0130
<b>Employment-related:</b>			
Change in household member's employment status (absolute value)	CHGEAR	.4383 <sup>3</sup>	.3176
Change in annual hours worked by household members (absolute hours) <sup>4</sup>	CHGHRS	.0003 <sup>3</sup>	.1617
Change in head's real weekly wage (absolute dollars)	CHGHWG	.0031 <sup>3</sup>	.2211
<b>Unearned sources of household income (0, 1 variables):</b>			
Reported transfer payments in 1981 but not in 1976	INCTRP	.0925	.0384
Reported transfer payments in both years	NCGTRP	-.0848	-.0420
Reported transfer payments in 1976 but not in 1981	DECTRP	-.2369	-.0451
Reported "other" income in 1981 but not in 1976	INCOTI	.4873 <sup>3</sup>	.1361
Reported "other" income in both years	NCGOTI	.3715 <sup>3</sup>	.1501
Reported "other" income in 1976 but not in 1981	DECOTI	.2382	.0296
<b>Household income in 1976 (1981 dollars):</b>			
Under \$7,300	RHI1	.2660	.1129
\$7,300-11,799	RHI2	.1054	.0451
\$16,300-25,499	RHI4	-.3352 <sup>3</sup>	-.1395
\$25,500 and over	P4I5	-1.0089 <sup>3</sup>	-.4102
<b>Characteristics of head:</b>			
<b>Age—</b>			
Under 35 years	HAGE1	-0.0972	-0.0367
50-64 years	HAGE3	.0058	.0027
65 years and older	HAGE4	-.0612	-.0287
<b>Education—</b>			
Less than high school	HEDC1	-.2606	-.1349
High school	HEDC2	-.1758	-.0786
Head's health status changed <sup>5</sup>	CHGHLT	.0754	.0288
Head was an early immigrant <sup>6</sup>	EMG	.2102	.0756

Constant = 0.1269

Adjusted R-squared = 0.4125

F = 21.215<sup>3</sup>

n = number of original or unweighted observations = 719<sup>7</sup>

<sup>1</sup>Regression coefficients expressed in terms of the dependent variable: shows changes in household income status.

<sup>2</sup>Shows the relative importance of the regression coefficients: the higher the value, regardless of sign, the more likely it helps explain changes in income status.

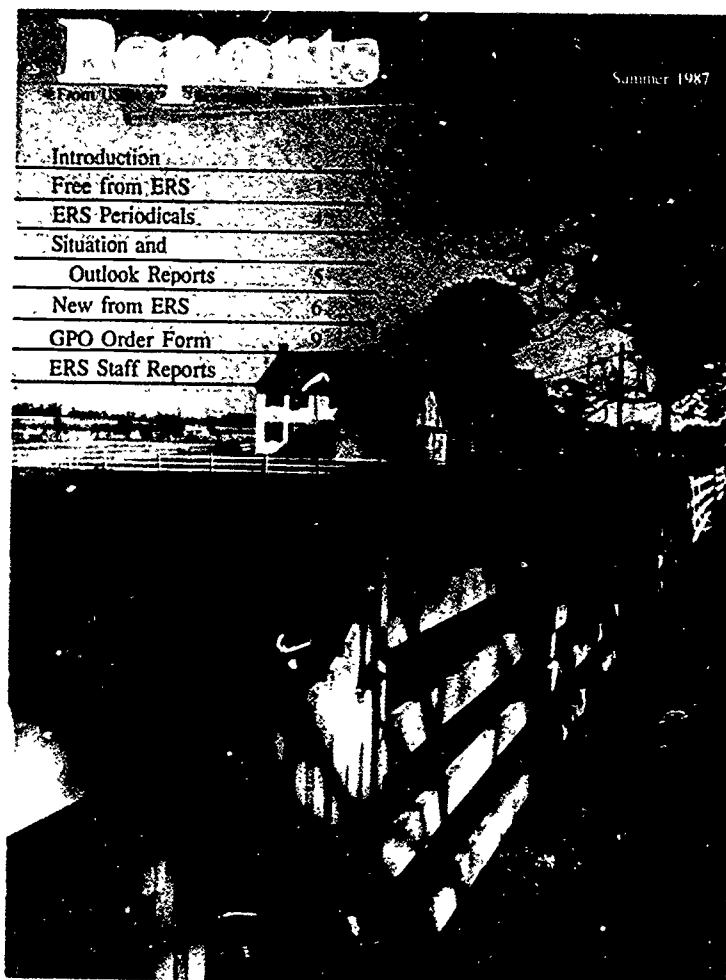
<sup>3</sup>The variable was significant at the 0.01 confidence level.

<sup>4</sup>Change in annual hours worked were limited to only those households containing working members where the number working did not change during 1976-81.

<sup>5</sup>Changes were: -1 = health good in 1976 but poor in 1981; 0 = no change; and +1 = poor in 1976 but good in 1981.

<sup>6</sup>Household heads that moved into the area between January 1, 1967, and December 31, 1976.

<sup>7</sup>Excludes 18 households because of nonresponses regarding 1976 or 1981 household income data. These responses were random and not associated with any particular primary sampling unit or household characteristic, such as race, gender, or age of household head.



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Overall economic growth in a rural area will probably not benefit all households or residents in that area. In a nine-county area of south central Kentucky, rapid employment growth between 1974 and 1979 did create new job opportunities. However, only 18 percent of the households had members who took advantage of the new jobs. The employment growth also did not reduce the area's overall poverty level. About as many households fell into poverty as left the poverty ranks during the study period. Some population groups, such as households headed by women, remained economically disadvantaged despite the area's growth. Other groups, such as the elderly, maintained their income status by relying on public and private income transfer programs.

***Distribution of Employment Growth in 10 Georgia Counties: A Case Study***, by James D. Schaub and Victor J. Oliveira. RDRR-53.

Rapid economic growth in a 10-county rural area in south Georgia during 1976-81 favored employment of whites, men, and immigrants. They earned higher average weekly salaries than blacks, women, and long-term residents. This study of growth in a mixed manufacturing- and agricultural-based economy flows from a research project on the impacts of economic expansion in nonmetro economies with different industrial bases. The Georgia area's job growth was greatest in the trade and service sectors. Few businesses used public sector funds to start or expand their operations. Government employed 25 percent of the area's wage and salary workers.

***Distribution of Employment Growth in Nine Kentucky Counties: A Case Study***, by Stan G. Daberkow, Donald K. Larson, Robert Coltrane, and Thomas A. Carlin. RDRR-41.

Rapid employment growth between 1974 and 1979 in a nine-county study area of south central Kentucky provided job opportunities for local residents and for persons with limited labor force experience. But recent immigrants held a disproportionate share of better paying executive jobs. This case study, which examines the distributional effects of rapid employment growth in a nonmetro area, shows that immigrants also held a disproportionate share of jobs in growing business establishments. Although manufacturing was the major economic force in the study area in January 1980, jobs in the private service sector increased more than in other sectors.

***Distribution of Employment Growth in 10 Ozark Counties: A Case Study***, by Victor J. Oliveira and John A. Kuehn. RDRR-66.

Service industries, some manufacturing, and a concentration of retirees can provide a strong economic base for a rural area. Rapid growth of service businesses, especially wholesale and retail firms and other businesses related to tourism and recreation, attracted job-seekers to a 10-county area in the Ozark Mountains of Arkansas and Missouri during 1978-84. Newcomers were better educated and held higher paying jobs than long-term residents. The recreation businesses provided increased job opportunities for youths but tended to pay low wages and be seasonal, based on tourism patterns. Manufacturing industries provided about a fourth of the jobs in the area, many of them higher paying than jobs in the service sector. The area also benefited from the stable incomes and buying patterns of retirees who made up 33 percent of the adult residents.

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