

## **ECONOMIC DEVELOPMENT IN SOUTHERN BLACK BELT COUNTIES: HOW DOES IT MEASURE UP?**

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The effects of racial concentration in shaping patterns of development in the rural South during the 1980s is examined focusing on the southern Black Belt (counties in ten southern states). Black Belt counties gained fewer or lost more manufacturing plants and tended to have more routine manufacturing than non-Black Belt counties during 1980–86. But racial concentration had little direct effect on either employment or per capita income growth. Counties with less educated populations (in both groups) had greater growth in per capita income through the influx of low-wage jobs, underscoring the importance of market forces in influencing patterns of development.

The economy in the South, and the rural South in particular, has historically lagged other regions of the country. However, over the past few decades, the South has experienced sizeable economic gains, particularly in population and employment, largely brought about through industrialization. Faced with declining agriculture after World War II, many rural communities in the South adopted an industrial development strategy of “chasing smokestacks.” This practice of luring branch manufacturing plants was often successful because of local tax breaks, surplus labor, and less unionization in the South. Despite this strategy, the South has continued to have the highest poverty rate of any region in the country. The widely read *Shadows in the Sunbelt* reports:

Throughout the postwar era, the success of the Southern economy has been in its ability to attract new manufacturing plants. Though many of the poorest and most remote counties were left behind,

particularly those with high rates of poverty and large minority populations, hundreds of manufacturing plants did locate in the region. The new plants—mainly in textiles, apparel, leather and wood, and electrical equipment assembly—created vast new employment opportunities throughout the South and helped to raise the region's per capita income.<sup>1</sup>

Manufacturing industrialization in the South did not necessarily benefit all areas or all persons equally. A case in point is the communities and residents making up the southern Black Belt region. Falk and Lyson observe:

If the SMSA counties are seen as the "pride of the South," the Black Belt can be viewed as the "Sunbelt's stepchild." The industrial growth and development that has washed over the region has left . . . a residue of slow and stagnant and declining industries. . . . By any yardstick of industrial development, the Black Belt remains mired in the backwaters of the Southern economy.<sup>2</sup>

For years, the popular belief that industries have tended to bypass areas with high concentrations of black population has made the South's Black Belt a focal point of attention by social scientists.

In this article, we focus on the southern Black Belt to study the effects of racial concentration in shaping patterns of development in the rural South during the 1980s. Primarily, we analyzed the extent to which racial concentration in relation to other demographic and human capital characteristics predicts development patterns in southern nonmetropolitan counties between 1980 and 1986. We empirically focused on indicators of two aspects of development—manufacturing plant establishment and manufacturing employment as indicators of the process of manufacturing industrialization, and income as an indicator of sustained economic development. The framework for the analysis, which draws from both economics and sociology, appears below.

## **FRAMEWORK**

A number of social scientists have addressed issues pertaining to the role of race in determining patterns of uneven development in the rural South during the 1960s and 1970s, but the results have been mixed. Till analyzed the extent to which minority counties (counties with 33 percent

or more minority concentration) in the Southeastern region shared in the manufacturing job gains of the sixties and seventies.<sup>3</sup> He found that manufacturing jobs in the minority counties grew during the 1959–77 period, although their gains were not as sizeable as those of more heavily white counties (counties with 10 percent or less minority population). Based on these findings, he concluded that manufacturing plants had not necessarily bypassed black counties.

On the other hand, Colclough, in a study of 332 counties in four Deep South states, found that, in the aggregate, predominantly black counties lost manufacturing plants while predominantly white counties gained manufacturing plants between 1970 and 1980.<sup>4</sup> She argued that the predominantly black counties, with lower levels of human capital and increased threats of unionization, were less able to be competitive as plant location sites. Colclough also found that industries in predominantly black counties were more likely to be low-wage than those in predominantly white counties. However, the level of poverty present in predominantly white counties had a positive effect on the extent of low-wage manufacturing, but no effect in the predominantly black counties.

Others have maintained that the economic well-being of southern areas with high concentration of black population has remained lower because of very low levels of human capital. Cobb argued this point in his historical analysis of industrialization in the South, observing that areas with high concentrations of a poor, uneducated, underskilled black population have been unable to attract industries.<sup>5</sup> In other research, the MDC Panel on Rural Economic Development claimed that:

counties with high minority populations, already quite poor, have fared much worse in recent years than predominantly white counties. Especially in the Deep South, these areas typically have fewer resources on which to build their economies, threatening to become a permanent economic drain on their states.<sup>6</sup>

Lyson, in his assessment of the patterns of industrialization in Southern labor market areas, delineated five types of labor market areas (county groups based on commuting data from the 1980 U. S. Census of Population).<sup>7</sup> One of these types was Black Belt labor markets (nine labor market areas with seventy-one counties). Lyson found that Black Belt labor market areas had remained the poorest and showed the slowest 1970–80 employment growth of any of the types. He attributed this to typical employment in Black Belt counties, which is disproportionately

low-skilled, low-waged jobs in service-related and manufacturing industries.

The previous studies have shown mixed, and sometimes contradictory, findings about the influence of racial concentration on patterns of uneven development in the South. We suggest that the seeming contradiction in research findings reflects, in part, differences in methodologies (especially the measures of development used), in study sites, and in the time periods studied. More importantly, previous research, while offering insights about the relationship between race and uneven development, has not presented an integrated conceptual rationale for understanding the complex nature of the relationship. This stems, in part, from the shortcomings of single theories of development that focus on only one narrow aspect of development.<sup>8</sup>

We believe that an understanding of the role of racial concentration in uneven patterns of rural development requires drawing from different theories of growth and development. In analyzing persistently poor rural counties, Brown and Warner argue:

While much development thinking in the U.S. has been guided by a neoclassical perspective, . . . attention to regional or sectoral differences and the role of politics and social relations as advocated by the structuralist and critical approaches offers an important opportunity to further our understanding of . . . underdevelopment.<sup>9</sup>

From this more comprehensive view, development is the result of more than a market-based economic process. It involves a set of economic relations operating within a historical, sociopolitical and spatial setting.<sup>10</sup>

Understanding racial concentration in economic development of the South starts with a recognition of the historical relationship of race and racism in the economic structure of the South, dating back to slavery in colonial times.<sup>11</sup> For individuals, the historical linkages between race and economic well-being have been well-documented. Despite some closure in the earnings gap in recent years, the earnings of blacks have historically been substantially lower than those of whites.

Many of these earnings differences have been attributed directly to racism in the workplace arising after the Civil War. One illustration is an incident that occurred in Georgia in the late 1800s when white workers in Georgia textile mills walked off the job because black operatives were hired.<sup>12</sup> To handle the problems arising from racism between blacks and whites, southern textile mills allowed an institutionalized dual labor sys-

tem to develop within the mills so blacks and whites would not compete for the same jobs.

Despite better opportunities and improved race relations brought about by the civil rights movement, economic inequities, an unequal class structure, deep social cleavages, and a stratified labor system in the industrial setting still affect many blacks today. Semyonov and Scott found race-linked occupational differentiation among residents of forty counties in two Deep South states in 1970. Being a white male increased the chances for working in an upper-status/white-collar occupation, while being a black male increased the odds of working in a blue collar/service occupation.<sup>13</sup> According to Lichter, the legacy of black employment hardship continued to exist in rural areas of the South into the 1980s, "where fully two out of every five black men are without jobs, cannot find a full-time job, or cannot earn enough to raise themselves much above poverty thresholds."<sup>14</sup> In a study of the economic effects of race and residence, Rankin and Falk found that urban blacks earned more than rural blacks, but blacks living in Black Belt labor markets fared worst of all Southern blacks.<sup>15</sup>

Long years of economic and social deprivation of blacks have left the South's Black Belt areas, where they are disproportionately located, with a relatively large poor, uneducated, and an unskilled population. Some kinds of manufacturing depend on unskilled and unorganized workforce for a cheap labor supply to lower costs of production relative to profit margins. Therefore, these areas with large shares of relatively uneducated, underskilled, working-age populations have been attractive to certain labor-intensive industries, such as textiles, women's clothing, shoes, and poultry, livestock and fish processing industries. Counties with high black populations offer smaller, low-volume plants a cheap supply of labor, although the potential skill levels in some rural counties coupled with a possible threat of unionization has deterred to some degree the kinds and numbers of manufacturing plants locating in an area. Manufacturing plants can also be generated locally, as has occurred in depressed agricultural areas such as the Mississippi Delta, where small plants processing agricultural products, e.g., catfish, and the by-products, have sprung up.

In this study, unlike previous studies, we focus on two aspects of rural development: economic growth, which in this case is the result of manufacturing industrialization, and economic development, which refers to the longer-term sustained effects of growth reflected in overall improvements in well-being of local residents. The Rural Revitalization Task Force distinguishes between the latter two concepts as two different goals of rural development:

Rural economic growth is not the same as economic development, though the two concepts are closely linked. Growth refers to the expansion of total economic activity within a local economy, usually defined as an increase in the total amount of income and employment in the economy. . . . Efforts to promote growth usually focus on direct job creation, giving little consideration of the longer term consequences . . . By contrast, economic development refers to a fundamental and sustainable increase in the productivity of individuals and institutions, leading to improvements in per capita incomes of local citizens.<sup>16</sup>

Another important aspect of development, although beyond the scope of this research, is the degree to which improvements of economic development are equitably distributed to all residents and groups within a local area.

Based on these arguments as well as previous research findings, we expect racial concentration to affect the amount and the kinds of manufacturing industries established in an area but not necessarily how fast manufacturing jobs grew in southern counties during the 1980s. The latter, we believe, will be related more to macroeconomic trends in both domestic and global economies and their sectoral effects. For example, a rapid rise in the U.S. dollar during the early 1980s enabled foreign competitors to offer fabrics and apparel products at a price under U.S. production costs, causing many textile and apparel plants in the South to either close, scale back operation, or shift to automation.<sup>17</sup>

We also expect to find that racial concentration will have a significant effect on determining the income levels present in an area, but not necessarily the growth in income, which is more a result of job growth.

## DATA AND METHODOLOGY

To examine the role of racial concentration in development, we asked several general questions. First, does having a high concentration of black population affect county patterns of manufacturing industrialization (plant establishment and generation of manufacturing jobs) after demographic and human capital differences are taken into account? Second, does having a high concentration of black population affect overall economic development (income levels and growth) after demographic, human capital, and manufacturing industrialization differences are taken into account? Third, do county characteristics (demographic, human capital, manufac-

turing industrialization) operate differently in determining patterns of development in racially concentrated counties (Black Belt counties) compared to other counties? We used ordinary least squares (OLS) regression to address these questions, conducting analyses for all counties in the study area and separate analyses for Black Belt and Non-Black Belt (all other) counties.<sup>18</sup>

### *Data*

Data used in this study were drawn from the Bureau of Economic Analysis (BEA) income and employment files, 1980–86; the Bureau of Census County Business Patterns (CBP) from 1981–86, and the 1980 Census of Population files.

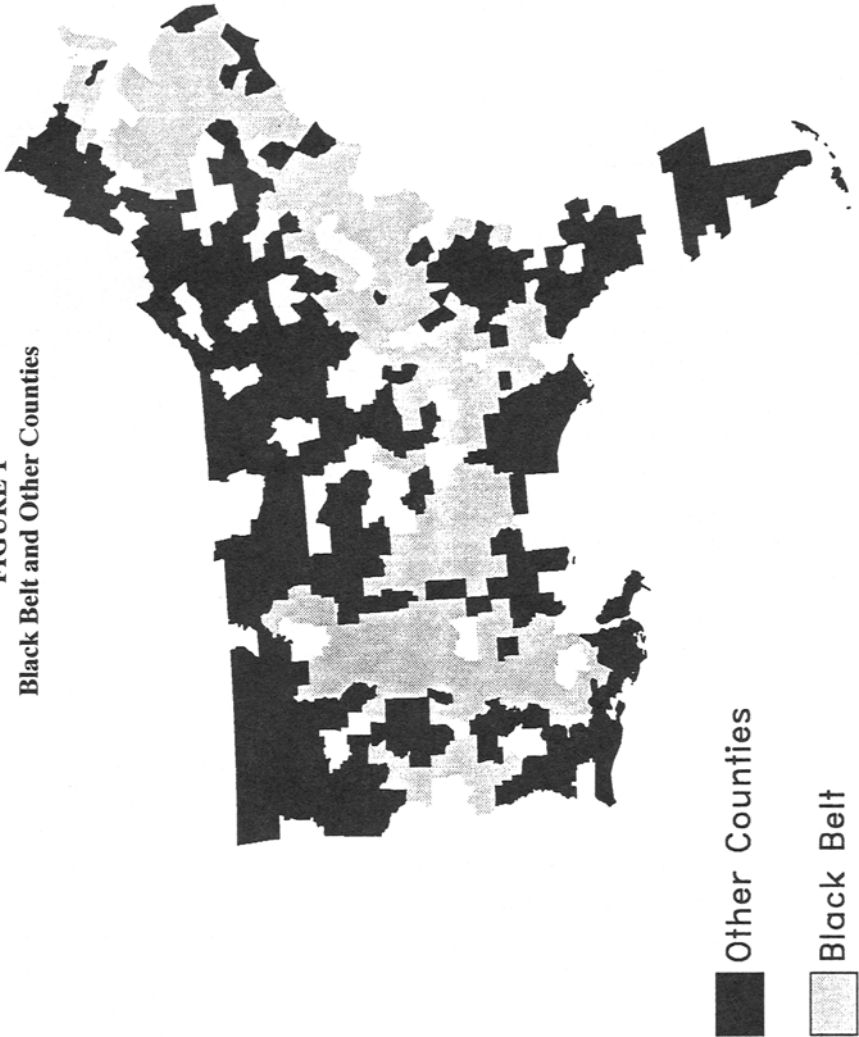
We used county as the basic unit of analysis, restricting the analysis to nonmetropolitan counties in ten southern states of the Census Southern region.<sup>19</sup> The 279 Black Belt counties were defined as those counties with 30 percent or more black population in the nonmetropolitan South. These counties form a belt stretching from Virginia through Tennessee and the Carolinas, across Georgia, Florida, Alabama, Mississippi, Louisiana, and Arkansas (Figure 1).<sup>20</sup> The comparison group is all other nonmetropolitan counties (N=396) in the ten states in which the 279 Black Belt counties are located. The 1974 metropolitan-nonmetropolitan designation of counties was used in the analysis to maintain comparability with other studies.

### *Dependent Variables*

To operationalize the concepts discussed, we used six dependent variables. Four measures of manufacturing industrialization were used. Plant establishment was measured as change in absolute number of manufacturing plants, 1981–86, and percent of manufacturing plants that were engaged in complex manufacturing, 1986.<sup>21</sup> Dependent variables utilized to measure county employment were: number of manufacturing jobs per one hundred residents, 1986, and rate of growth in manufacturing jobs per one hundred residents, 1980–86.<sup>22</sup> The latter two measures were developed to reflect the manufacturing jobs available in a county to sustain the population.

To assess the patterns of economic development, we used level of per capita income, 1986, and rate of growth in per capita income, 1980–86. Level of per capita income was chosen because it is a commonly used measure of well-being.

FIGURE 1  
Black Belt and Other Counties





**TABLE 1**  
**Employment and Income Characteristics of Southern Black Belt**  
**and Other Counties<sup>1</sup>**

Characteristics	Black Belt <sup>2</sup>			Other Counties <sup>2</sup>		
	1980 <sup>3</sup>	1986	Change, 1980-86 <sup>3</sup>	1980 <sup>3</sup>	1986	Change, 1980-86 <sup>3</sup>
	--Number--			--Number--		
Total firms per county	358	433	75	528	693	165
Total mfg. plants	30	31	4.3	40	46	6.0
	--Percent--			--Percent--		
Jobs per county	9,545	9,887	1.9	13,862	15,420	10.4
	--1986 Dollars--			--1986 Dollars--		
Real earnings per job <sup>4</sup>	13,261	14,322	10.2	14,157	14,808	5.9
Real mfg. earnings per job <sup>4</sup>	16,968	17,782	4.6	16,987	17,962	6.4
Per capita income <sup>5</sup>	8,391	9,414	12.5	9,205	10,342	12.6
Earnings <sup>5</sup>	5,607	5,997	7.0	6,285	6,727	7.0
Property income <sup>5</sup>	1,036	1,393	34.9	1,195	1,623	36.7
Transfer payments <sup>5</sup>	1,748	2,024	15.9	1,725	1,992	15.8

1. Data are averages of values.

2. N=279 Black Belt and 396 Other Counties.

3. Data for firms and change in firms covers the period 1981-86.

4. Reported by place of work.

5. Reported by place of residence. Property income includes dividends, interest, and net rental income. Transfer payments, which are payments for which no work was done, include social security, unemployment compensation, medicare, and public assistance.

Sources: Computed using data from the U.S. Department of Commerce, Bureau of Economic Analysis, and County Business Patterns data from the U.S. Department of Commerce, Bureau of the Census.<sup>25</sup>

### *Independent Variables*

The human capital and demographic measures are relatively straightforward compared to some of the measures previously mentioned: high school graduates (percent of the population twenty-five and over completing high school in 1980), working age population (percent of the population fifteen-sixty-four years of age), and poverty rate (percent of population living in families with incomes below the poverty line). These measures were indicative of the quality and availability of an area's labor supply.

Three additional independent variables were dichotomous measures treated as dummy variables in the analysis. These were: adjacency to a metro area (nonmetro counties that were adjacent were coded 1 and nonadjacent counties were coded 0); rural (counties with no population living in urbanized areas were coded 1, and the balance were coded 0); highly urbanized (counties with aggregate urbanized population of at least 20,000 were coded 1, and the balance were coded 0).

Three additional variables were included only in the models for levels and growth in income. A measure of elderly growth (rate of growth in the elderly population 65 and over, 1980–86) was included because retirement-related income has been increasingly recognized as an important source of increased income in many rural communities. Others were percent of complex manufacturing, 1980, and change in the number of manufacturing plants, 1981–86 (also used as a dependent variable).

## RESULTS

Before presenting the regression results, we will describe the overall patterns of development in Black Belt counties relative to other counties in the South between 1980 and 1986.

The statistics shown in Table 1 indicate that development in Black Belt counties was slower than that in "Other" counties.<sup>23</sup> From 1981–86, the total number of firms, on average, grew by seventy-five in Black Belt counties compared to 165 in Other counties. The number of manufacturing firms in Black Belt counties increased, on average, 4.3 firms, two under that for Other counties. In all categories of income except one—earnings per job, earnings per manufacturing job, per capita income and per capita earnings, and per capita property income—Black Belt counties averaged lower income than Other counties. Average transfer payments, however, were slightly higher in Black Belt counties than in Other counties. The results further illustrate inequities in development in southern nonmetropolitan areas.

On only one indicator did Black Belt counties perform better than Other counties. Although the level of earnings per job was lower in Black Belt counties than in Other counties, it grew faster. On the other hand, manufacturing earnings per job grew more slowly in Black Belt counties than in Other counties, and overall per capita income grew about the same. This suggests that growth in earnings per job was generated by economic activity other than manufacturing.<sup>24</sup>

The variation in development among both Black Belt and Non-Black

Belt counties is illustrated by examining the percent of counties losing plant establishments, manufacturing jobs, and per capita income despite the overall growth indicated (Figure 2).<sup>25</sup> For example, 52 percent of Black Belt and 30 percent of Non-Black Belt counties lost manufacturing plants between 1981 and 1986, and nearly 60 percent of either group lost manufacturing jobs. Smaller percentages of counties experienced declines in per capita income.

The regression results that help sort out the partial effects of racial concentration on each of the other independent variables are presented in the three following sections. In each section, we show results from the hierarchical models used to test the effects of being a Black Belt county singularly and in relation to other demographic and population characteristics on the dependent variables. An additional model that assesses the multivariate effects of manufacturing plant establishment was tested for the two measures of per capita income. We also present the regressions run separately for Black Belt counties and Other counties. These were run to determine whether the county characteristics influencing development patterns were different for Black Belt and Other counties.

### *Plant Establishment*

We see from the results in Table 2 that being a Black Belt county had a significant depressing effect on plant establishment, even after the effects of other county characteristics were controlled. Black Belt counties had a significantly greater chance of having lower gain or loss in number of manufacturing plants than did Other counties, even when differences in county characteristics were taken into account. Black Belt counties were more apt than Other counties to have less complex manufacturing plants. This suggests that plant establishment in Black Belt counties during the 1980s probably has been more vulnerable to plant shutdowns or relocations to other sites, including foreign sites to further reduce labor costs.

Nearly all of the other demographic characteristics made direct contributions to the number and kinds of manufacturing plants in an area. Counties with a more highly educated population, less poverty, greater urbanization and adjacency to a metropolitan area were more apt to experience greater gain in manufacturing plants. All but two of these characteristics (percent poor and adjacency) were predictive of the share of complex manufacturing plants. The unexpected, but significant, negative relationship with working age population may simply be reflective of small variation among counties in working age population.<sup>26</sup>

TABLE 2  
Regression Results for Establishment of Manufacturing Plants<sup>1</sup>

Variables	All Counties			Black Belt		Other Counties
	Model 1	Model 2	Counties	Counties		
	Change in Number of Manufacturing Plants					
Black county	-4.58(-0.25)***	-2.03(-0.11)**	-	-	-	
% high school graduates	-	0.23(0.19)***	0.08(0.09)	0.24(0.19)***		
% poor	-	-0.22(-0.18)***	0.01(0.01)	-0.41(-0.20)***		
% working age	-	-0.24(-0.08)*	0.36(0.20)*	-0.37(-0.10)*		
Adjacency	-	1.27(0.07)*	-1.22(-0.11)	2.40(0.11)*		
Rural	-	-1.51(-0.08)*	-1.73(-0.15)*	-1.34(-0.06)		
Highly Urbanized	-	6.10(0.22)***	2.10(0.11)	7.44(0.25)***		
Multiple R	0.25***	0.50***	0.37***	0.51***		
Adjusted R-Square	0.06	0.24	0.11	0.25		

## Percent of Complex Manufacturing Plants

Black county	-4.48(-0.18)***	-2.85(-0.12)**	-	-
% high school graduates	-	0.30(0.19)***	0.37(0.22)	0.27(0.17)**
% poor	-	-0.13(-0.08)	-0.03(-0.02)	-0.33(-0.14)**
% working age	-	-0.37(-0.10)*	-0.59(-0.18)*	-0.23(-0.05)
Adjacency	-	0.70(0.03)	1.52(0.07)	0.08(0.00)
Rural	-	-5.79(-0.23)***	-3.79(-0.17)**	-6.69(-0.25)***
Highly urbanized	-	4.12(0.11)**	5.54(0.15)*	2.89(0.08)
Multiple R	0.18***	0.44***	0.38***	0.44***
Adjusted R-Square	0.03	0.18	0.13	0.18

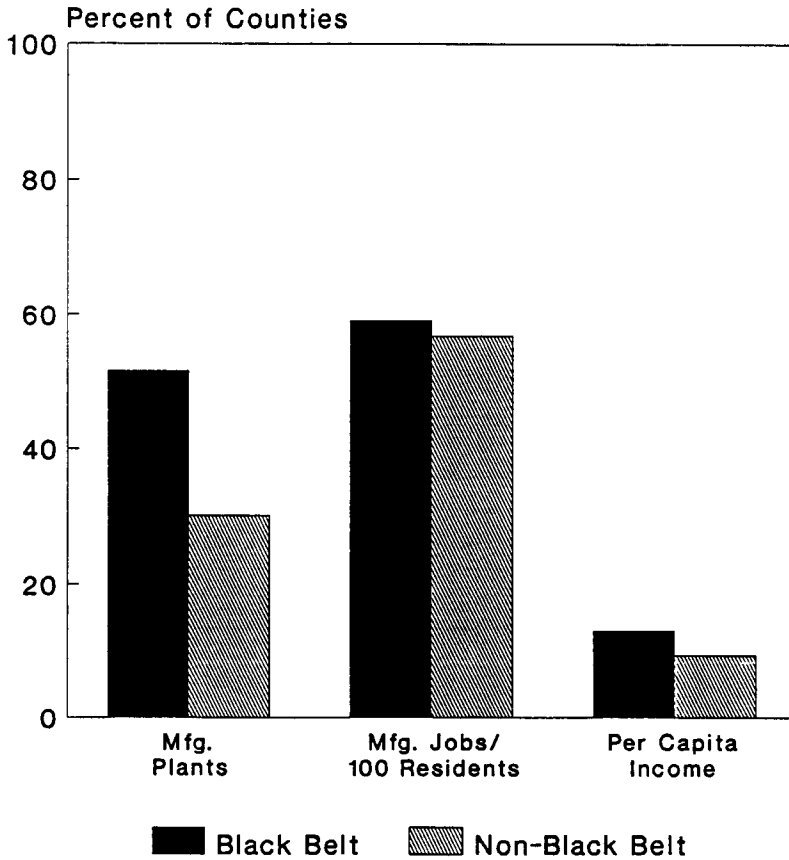
<sup>1</sup>Standardized coefficients are shown in parentheses.

\*P < .05.

\*\*P < .01.

\*\*\*P < .001.

**FIGURE 2**  
**Percent of Counties Losing Mfg. Plants, Mfg. Jobs or**  
**Per Capita Income, 1980-86**



Source: U.S. Department of Commerce, Bureau of Economic Analysis and the Census Bureau.<sup>26</sup>

But did the county characteristics operate in the same way to influence manufacturing plant establishment in the Black Belt compared to the Other counties? The results in Table 2 suggest not. Among the Black Belt counties, the rural variable had a depressing significant effect and the working age variable a positive significant effect on change in manufacturing plants. Conversely, among the Other counties all variables except

rural were significant predictors of change in number of manufacturing plants. Furthermore, the coefficient for the working age variable showed a negative relationship.

The results for the complex manufacturing variable further confirm that the set of county characteristics affecting manufacturing development in Black Belt and Other counties differed to some extent. Non-rural was related to high shares of complex manufacturing plants in both Black Belt and Non-Black Belt counties. But working age population (negative effect) and high urbanization were significant predictors only for Black Belt counties, while education and percent poor were significant predictors only for Non-Black Belt counties.

### *Manufacturing Jobs*

The regression results for number of and growth in manufacturing jobs per one hundred residents appear in Table 3. Being a Black Belt county had a bivariate significant, depressing effect on level of manufacturing employment. However, when the demographic characteristics were taken into account, being a Black Belt county did not have a significant effect on number of manufacturing jobs available to residents. Contrary to our expectations, the results in model 2 show that Black Belt counties had lower growth in manufacturing jobs than Non-Black Belt counties.

Several other demographic characteristics made direct contributions to manufacturing employment. Those counties with a less educated population, less poverty, and those not adjacent to a metropolitan area or not totally rural were more likely to have more manufacturing jobs per one hundred residents. Only one of these characteristics (rural) was predictive of manufacturing jobs growth per one hundred residents. Although significant, the overall model explained only 3 percent of the variation. This suggests that other unmeasured factors are operating to determine growth in manufacturing jobs relative to population.

County characteristics operated similarly in Black Belt and Non-Black Belt counties to explain number of manufacturing jobs per one hundred residents. Higher education, higher poverty, and rural had depressing significant effects on number of manufacturing jobs per one hundred residents. Adjacency was a significant predictor among the Non-Black Belt counties. The negative relationship between education and number of manufacturing jobs, although perplexing, may be due to the six-year time lag between the variables. Or it may reflect that areas with low education may attract low-wage manufacturing.

TABLE 3  
Regression Results for Manufacturing Jobs<sup>1</sup>

Variables	All Counties			Black Belt		Other Counties
	Model 1	Model 2	Counties	Counties	Counties	
Number of Manufacturing Jobs per 100 Residents						
Black county	-1.32(-0.11)**	0.53(0.04)	-	-	-	
% high school graduates	-	-0.29(-0.37)***	-0.13(-0.15)*	-0.37(-0.45)***		
% poor	-	-0.38(-0.46)***	-0.32(-0.46)***	-0.48(-0.39)***		
% working age	-	0.02(0.01)	-0.14(-0.08)	0.08(0.03)		
Adjacency	-	-1.18(-0.10)**	-1.02(-0.10)	-1.35(-0.10)*		
Rural	-	-3.65(-0.28)***	-3.44(-0.31)***	-3.31(-0.24)***		
Highly urbanized	-	0.56(0.03)	-1.02(-0.06)	1.30(0.07)		
Multiple R	0.11**	0.50***	0.48***	0.52***		
Adjusted R-Square	0.01	0.24	0.21	0.26		



		Growth in Number of Manufacturing Jobs per 100 Residents	
Black county	-4.52(-0.06)	-7.98(-0.11)*	-
% high school graduates	-	0.04(0.01)	-0.73(-0.14)*
% poor	-	0.45(0.09)	0.28(0.07)
% working age	-	0.14(0.01)	-0.10(-0.01)
Adjacency	-	-4.14(-0.06)	-0.48(-0.01)
Rural	-	9.46(0.12)**	-0.03(-0.00)
Highly urbanized	-	-8.25(-0.07)	-0.80(-0.01)
Multiple R	0.06	0.20***	0.19
Adjusted R-Square	0.00	0.03	0.01
			0.24***
			0.04

<sup>1</sup>Standardized coefficients are shown in parentheses.

\*P < .05.

\*\*P < .01.

\*\*\*P < .001.

**TABLE 4**  
**Regression Results for Per Capita Income<sup>1</sup>**

Variables	All Counties			Black Belt Counties	Other Counties
	Model 1	Model 2	Model 3		
Level of Per Capita Income					
Black county	-928.10(-0.25)***	-254.27(-0.07)*	-159.42(-0.04)	-	-
% high school graduates	-	56.39(0.24)***	50.85(0.21)***	6.32(0.03)	71.27(0.30)***
% working age	-	84.74(0.15)***	92.73(0.17)***	130.25(0.27)***	59.08(0.09)*
Elderly growth	-	42.35(0.23)***	34.79(0.19)***	67.75(0.30)***	21.80(0.12)*
Adjacency	-	343.52(0.10)**	310.17(0.09)**	208.68(0.07)	284.57(0.08)
Rural	-	-68.63(-0.02)	14.37(0.00)	187.12(0.06)	-197.62(-0.05)
Highly urbanized	-	389.73(0.07)*	177.91(0.03)	492.02(0.09)	-6.37(-0.00)
Change in number of manufacturing plants	-	-	29.08(0.15)***	-13.20(-0.05)	36.17(0.20)***
% of complex manufacturing plants	-	-	5.25(0.03)	-7.08(-0.05)	11.99(0.08)
Multiple R	0.25***	0.57***	0.58***	0.56***	0.59***
Adjusted R-Square	0.06	0.32	0.33	0.29	0.33
Growth in Per Capita Income					
Black county	-0.07(-0.00)	1.22(0.06)	0.71(0.03)	-	-
% high school graduates	-	-0.20(-0.14)**	-0.17(-0.12)*	-0.64(-0.34)***	0.05(0.04)
% working age	-	0.57(0.17)***	0.54(0.16)***	0.24(0.06)	0.83(0.24)***
Elderly growth	-	0.17(0.15)***	0.14(0.13)**	0.30(0.17)*	0.09(0.09)
Adjacency	-	-2.40(-0.11)**	-2.68(-0.11)**	0.24(0.01)	-4.35(-0.21)***
Rural	-	2.33(0.10)**	1.62(0.06)	0.49(0.02)	1.42(0.07)
Highly urbanized	-	-1.92(-0.06)	-1.27(-0.04)	1.87(0.04)	-3.25(-0.11)*
Change in number of manufacturing plants	-	-	0.08(0.07)	-0.09(-0.04)	0.12(0.13)*
% of complex manufacturing plants	-	-	-0.19(-0.20)***	-0.20(-0.17)**	-0.19(-0.23)***
Multiple R	0.00	0.27***	0.33***	0.40***	0.42***
Adjusted R-Square	-0.00	0.06	0.10	0.13	0.16

<sup>1</sup>Standardized coefficients are shown in parentheses.

\*P < .05.

\*\*P < .01.

\*\*\*P < .001.

Like the corresponding model for all counties, the separate models for manufacturing employment growth had little explanatory power. The model explaining manufacturing job growth in Black Belt counties was nonsignificant. And, the model explaining manufacturing job growth in Non-Black Belt counties, although significant, explained little variation (R-square=.04). This suggests that unmeasured factors are operating to determine manufacturing employment growth relative to population.

*Per Capita Income*

The discussion so far has been on manufacturing plant establishment and manufacturing employment in Black Belt and Non-Black Belt counties. But what about sustained economic development as indicated by level and growth in per capita income?

We can see from the results in Table 4 that being a Black Belt county had a depressing effect on level of per capita income, even after controlling for other county characteristics. However, when indicators of manufacturing plant establishment were taken into account (model 3), being a Black Belt county did not have a significant effect on either level or growth in per capita income.

The county demographic characteristics were relatively strong predictors of level of per capita income. Higher working age population, higher elderly growth, adjacency to a metropolitan area, being highly urbanized, or having a more highly educated population influenced higher levels of per capita income. When change in number of manufacturing plants and percent complex manufacturing plants were added to the model, the same demographic characteristics with the exception of highly urbanized were significant. This indicates that change in number of manufacturing plants is an important predictor of a county's level of per capita income.<sup>27</sup>

Most county characteristics contributed to growth in per capita income, although the direction of the relationship reversed in two instances. County per capita income growth was influenced by a less educated population, a higher percent of working age population, higher elderly growth, nonadjacency, and being a totally rural area. When the model was extended to include change in number of manufacturing plants and percent of complex manufacturing plants, the rural variable became non-significant. In the extended model, percent complex manufacturing was significant, but negative, indicating that counties with more routine manufacturing jobs were growing faster. The negative significant relationship of education with per capita income growth is a somewhat surprising finding. This finding, we believe, reflects the growth in labor intensive low-wage routine manufacturing jobs.

The results in Table 4 also show some differences in the operation of demographic and economic characteristics on level and growth in per capita income in Black Belt versus Non-Black Belt counties. Among Black Belt counties, the working age population and elderly growth variables had significant positive effects on level of per capita income. These

two variables, along with a more educated population and change in number of manufacturing plants, were positively related to level of per capita income in Non-Black Belt counties. This was probably because the variation in the changing number of manufacturing plants was greater among the Non-Black Belt counties.

Some of the relationships between per capita income growth and county characteristics were unexpected and perplexing. In Black Belt counties, for example, growth in per capita income was related only to less educated populations, more elderly growth, and smaller percent of complex manufacturing plants. Per capita income growth in Non-Black Belt counties, on the other hand, was related to higher working age population, high elderly growth, nonadjacency, less urbanization, and greater gain in manufacturing plants, and less complex manufacturing. It seems that growth in per capita income resulted from growth in routine, lower wage jobs in both Black Belt and Non-Black Belt counties.

### *Conclusions and Implications*

In previous research, researchers documented patterns of black-white racial change in the nonmetropolitan South from the 1950s through the 1970s and the different rates of industrialization and income through the 1970s. This article analyzes the effects of racial concentration on patterns of development in the nonmetropolitan South during the 1980s. The findings reported in this article supported, in part, our hypotheses. Several conclusions emerge from these findings.

First, the effects of racial concentration on development patterns in the South during the 1980s are not clearcut. All else being equal, Black Belt counties gained fewer (or lost more) manufacturing plants than Non-Black Belt counties during 1980–86, and routine manufacturing plants were more common in Black Belt than Non-Black Belt counties. But racial concentration played a weak and unclear role in determining patterns of manufacturing job growth during the period. Its effects on lower levels of manufacturing jobs and per capita income were mediated by other county characteristics, and it had no effect on growth in per capita income. In short, the main effect of racial concentration seems to be that it attracts industries that bring in low-quality jobs that likely foster inequality, rather than limiting overall growth in either jobs or income.

Second, county demographic characteristics were generally important predictors of the patterns of plant establishment (number and kinds of manufacturing plants) and general economic well-being as reflected in

level and growth in per capita income. They had little effect on patterns of growth in manufacturing jobs. This basically is in accord with our argument that employment growth is driven largely by macroeconomic and sectoral trends.

Third, the findings that counties with less educated populations or more routine manufacturing plants had greater growth in per capita income confirms the importance of market forces in influencing patterns of development. Areas with less educated populations can be attractive to certain kinds of manufacturing industries, which in turn, bring jobs and earnings growth into an area. Yet, the wages may be so low as to deter improvement in living standards and quality of life for residents.

Fourth, several findings point indirectly, at least, to the growing diversity of southern local economies and a possible changing role for manufacturing. For example, we found that many more of both Black Belt and Non-Black Belt counties experienced overall growth in per capita income during the period; yet the proportion of counties (in both groups) with loss of manufacturing plants or jobs was fairly substantial. Many southern local economies apparently are growing from economic activities in sectors other than manufacturing, especially from services.

### *Implications*

Many blacks living in the southern Black Belt will remain at an economic disadvantage unless the old patterns of manufacturing industrialization can be broken. During the 1980s, manufacturing in the South has been changing, with many low-skilled industries closing, modernizing or moving.<sup>28</sup> Breaking the pattern will involve developing the labor market capacity and infrastructure to attract more high technology kinds of industry, stimulating new kinds of business enterprises, and upgrading the human capital base in the communities. A more pronounced shift from an industrial to a service economy will not be without cost if the result is the proliferation of low-wage jobs.

In our judgment, altering the human capital base must be top priority. Unless predominantly black counties improve their human capital base from that of a less skilled population, they will either continue to attract certain types of labor-intensive industries which may bring low-paying jobs or they will become chronically dependent areas. This means that many of the more highly educated will migrate out to find jobs, and economic inequality will increase among groups living in these areas.

The findings of this study underscore the need to re-evaluate the con-

cept of development and its measurement. Growth in either employment or income should not necessarily be construed as indicative of the overall economic health of rural communities or their residents. Growth brought about through the proliferation of low-wage jobs, whether they be manufacturing or more service oriented jobs does not signal improved standard of living or the potential for long-term economic improvement.<sup>29</sup> In fact, the historical patterns of development in the South may have actually perpetuated the persistence of poverty populations dependent on public assistance.

Finally, an understanding of development needs to consider the equality of income and opportunity existing among residents and groups. Areas may be fast growing and still contain a sizeable share of population who are poor, uneducated and chronically deprived. The continuing existence of persistent low-income counties whose industrial structure is not dissimilar from other areas speaks to this phenomenon.<sup>30</sup>

## NOTES

The authors wish to express appreciation to Linda M. Ghelfi, Peggy J. Ross, Molly Killian and David McGranahan for helpful comments on earlier drafts. Thanks also goes to Tawanta Brinson for assisting with the tables.

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15. Bruce H. Rankin and William W. Falk, "The Cost of Being Black in the Black Belt." A paper presented at the meetings of the Southern Stratification Research Group and the Southern Sociological Society, Norfolk, (1989).

16. Rural Revitalization Task Force, *A Hard Look at USDA's Development Programs*, Report to the Secretary of Agriculture (1989), p. 3.

17. Gene Sullivan and David Avery, "Southeastern Manufacturing: Recent Changes and Prospects," *Economic Review*, Federal Reserve Bank of Atlanta, (January/February 1989), pp. 2–15.

18. The terms Other and Non-Black Belt counties are used interchangeably.

19. These include: Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, and Virginia. Texas and Maryland were dropped from the analysis although each contained three or fewer counties with black populations in excess of 30 percent. Also, they were judged to be socially and culturally different from the other southern states.

20. Computed using data from the U.S. Department of Commerce, 1980 Census of Population.

21. Complex manufacturing refers to the four-digit standard industrial classification (SIC) codes for chemicals and allied products (2800), petroleum refining and related industries (2900), industrial and commercial machinery and computer equipment (3500), electronic and other electrical equipment and components, except computer equipment (3600), transportation equipment (3700), and measuring, analyzing, and controlling instruments; photographic, medical and optical goods; watches and clocks (3800).

22. Counties with no manufacturing jobs in 1980, but some in 1986, were assigned the mean score to indicate that some growth had occurred. Counties with no manufacturing jobs in either time period were assigned 0. Four outlier counties were truncated and assigned the mean value of 2.20.

23. Computed using data from the U.S. Department of Commerce, Bureau of Economic Analysis, and County Business Patterns data from the the U.S. Department of Commerce, Bureau of the Census.

24. T. Alexander Majchrowicz and Linda M. Ghelfi, *Employment and Earnings in Nonmetro Industry, 1979–86*. Agriculture Information Bulletin No. 552, Washington, D.C.: USDA-ERS (1988).

25. Percentages for counties losing manufacturing establishments (mfg. plants), counties losing manufacturing jobs per one hundred residents (mfg. jobs/one hundred residents), and per capita income were computed using data from the U.S. Department of Commerce, Bureau of Economic Analysis.

26. On average, slightly over three-fifths of population were of working age. However, the standard deviation was 3.19 for the 675 counties.

27. When we used two-stage least squares, the models did not perform as well as did the ordinary least squares regression models.

28. Southern Rural Development Center (August 1989). *Building Partnerships for People: Addressing the Rural South's Human Capital Needs*. SRDC No. 117.

29. Many rural communities, especially in the South, have adopted the practice of stimulating growth through service jobs associated with the establishment of a prison or renting unused jail space.

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