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THE COMPETITIVE DYNAMICS OF RACIAL EXCLUSION:  
EMPLOYMENT SEGREGATION IN THE SOUTH, 1900-1950

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ABSTRACT

Using data from the 1900, 1910, 1940, and 1950 census public use samples, this paper examines the determinants of racial differences in employment (occupation and industry) in the South during the first half of the twentieth century. Had racial differences in the quantity and quality of schooling been smaller, more blacks would have entered non-farm occupations and industries in the South, thereby reducing the extent of racial segregation in employment and resulting in higher black-to-white earnings ratios. But I also find that black men were underrepresented in the growth of non-farm employment in the South before World War Two and that this increase in employment segregation cannot be explained by racial differences in schooling. Increases in non-farm labor demand caused an outflow of black labor from southern agriculture during the 1940s, and this outflow was associated with a rise in the earnings ratio. Yet despite the effects of the war, employment segregation in the south was higher in 1950 than at the turn of the century.

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## 1.0 Introduction

In 1940, the average annual earnings of black men were about 48 percent of the average annual earnings of white men. In 1980, the black-to-white male earnings ratio equalled 61 percent, an increase of 13 percentage points in four decades (Smith 1984, 695).<sup>1</sup> Associated with the increase in the earnings ratio, and arguably a better indicator of fundamental change, is the post-World War Two emergence of a "new" black middle class composed of persons employed in a wide variety of white collar and skilled blue-collar occupations (Landry 1987).<sup>2</sup> Yet very little change in the earnings ratio appears to have occurred between 1900 and 1940. In 1900 the earnings ratio is estimated to have been 45 percent, just 3 percentage points less than in 1940 (see Figure 1).<sup>3</sup>

Two frameworks have been advanced to explain the initial stability in the earnings ratio: a supply-side or "human capital" model, and a demand-side, or "institutionalist" model. Proponents of the human capital model argue that the initial stability of the earnings ratio can be explained by large and persistent racial differences in the "quantity" and "quality" of schooling that existed in the first half of the twentieth century (Smith and Welch 1979; Smith 1984; U.S. Commission on Civil Rights 1986). Black men born in the late nineteenth and early twentieth centuries completed far fewer years of schooling, on average, than did white men. The vast majority had attended de

jure racially segregated public schools in the South where, as a consequence of political discrimination, the schooling they received was generally inferior in quality to that provided to southern whites. The combination of low educational attainment and poor educational quality allegedly made it extremely difficult for black men to compete successfully for higher-paying jobs. Because these cohorts of black men "remained a large part of the labor force" during the first half of the twentieth century, "there was no reason to expect, on the basis of human capital factors" an increase in the earnings ratio (Smith 1984).

Institutionalists do not dispute the long-term narrowing of racial differences in schooling. But they reject the claim, implicit in the human capital model, that a narrower schooling gap in the first half of the twentieth century would have done much good in fostering black economic progress at that time. Rather, institutionalists believe that, early in the century, the majority of black men were trapped in very low-income jobs, primarily in southern agriculture. The absorption of black labor into better paying jobs in the non-farm economy was initially slow not because blacks were poorly educated, but because of historically determined patterns of employment segregation in the South, and because of racism and the availability of competing supplies of labor (European immigrants) in the North (Mandle 1978; Wright 1986). To speed up the process of absorption, positive "shocks" to the labor market, which permanently increased the non-farm demand for black labor, were required.

Large increases in labor demand during the two world wars, for example, resulted in an outflow of black labor from the rural South (Wright 1986; Whatley 1990). But, for a variety of reasons, wartime shocks were not sufficient to set in motion a large and sustained rise in the earnings ratio. Additional shocks (the Civil Rights Movement and associated anti-discrimination legislation) were necessary. It was only after such shocks had occurred that the earnings ratio could increase, and a "new" black middle class, made up of better-educated, younger cohorts, could emerge.

Despite the emphasis given in the two frameworks to events in the South, previous research has largely been conducted using national aggregate data on earnings ratios and educational attainment (Smith 1984; Margo 1986; Kiefer and Phillips 1988). Yet indices of relative (black-to-white) occupational compiled by Becker (1957, 113) from published census data show an increase in relative black status in the North and a decrease in the South from 1900 to 1950, which suggests that analysis of regional differences may be crucial to differences the relative historical merits of the two models.

This paper uses the public use samples of the 1900, 1910, 1940, and 1950 censuses to examine econometrically the determinants of racial differences in employment outcomes (occupation and industry) in the South during the first half of the twentieth century. The basic finding is that, while the human capital model has merit, an eclectic synthesis of it and

the institutionalist model does a better job of explaining racial differences in employment outcomes in the South than either model taken separately. Had the racial gap in the quantity and quality of schooling been smaller, more blacks would have been employed in non-farm occupations and industries in the South, which would have increased the earnings ratio. But, consistent with the institutionalist model, I also find that black men were under-represented in the growth of non-farm employment in the South because of their race, not because of inadequate schooling. During World War Two employment segregation declined in the South, producing an increase in the black-to-white earnings ratio. Yet, despite the changes produced by the war, employment segregation in the South was higher in 1950 than in 1900.

The remainder of the paper is structured as follows. Section 2.0 presents an overview of the evolution of racial differences in employment in the South from 1900 to 1950. Section 3.0 then reviews the economic history literature on black economic progress and the Southern economy, with an eye towards explaining the "stylized" facts described in section 2.0. Using the census samples, section 4.0 presents an econometric analysis of employment outcomes. Using the results of section 4.0, indices of employment segregation calculated under various assumptions about racial differences in schooling and other factors are examined in section 5.0. Changes in racial differences in earnings in the South between 1940 and 1940 are studied in section 6.0, and a summary of findings and their

implications is presented in section 7.0.

## 2.0 Race and Employment in the South, 1900-1950: An Overview

I begin by reviewing census evidence on racial differences in employment in the South (industry and occupation) from 1900 to 1950. My purpose is to put forth a set of "stylized" facts to be examined in greater detail later in the paper.

Panel A of Table 1 gives "agricultural participation rates" -- the percent of the labor force engaged in agriculture -- for southern males from 1900 to 1950. The figures for ages 10 and over were derived from the published census volumes, while those for adults (ages 20 to 64) were calculated from the public use samples. Because the definition of the labor force in terms of ages changed in 1940 (to ages 14 and over), only figures for adult males are given for 1940 and 1950. No figures for adult males are given for 1920 or 1930 because census sample data are currently unavailable for those years.<sup>4</sup>

The South began the twentieth century as an agricultural economy -- a majority of male workers, black or white, worked in farming. Agricultural participation rates were slightly lower for adult males than for all males in the labor force, but were still substantial. Importantly, racial differences in agricultural participation rates were relatively small at the turn of the century -- 4 percentage points for males ages 10 and over, and 2 percentage points for adult males.

Over the next fifty years the Southern economy "modernized" -- labor shifted out of agriculture. In 1930 40 percent of the white male labor force (ages 10 and over) was agricultural, a decrease of 20 percentage points from 1900. Black labor, too, shifted out of agriculture, but at a slower pace than white labor -- a decline of 13.4 percentage points between 1900 and 1930. Among adult males, agricultural participation rates declined from 1900 to 1940 for both races, but the decline was greater for whites. During the 1940s, however, black labor shifted out of southern agriculture more quickly than white labor did. Still, the racial gap in agricultural participation rates among adult males was larger in 1950 than in 1900.

Panel B of Table 1 gives agricultural participation rates for adult males by age group. Prior to World War Two, the shift of labor out of Southern agriculture was a "cohort" phenomenon. Successive generations of younger males had lower agricultural participation rates, while older cohorts remained in agriculture as they aged. Consider the 25-34 age group in 1910: 53 percent of blacks, and 48 percent of whites, were in farming. Among those in the age group still in the South in 1940 (now between the ages of 55 and 64) 59 percent of the blacks and 51 percent of the whites were engaged in agriculture. But agricultural participation rates of 25-34 year olds in 1940 were lower than in 1910 (the same was true of 20-24 year olds). During the 1940s, however, the outflow from agriculture occurred in every age group, blacks to a greater extent than whites.



More detailed evidence is given in Panels A and B of Table 2, which shows the distribution of employment by 1-digit industries and occupations. In 1910 blacks were relatively more numerous than whites in durable-goods manufacturing, transportation-communications-public utilities, and personal services. Black labor was under-represented in the other non-farm industries, especially wholesale and retail trade (by 7 percentage points). In 1940, blacks continued to be over-represented in durable-goods manufacturing and personal services, and were under-represented in mining-construction, non-durable manufacturing, trade, finance and business services, professional services, and government jobs. In 6 of 9 non-farm industries the degree of over- or under-representation of black labor was higher in 1940 than in 1910.

During the 1940s the migration of black labor off the farm found its way into the South's non-durable goods manufacturing plants, narrowing the racial gap in employment shares; and into durable-goods manufacturing, increasing the racial gap there. The proportion of black men employed in trade and professional services also rose over the decade. Black employment in personal services fell (the white share did not), suggesting the relatively high share of black employment in services in 1940 may have been a consequence of the Great Depression. The racial gap in employment increased in mining-construction, financial and business services, and government.

The distribution of employment across occupations in the

South was more racially dissimilar than the distribution of employment across industries. At the turn of the century black men were severely under-represented in white-collar jobs. Sixteen percent of white men held white collar jobs, compared with 1.8 percent of black men, or a racial gap of 14.5 percentage points. In the next several decades, black men entered white-collar occupations, increasing the percent so employed to 3.7 percent in 1940 and to 5.5 percent in 1950. But the fraction of white men with white collar jobs rose even faster. By 1940 the racial gap in white collar employment was 22 percentage points. The gap increased to 24 percentage points in 1950. Disaggregation of the data on white-collar employment further reveals that, throughout the period, a majority of black professionals in the South were found in just two occupations, teaching and preaching.<sup>5</sup> Cross-classifications of industry and occupation show that blacks holding managerial positions were mostly self-employed businessmen, in wholesale and retail trade, financial and business services (for example, real estate agencies), or personal services.<sup>6</sup>

If black employment in white-collar work lagged behind white employment, a skilled blue collar job was another means of upward mobility. But blacks were under-represented in skilled blue-collar jobs, and their under-representation increased over time as well. In the 1900 sample 3.8 percent of black men held skilled blue-collar jobs, compared with 9.5 of white men. The black proportion increased to 4.8 percent in 1910, but the

increase in the white proportion was larger, so that the racial gap in skilled blue-collar employment rose to 7 percentage points. The fraction of adult black men in 1940 with skilled blue-collar jobs was actually lower than in 1910. Black employment in the skilled trades expanded during the war decade, but growth in white employment was greater, and the racial gap rose to 13 percentage points by 1950.

In the semi-skilled operative category blacks were under-represented slightly in 1900. About 5 percent of black men in the 1900 sample held such jobs compared with 5.7 percent of white men. In the next forty years, the fraction of adult black men in semi-skilled occupations increased, but white employment in semi-skilled jobs rose even faster, to 7.3 percentage points in 1940. But the racial gap closed abruptly during the 1940s, as black men filled newly-created jobs in Southern factories.

If they had problems finding white and skilled blue collar employment, black men had much less trouble getting a low-paying service job or a job as an unskilled laborer. The proportion of black men in service occupations (such as domestic, personal services or protective services) more than doubled over the first half of the twentieth century. In the 1950 sample 10.3 percent of black men held service jobs, compared with only 3.5 percent of white men. The racial gap in domestic employment -- 6.8 percentage points -- was nearly three times as large as in 1900.

The proportion of black men working as unskilled non-farm laborers remained roughly constant between 1900 and 1950, at

about 23 percent. The proportion of white men in such jobs, however, declined consistently, from 8.1 percent in 1900 to 5.3 percent in 1950. Consequently, the racial gap in unskilled non-farm employment increased, from 15.7 percentage points in 1900 to 17.3 percentage points in 1950.

A summary statistic of racial dissimilarities in employment is a "segregation index". The index I use is<sup>7</sup>:

$$SI = \sum_i |b_i - w_i| / 2 \times 100 \quad [1]$$

where:

$b_i$ : share of black labor force in industry or occupation  $i$

$w_i$ : share of white labor force in industry or occupation  $i$

The segregation index ranges from 0 to 100. Complete integration (a value of 0) would occur if the black proportion equalled the white proportion in every industry or occupation. Complete segregation (a value of 100) would occur if industries and occupations were either all white or all black -- for every industry or occupation in which  $w_i$  was positive,  $b_i$  would be zero -- and vice versa.

Values of the segregation index are shown in Table 2. It is important to keep in mind that the values are not invariant to number of industry and occupational categories. Were a larger number of categories used, the indices would take on larger

values, indicating greater racial dissimilarity.<sup>8</sup> This is particularly true in the case of industrial segregation. It is unlikely, however, that substantive conclusions would change if the number of categories were expanded.

The results show that employment segregation in southern industry increased from 1910 to 1940: the value of the index in 1940 (21.7) was 45 percent higher than in 1910. Occupational segregation, too, rose from 1910 to 1940. During the 1940s employment segregation declined in the South. Despite the decline, however, both the industry and occupation indices show that segregation was greater in 1950 than in 1910.

In summary, labor shifted out of southern agriculture between 1900 and 1950. Prior to World War Two this shift was primarily a cohort phenomenon, and in overall magnitude was greater for whites than for blacks. Black men were under-represented in the expansion of non-farm employment in particular industries in the South, and in the expansion of white collar and blue collar employment. Overall, employment segregation in the South worsened between 1900 and 1940. Employment segregation declined in the 1940s as blacks left farming for semi-skilled non-farm jobs. Despite this decline, industries and occupations in the South were more highly segregated by race in 1950 than in 1900.

### 3.0 The Southern Economy and Black Progress

The human capital and institutionalist models discussed in the introduction offer very different explanations of the evolution of racial differences in employment in the South. The human capital explanation has several parts. On average, real incomes in Southern agriculture were lower than real incomes in the non-farm sector, South or North. The odds of entering the non-farm economy in the South were a positive function of schooling (Ransom and Sutch 1977; Higgs 1989). As each successive birth cohort came of age and entered the labor force, better-educated members of the cohort, black or white, were more likely to find a non-farm job. But, because racial differences in the quantity and quality of schooling were persistently large -- and, in the case of racial differences in school quality, increasing early in the century -- the black shift into the non-economy lagged behind the white shift, particularly in the expansion of blue and white-collar employment. This lag produced the increase in employment segregation in the South after 1900. This lag, in turn, was a key proximate cause of failure of the aggregate black-to-white earnings ratio to rise before World War Two. Region-specific indices of relative (black-to-white) occupational status (a proxy for the earnings ratio) show a decline in the South during the first half of the twentieth century (Becker 1957).<sup>9</sup>

In addition to the effects of schooling, the shift of black

labor out of southern agriculture may have been slowed initially by "spatial mismatch" (Higgs 1989). Early in the century the southern black population was concentrated in rural "black-belt" counties, where non-farm jobs were few and far between. To find a non-farm job frequently required leaving the black-belt for a distant town or city. Spatial mismatch diminished in importance, however, as industrialization spread throughout the South, leading to a more uniform geographic distribution of people and jobs.

The institutionalist view is well expressed by Gavin Wright (1986) in his recent book, Old South, New South (see also Mandle 1978). According to Wright, a dualistic labor market emerged in the South before 1950 in which white and black workers were "non-competing groups" in the non-farm labor market. Wright (1986, 196) rejects the argument that this dualism can be attributed to racial differences in schooling because "schooling had little to do with job requirements" in most of the South's expanding non-farm industries. Consider, as Wright does, the case of cotton textiles. Prior to the 1960s few blacks were employed in textiles, but not because of inadequate schooling -- textile jobs have never required much in the way of formal education (Heckman and Payner 1989). Rather than being causally related, racial differences in employment and in schooling were the joint outcomes of a "larger historical process of creating a segregated society" (Wright 1986, 197).

Wright also rejects the claim that racial differences in

employment can be explained by differences in the geographic distribution of white and black labor within the South. Location was irrelevant because:

[s]egregation followed industry lines rather than geography. The state of North Carolina contained all-white cotton mills and nearly all white furniture factories, along with heavy tobacco factories and mixed saw and planing mills. Tobacco manufacturing was a major black employer even though it was concentrated in white-majority states like North Carolina ... This regularity held down to the level of particular towns ... In Birmingham, where two-thirds of the iron and steel workers were black, the Avondale cotton mill was 98.1 percent white (Wright 1986, 178).

Rather, employment segregation in industry was a consequence of historical accident and fixed costs. Cotton textiles are again a prime example. The textile industry developed in the Northeast before the Civil War. After the war the industry moved to North and South Carolina in search of cheaper labor, which it found by employing whites, primarily in families. Once the racial pattern was established, however, it became unprofitable for mill owners to substitute "inexperienced" blacks for "whites



who had been born and raised in a mill village" even if blacks could be paid a lower wage (Wright 1986, 189). Black labor predominated in such industries as tobacco processing and lumber milling, but the same had been true under slavery.

Within industries occupational segregation was a matter of racial prejudice and privilege. There were "black" jobs, primarily menial, and "white" jobs. Whites simply refused to work for a black foreman. Black access to apprenticeship and training programs in the skilled blue collar trades was jealously restricted by prejudiced employees, employers, and trade unions. White employers did not hire blacks in retail sales or office work because white customers or clients would be offended.<sup>10</sup> The "old" black middle class (Landry 1987), composed of black merchants and professionals (including clergy and teachers), serviced a segregated clientele, but the number and average size of black-owned establishments was too small to provide a significant alternative source of non-farm employment for blacks (Greene and Woodson 1930).

In normal times, most individual southern firms, owned or managed by whites, had few or no incentives to deviate from these social norms; and once the norms were in place, individual blacks could overcome them only by enormous effort and, not infrequently, at great personal risk.<sup>11</sup> To dislodge the competitive dynamics of racial exclusion the South had to be "shocked" out of regional isolation and segregationist ideology. World War One was an initial shock; while it did usher in the

beginnings of an exodus of black labor from the South, for a variety of reasons it did not fundamentally alter racial hiring patterns in southern non-farm industries (Mandle 1978; Wright 1986; Whatley 1990). World War Two had a much bigger impact. In the early 1940s labor markets were extremely tight; the demand for non-farm labor skyrocketed. As shortages of semi-skilled and skilled white labor intensified, pressure to overcome social norms mounted. Although the South was slow to respond initially, a black breakthrough in non-farm employment, concentrated in semi-skilled operative jobs, had occurred there as well by 1944. The expansion of black non-farm employment was also aided by Roosevelt's Executive Order 8802, which outlawed racial discrimination in hiring in defense plants (Vatter 1985, 132-134).<sup>12</sup>

The effects of World War Two were, first, to reduce employment segregation in the South; and second, to permanently raise wage levels in Southern agriculture, which provided the impetus for agricultural mechanization and further displacement of farm labor in the late 1940s and throughout the 1950s (Day 1957; Wright 1986). But, by itself, World War Two was not enough; the Southern economy was still highly segregated in 1950. Further progress awaited a further shock, the Civil Rights Movement and its associated anti-discrimination legislation.

#### 4.0 Employment Segregation in the South: An Econometric Analysis

In this section I use the public use samples of the 1900, 1910, 1940, and 1950 censuses to distinguish between the human capital and institutionalist interpretations of the history of employment segregation in the South. The analysis is based on least squares regressions of the form:

$$p = XB + \epsilon \quad [2]$$

where  $p$  is the probability an individual would be employed in a particular industry or occupation, the  $X$ 's are personal characteristics (for example, age and years of schooling), the  $B$ 's are coefficients to be estimated, and  $\epsilon$  is a random error term.<sup>13</sup>

Industry and occupation categories are those shown in Table 1. It is important to stress that the dependent variable is not an industry-occupation cell (for example, semi-skilled operatives in durable goods manufacturing). Unfortunately, the sample sizes are too small to permit disaggregation of this sort. The independent variables are taken from the census samples: age, literacy (1900, 1910), years of schooling (1940 and 1950), census region, degree of urbanization, marital status, and an indicator of geographic mobility.<sup>14</sup>

The mobility variable indicates whether the person's state of residence differed from his state of birth. The hypothesis is

that, if spatial mismatch was important, black interstate migrants should have been employed more frequently in non-farm occupations and industries. The mobility variable has obvious limitations. Moves across state boundaries vastly understate all moves, and certainly states were not coincident with well-defined labor markets. Unfortunately, there is no good way to distinguish rural-to-urban migration in the census samples. While I can (and do) control for the degree of urbanization of the person's residence, I cannot tell whether (except for moves across state lines) an urban resident grew up in a particular town or city, or moved there from the countryside. To the extent that rural-urban moves were associated with shifts in jobs (which, of course, they were) the regressions understate the significance of spatial mismatch.

Two sets of estimations were performed. In the first set the white and black samples were pooled, and a dummy variable indicating race was included among the independent variables.<sup>15</sup> The signs and magnitudes of the coefficients of the race variable measure the extent to which black labor was over- (a positive coefficient) or under-represented (a negative coefficient) in a given industry or occupation, controlling for other factors. It is straightforward to aggregate the race coefficients into a segregation index.<sup>16</sup>

Although the pooled regressions reveal the importance of race per se in determining the distribution of employment, the regression specification constrains the coefficients to be the

same for blacks and whites. The second set of estimations, therefore, is race-specific. Later in the chapter I use the race-specific coefficients to calculate segregation indices under various assumptions about racial differences in schooling.<sup>17</sup>

The full set of regression coefficients reveals an enormous amount of detail about employment in the South, but is too complex and unwieldy to discuss here. Instead, attention is focused on the race, schooling, and migration coefficients.

Panel A of Table 3 shows the race coefficients from the occupation regressions. The principal finding of panel A is that race per se (that is, holding other factors constant) was an economically significant determinant of the distribution of occupations in the South. The importance of "pure" racial over- or under-representation, however, varied across occupations, as can be seen by comparing the race coefficients with the racial differences in the sample mean occupation shares (see tables 1 and 2). Much of the over-representation of blacks in the farm laborer category can be explained by factors other than race. It is also noteworthy that, in 1940 and 1950, black under-representation in white-collar employment -- and, to a much lesser extent, in the semi-skilled category in 1940 -- was considerably smaller once factors other than race are controlled for. However, blacks were still over-represented among unskilled non-farm laborers and in domestic and personal service. Factors other than race cannot explain this over-representation.

Panels B and C of Table 3 reveal the effects of schooling

and interstate migration on occupations. Among blacks, schooling had a large, negative effect on the probability of employment as a farm laborer; and, as the century progressed, a negative effect on the probability of employment as a farm operator or as an unskilled non-farm laborer. Schooling improved the chances a black man would be employed in service jobs (primarily personal service), skilled blue-collar and white-collar occupations and-- in 1940 but not 1950 -- as a semi-skilled operative. Education reduced the probability a white man would be employed in agriculture or as an unskilled non-farm laborer but (except in 1940) had little effect on employment chances in services. Early in the century better-educated whites were more likely to be employed in the skilled blue-collar trades, but as the century progressed, increasingly opted for white-collar employment. It is important to note that the positive effects of schooling on white-collar employment (and skilled blue collar employment in 1900 and 1910) were higher for whites than for blacks.

Panel C of Table 3 demonstrates that the distribution of occupations in the South was not neutral with respect to migrant status. Interstate migrants, black or white, were far more likely to be employed in the non-farm sector. In terms of upward mobility in the non-farm economy, however, interstate migration had a bigger impact on whites. Among blacks, interstate migrants were significantly more likely to be employed as unskilled non-farm laborers or in service occupations, but any positive effects of migration on blue-collar or white collar employment were small

and generally statistically insignificant. White interstate migrants, by contrast, were more likely than blacks to find employment in skilled blue-collar or white-collar occupations. The impact of migration, however, was much smaller in 1950 than earlier in the century, suggesting that any spatial mismatch between jobs and people diminished over time as the South industrialized.

The results of the industry regressions broadly confirm those from the occupation regressions. As panel A of Table 4 demonstrates, race per se influenced the distribution of employment across industries. Controlling for factors other than race, blacks were over-represented to a significant extent in agriculture, durable goods manufacturing (except in 1940), and personal services. Blacks were under-represented in mining-construction, wholesale and retail trade, non-durable goods manufacturing (which includes textiles), and government.<sup>18</sup> Educated men of both races were more likely to work outside of agriculture, and schooling had its biggest positive impact on employment in services, not in manufacturing. Interstate migrants were more likely to be employed in the non-farm sector, particularly mining-construction and durable goods manufacturing. Consistent with the occupation results, the impact of interstate migration declined over time.

## 5.0 Accounting for Employment Segregation

In this section I use the regression coefficients to calculate counterfactual segregation indices under various assumptions about racial differences in the independent variables. The occupation indices are shown in Panel A, and the industry indices in Panel B, of Table 5.

The indices in the rows labelled Race were calculated from the race coefficients in Tables 3 and 4. They reveal levels and trends in employment segregation, adjusting for all factors (in the regressions) other than race. Because these factors did affect the extent of employment segregation, the indices are smaller in value than those based on the sample mean occupational and industrial employment shares (Table 2). Controlling for factors other than race lowers occupational segregation by 10 to 14 percent in the early twentieth century; the reductions are larger for 1940 and 1950, but the 1940 and 1950 regressions use a much better measure of educational attainment (years of schooling instead of literacy). Controlling for factors other than race lowers industrial segregation by about a third in 1910 and 1940. However, after adjusting for other factors, employment segregation in the South was higher in 1950 than earlier in the century.<sup>19</sup> It is noteworthy that pure racial segregation continued to worsen during the 1940s, despite the large shift of black labor out of agriculture.

The next several rows in Panels A and B give values of the



segregation indices under various assumptions about racial differences in schooling. The calculations are based on employment distributions predicted from the occupation and industry regressions. Racial differences in educational attainment (literacy and years of schooling) contributed to employment segregation, but the impact was modest. A small fraction of occupational segregation around the turn of the century can be attributed to racial differences in literacy. The percent of occupational segregation explained by racial differences in years of schooling was 21 percent in 1940 and 17 percent in 1950. Had black and white literacy rates been the same in 1910, the industry segregation index would have been 13.6 instead of 15.0, a decline of 9.3 percent. If mean years of schooling in 1940 had been the same for both races, the industrial segregation index would have equalled 17.2 instead of 21.7, or 20.7 percent ( $= 1 - 17.2/21.7$ ) lower. Controlling for racial differences in educational attainment does not alter the fundamental finding that employment segregation in the South was worse in 1950 than in 1900 or 1910.

The adjustments for schooling can be criticized, however, because they do not take into account racial differences in the quality of schooling. The final rows in Panel A show the results of an adjustment for school quality. The assumption is, for racial differences in the quantity and quality of schooling to be truly equal, mean black years of schooling had to equal the white mean plus three additional years. Thus, for example, a black man

completing nine years of schooling is assumed to have been as well educated as a white completing 6 years of school. The basis for such an adjustment is that black scores on standardized tests were lower than white test scores (Bond 1934; Orazem 1987).<sup>20</sup>

Racial differences in the quality of schooling certainly were a factor in employment segregation. The indices of occupational segregation in 1940 and 1950 would have been 29 percent smaller had both school quantity and quality been equalized. Nevertheless, racial differences in the quantity and quality of schooling do not explain much of employment segregation in the South. Race, not schooling, was the principal factor limiting the participation of black labor in certain industries and occupations.

The final row in Panel B gives the industry segregation indices under the assumption that the black interstate migration rate equalled the white interstate migration rate. Industrial segregation would have been little changed had blacks been as mobile across state lines as whites were.<sup>21</sup> Similar results (not shown) were obtained for occupational segregation. Spatial mismatch limited the participation of black labor in the non-farm economy but it was not a major factor behind employment segregation in the South.

## 6.0 Black-White Earnings Ratios in the South: 1940-1950

Prior to World War Two the shift of labor out of southern

agriculture was a cohort phenomenon. Schooling and migration-- "human capital" -- were integral to this shift. Better-educated, geographically mobile blacks (and whites) left farming; the illiterate and immobile stayed behind. The quantitative significance of illiteracy and immobility can be revealed by using the agricultural industry regressions to calculate the probability an uneducated, immobile (that is, non-interstate migrant) young black male (ages 20 to 24) would be employed in agriculture. This probability exceeded 70 percent in 1910 and 1940. But the probability fell to below 50 percent in 1950. The best explanation of the decline is the one offered by Wright (1986) -- an increase in the non-farm demand for black labor, coupled with rising agricultural wages leading to displacement of farm workers. I have already shown that many blacks who left agriculture in the 1940s found employment as semi-skilled operatives. Before World War Two schooling and black semi-skilled employment were positively related, but the influx of rural, less educated blacks reversed the sign of the relationship during the 1940s.

Data from the 1940 and 1950 public use samples reveal that the black-to-white ratio of average weekly earnings of adult males in the South rose substantially between 1940 and 1950 (see Table 6).<sup>22</sup> Because agricultural wages were lower than non-farm wages (including wages in semi-skilled occupations) the greater relative (black - white) shift of black labor out of agriculture may have raised the earnings ratio.<sup>23</sup> But it is also true that

racial differences in educational attainment were smaller in 1950 than in 1940, as better-educated blacks began to enter the southern labor force (Margo 1990, ch. 2). This decline in racial differences in years of schooling might also have increased the earnings ratio.

To distinguish between the two hypotheses, I estimated race-specific earnings regressions for southern males ages 25 to 64, using samples from the 1940 and 1950 public use tapes.<sup>24</sup> The dependent variable is the log of weekly earnings, and the independent variables are dummy variables for age group, years of schooling, location in the South (region and an SMSA dummy), marital status, and dummy variables for economic sector (agriculture and services; the left-out sector was manufacturing).

Sample means and regression coefficients are shown in Panels A and B of Table 6. Better-educated men of both races earned higher weekly wages, although the rate of return to schooling was higher for whites. Among whites earnings rose with age through the age group 45-54, but the age-earnings profile was much flatter for blacks. Married, white men earned more than single men; the premium for married black men was much smaller and statistically insignificant. The results confirm that agricultural wages were far below non-farm wages in both years, but that the wage gap between agriculture and manufacturing diminished during the 1940s. Earnings were higher in urban than in rural areas in both years; regional differences were

substantial in 1940 (especially for blacks) but diminished over the decade.

Panel C of Table 6 uses the sample means and the regression coefficients to calculate how much of the increase in the mean earnings ratio between 1940 and 1950 can be explained by sectoral shifts in employment versus changes in years of schooling. Between 26 and 36 percent of the increase in the earnings ratio can be attributed to the greater relative shift of black labor out of agriculture. Declining racial differences in years of schooling were less important, accounting for 5 to 11 percent of the increase in the earnings ratio.<sup>25</sup>

Recent studies have argued that the Civil Rights Movement and its associated anti-discrimination legislation played a minor role in raising the national earnings ratio in the 1960s and 1970s (Smith 1984; Smith and Welch 1989). The earnings ratio increased during the 1940s (also in the 1950s) before social change had occurred and civil rights legislation fully enacted. According to Smith and Welch (1989, 55) the pre-Civil Rights increase in the earnings ratio "suggests that ... slowly moving historical forces [eg. education] ... were the primary determinants of the long-term black economic improvement". But the increase in the earnings ratio in the South during the 1940s was not a consequence of "slowly moving historical forces" but of abrupt changes in labor demand in the context of large sectoral differences in wages. The experience of the 1940s supports the institutionalist argument that, historically, black economic

progress and labor demand were closely linked.

## 7.0 Summary

Analysis of the census samples reveals much about the determinants of employment in the South during the first half of the twentieth century. Racial differences in the quantity and quality of schooling limited the participation of blacks in the non-farm southern economy. In the words of Roger Ransom and Richard Sutch (1977, 31) illiteracy "helped to trap the black farmer in southern agriculture". Educational discrimination in the South was worse in the upper elementary and high school grades, but it was precisely this level of education that would have led to greater black employment in blue collar and white collar occupations. Consistent with the human capital model, a narrower racial gap in the quantity and quality of schooling would have improved the employment prospects of southern blacks, leading to a higher earnings ratio before World War Two.

But the quantitative impact of racial differences in schooling was modest, and the impact was concentrated in certain occupations and industries. More and better would have increased the number of self-employed blacks in white-collar occupations.<sup>26</sup> The expansion of black employment in managerial positions in corporations, in clerical and sales jobs in large firms, and in the government, was the product of a later era. The "old" black middle class would have been bigger but its composition would

still have been very different from that of the "new" black middle class (Landry 1987).

Race, not schooling or spatial mismatch, was the principal factor behind employment segregation in the South. Overall, employment segregation in the South was worse on the eve of World War Two than at the turn of the century. The finding that employment segregation increased over time is not new. In the early 1950s Donald Dewey (1952, 282) noted that:

In the fifty years before World War II the relative position of Negro workers in Southern industry actually deteriorated; they did not share disproportionately the expansion of urban employment and they were not upgraded as individuals into jobs previously held by whites.

What is new is the finding that employment segregation increased after controlling for racial differences in schooling and other factors.<sup>27</sup> The rise in employment segregation was not, primarily, a consequence of racial differences in human capital. Rather, it seems that black participation in the Southern economy was constrained by discrimination and social norms.<sup>28</sup> During the 1940s employment segregation declined and the black-to-white earnings ratio rose, as black labor left southern agriculture in response to an increase in non-farm labor demand. But World War Two did not fundamentally alter the social norms. Controlling

for factors other than race, employment segregation in the South was higher in 1950 than in 1940.

In the 1950s and 1960s the dualism of southern labor markets finally came into conflict with the long-term increase in black schooling. Recent histories have emphasized the "grass roots" character of the early Civil Rights Movement (Morris 1984; Branch 1988). The brilliance and courage of the principal protagonists notwithstanding, the boycotts, sit-ins, and freedom marches could not have succeeded with the broad-based support of blacks who had suffered mightily under de jure and customary segregation. Blacks entering the southern labor force in the 1950s and 1960s were much better-educated than previous generations. For them (and their parents) the wait to end segregation had been long enough. Eventually the new generations had the federal government as an ally. It was no accident, in other words, that federal enforcement of anti-discrimination legislation was initially targeted at the South (Donahue and Heckman 1989) for that is where enforcement was needed the most.



## Notes

1. Smith's (1984) earnings ratios, which are shown in Figure 1, were derived from published census data on employment. Smith assigned fixed weights (using 1970 census data on earnings) to the proportion of individuals in particular occupations. The sum of the weighted proportions is an index of "occupational status", and the black-to-white ratio of occupational status is Smith's estimate of the earnings ratio. Thus changes in Smith's proxy reflect shifts in the occupations held by black men relative to white men; shifts in the structure of wages (or wages in occupations) are ignored.

2. There is considerable debate over the proper interpretation of the increase in the earnings ratio from 1940 to 1980; a useful introduction to the issues are the various chapters in Shulman and Darity (1989).

3. A skeptic might blame the Great Depression for the initial stability in the earnings ratio; as is evident in Figure 1, the ratio declined slightly in the 1930s. However, no such explanation can account for the failure of the earnings ratio to rise in the 1920s.

4. Figures for adult males can be constructed for the entire country from published census volumes (as in Smith 1984), but not for regions.

5. Over two-thirds of the black professionals were schoolteachers or clergymen in the 1940 sample. In 1930 there were 1 black teacher and 1 black clergymen for every 194 and 495 southern

blacks; for lawyers, the corresponding ratio was 1 for every 21,472 blacks (U.S. Bureau of the Census 1935, 292).

6. In the sample drawn from the 1940 census tape 87 percent of the 58 black managers labored in trade, financial and business services, or personal services. Only 2 were employed in manufacturing, compared with 12 percent of southern white managers. 81 percent of the black managers were self-employed, and 79 percent of these worked in wholesale and retail trade. None of the non-self employed black managers worked in southern manufacturing; 15 percent of non-self employed white managers did.

7. See Goldin (1990) for an application of this index to measure employment segregation between men and women.

8. The indices would be invariant to the number of categories (below the 1-digit level) if and only if the signs of the racial differences within categories were the same as the sign at the one digit level. For example, if the white proportion with skilled-blue collar jobs exceeded the black proportion, the same would have to be true for every skilled trade. Since this is unlikely, the values of the indices are lower bounds.

9. Compared with Smith's (1984) Becker's indices are based on fewer occupational categories, a broader age grouping, and over), and are not cohort-specific. However, Becker's index of relative black status in the North shows an increase before 1950, which suggests that regional differences were fundamental to the behavior of the aggregate black-white earnings ratio prior to World War Two.

10. Goldin (1990) shows that, prior to World War Two, many large firms had "color bars" prohibiting the employment of blacks in office work and other white-collar jobs.
11. Certain economic models of social norms, particularly those incorporating imperfect information or "statistical discrimination", can rationalize this finding; see, for example, Starrett (1976), Akerlof (1985), and Lundberg and Startz (1983).
12. Roosevelt's order was in response to a threatened march on Washington to be led by A. Philip Randolph, president of the Brotherhood of Sleeping Car Porters, the purpose of which was to demand an end to hiring discrimination in defense plants; see Vatter (1985, 132).
13. Given the categorical nature of the dependent variable, a multinomial logit or probit model might be preferred to the linear probability model. The multinomial logit and probit models, however, are impractical because of the large sample sizes and number of estimations to be performed. I did, however, estimate certain regressions (the agricultural participation regressions) using binomial logit analysis; and all of the regressions using discriminant analysis (Amemiya 1981). Discriminant function estimates of multinomial logit parameters are biased, but the biases are typically small, and discriminant analysis is much cheaper than maximum likelihood. None of the substantive findings were affected. See also Heckman and Payner (1989) who use the linear probability model in their very similar analysis of racial differences in employment in South Carolina during the twentieth century.

14. Census region and urbanization are included because, as discussed in the text, the extent of the non-farm economy in the South varied geographically. Marital status is included to control for the possibility that certain occupations (for example, unskilled non-farm labor) were avoided by married men because they were undersirable ways to support a family (Wright 1986).

15. In light of the cohort differences found in the previous section it would be better to estimate age-specific regressions, rather than include age as an independent variable. Unfortunately, once the dependent variable is disaggregated into 1-digit industry and occupation groups, the sample sizes are too small to disaggregate by age.

16. Let  $\alpha_i$  be the coefficient of the race variable in, say, the  $i$ th occupation. The segregation index is  $\sum |\alpha_i|$  (since  $\alpha_i = b_i - w_i$  controlling for other factors).

17. The regression coefficients were used to predict race-specific values of the industry or occupational probabilities, the  $p_i$ 's, given the particular values assumed for the independent variables (for example, that the mean value of years of schooling was the same for whites and blacks).

18. In the 1940 and 1950 census samples "teachers" were classified in the "professional services" industry, which accounts for black over-representation in both years. Because most of the teachers were employees of local governments, had they been correctly classified, black under-representation in government employment would have been greater than actually

recorded.

19. Because the 1940 and 1950 regressions use a more accurate measure of educational attainment, it is likely that the estimated increase in employment segregation is biased downwards. The industry and occupation regressions for 1940 and 1950 were re-estimated with a proxy for literacy instead of years of schooling. A person was deemed literate if his educational attainment was greater than 2 years, and illiterate otherwise. The values of the segregation indices computed from the race coefficients of these regressions were 36.4 in 1940 and 35.9 in 1950, both exceeding the values in Table 5.

20. Bond (1934, 339-344) reported the results of standardized tests conducted in the 1920s showing that black third and sixth graders in Alabama and Louisiana scored a full grade below national norms, controlling for the age of the pupil; not controlling for age, the gap was three years, which is the basis for the adjustment in the text. A similar adjustment for school quality was made by Heckman and Payner (1989). A three-year adjustment is not restrictive; a larger adjustment, say five years, would not alter the conclusions.

21. Calculations equating white and black urbanization and regional population shares reached a similar conclusion.

22. "Earnings" here refer to wage and salary earnings; self-employment income is excluded. Consequently the regression sample excludes a fairly large portion of agricultural employment in both 1940 and 1950. Because the decline in agricultural wage labor among blacks during the 1940s was greater than the overall

decline in agricultural employment (compare the means in Table 6 with Table 1), the earnings data overstate the improvement in relative black incomes (including self-employment income) in the South between 1940 and 1950.

23. The sectoral differences in earnings are not adjusted for non-wage benefits. Farm laborers, however, received more non-wage benefits (eg. food, housing) than non-farm workers. Adjusted for such benefits would reduce the size of the sectoral gap and therefore the importance of the sectoral shift. On sectoral wage gaps before 1950 see Alston and Hatton (1989) and Williamson and Lindert (1983).

24. The age range 25 to 64 was chosen because for these cohorts no adjustment for relative school quality is warranted.

25. No adjustment for relative (black-to-white) school quality is appropriate because, for the birth cohorts included in the regressions (1876-80 to 1921-1925) no improvement took place for the average black member of the 1940 and 1950 samples; the average birth year of blacks in the 1940 sample was 1900 and the average birth year of blacks in the 1950 sample was 1909. However, the impact of changing racial differences in schooling is biased downward because no adjustment is made for "ungraded school bias" (Margo 1990, chapter 2). The 1940 census understated the educational attainments of blacks born in the late nineteenth century; the bias is less in 1950 because these cohorts are a smaller share of the 1950 sample. If (a) all blacks born before 1900 were educated in ungraded schools (b) the adjustment for ungraded school bias reduces mean educational

attainment by two years the reduction in racial differences in years of schooling between 1940 and 1950 would be -0.51 years (instead of -0.26 years; see Table 6). Thus adjusting for ungraded school bias among blacks would approximately double the explanatory power of changing racial differences in schooling (panel C, Table 6). I regard this as an upper bound to the true adjustment for ungraded school bias because many southern whites, too, attended ungraded schools.

26. Freeman (1973) argued that educational discrimination slowed the narrowing of racial income differences by reducing the supply of black employers in the South, who would have hired black workers. The results thus support Freeman's hypothesis.

27. Without the public use samples it would have been impossible to calculate segregation indices controlling for racial differences in schooling.

28. The importance I attach to social norms may be overstated. It is possible that census samples for 1920 and 1930, were they available, would show that the increase in employment segregation was primarily a consequence of setbacks during the Great Depression. On the other hand, the data in Table 1 show that the lag in the black shift out of agriculture predated the 1930s (see also Becker 1957).

Table 1

The Shift of Labor Out of Southern Agriculture

A. Percent of Male Labor Force in Agriculture: The South, 1900-1950

	Ages 10 and over			Ages 20-64		
	Black	White	Diff.	Black	White	Diff.
1900	64.2%	59.9%	4.3	60.7%	58.7%	2.0
1910	64.6	56.5	8.1	61.7	52.1	9.6
1920	57.7	46.8	10.9			
1930	52.8	39.9	12.9			
1940				46.5	32.5	14.0
1950				34.2	21.3	12.9

Diff. = Black-White

B. Percent of Adult Male Labor Force in Agriculture, By Age Group

	1900	1910	1940	1950
<b>Black</b>				
20-24	62.7%	57.0%	53.1%	27.9%
25-34	55.0	53.4	40.1	25.7
35-44	57.9	58.1	39.8	24.4
45-54	65.5	65.3	51.3	29.5
55-64	64.5	71.9	58.7	37.3
<b>White</b>				
20-24	63.1	51.6	34.5	17.9
25-34	54.2	47.6	22.7	15.1
35-44	55.4	48.1	28.0	17.6
45-54	61.8	54.7	35.6	19.0
55-64	66.8	61.4	50.9	29.7

Sources: Ages 10 and over: 1900: U.S. Census Office (1904, 220-410); 1910: Black, U.S. Bureau of the Census (1918, 503); White, U.S. Bureau of the Census (1914, 434-529); 1920: U.S. Bureau of the Census (1923, 874-1039); 1930: Black, U.S. Bureau of the Census (1935, 303-309); White, U.S. Bureau of the Census (1933, 105-1741).

Ages 20-64: author's calculations from 1900, 1910, 1940, and 1950 census public use samples; 1940 figures exclude persons with emergency work relief jobs.



Table 2

Distribution of Employment in the South:  
Males, Ages 20-64  
(in percent)

	1900	1910	1940	1950
<b>A. Occupation</b>				
<b>White Collar</b>				
Black	2.7%	2.3%	3.7%	5.5%
White	16.3	20.0	25.8	29.1
<b>Prof./Tech.</b>				
Black			1.5	
White			4.8	
<b>Managers</b>				
Black			1.2	
White			9.8	
<b>Cler./Sales</b>				
Black			1.0	
White			11.2	
<b>Skilled blue collar</b>				
Black	3.8	5.2	4.3	6.7
White	9.5	12.4	14.1	20.0
<b>Semi-skilled blue collar</b>				
Black	4.9	6.3	10.8	20.7
White	5.7	7.5	18.1	20.8
<b>Service</b>				
Black	4.2	5.7	10.9	10.3
White	1.5	2.5	4.1	3.5
<b>Domestic</b>				
Black			2.9	
White			0.1	
<b>Protective</b>				
Black			0.3	
White			2.3	
<b>Other (includes personal)</b>				
Black			7.7	
White			1.7	
<b>Unskilled non-farm laborer</b>				
Black	23.8	18.8	23.8	22.6
White	8.1	5.7	5.8	5.3
<b>Farm operator</b>				
Black	37.6	39.9	26.2	20.7
White	44.2	39.4	22.2	15.2
<b>Farm laborer</b>				
Black	23.1	21.8	20.3	13.5
White	14.5	12.7	10.0	6.1

Table 2 (continued)

	1900	1910	1940	1950
Segregation index	26.7	26.1	39.2	37.0
Sample size				
Black	2,065	6,011	4,767	5,346
White	4,921	18,956	20,237	20,445
<b>B. Industry</b>				
<b>Agriculture</b>				
Black		62.4%	45.8%	32.8%
White		52.1	31.8	21.0
<b>Mining-construction</b>				
Black		6.7	8.4	11.2
White		7.8	12.2	15.7
<b>Non-durable manufacturing</b>				
Black		2.6	5.8	7.5
White		4.7	11.2	11.2
<b>Durable manufacturing</b>				
Black		9.8	11.0	13.7
White		7.5	8.6	9.5
<b>Transportation-communications-public utilities</b>				
Black		8.7	7.4	8.7
White		8.2	7.4	8.7
<b>Wholesale-retail trade</b>				
Black		3.7	7.9	11.0
White		10.9	14.7	16.3
<b>Financial-business services</b>				
Black		0.8	2.2	2.8
White		2.7	4.5	5.4
<b>Personal services</b>				
Black		3.6	8.1	6.3
White		1.7	2.8	2.8
<b>Professional services</b>				
Black		1.4	2.5	3.8
White		3.2	3.3	4.2
<b>Government</b>				
Black		0.3	1.0	2.3
White		1.2	3.6	5.3
Segregation index		15.0	21.7	19.5
Sample size				
Black		6,012	4,693	5,352
White		18,963	15,106	20,467

Table 2 (continued)

Sources: 1900, 1910: census public use sample; 1940, 1950: 20 percent random sample of census public use tapes; 1940 sample excludes persons with emergency work relief jobs. Farm laborer category includes unskilled laborers, industry not specified, but living on a farm.

Table 3

## Coefficients from Occupation Regressions

## A. Coefficients of Race (=1 if black)

	1900	1910	1940	1950
Farm operator	-0.088*	-0.027*	-0.022	-0.001
Farm laborer	0.039*	0.046*	0.042*	0.033*
Unskilled non-farm laborer	0.155*	0.154*	0.151*	0.172*
Services	0.036*	0.041*	0.077*	0.067*
Domestic			0.028*	
Protective			-0.018*	
Other			0.067*	
Semi-skilled blue collar	-0.011	-0.007	-0.106*	-0.064*
Skilled blue collar	-0.034*	-0.055*	-0.095*	-0.149*
White-collar Prof./tech. Managers	-0.097*	-0.138	-0.046*	-0.084*
Cler./Sales			0.034*	
			-0.036*	
			-0.044*	

## B. Schooling Coefficients (=1 if literate, 1900 and 1910; years of schooling, 1940 and 1950)

Farm operator				
Black	-0.014	0.004	-0.012*	-0.012*
White	-0.073*	-0.028*	-0.016*	-0.010*
Farm laborer				
Black	-0.099*	-0.061*	-0.017*	-0.011*
White	-0.069*	-0.082*	-0.015*	-0.009*
Unskilled non-farm laborer				
Black	0.009	-0.019	-0.010*	-0.012*
White	-0.053*	-0.051*	-0.009*	-0.009*
Services				
Black	0.036*	0.033*	0.014*	0.008*
White	0.003	0.007	-0.001*	-0.001
Domestic				
Black			0.001	
White			-0.0002*	
Protective				
Black			0.0005	
White			0.00005	
Other				
Black			0.013*	
White			-0.001*	

Table 3 (continued)

Semi-skilled blue collar				
Black	-0.007	0.011	0.003**	-0.005
White	-0.003	0.010	-0.012*	-0.021*
Skilled blue collar				
Black	0.029*	0.022*	0.003*	0.009*
White	0.068*	0.048*	-0.001	-0.007*
White-collar				
Black	0.045*	0.024*	0.019*	0.021*
White	0.127*	0.125*	0.054*	0.057*
Prof./tech				
Black			0.013*	
White			0.020*	
Managers				
Black			0.003*	
White			0.015*	
Cler./Sales				
Black			0.003*	
White			0.019*	
C. Migration Coefficients (=1 if interstate migrant in the South)				
Farm operator				
Black	-0.042	-0.074*	-0.087*	-0.062*
White	-0.073*	-0.096*	-0.094*	-0.059*
Farm laborer				
Black	-0.081*	-0.077*	-0.042*	-0.019
White	-0.033*	-0.019*	-0.003	0.005
Unskilled non-farm laborer				
Black	0.071*	0.091*	0.061*	0.009
White	0.021**	0.027*	0.004	0.004
Services				
Black	0.015	0.014**	0.022**	0.026
White	0.0002	0.002	0.03*	0.002
Domestic				
Black			-0.006	
White			-0.0004	
Protective				
Black			0.004**	
White			0.026*	
Other				
Black			0.024*	
White			0.004	
Semi-skilled blue collar				
Black	0.015	0.005	0.024*	0.030
White	0.037*	0.026*	0.006	-0.010

Table 3 (continued)

Skilled blue collar				
Black	0.005	0.023*	0.002	-0.003
White	0.028*	0.037*	0.026*	0.008
White collar				
Black	0.015	0.012*	0.020*	0.011
White	0.053*	0.023*	0.031*	0.050*
Prof./tech.				
Black			0.013*	
White			0.018*	
Managers				
Black			0.005	
White			0.016*	
Cler./sales				
Black			0.002	
White			-0.002	

\*significant at 1 percent level or better

\*\*significant at 5 percent level or better

Significance tests based on least-squares t-statistics.

Source: see Table 2 and text

Table 4

## Coefficients from Industry Regressions

## A. Coefficients of Race (=1 if black)

	1910	1940	1950
Agriculture	0.031*	0.021*	0.030*
Mining-construction	-0.002	-0.050*	-0.041*
Non-durable manufacturing	-0.020*	-0.057*	-0.048*
Durable manufacturing	0.027*	0.006	0.027*
Transportation-communications-			
public utilities	0.019*	0.007	-0.011
Wholesale-retail trade	-0.052*	-0.022*	-0.027**
Financial-business			
services	-0.013*	-0.003	-0.001
Personal services	0.027*	0.064*	0.048*
Professional services	-0.009	0.040*	0.041*
Government	-0.007*	-0.006**	-0.018*

## B. Schooling Coefficients (=1 if literate, 1910; years of schooling, 1940 and 1950)

Agriculture			
Black	-0.064*	-0.029*	-0.024*
White	-0.147*	-0.031*	-0.018*
Mining-construction			
Black	0.005	-0.001	0.0003
White	0.011	-0.005	-0.007
Non-durable manufacturing			
Black	-0.0003	-0.0004	-0.004
White	0.003	-0.0005	-0.001
Durable manufacturing			
Black	0.001	-0.006*	-0.005*
White	-0.002	-0.005*	-0.007*
Transportation-communications-			
public utilities			
Black	-0.002	-0.001	0.002
White	0.024*	0.002*	-0.003*
Wholesale-retail trade			
Black	0.015*	0.006*	0.002
White	0.055*	0.013*	0.010*
Financial-business			
services			
Black	0.008*	0.004*	0.005*
White	0.020*	0.005*	0.007*
Personal services			
Black	0.021*	0.010*	0.007*
White	0.007**	0.001*	0.0002

Table 4 (continued)

Professional services			
Black	0.017*	0.014*	0.012*
White	0.023*	0.013*	0.013*
Government			
Black	-0.0003	0.002*	0.005*
White	0.006**	0.006*	0.006*
C. Coefficients of Migration variable (=1 if interstate migrant in the South)			
Agriculture			
Black	-0.127*	-0.118*	-0.072*
White	-0.116*	-0.086*	-0.060*
Mining-construction			
Black	0.056*	0.054*	0.029
White	0.049*	0.042*	0.020
Non-durable manufacturing			
Black	-0.011**	0.004	-0.012
White	0.020*	0.0004	0.002
Durable manufacturing			
Black	0.040*	0.053*	0.031
White	0.025*	0.013*	0.010
Transportation-communications-public utilities			
Black	0.033*	-0.001	0.028
White	0.014*	0.0006	-0.016
Wholesale-retail trade			
Black	-0.008	0.003	-0.029
White	-0.002	0.006	0.009
Financial-business services			
Black	-0.002	-0.007	-0.010
White	-0.005	0.006	-0.005
Personal services			
Black	0.001	-0.005	0.044
White	0.007*	0.008*	0.010**
Professional services			
Black	0.017*	0.008	0.028
White	0.009*	0.005	0.016*
Government			
Black	0.001	0.002	0.007
White	-0.002	0.006	0.014*

\*significant at 1 percent level or better

\*\*significant at 5 percent level or better

Significance test based on least-squares t-statistics

Source: see Table 3 and text



Table 5

## Segregation Indices

## A. Occupation

	1900	1910	1940	1950
Sample means	26.7	26.1	39.2	37.9
Race	23.1	23.4	26.9	28.4
Percent explained	13.5%	10.3%	31.4%	25.1%
Equal literacy	24.5	24.1		
Percent explained	8.2%	7.9%		
Equal years of schooling			30.8	31.4
Percent explained			21.4%	17.2%
Equal years of schooling, adjusted for school quality			27.9	27.0
Percent explained			28.8%	28.8%

## B. Industry

Sample means		15.0	21.7	18.5
Race	10.4		13.7	14.5
Percent explained		32.0%	36.9%	20.8%
Equal literacy		13.6		
Percent explained		9.3%		
Equal years of schooling			17.2	15.0
Percent explained			20.7%	18.0%
Equal interstate migration rates	15.8		21.1	18.1
Percent explained	-		2.8%	2.2%

Notes: "Equal": white mean = black mean; "-": percent explained less than zero

Source: see text. Sample means: segregation index calculated from regression sample mean occupational and industrial employment shares.

Table 6

## Regressions of Weekly Wages: The South, 1940 and 1950

## A. Black Males

	1940			1950		
	Mean	$\beta$	t-stat	Mean	$\beta$	t-stat
Constant		2.34	40.43		3.08	39.86
Age						
25-34	0.39	-0.15	-4.00	0.35	-0.01	-0.21
45-54	0.19	-0.01	-0.30	0.22	-0.06	-1.05
55-64	0.09	-0.10	-1.62	0.12	0.05	0.74
Years of Schooling $\times 10^{-1}$	0.493	0.32	5.88	0.582	0.33	5.13
Married	0.80	0.03	0.77	0.77	0.09	1.85
Sector:						
Agriculture	0.25	-0.90	-21.08	0.16	-0.69	10.40
Services	0.36	-0.12	-2.97	0.44	-0.003	-0.06
SMSA resident	0.39	0.11	2.98	0.51	0.23	5.09
Region:						
East South Central	0.24	-0.21	5.15	0.23	-0.06	-1.10
West South Central	0.22	-0.14	3.38	0.24	0.02	0.35
Dep. var.	2.14			3.33		
N	1,352			746		
R <sup>2</sup>		0.35			0.28	

## B. White Males

	1940			1950		
	Mean	$\beta$	t-stat	Mean	$\beta$	t-stat
Constant		2.32	41.31		3.40	54.60
Age						
25-34	0.41	-0.16	-4.73	0.36	-0.07	-2.00
45-54	0.20	0.10	2.41	0.22	0.11	2.75
55-64	0.10	0.05	0.44	0.13	0.04	0.94
Years of Schooling $\times 10^{-1}$	0.848	0.69	18.22	0.911	0.50	11.98
Married	0.84	0.15	4.09	0.88	0.16	3.66
Sector						
Agriculture	0.11	-0.97	-20.78	0.08	-0.78	-14.10
Services	0.44	-0.03	-1.00	0.48	-0.11	-3.62
SMSA resident	0.40	0.24	8.19	0.52	0.17	5.86
Region						
East South Central	0.19	-0.13	-3.46	0.17	-0.05	-1.17
West South Central	0.36	-0.006	-0.18	0.38	-0.004	-0.12
Dep. var.	2.94			3.96		
N	2,270			1,627		
R <sup>2</sup>		0.39			0.25	

Table 6 (continued)

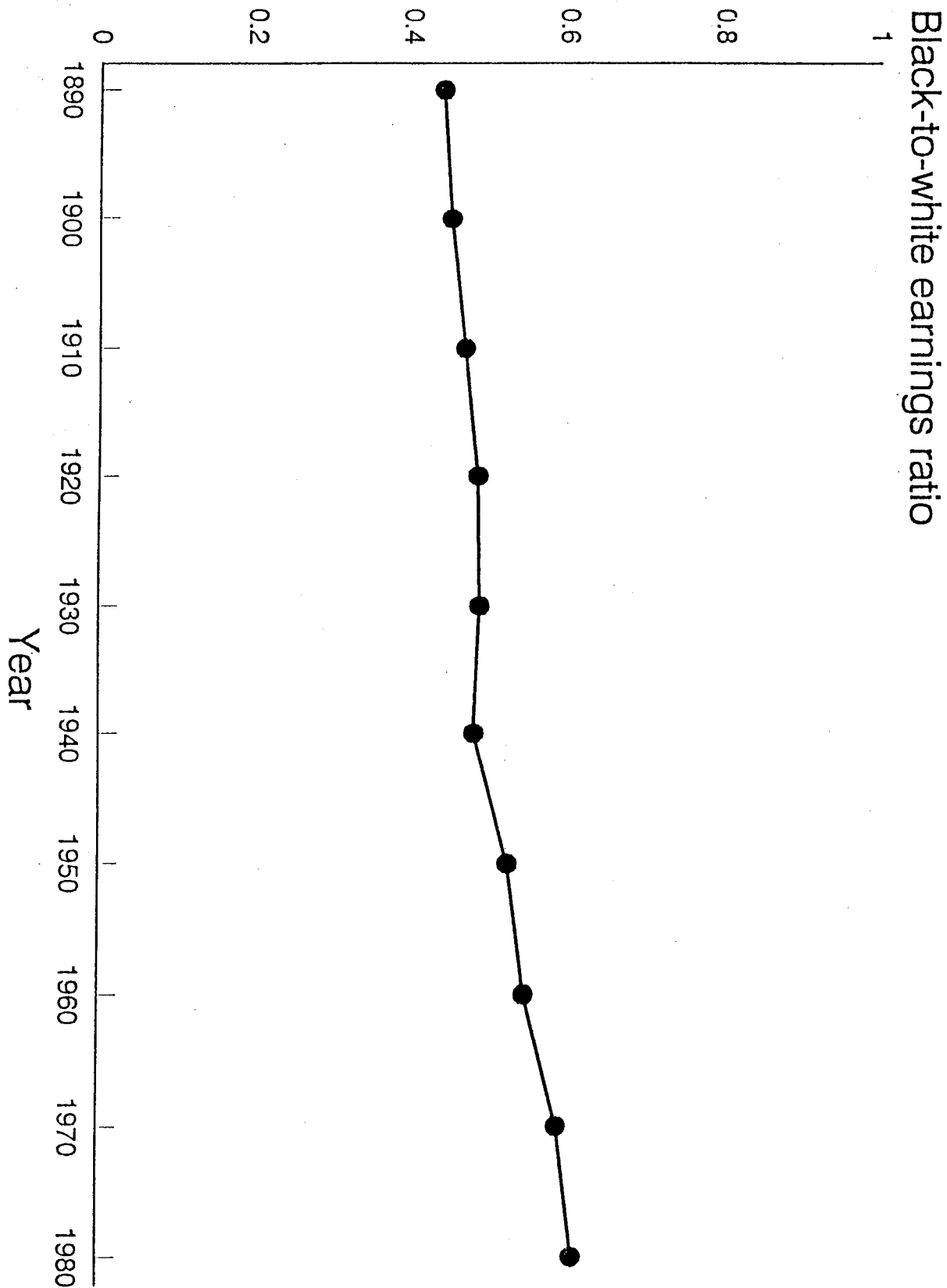
C. Explaining the rise in the black-to-white wage ratio, 1940 to 1950

	Percent Explained			
	Black		White	
	1940	1950	1940	1950
Racial differences in sectoral shift	30.8%	25.8%	35.6%	26.5%
Shift out of agriculture	33.8	26.9	36.4	30.0
Narrowing of racial differences in years of schooling	5.0	5.4	11.3	8.1

Sources: Panels A, B: 10 percent random samples from 1940 and 1950 public use tapes. Dependent variable is log of weekly earnings

Notes to Panel C: Percent explained is  $\beta^i_j (dx^w - dx^b)$ ,  $i =$  black, white,  $j = 1940, 1950$ , where the  $\beta$ 's are the regression coefficients and  $dx$ 's are the changes between 1940 and 1950 in sample means (from Panels A and B); "sectoral shift": total effect of all sectoral shifts.

Figure 1



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