THE WAGE GAINS OF AFRICAN-AMERICAN WOMEN IN THE 1940S

by

Martha J. Bailey and William J. Collins

Working Paper No. 04-W16

June 2004

DEPARTMENT OF ECONOMICS
VANDERBILT UNIVERSITY
NASHVILLE, TN 37235

www.vanderbilt.edu/econ

The Wage Gains of African-American Women in the 1940s

Martha J. Bailey

William J. Collins

June 30, 2004

Abstract: The weekly wage gap between black and white female workers narrowed by 15 percentage points during the 1940s. We employ a semi-parametric technique to decompose changes in the distribution of wages. We find that changes in worker characteristics (such as education, occupation and industry, and region of residence) can account for a significant portion of wage convergence between black and white women, but that changes in the wage structure, including large black-specific gains within regions, occupations, industries, and educational groups, made the largest contributions. The single most important contributing factor to the observed convergence was a sharp increase in the relative wages of service workers (where black workers were heavily concentrated) even as black women moved out of domestic service jobs.

Contact: Department of Economics, Box 351819-B, Vanderbilt University, Nashville, TN 37235.

1. Introduction

During the 1940s, the average real weekly wages of black women nearly doubled, thereby narrowing the racial earnings gap among women by a full 15 percentage points.[1] Although racial convergence slowed in the 1950s, it is clear that there was no reversion toward the pre-war black/white earnings ratio, and so the large episodic gains of the 1940s proved highly durable.[2] This episode of wage convergence constitutes an important chapter in the larger story of how race, gender, and labor-market forces have interacted over the course of American history.

Previous studies of labor markets in the 1940s have emphasized changes in the distribution of wages among men by skill group (Goldin and Margo 1992) and race (Maloney 1994, Margo 1995, Collins 2000), or changes in the labor force participation of white women (Goldin 1991). Long-run studies of labor market disparities between black and white women have tended to focus on occupational changes. For example, Sundstrom (2000) documents the dramatic occupational redistribution of black women between 1940 and 1980, with emphasis on their movement into the clerical sector after 1960. Cunningham and Zalokar (1992) also emphasize changes in occupational distributions in the context of examining relative wage gains from 1940 to 1980. However, because their paper examines changes over twenty-year periods (1940, 1960, and 1980), it tends to blur the distinctiveness of

---

[1] The consumer price index was used for deflation. The figures are calculated using the wage income variable of the Integrated Public Use Microdata Series. Average weekly wages for black women rose from $13 to $24 (1950 dollars). The black/white ratio increased from 0.44 to 0.59. See table 2 notes for sample restrictions. Cunningham and Zalokar (1992) report results of a similar magnitude (0.44 to 0.64) for estimates of hourly wages. Ad hoc adjustments for cost of living differences between metropolitan areas and non-metropolitans areas (discounting metro area income by 20 percent) have little effect on the magnitude of the wage gains. And, as discussed later, the bulk of the absolute and the relative gains were not driven by selection into the labor force.

[2] It is impossible to document changes in the 1930s earnings distribution in the absence of nationally representative income data, but the scope for racial convergence during the Depression would have been narrow. An exercise similar to that undertaken by Smith (1984), but applied to the job distributions of women, suggests no inter-racial change in the 1930s. Goldin and Margo (1992) do not find wage compression across skill groups in the 1930s (though not gender or race specific). For the 1940s, it is clear that most of the job redistribution that we observe from 1940 to 1950 was already in place by 1944 (Bureau of Labor Statistics 1945), and the minimum wage and its coverage was unchanged from 1945 to 1950.

the 1940s and to limit its investigation of any particular decade.[3]

This paper focuses specifically on the absolute and relative wage gains of black women in the 1940s. We start by assessing the relative importance of increasing educational attainment, occupational and industrial shifts, geographic relocation, and changing personal characteristics (e.g., age and marital status) of women in the labor force. Then, we explore the influence of the changing structure of wages across occupations, industries, regions, and educational groups. We find that within-occupation changes in earnings were at least as important as the redistribution of workers across jobs and places of residence.

Our methodological approach for decomposing wage gains differs from previous studies in technique, but not in spirit. To measure the contribution of changing worker characteristics, we use a semi-parametric decomposition technique, originally developed by DiNardo, Fortin, and Lemieux (1996). Essentially, we re-weight individuals observed in 1950 to resemble (in terms of worker characteristics) the individuals observed in 1940. One basic advantage of this approach is that it facilitates both an analytical decomposition and a graphical presentation of changes across the entire wage distribution, rather than focusing exclusively on changes at the distribution's mean. A second advantage is that one can retain the complete 1950 wage structure while adjusting individual characteristics, rather than weighting changes in characteristics by a vector of regression coefficients. Thus, the counterfactuals obtained using this technique provide both richer characterization of racial wage convergence over the 1940s and require fewer parametric assumptions than the more standard Oaxaca decompositions. After adjusting for changes in characteristics, we adjust for changes in the structure of wages based on race-specific wage regressions for 1940 and 1950.

Our results suggest that racial wage convergence among women differs in important ways from the story for men (cf. Maloney, 1994; Margo, 1995), although it shares some common themes. As with

---

[3] Anderson (1982) discusses pervasive labor market discrimination faced by black women during the 1940s, including their treatment during the post-war reconversion of industry.

men, increasing educational attainment, migration, occupational and industrial shifts, and differential wage changes across job categories contributed meaningfully to earnings convergence between black and white women. But differential wage changes across job categories appear to be much more important among women than among men.[4] The crucial categories for understanding women's wage convergence are service and clerical jobs. Black women were heavily concentrated in the occupational category (service) that recorded the largest earnings gains during the 1940s, whereas white women were heavily concentrated in the occupational category (clerical) that recorded the smallest gains. A second notable difference between the story for women and that for men is that there was virtually no compression within the black women's income distribution, whereas there is evidence of strong compression in the income distributions for white women, white men, and black men.

Returning to a feature that bears a strong resemblance to the men's story, we find that a sizable portion of black women's relative gains cannot be accounted for by changes in workers' observable characteristics or by changes in the general wage structure. Even when controlling for all observable characteristics, there was a widespread rise in black women's non-agricultural wages relative to white women's. Given the flow of black women into non-agricultural jobs, these widespread relative wage gains are consistent with an increase in the non-agricultural sector's relative demand for black women. Although we cannot directly measure discrimination, we document significant changes in the likelihood of black women's employment in operative and household service jobs after accounting for observable characteristics. This evidence suggests a changing pattern of labor market discrimination that lasted well beyond the exceptional labor market conditions of World War II.

2. A Characterization of Black Women's Labor Market Outcomes during the 1940s

Owing largely to the extraordinary demands of wartime production and military conscription, the 1940s witnessed a high level of job and geographic mobility (Wolfbein 1945, Palmer 1954). Using data

---

[4] Maloney, for example, attributes 0.04 log points of mean wage convergence among men to changes in occupation and industry wage coefficients (1994, p. 372), whereas we attribute about 0.09 log points among

from the 1940 and 1950 federal censuses, as reported in the Integrated Public Use Microdata Series (IPUMS, Ruggles and Sobek 1997), we start by illustrating the pattern of wage growth among black women, and we highlight how it differs from that of other groups. Then, we characterize the redistribution of workers that accompanied and underpinned the observed wage changes.

Earnings growth and compression

Figure 1 plots the 1939 and 1949 distribution of the log of real weekly earnings in 1950 dollars for both white and black women, including vertical lines at the distributions' medians. The samples include workers between the ages of 18 and 64, who were not in school, in the Armed Forces, or self-employed (because non-wage income is not reported in 1940); who were not farmers, farm managers, or farm workers; who did not reside in institutional group quarters; and who worked more than four weeks in the previous calendar year.[5] It is not possible to adjust perfectly for hours of work per week because the census question pertains to the previous week rather than to the previous year (for which income and weeks are reported). But later in the paper, we do account for reported hours worked in the decomposition analysis. Although one might expect unobserved, in-kind payments to be quite important for domestic servants, robustness checks (discussed later in the paper) suggest that the potential impact of these payments on our results is slight.

Panel A of figure 1 shows that in 1939 black women's weekly earnings at each percentile fell far below the earnings of white women. By 1950, these disparities had narrowed considerably, as shown in panel B. The earnings distributions of both groups shifted rightward, but the black women's distribution converged strongly upon that of white women. This is clearly reflected in the narrowing space between the vertical lines indicating each distribution's median. By 1950, the median of the black distribution was

---

women.
[5] In 1940, only wage and salary income are reported, and therefore the self-employed (including farmers) generally will not have accurate income figures recorded in that year. For consistency, we exclude workers who are not classified primarily as wage and salary workers in both 1940 and 1950. We also exclude relief workers in 1940 and extreme outliers in terms of weekly wages.

near the 15th percentile of the white distribution, and the 90th percentile of the black distribution increased from about the 45th percentile of the white distribution to above the 65th.

Although the rate of increase among black women was large relative to the rates for white women and white men at almost every percentile, wages gains varied considerably across the distribution. Figure 2 plots the increase in real weekly wages between 1940 and 1950 by percentile in the income distributions for black and white women as well as for men. All four plots rest well above zero, which reflects real wage gains throughout the income distribution for men and women of both race categories. At the medians, blacks' weekly earnings (for both men and women) increased at nearly twice the rate of those for whites.

Another notable feature of Figure 2 is that for each group *except* black women, the graphs trend strongly downward and reflect the compression of wages within race-gender categories.[6] For black men, for instance, the percentage increases in wages at the 20th percentile were almost twice as large as those at the 80th percentile. In contrast, the increases for black women were comparable throughout the distribution, and so the graph for black women is relatively flat.

Labor mobility

Differential wage changes across race categories may have been driven in part by disparate patterns of labor mobility. Tables 1A and 1B document the occupational and industrial redistribution of black and white women during the 1940s. The samples used for these tables are larger than those used for figures 1 and 2. To provide the broadest view possible of the activities of women in each census year, the samples include all available observations for whites and blacks between 18 and 64 years old.

The first line of table 1 indicates that black women's labor force participation rate was nearly identical in 1940 and 1950, whereas white women's participation rate increased by approximately four percentage points. Even so, significantly more black women (43 percent) than white (33 percent) were in

---

[6] There is compression in the sense that the percentage change in income is larger below the median than

the labor force in 1950. In both years, unemployment (line two of table 1) among black women exceeded that of white women by slightly more than two percentage points.

Among employed women, racial differences in the distributions across industries and occupations reflected differences in geographic and skill distributions, as well as pervasive labor market discrimination (Myrdal 1944, Goldin 1990). In both 1940 and 1950, white women were much more likely than black women to be employed in professional, clerical, sales, and operative jobs. In contrast, even after accounting for observable characteristics, African-American women were much more likely to be employed in household service. Conditional on being employed, a simple probit regression of "household service occupation" on a series of individual characteristics (e.g., age, marital status, child at home, education, region, and metropolitan status) and a dummy variable for race (=1 if black), returns a large positive coefficient on the race dummy (dF/dX = 0.43 in 1940). This echoes the arguments of both Margo (1990) and Sundstrom (2000). Around mid-century, educational differences cannot fully explain pervasive occupational segregation by race, a point we return to in section 5.[7]

Between 1940 and 1950, the occupational and industrial distributions of women changed rapidly. For black women, occupational change in table 1A is most evident in the decline in employment in household service and farm labor, and in large increases in operative jobs and in service work outside households. Although the proportion of white women employed in household service also declined (from a relatively low base), the proportion working as operatives remained fairly constant. Instead, white women tended to shift into the clerical sector, where their representation increased by almost seven percentage points.

The industrial redistributions in table 1B mirror those in the occupational data. For black women, increases in three primary industries — manufacturing, trade, and professional services industries (e.g., hospitals and education) — offset the declines in personal service and agricultural

---

above it, although absolute dollar gains need not reflect the same pattern.
[7] Margo (1990) focuses on men, but our analysis suggests that the results for women would be qualitatively

employment. These industrial shifts are similar to those reported by the Bureau of Labor Statistics for the 1940 to 1944 period (Wolfbein 1945, p. 2), confirming World War II's central place in the story. With the exception of personal service, the industrial transitions of white women are much less concentrated than those for black women.

Finally, the occupational and industrial redistribution was accompanied by a high volume of geographic mobility, the net impact of which is reflected in table 1C. The 1940s were the most important decade of the "Great Migration" of African-Americans from the South. In just ten years, the proportion of black women living in the South declined from 74 to 64 percent (whereas the proportion of whites living in the South increased very slightly to just over 26 percent). Most of the black migrants went to the Midwest and Northeast, and for the first time, a large number moved to the West. Even within the South, the shift from rural to urban areas was strong for both black and white women, as the proportion of southern blacks residing in metropolitan areas increased from 33 to 40 percent.

The labor demand surge associated with World War II was met by a large redistribution of workers across jobs and locations. At this stage, the quantitative contribution of this redistribution to the absolute and relative wage gains of black women is unclear. But by decomposing the earnings data, we can get a better view of the labor-market links that underpinned the shifting wage distributions. We start by focusing on changes in the observable characteristics of workers (in section 3), and then shift our attention to changes in the returns to these characteristics (in section 4).

3. **Decomposing Changes in the Worker Characteristics**

Our decomposition employs a semi-parametric approach developed by DiNardo, Fortin and Lemieux (1996, henceforth "DFL"). This approach is similar in spirit to standard Blinder-Oaxaca decompositions (Blinder 1973, Oaxaca 1973), and as such, it involves estimating counterfactual wages that reflect changes in worker characteristics and wage structures. The DFL approach re-weights observations from 1950 in such a way that the distribution of individuals' characteristics resembles the

similar. 7

distribution of characteristics from 1940 while retaining the 1950 wage structure for each race. This provides a visual and quantitative assessment of the proximate factors contributing to women's wage gains at each point in the distribution rather than just at the distributions' means, and does so without recourse to weights from a regression that characterizes the wage structure of just one race category.

Let the wage distribution be characterized by a continuous, nonnegative random variable, W, and a binary random variable, t_w, indicating the time period (1940 or 1950) in which W is observed. Thus, the pair $(W, t_w=50)$ characterizes the wage distribution in 1950, and $(W, t_w=40)$ the wage distribution in 1940. Similarly, the pair (X, t_x) is comprised of a vector of individual characteristics, X, and a binary variable, t_x, indicating the time period in which X is observed. Further, assume that wages and characteristics share a joint distribution denoted as $F_{W,X,t_w,t_x}(w,x,t_w,t_x)$. Using Bayes' rule, the marginal density of wages in 1950 can be written:

$$f_{50}(w) = f(w;t_w = 50, t_x = 50) = \int f(w \mid x, t_w = 50) dF_X(x \mid t_x = 50) = E_X\{f(w \mid X, t_w = 50)\} \qquad (1)$$

Thus, the actual density of wages at a particular point, w, is equivalent to the expected value of the conditional density of wages given the vector of characteristics.

As is common in decomposition analyses, we ignore potential general equilibrium and spillover effects.[8] Under this assumption, the counterfactual density of wages that would have prevailed if worker characteristics had remained as in 1940 can be written as a weighted function of the actual 1950 density:

$$
\begin{aligned}
f(w;t_w = 50, t_x = 40) &= \int f(w \mid x, t_w = 50) dF(x \mid t_x = 40) \\
&= \int f(w \mid x, t_w = 50) \frac{dF(x \mid t_x = 40)}{dF(x \mid t_x = 50)} dF(x \mid t_x = 50) \\
&= E_X\{f_{50}(w \mid X, t_w = 50) \times \mathbf{y}_x(X)\}
\end{aligned}
\qquad (2)
$$

where $\mathbf{y}(x) = \dfrac{dF(x \mid t_x = 40)}{dF(x \mid t_x = 50)}$ is a counterfactual "reweighting function" applied to the 1950 wage density.

This weight function is simply the ratio of the probability mass in 1940 to that in 1950 for the realization of a specific set of characteristics, X. For instance, a woman (observed in 1950) whose characteristics

---

[8] See Acemoglu, Autor, and Lyle (2004) on the potential effect of women's labor supply changes on wage

are less likely to be found in the labor market in 1940 receives less weight in the counterfactual

distribution. Thus, the counterfactual density is obtained by reweighting every individual observed in

1950 such that the distribution of individual characteristics resembles the distribution of Xs in 1940.

While more standard decomposition techniques summarize the wage structure in a vector of *estimated*

coefficients, the reweighting of characteristics requires no such estimates and retains the complete 1950

pay scale as observed in the empirical distribution.

The high-dimensional reweighting function can be transformed into a one-dimensional estimation

problem by again applying Bayes' rule and the definition of discrete probability functions:

$$\Psi_x = \frac{dF(x \mid t_x = 40)}{dF(x \mid t_x = 50)} = \frac{dF(t_x = 40 \mid x)dF(x)}{dF(t_x = 50 \mid x)dF(x)} \cdot \frac{dF(t_x = 50)}{dF(t_x = 40)} = \frac{P(t_x = 40 \mid x)}{P(t_x = 50 \mid x)} \cdot \frac{P(t_x = 50)}{P(t_x = 40)}. \tag{3}$$

The first ratio in the final expression can be estimated using a standard probit model, and the second

ratio of the unconditional probabilities can be replaced with the ratio of the count of observations in 1950

relative to 1940. After obtaining estimates of $\hat{\Psi}_x$, the empirical distribution and the weights are used to

compute the counterfactual wage distribution. More details on our implementation of this method are

available in appendix 1.

In the context of this paper's investigation, it is useful to partition the vector of individual

characteristics, X, into four subsets: individual attributes including eight age categories, six hours

categories, and indicator variables for marital status and the presence of a child at home; a set of five

dummy variables denoted the levels of educational attainment; a set of eleven occupational and ten

industrial categories; and finally a set of indicator variables for the nine census regions and metropolitan

residence. We elaborate on the exact specification of each of these variables in appendix 2.

---

inequality during the 1940s.

Decomposing the Impact of Changes in Worker Characteristics on Weekly Earnings

Beginning with the observed 1950 earnings distribution, we first re-weight the distribution of personal characteristics, then educational attainment, then occupations and industries, and finally the distribution of workers across geographic location. We choose this sequence to adjust, first, for pre-war factors (childbearing, marital, and educational decisions as well as hours as a proxy for worker preferences for work); this is similar in spirit to correcting for selection on observable worker characteristics.[9] Following this correction, we examine how the labor markets of the 1940s resorted workers across jobs and locations. At each step along the way, the new counterfactual distribution allows us to assess how changes in a subset of characteristics may have transformed the overall distribution of wages, while retaining the 1950 wage structure.

Table 2 decomposes the absolute real income gains of black (panel A) and white (panel B) women during the 1940s. Taken together, changes in observable characteristics (line 2 of panel A) account for an increase of 0.14 log points at the mean of the black women's distribution, or about one quarter of their average earnings gains during the decade. However, changes in characteristics can account for none of the wage gains at the 10th percentile of the black distribution. The significance of changes in characteristics to the overall distribution of black women's wages is illustrated in figure 3, panel A, which presents both the original 1950 distribution and a counterfactual distribution adjusted for changes in all characteristics.[10] Both the graphical depiction in figure 3 and the analytical results in table 2 suggest that returning black workers' characteristics to their 1940 levels would have substantially

---

[9] This approach is similar in spirit to corrections for selectivity bias at the mean. For instance, Blau and Beller (1992) estimate a wage regression for participants and evaluate the model at the means for non-participants to obtain the imputed mean wage for non-participants. We do not impute the wages of individuals based upon inferences from the 1950 distribution, nor adjust mean attributes back to 1940 levels. Our correction strategy reweights the 1950 distribution of attributes to resemble the 1940 distribution of attributes. This should effectively account for shifts of selection into the labor market based on *observable* characteristics. Of course, differential changes unobservable characteristics cannot be directly measured in a decomposition framework.

[10] For white women (table 2, panel B), the total increase at the mean is much smaller than for blacks, as is the contribution of changes in observable characteristics (0.06 log points, or 19 percent of the mean gain).

reduced earnings among black women throughout the midsection of the distribution.

Table 2 also breaks down results into four subcomponents. For black women (Panel A), changes in the basic composition of the work force (i.e., age, marital status, child at home, and hours) tended to raise weekly wages by the largest amount at and above the median. In contrast, the influence of personal characteristics is smaller for white women and evident throughout the distribution.[11] Changes in educational attainment had positive and relatively uniform effects throughout the distributions for both black and white women, but for black women the contributions were somewhat larger.

Occupational and industrial changes made almost no difference to the earnings profile of white women, except at the low end of the percentile distribution where the decline in domestic service would be most influential for whites.[12] For black women, however, occupational and industrial shifts made their biggest impact at the middle of the percentile distribution, accounting for a 0.09 log point increase in wages (14 percent of total). Again, this largely reflects the shift out of domestic service employment, and it represents the single largest contribution (at any percentile) coming from a change in observable characteristics.

The geographic redistribution out of the rural South and into cities went hand in hand with the occupational and industrial redistributions. After accounting for occupational and industrial shifts, the remaining influence of geographic shifts was small for both black and white women. This suggests that the Great Migration's influence on black women's earnings was inextricably linked to the job changes that migration facilitated.

Most of these changes in characteristics had larger positive effects on the wages of black women and, by extension, contributed to the overall racial convergence in earnings. Table 3 combines the information from the two panels of table 2 to highlight the contributions of changes in characteristics to

---

[11] The nature of the decomposition, which adjusts for personal characteristics simultaneously, makes it difficult to infer precisely what drives this result. But a Oaxaca decomposition at the means suggests that no single factor or characteristic is responsible.

[12] It is possible, of course, that non-pecuniary aspects of the their jobs improved.

racial earnings convergence. The median of the black real earnings distribution increased by 0.66 log points, far greater than the 0.37 increase experienced by white women. At other points in the distribution, however, table 3 indicates that the relative gains were very different, as initially suggested by figure 2. Wages at the 10th percentile of the black women's distribution declined relative to those at the 10th percentile of the white distribution, but at every other percentile, the gains for blacks were larger than for whites. The unevenness of the relative gains over the percentiles reflects the strong compression of wages among white women (i.e., slow wage growth at 90th percentile compared to 10th) and the lack of compression in the distribution for black women.

Each line of table 3 estimates how changes in relative characteristics contributed to racial earnings convergence. Occupational and industrial shifts appear to have been the most important factors for racial convergence, especially from the 50th to 75th percentiles. Combining the "region/metro" and "occupation/industry" rows of table 3 suggests that the redistribution of workers across jobs and locations made an economically significant, direct contribution to blacks' gains relative to whites, especially above the 25th percentile.

The implications of differential trends in educational attainment are a major theme in the economics literature on wage convergence among black and white men (Smith and Welch 1984; Margo 1990; Donohue, Heckman, and Todd 2002). As the century progressed, the racial gap in educational attainment among workers narrowed as better-educated black cohorts replaced poorly educated black cohorts. This long-term process contributed to the decline in the racial earnings gap during the 1940s, but the contribution is relatively small. This finding does not undercut the economic importance of educational gains among African-Americans. Rather, the small contribution to racial earnings convergence reflects increasing educational attainment among both white and black women workers during the decade.

Because the 1940s are often cited as a period of significant change in the labor force participation of women, particularly white married women, a fundamental question arises regarding the

observed racial convergence in income among women: Do the relative gains by black women primarily represent true improvements in labor market outcomes, or do they reflect strong shifts in the characteristics of white workers?[13] We can approach this question from two avenues. First, table 3 shows that the influence of differential changes in age, marital status, child-at-home, and hours worked grows larger at higher percentiles, but the strong racial convergence of the 1940s certainly was not primarily a reflection of relative changes in worker characteristics.

Second, although we cannot observe workers' experience level in the census data (a potentially important omitted variable), we can make useful comparisons using the unique retrospective information in the Palmer Survey. The study, directed by Gladys Palmer, collected work histories in 1951 for more than 4,000 female workers residing in Chicago, Los Angeles, New Haven, Philadelphia, San Francisco or St. Paul. In these data, there is no statistically or economically significant difference between races in the number of months that women (who were still in the labor force in 1950) worked during the 1940s.[14] While this evidence does not completely dismiss the hypothesis that differential changes in experience levels mattered, it does deflate the notion that white female workers in 1950 were much less experienced than black workers.

All together, approximately 0.08 log points at the means and 0.16 at the medians can be attributed to differential racial shifts in observable characteristics, or about one third to one half of the decade's total wage convergence. Around the center of the black women's distribution, changes in occupation and industry made the largest contributions to the observed convergence. As detailed below, the remainder of the convergence was driven by sharp changes in the structure of women's

---

[13] For example, between 1940 and 1950, there was a relatively large increase in the proportion of white female workers who were married (from about 33 to 53 percent in our sample); the increase among black workers was smaller (from 38 to 46 percent).

[14] The Palmer Survey (also known as the Six-City Survey) is the only dataset that we know of that contains longitudinal information on women's labor market experiences during the 1940s (Palmer 1954). Only women in the labor force at the time of the survey (1951) are included. A simple regression of months in the labor force during the 1940s on city dummies and a race dummy indicates that white women worked about 1.8 months less than black women during the 1940s, but the difference is not statistically significant. On average, both groups worked approximately 90 months (out of a possible 120). We thank Claudia

wages.

4. Decomposing Changes in the Wage Structure

The changing structure of wages across regions, occupations, and educational groups during the 1940s had strong implications for the racial gap in earnings. In broad terms, the changes in the wage structure were similar for black and white women: service wages increased relative to other fields; wages in the South increased relative to other those in other regions; the relative returns to high levels of education fell; and baseline real wages increased. But because black and white women were distributed quite differently across occupations, regions, and educational groups, the changes in the wage structure had different implications for the distribution of wages for black and white women and favored reductions in the overall gap in earnings. Moreover, the wage gains within categories for blacks were often larger than for whites.

Characterizing Within-Group Wage Changes

Table 4 provides quantitative perspective on changes in the wage distribution across occupations, regions, and educational groups by race. The first column simply lists the proportion of black or white female workers in four broad occupational categories in 1950. The second column reports the average change in real weekly wages for women in a particular category (by race) from 1940 to 1950. The third column is the product of the first two, since large within-category wage changes carry more weight if they occur in categories that include a large proportion of workers.

Because the change in wages within occupational categories could reflect not only "pure" changes in occupational wages but also in the characteristics of those in the occupation cell, we have also calculated an "adjusted change". For each occupation, the adjustment is made by regressing wages for a sample of all workers in 1940 and 1950 by race on all of the characteristics other than occupation

---

Goldin for sharing the data with us.

14

and industry specifications and a year dummy for 1950.[15] In this manner, we purge the overall change in earnings of changes attributable to observable characteristics and report the coefficient on the year dummy as the adjusted within-occupation change in earnings in column 4.

Several interesting points emerge. Panel A of table 4 reveals a large increase in the average earnings of female service workers during the 1940s (0.55 log points), and as noted above, black women were heavily concentrated in these jobs. Although wage gains in the service category for white women were also large (0.45 log points), the effect on the overall white wage structure was much smaller because so few white women worked in service occupations. Rather, white women were highly concentrated in the professional, clerical, and sales category, and earnings gains in that category were small in comparison (0.19 log points). Thus, black workers were highly concentrated in the occupational category in which they experienced the largest earnings gains, whereas whites were highly concentrated in the occupational category in which they experienced the smallest earnings gains. These broad patterns remain even after adjusting for observable characteristics (columns 4 and 5).

Panel B reports wages across regions. Earnings of southern blacks converged on the earnings of blacks elsewhere in the country, and within every region, black wage gains far exceeded those of whites. Differential regional trends in earnings had a much smaller proximate influence on white women's wages than on black women's. As in the occupational breakdown, black women were highly concentrated in the geographic areas in which they experienced their largest wage gains, and this impression is unchanged after adjusting for observable characteristics. Nonetheless, the importance of the differential wage growth in the South should not be overstated: assigning southern black women the 0.50 log point wage gains that occurred elsewhere (rather than the 0.59 log point increase that actually occurred) would lower the national average wage gain by only a few percentage points.

Finally, Panel C describes much greater wage growth for black women in every educational

---

[15] These characteristics include a set of age, education, hours, and region of residence dummy variables as well as a binary indicator for marital status, metropolitan residence and the presence of a child at home. See

category than for white women. Among whites, the wage gains got progressively smaller at higher rungs in the educational ladder, but strong earnings growth for black women occurred across educational groups. Since nearly 80 percent of black female workers had less than 12 years of education in 1950, strong wage growth within the less educated groups was crucial to the group's overall income gains. An interesting aspect of the black gains within educational groups is that for those with 12 or more years of education the "adjusted" change is much smaller than the "raw" change, implying that a substantial amount of the raw gain during for relatively well-educated blacks during the 1940s was driven by occupational upgrading and regional redistribution.

In short, the racial convergence in earnings among women was a widespread phenomenon. Whether the data are partitioned by region, educational attainment, or occupation, black women in nearly every cell gained ground relative whites.

Decomposing the Impact of Changes in Labor Market Prices on Weekly Earnings

The combined implications of these differential changes on the overall wage distribution are highlighted in the final phase of our decomposition. In this step, we compute changes in regression coefficients to assess the influence of the changing structure of wages during the 1940s. First, we estimate separate wage regressions for white and black women in 1940 and 1950, including controls for age, education, region, occupational and industrial categories, marital and child status, and metropolitan residence (results are reported in appendix table A1), or

$$W_{iy}^{r} = X_{iy}^{r} \, \boldsymbol{b}_{iy}^{r} + \boldsymbol{e}_{iy}^{r} \tag{4}$$

where r indexes race and y indexes the year.[16] Based on the estimates of $\boldsymbol{b}$ from these regressions, we predict a counterfactual 1940 wage for each woman observed in the 1950 sample as:

---

appendix 2 for a detailed description of these variables.

[16] The omitted category consists of unmarried women, ages 35 to 39, with 9 to 11 years of schooling, who worked as non-durable manufacturing operatives for 31 to 40 hours in the week before the census, and lived in the East North Central census division. Any reference to changes in "baseline" wages or to change in the constant term of regressions implicitly refers to this group.

$$\hat{w}_{i40}^{r} = W_{i50}^{r} - X_{i50}^{r}(\hat{b}_{i50}^{r} - \hat{b}_{i40}^{r}). \tag{5}$$

The wage changes for black women can be decomposed into a part attributable to changes in the overall wage structure (represented by changes in the white regression coefficients) and a part attributable to differential changes in the wage structure for black relative to white women. Thus, the simulated 1940 wage for a black woman observed in 1950 can be written as:

$$\begin{aligned}
\hat{w}_{i40}^{B} &= W_{i50}^{B} - X_{i50}^{B}[\hat{b}_{i50}^{B} - \hat{b}_{i40}^{B} - (\hat{b}_{i50}^{W} - \hat{b}_{i40}^{W}) + (\hat{b}_{i50}^{W} - \hat{b}_{i40}^{W})] \\
&= W_{i50}^{B} - X_{i50}^{B}[(\hat{b}_{i50}^{W} - \hat{b}_{i40}^{W})] - X_{i50}^{B}[(\hat{b}_{i50}^{B} - \hat{b}_{i40}^{B}) - (\hat{b}_{i50}^{W} - \hat{b}_{i40}^{W})]. \tag{6}
\end{aligned}$$

In equation 6, $X_{i50}^{B}[(\hat{b}_{i50}^{W} - \hat{b}_{i40}^{W})]$ captures the change in black wages associated with changes in the general (white) wage structure for women. The next component, $X_{i50}^{B}[(\hat{b}_{i50}^{B} - \hat{b}_{i40}^{B}) - (\hat{b}_{i50}^{W} - \hat{b}_{i40}^{W})]$, captures the influence of differential changes the black wage structure relative to the white structure. This adjustment essentially revalues the 1950 characteristics according to the 1940 wage structure. In combination with the procedure that re-weights the 1950 observations to match the 1940 distribution of characteristics, this adjustment simulates the full 1940 wage distribution.[17]

Table 5 breaks the absolute real wage changes for black women into four components: the influence of changing characteristics (as derived in table 2), the influence of changes in the general wage structure for women, the influence of differential changes in the wage structure for black women (relative to whites), and a residual. At the median and mean, the contribution of wage structure changes is more than twice that of changes in characteristics. In other words, near the center of the distribution, changes in characteristics account for one-quarter to one-third of black women's absolute wages gains, while changes in the wage structure account for two-thirds to three-quarters. Differential changes in the wage structure for black women (relative to whites) account for roughly 15 percent of the absolute wage gains.

---

[17] Although this is a description of the general procedure, we actually adjust the prices *after* first reweighting 1950 characteristics to reflect those observed in 1940. Thus, after obtaining the estimates from equation 6, we use the distribution generated by $q_i y_i^{B} \hat{w}_{i40}^{B} = q_i y_i^{B} W_{i50}^{B} - q_i y_i^{B} X_{i50}^{B}[\hat{b}_{i50}^{B} - \hat{b}_{i40}^{B}]$, where q_i denotes the sample line weight assigned to individual i in 1950, to decompose the prices and report the numbers obtained at different percentiles in table 5 and table 6.

In addition to these computations, a visual assessment of the magnitude of these changes can be made

using in figure 3. Panel B reflects the adjustments associated with changes in the general wage structure,

and panel C reflects the additional adjustment associated with black-specific changes in wages. As for

other groups, changes in the wage structure are tremendously important in explaining the wage gains of

black women over this period.

These overall changes in the wage structure are decomposed into subcomponents in the lower

two panels of table 5. For example, under the "general wage structure" category in panel B, the

"occupation/industry" subcomponent reports the influence of changes in the market returns to various

jobs based on changes in the white regression coefficients. Changes in the returns to education, which

tended to benefit those with few years of education, had their largest impact at the bottom of the wage

distribution (0.05 log points). The "constant" row is simply the estimated change in baseline weekly

earnings for the omitted category, which reflects a large (0.36 log points) rightward shift of the wage

distribution.[18]

Changes in the black-specific wage structure are decomposed in panel C of table 5. Differential

wage changes within occupation and industry cells made a large contribution to black women's wage

gains (approximately 0.11 log points throughout distribution), implying that 16 to 23 percent of black

women's total wage gains can be associated with race-specific changes in the structure of wages across

occupations and industries. In addition, the baseline wage gains for black women were large compared

to those for whites (an additional 0.10 log points). We discuss possible interpretations of this shift

below.

Table 6 reports a similar breakdown for white women.[19] Importantly, changes in the coefficients

---

[18] In a decomposition framework, this kind of shift cannot be explained. It reflects a general rise in the
wage level, associated with some combination of labor productivity increases, business cycle conditions, and
institutional factors (e.g., minimum wage and unionization). Though important and worthy of study, an
examination of those issues is beyond the scope of this paper.
[19] Because the changing wage structure for white women is used to represent the "general change" in the
wage structure, there are no separate race-specific rows in the table.

on occupation and industry groups tended to lower white women's wages during the 1940s relative to the omitted categories (operatives, manufacturing). In fact, significant declines in the earnings premiums occurred in professional, clerical, and sales jobs—the occupations employing high concentrations of white women. The shifts in regional and metropolitan residence coefficients also tended to lower white women's relative wages throughout the percentile distribution relative to the omitted group (East North Central region, non-metropolitan).

Table 7 condenses the combined implications of tables 5 and 6 and summarizes the paper's central empirical results. First, near and above the center of the distribution, black wages increased by nearly 0.30 log points relative to whites. Second, changes in relative characteristics, especially changes in the distributions of workers over jobs and locations, made significant contributions to racial convergence, explaining about one third of all convergence at the means (and more at the medians). Third, changes in the general wage structure and changes in the black-specific wage structure made even larger contributions than changes in characteristics throughout the percentile distribution. This is driven largely by changes in relative wages across occupations and industries and by increases in blacks' wages relative to whites within occupations and industries.

5. Service Jobs, Discrimination, and Black Wage Gains

The movement out of service jobs and, just as importantly, earnings gains within service jobs made large contributions to the observed increase of blacks women's wages during the 1940s. The economics literature has rarely investigated service occupations, despite George Stigler's claim that "in 1939 there were as many domestic servants as employees of the railroads, coal mines, and automobile industry combined" (1946, p. 2; see also Anderson and Bowman 1953). This section addresses three aspects of the service sector that are relevant to black women's earnings gains in the 1940s: changes in occupations within the service sector (household vs. non-household); the potential influence of in-kind payments on our measures of overall wage changes; and residual influence of being black, conditional on other characteristics, on the likelihood of holding a service job (as opposed to some other kind of job).

The three-digit occupational codes in the IPUMS data allow a fairly detailed view of the service sector. The great majority of black female service workers worked in private households: about 87 percent of service workers in 1940 and 70 percent in 1950. But weekly wages were substantially higher for those working outside households (for instance, as cooks). Controlling for observable characteristics, domestic workers earned about 24 percent less in 1940 and about 28 percent less in 1950.[20] Thus, the shift of black workers across occupations *within* the service sector also appears to have made a non-trivial contribution to the observed overall gain in black workers' income.[21]

A separate, but related, concern is that unobserved payments-in-kind, especially implicit rent, to live-in servants might lead to overstatements of actual earnings gains, as black women moved from occupations with relatively high levels of unobserved to observed compensation. In 1940, approximately five percent of employed black and white women (ages 18 to 64) are identified as live-in domestic servants.[22] By 1950, only one percent of employed white women and two percent of employed black women appear to be live-in servants. The comparatively small proportion of women working as live-in servants, and the declines of similar magnitude across race groups, lead us to believe that any bias associated with their reported wages is also comparatively small. To test this assertion, we inflated reported earnings for live-in servants by 50 percent (since the typical valuation of housing is one third of earnings) and recalculated the income distributions for 1940 and 1950. For log weekly income among black women in 1940 (who worked at least four weeks, not in agriculture, not in school), there is no difference at the 10th percentile, a 0.04 difference at the median, and a 0.02 difference at the 90th

---

[20] Three factors could explain the earnings gap within the service sector: workers in households may have been more likely to receive in-kind payments (we address this later); workers outside of households may have been more likely to be covered by minimum wage laws; and there may have been selection on unobservables between the groups. It is not possible to assess these possibilities thoroughly with census data.

[21] Interestingly, the wage gains in household service occupations were about 11 percent less than those elsewhere in service (log gains of 0.44 versus 0.55), but nearly the entire discrepancy can be accounted for differential changes in the characteristics of workers in the two subgroups. Thus, the large overall gains in service sector wages were underpinned by large real gains in both household and non-household occupations.

[22] We use the detailed "related" variable in the IPUMS data to identify "domestic employees". We cannot

percentile. Among white women, there is a 0.10 difference at the 10th, a 0.02 difference at the median, and a 0.01 difference at the 90th percentile. Since the distributions are barely affected by the inflation, we conclude that any bias introduced by in-kind pay should have little effect on our basic results.

Discriminatory hiring practices surely contributed to the high level occupational segregation among women in 1940 (Myrdal 1944, Goldin 1990), and it is plausible that changes in discriminatory practices helped mitigate racial wage gaps over time. In 1940, as we pointed out earlier in the paper, black women were much more likely to work as household servants than would be predicted on the basis of their observable characteristics (dF/dBlack = 0.43). At the same time, employed black women were far less likely to work in operative and clerical jobs than one would predict (dF/dBlack = -0.16 in clerical; -0.14 in operative). By 1950, the unexplained race "effect" had fallen to 0.26 in household service, and it had risen to -0.08 in the operative category. For clerical work, however, there was a surprising decline in the race coefficient, falling to -0.22. Such measures are, of course, indirect and imperfect indicators of discriminatory practices in hiring during the 1940s, but they suggest a retreating color line in operative employment and a declining level of occupational crowding (in household service work) even after accounting for worker characteristics.[23] The breakthrough to clerical work did not occur until after 1960 (Cunningham and Zalokar 1994, Sundstrom 2000).

Within the non-agricultural sector, it appears that there must have been a shift in the relative demand for black workers outside of household service. Although it is impossible to follow women through job transitions in the census data, the cross-sections of tables 1a and 1b suggest that new openings as manufacturing operatives were particularly important for black women. This is confirmed in the samples available from the Palmer Survey, which was described above. Out of the black women who worked in service industries in 1940 but not in 1950 (and remained in the labor force), more than

---

be sure that this captures all live-in servants.
[23] See Sundstrom (2000) for an investigation of changes in occupational segregation over the 1940 to 1980 period.

half had moved to manufacturing. [24]   In the census data, between 1940 and 1950, black women increased their share of female employment in manufacturing from 2.6 percent to 4.8 percent.[25]

More broadly, black women increased their share of female employment outside domestic service from 6.8 to 7.7 percent, even as white women increased their labor force participation rate. At the same time, it does not appear that blacks' rapid movement from the service sector was due to declining employment opportunities in that sector – black domestic servants had wage gains that were in line with those in other fields, indicating that they were drawn from domestic service jobs by higher wage levels and new job openings elsewhere.[26]

6. Interpretation and Conclusion

Although the wartime economy was exceptional and temporary, its impact on the post-war economic outcomes of African-American women was extensive. Large absolute and relative income gains were propelled by the redistribution of black workers across jobs and places, by strong within-job wage growth in jobs that employed many black women, and by large increases in black-specific wages across a broad range of activities. We found that about one-third of the racial wage convergence (at the means) is accounted for by changes in black women's observable characteristics relative to white women's, most importantly by shifts in their occupational and industrial distributions. Another third of the mean convergence is accounted for by changes in the general wage structure that raised the wages of

---

[24] In this case, our inference is based on 142 black women who held service jobs in 1940 and still worked in 1950.

[25] Within manufacturing, the largest employers of black women in 1950 were apparel and accessories (32 percent of blacks in manufacturing), tobacco (8 percent), canning (6 percent), and meat products (5 percent). While the proportion of black manufacturing workers increased in the apparel industry during the 1940s (from 29 percent), it fell in tobacco (from 21 percent).

[26] This interpretation is consistent with contemporary observations. For example, based on a wartime survey in New Orleans, Gilmore and Wilson report that "the principal complaints coming from full-time employers [of servants], however, were that the better types of servants were going into war industry" and that part-time employers "blamed rising wages and the shortage of really competent Negro women" on the defense boom. "As one housewife expressed it: 'To tell you the truth, I think they're [black women] making too much money. . . . I hope I'll live to see the day when they'll be glad to work for you again'" (1944, p. 321-322).

service workers relative to those of clerical workers. The last third of the mean convergence is associated with black-specific wage gains that were especially strong in services, but that were apparent throughout the occupational and industrial distribution. By using the semi-parametric technique of DiNardo, Fortin, and Lemieux (1996) in combination with wage regressions, we were also able to see how changing worker characteristics and changing wage structures influenced the shape and location of the entire black wage distribution, as depicted in figure 3.

The patterns of wage changes and worker flows that we observe are highly suggestive of an increase in the relative demand for black women and an increase in the relative supply of white women in the non-agricultural sector. Specifically, we observe a large increase in the ratio of black/white wages among non-agricultural workers, but we see almost no change in the black/white non-agricultural employment ratio: the black/white non-agricultural employment ratio was 0.14 in 1940 and 0.13 in 1950.[27] If there had only been a rightward shift of relative demand for black workers, we would expect both the black/white wage ratio and the black/white employment ratio to rise (as long as relative supply slopes upward); if there had only been a leftward shift of the relative supply of black workers (reflecting an exogenous increase in supply of white women), then we would expect a rise of the black/white wage ratio and a decline in the black/white employment ratio (as long as relative demand slopes downward). The combination of both shifts would allow the wage ratio to rise significantly with little or no change in the observed employment ratio.

As noted above, within the non-agricultural sector, it also appears that there must have been a shift in the relative demand for black workers outside of household service, as they increased their proportion of non-domestic service jobs from 6.8 to 7.7 percent. A deeper identification of the forces driving a relative demand shift in favor of black workers is beyond the scope of this paper, but we can suggest a number of plausible, and perhaps complementary, hypotheses. The sharp increase in demand

---

[27] The movement of black women out of agriculture offsets the inflow of white women from out of the labor force in the overall non-agricultural employment figures.

for relatively unskilled workers during the war (Goldin and Margo 1991), in combination with a sharp decline in the availability of new immigrants, might have led employers to seek out black workers. Wartime propaganda that emphasized the urgent need to raise levels of production might have facilitated the racial integration of workplaces (or at least given employers an excuse to do so). Government enforced anti-discrimination policies during and after the war might have allowed black workers, including women, to enter lines of work that had previously excluded them (Collins 2001, 2003). The ascendance of the CIO (which split from the AFL in 1936) and its internal anti-discrimination policies might have effectively boosted industrial employment opportunities for black workers (Northrup 1944). Finally, the likelihood of being covered by minimum wage laws (and union bargaining) increased as black women left the household service sector. Further study of the connections between African-American women's income and changes in employers' behavior, union and minimum wage coverage, and anti-discrimination laws could significantly advance our understanding of the decade's racial wage convergence, and could also help put the last 50 years of racial wage gaps in better perspective.

<u>References</u>

Acemoglu, Daron, David H. Autor, and David Lyle (2004). Women, War, and Wages: The Effect of Female Labor Supply on the Wage Structure at Midcentury. *Journal of Political Economy*, 112, 3, 497-551.

Anderson, C. Arnold and Mary Jean Bowman (1953). The Vanishing Servant and the Contemporary Status System of the American South. *American Journal of Sociology*, 59, 3, 215-230.

Anderson, Karen Tucker (1982). Last Hired, First Fired: Black Women Workers during World War II. *Journal of American History*, 69, 1, 82-97.

Blinder, Alan S. (1973). Wage Discrimination: Reduced Form and Structural Estimates. *Journal of Human Resources*, 8, 4, 436-455.

Blau, Francine and Andrea Beller (1992). Black-White Earnings Over the 1970s and 1980s: Gender Differences in Trends. *Review of Economics and Statistics*, 74, 2, 276-286.

Collins, William J. (2000). African-American Economic Mobility in the 1940s. *Journal of Economic History*, 60, 3, 756-781.

Collins, William J. (2001). Race, Roosevelt, and Wartime Production: Fair Employment in World War II Labor Markets. *American Economic Review*, 91, 1, 271-286.

Collins, William J. (2003). The Labor Market Impact of State-Level Anti-Discrimination Laws, 1940-1960. *Industrial and Labor Relations Review*, 56, 2, 244-272.

Cunningham, James S. and Nadja Zalokar (1992). The Economic Progress of Black Women, 1940-1980: Occupational Distribution and Relative Wages. *Industrial and Labor Relations Review*, 45, 3, 540-555.

Donohue, John J. and James Heckman (1991). Continuous Versus Episodic Change: The Impact of Civil Rights Policy on the Economic Status of Blacks. *Journal of Economic Literature*, 29, 4, 1603-1643.

Donohue, John J., James Heckman, and Petra E. Todd (2002). The schooling of southern blacks: The roles of legal activism and private philanthropy, 1910-1960. *Quarterly Journal of Economics*, 117, 1, 225-268.

DiNardo, John; Fortin, Nicole and Thomas Lemieux (1996). Labor Market Institutions and the Distribution of Wages: 1973-1992. *Econometrica*, 64, 5, 1001-1044.

Gilmore, Harlan and Logan Wilson (1944). The Employment of Negro Women as Domestic Servants in New Orleans. *Social Forces*, 22, 3, 318-323.

Goldin, Claudia (1990). *Understanding the Gender Gap: An Economic History of American Women.* New York: Oxford University Press.

Goldin, Claudia (1991). The Role of World War II in the Rise of Women's Employment. *American Economic Review*, 81, 4, 741-756.

Goldin, Claudia and Robert A. Margo (1992). The Great Compression: The Wage Structure in the United States at Mid-Century. *Quarterly Journal of Economics*, 107, 1, 1-34.

Maloney, Thomas N. (1994). Wage Compression and Wage Inequality between Black and White males in the United States, 1940-1960. *Journal of Economic History*, 54, 2, 358-381.

Margo, Robert A. (1995). Explaining Black-White Wage Convergence, 1940-1950. *Industrial and Labor Relations Review*, 48, 3, 470-481.

Margo, Robert A. (1990). *Race and Schooling in the South, 1880-1950 : An Economic History.* Chicago: University of Chicago Press.

Northrup, Herbert (1944). *Organized Labor and the Negro*. New York: Harper & Brothers.

Myrdal, Gunnar (1944). *An American Dilemma: The Negro Problem and Modern Democracy*. New York: Harper & Brothers.

Oaxaca, Ronald L. (1973). Male-Female Wage Differentials in Urban Labor Markets. *International Economic Review,* 14, 693-709.

Palmer, Gladys L. (1954). *Labor Mobility in Six Cities*. New York: Social Science Research Council.

Ruggles, Steven, et al. (1997). *Integrated Public Use Microdata Series*. Minneapolis: Historical Census Projects, University of Minnesota.

Smith, James P. (1984). Race and Human Capital. *American Economic Review*, 74, 4, 685-698.

Sundstrom, William A. (1994). The Color Line: Racial Norms and Discrimination in Urban Labor Markets, 1910-1950. *Journal of Economic History*, 54, 2, 382-394.

Sundstrom, William A. (2000). From Servants to Secretaries: The Occupations of African-American Women, 1940-1980. Working paper, Department of Economics, Santa Clara, May.

Wolfbein, Seymour L. (1945). War and Post-War Trends in Employment of Negroes. Bureau of Labor Statistics, United States Department of Labor, *Monthly Labor Review*, 60, 1, 1-5.

Table 1A: Occupational Shifts by Race, 1940-1950

	Black women		White women	
	1940	*1950*	*1940*	*1950*
Not in labor force	56.79	57.38	71.45	67.35
Unemployed	4.71	2.76	2.50	1.03
Employed	38.50	39.86	26.05	31.63
Proportion in occupation, conditional upon being employed				
Professional	4.67	5.99	14.20	13.85
Clerical	1.31	4.30	25.73	32.32
Craft	0.41	0.74	1.49	1.77
Operative	7.44	15.01	21.81	20.60
Laborer	1.02	1.75	0.99	0.63
Service	68.06	61.27	21.34	14.50
Household	*57.99*	*41.71*	*9.93*	*3.32*
Not household	*10.07*	*19.56*	*11.41*	*11.18*
Manager	0.88	1.36	4.24	4.63
Sales	0.68	1.49	8.15	9.21
Farmers, farm labor	15.54	8.08	2.05	2.50

Notes: For the first three lines, the reference group is the total number of individuals in the given year between 18 and 64.

Sources: IPUMS (Ruggles and Sobek 2003).

Table 1B: Industrial Shifts by Race, 1940-1950

	Black women		White women	
	1940	*1950*	*1940*	*1950*
Not in labor force	56.79	57.38	71.45	67.35
Unemployed	4.71	2.76	2.50	1.03
Employed	38.50	39.86	26.05	31.63
Proportion in industry conditional upon being employed				
Agriculture	15.81	8.21	2.27	2.69
Mining	0.05	0.01	0.16	0.20
Construction	0.23	0.13	0.51	0.66
Manufacturing	4.37	9.66	25.57	26.42
Durable	*0.51*	*2.54*	*6.03*	*9.27*
Nondurable	*3.86*	*7.12*	*19.54*	*17.15*
Transport, communication, utilities	0.26	0.91	3.66	5.05
Trade	4.37	10.91	21.19	24.51
Wholesale	*0.21*	*0.84*	*1.82*	*2.83*
Retail	*4.16*	*10.07*	*19.37*	*21.68*
Finance, insurance, real estate	0.83	1.36	4.59	5.54
Business, repair services	0.20	0.35	0.90	1.38
Personal services	65.96	53.38	17.69	8.94
Entertainment, recreation services	0.44	0.50	0.95	0.92
Professional services	6.60	11.77	18.43	18.79
Public administration	0.90	2.82	4.07	4.90

Notes: For the first three lines, the reference group is the total number of individuals in the given year between 18 and 64.

Sources: IPUMS (Ruggles and Sobek 2003).

28

Table 1C: Geographic Distribution by Race, 1940-1950

	Black women		White women	
Distribution of residents	*1940*	*1950*	*1940*	*1950*
Northeast				
Proportion in region	12.38	15.89	30.87	29.21
Metro area residents	94.90	96.07	82.03	82.38
Midwest				
Proportion in region	12.01	16.07	32.80	30.75
Metro area residents	86.12	89.94	52.63	55.97
South				
Proportion in region	74.01	63.93	25.38	26.37
Metro area residents	32.69	39.83	33.68	40.88
West				
Proportion in region	1.59	4.11	10.94	13.67
Metro area residents	81.16	87.32	59.11	63.24
U.S., Metropolitan area residents	47.59	58.77	57.61	60.70

Notes: "Proportion in region" refers to the proportion of blacks (or whites) who resided in a
particular region. "Metro area residents" refers to the proportion of black (or white) residents
in the region who resided in metropolitan areas.
Sources: IPUMS (Ruggles and Sobek 1997).

Table 2. Decomposing the Absolute Wage Gains of Women:
The Contribution of Changes in Worker Characteristics, 1940-1950

				Percentile		
	Mean	*10*	*25*	*50*	*75*	*90*
A. Black women						
Total change (1950- 1940)	0.567	0.441	0.608	0.664	0.590	0.580
Due to characteristics	0.137	0.000	0.098	0.211	0.185	0.146
	(0.241)	(0.000)	(0.161)	(0.318)	(0.314)	(0.252)
Detailed Changes in Characteristics						
Age/married/child/hours	0.030	-0.059	0.000	0.061	0.047	0.082
	(0.052)	(-0.135)	(0.000)	(0.092)	(0.080)	(0.142)
Education	0.049	0.059	0.071	0.039	0.067	0.042
	(0.086)	(0.135)	(0.116)	(0.059)	(0.113)	(0.072)
Occupation/industry	0.041	0.000	0.027	0.092	0.071	0.003
	(0.072)	(0.000)	(0.045)	(0.138)	(0.121)	(0.006)
Region/metro	0.018	0.000	0.000	0.019	0.000	0.019
	(0.031)	(0.000)	(0.000)	(0.029)	(0.000)	(0.033)
B. White women						
Total change (1950 – 1940)	0.307	0.492	0.383	0.367	0.291	0.185
Due to characteristics	0.058	0.125	0.054	0.052	0.040	0.032
	(0.188)	(0.254)	(0.141)	(0.142)	(0.137)	(0.173)
Detailed Changes in Characteristics						
Age/married/child/hours	0.024	0.035	0.016	0.028	0.001	0.022
	(0.079)	(0.070)	(0.043)	(0.077)	(0.003)	(0.122)
Education	0.033	0.045	0.038	0.024	0.039	0.029
	(0.107)	(0.092)	(0.098)	(0.067)	(0.135)	(0.156)
Occupation/industry	0.010	0.078	0.020	0.000	0.000	-0.007
	(0.034)	(0.159)	(0.052)	(0.000)	(0.000)	(-0.039)
Region/metro	-0.006	-0.033	-0.020	0.000	0.000	-0.012
	(-0.020)	(-0.067)	(-0.052)	(0.000)	(0.000)	(-0.065)

Notes: The percentiles are computed from the kernel density estimates of the log of weekly wages. The raw change is presented as a fraction of the total change in parentheses below. The effect of an explanatory factor indicates how much of the change at the given percentile is accounted for by computing the statistic using the counterfactual density. The decomposition is performed in the order presented in the table.

Source: Census micro-data are from Ruggles and Sobek (IPUMS 1997).

Table 3. Decomposing the Relative Wage Gains of African-American Women:
The Contribution of Characteristics, 1940-1950

| | *Mean* | *Percentile* | | | | |
		10	*25*	*50*	*75*	*90*
Total Change (Black – White)	0.260	-0.051	0.225	0.297	0.299	0.395
Due to characteristics	0.079	-0.125	0.044	0.159	0.145	0.114
	(0.304)	(2.451)	(0.196)	(0.535)	(0.485)	(0.289)
Detailed Changes in Characteristics						
Age/married/child/hours	0.006	-0.094	-0.016	0.033	0.046	0.060
	(0.023)	(1.843)	(-0.071)	(0.111)	(0.154)	(0.152)
Education	0.016	0.014	0.033	0.015	0.028	0.013
	(0.062)	(-0.275)	(0.147)	(0.051)	(0.094)	(0.033)
Occupation/industry	0.031	-0.078	0.007	0.092	0.071	0.010
	(0.119)	(1.529)	(0.031)	(0.310)	(0.237)	(0.025)
Region/metro	0.024	0.033	0.020	0.019	0.000	0.031
	(0.092)	(-0.647)	(0.089)	(0.064)	(0.000)	(0.078)

Notes: The percentiles are computed from the kernel density estimates of the log of weekly wages for African-American and white women as described in the text. The reported value is the difference between the indicated percentile for white and black women. The effect of an explanatory factor indicates how much of the change in the statistic is accounted for by computing the statistic form the relevant counterfactual density. Figures in parentheses are the fraction of the total change accounted for by changing the indicated factor.   The decomposition is performed in the order presented in the table.
Source: Census micro-data are from Ruggles and Sobek (IPUMS 1997).

31

Table 4. Average Changes in Weekly Wages,
by Race, Occupation, Education and Region, 1940-1950

	(1) Prop. in sample, 1950	(2) Wage change	(3) Col. 1 × Col. 2	(4) Adjusted wage change	(5) Col. 1 × Col. 4
A: By occupation					
Blacks					
Prof, clerical, manager, sales	0.125	0.377	0.047	0.265	0.033
Crafts, operative	0.188	0.485	0.091	0.375	0.070
Service	0.667	0.552	0.368	0.520	0.347
Laborer	0.020	0.385	0.008	0.287	0.006
Whites					
Prof, clerical, manager, sales	0.604	0.190	0.115	0.151	0.091
Crafts, operative	0.250	0.386	0.097	0.348	0.087
Service	0.139	0.451	0.063	0.406	0.056
Laborer	0.007	0.430	0.003	0.400	0.003
B: By region					
Blacks					
Northeast	0.182	0.512	0.093	0.411	0.075
Midwest	0.160	0.530	0.085	0.406	0.065
South	0.611	0.589	0.360	0.494	0.302
West	0.046	0.416	0.019	0.407	0.019
Whites					
Northeast	0.344	0.300	0.103	0.207	0.071
Midwest	0.299	0.370	0.110	0.274	0.082
South	0.228	0.352	0.080	0.272	0.062
West	0.130	0.296	0.039	0.214	0.028
C: By years of education					
Blacks					
<=4	0.188	0.641	0.121	0.526	0.099
5-8	0.404	0.542	0.219	0.467	0.189
9-11	0.187	0.588	0.110	0.489	0.092
12	0.131	0.624	0.082	0.440	0.058
>12	0.089	0.468	0.042	0.302	0.027
Whites					
<=4	0.032	0.447	0.014	0.370	0.012
5-8	0.220	0.360	0.079	0.297	0.066
9-11	0.188	0.346	0.065	0.282	0.053
12	0.365	0.342	0.125	0.258	0.094
>12	0.196	0.141	0.028	0.100	0.020

Notes: The means are computed using sample weights. The change in column 2 is the difference between the indicated percentile for white and black women. The first column simply lists the proportion of black or white female workers in four occupational categories in 1950. The second column reports the average change in real weekly wages for women in a particular category (by race) from 1940 to 1950.

The third column is the product of the first two – of course, large within-category wage changes are more important if they occur in categories that include a large proportion of workers. For each occupation, the adjustment is made by regressing wages for a sample of all workers in 1940 and 1950 by race on all of the characteristics other than occupation and industry specifications and a year dummy for 1950. These characteristics include a set of age, education, hours, and region of residence dummy variables as well as a binary indicator for marital status, metropolitan residence and the presence of a child at home. See appendix 2 for a detailed description of these variables. From this regression, we take the coefficient on the year dummy as the average within-occupation change in earnings after accounting for changes in observable characteristics.

Source: Census micro-data are from Ruggles and Sobek (IPUMS 1997).

**Table 5. Decomposing Absolute Wage Gains of African-American Women,
Including Changes in Wage Structure, 1940-1950**

	Mean	10	25	50	75	90
A. Total change	0.567	0.441	0.608	0.664	0.590	0.580
Due to characteristics	0.137	0.000	0.098	0.211	0.185	0.146
	(0.241)	(0.000)	(0.161)	(0.318)	(0.314)	(0.252)
Due to changes in wage structure	0.443	0.528	0.509	0.446	0.415	0.380
	(0.781)	(1.197)	(0.837)	(0.672)	(0.703)	(0.655)
General wage structure	0.342	0.424	0.404	0.344	0.336	0.310
	(0.603)	(0.961)	(0.664)	(0.518)	(0.569)	(0.534)
Black –specific wage structure	0.101	0.104	0.105	0.102	0.079	0.070
	(0.178)	(0.236)	(0.173)	(0.154)	(0.134)	(0.121)
Residual	-0.013	-0.086	0.001	0.009	-0.011	0.054
	(-0.023)	(-0.195)	(0.002)	(0.014)	(-0.018)	(0.093)
B. Detailed changes in general wage structure						
Age/married/kids/hours	-0.003	-0.009	0.000	-0.007	0.006	0.017
	(-0.005)	(-0.020)	(0.000)	(-0.011)	(0.010)	(0.029)
Education	0.020	0.049	0.032	0.019	0.016	0.018
	(0.035)	(0.112)	(0.053)	(0.029)	(0.027)	(0.030)
Occupation/Industry	0.008	0.032	0.029	0.014	0.007	-0.007
	(0.008)	(0.072)	(0.048)	(0.021)	(0.012)	(-0.011)
Region/Metro	-0.043	-0.008	-0.017	-0.042	-0.053	-0.078
	(-0.043)	(-0.018)	(-0.028)	(-0.064)	(-0.090)	(-0.135)
Intercept	0.360	0.360	0.360	0.360	0.360	0.360
	(0.634)	(0.815)	(0.591)	(0.541)	(0.609)	(0.620)
C. Detailed changes in black-specific wage structure						
Age/married/kids/hours	-0.068	-0.068	-0.074	-0.075	-0.065	-0.076
	(-0.119)	(-0.155)	(-0.122)	(-0.114)	(-0.110)	(-0.131)
Education	-0.007	-0.019	-0.009	-0.001	-0.001	-0.004
	(-0.013)	(-0.044)	(-0.014)	(-0.002)	(-0.001)	(-0.008)
Occupation/Industry	0.107	0.100	0.107	0.106	0.101	0.109
	(0.188)	(0.226)	(0.175)	(0.159)	(0.172)	(0.188)
Region/Metro	-0.035	-0.013	-0.023	-0.032	-0.060	-0.063
	(-0.035)	(-0.029)	(-0.038)	(-0.049)	(-0.102)	(-0.108)
Intercept	0.104	0.104	0.104	0.104	0.104	0.104
	(0.104)	(0.236)	(0.171)	(0.157)	(0.177)	(0.180)

Notes: The percentiles are computed from the kernel density estimates of the log of weekly wages. The raw
change is presented as a fraction of the total change in parentheses below. The effect of an explanatory
factor indicates how much of the change at the given percentile is accounted for by computing the
statistic using the counterfactual density. Equation (8) and (9) in the text provide an explanation of the
decomposition technique.
Source: Census micro-data are from Ruggles and Sobek (IPUMS 1997).

Table 6. Decomposing Absolute Wage Gains for White Women,
Including Changes in Wage Structure, 1940-1950

	Mean	*10*	*25*	*50*	*75*	*90*
A. Total change (Black – White)	0.307	0.492	0.383	0.367	0.291	0.185
Due to characteristics	0.058	0.125	0.054	0.052	0.040	0.032
	(0.188)	(0.254)	(0.141)	(0.142)	(0.137)	(0.173)
Due to changes in wage structure	0.248	0.303	0.310	0.272	0.217	0.161
	(0.808)	(0.616)	(0.809)	(0.741)	(0.746)	(0.870)
Residual	0.002	0.064	0.020	0.043	0.035	-0.008
	(0.005)	(0.131)	(0.051)	(0.119)	(0.119)	(-0.044)
B. Detailed changes in wage structure						
Age/married/kids/hours	0.024	0.013	0.042	0.047	0.030	0.012
	(0.080)	(0.026)	(0.110)	(0.127)	(0.102)	(0.062)
Education	0.003	0.004	0.010	0.006	0.002	-0.010
	(0.011)	(0.008)	(0.026)	(0.017)	(0.006)	(-0.055)
Occupation	-0.076	-0.038	-0.050	-0.071	-0.100	-0.129
	(-0.076)	(-0.077)	(-0.130)	(-0.194)	(-0.342)	(-0.697)
Region/Metro	-0.063	-0.036	-0.052	-0.070	-0.075	-0.072
	(-0.063)	(-0.073)	(-0.136)	(-0.192)	(-0.256)	(-0.389)
Intercept	0.360	0.360	0.360	0.360	0.360	0.360
	(1.170)	(0.731)	(0.938)	(0.980)	(1.234)	(1.948)

Notes: The percentiles are computed from the kernel density estimates of the log of weekly wages. The raw change is presented as a fraction of the total change in parentheses below. The contribution of "differential changes in the black wage structure" is zero for whites, so the cells are omitted from this table. The effect of an explanatory factor indicates how much of the change at the given percentile is accounted for by computing the statistic using the counterfactual density.

*Source*: Census micro-data are from Ruggles and Sobek (IPUMS 1997).

Table 7. Summary Decomposition of Racial Wage Convergence , 1940-1950

	Mean	*10*	*25*	*50*	*75*	*90*
Total change (Black-White)	0.260	-0.051	0.225	0.293	0.299	0.395
Due to characteristics	0.079	-0.125	0.044	0.159	0.145	0.114
	(0.304)	(2.451)	(0.196)	(0.543)	(0.485)	(0.289)
Due to changes in wage structure	0.195	0.225	0.199	0.174	0.198	0.219
	(0.750)	(-4.412)	(0.884)	(0.594)	(0.662)	(0.554)
General wage structure	0.094	0.121	0.094	0.072	0.119	0.149
	(0.362)	(-2.373)	(0.418)	(0.246)	(0.398)	(0.377)
Black-specific wage structure	0.101	0.104	0.105	0.102	0.079	0.070
	(0.388)	(-2.039)	(0.467)	(0.348)	(0.264)	(0.177)
Residual	-0.015	-0.150	-0.019	-0.034	-0.046	0.062
	(-0.058)	(2.941)	(-0.084)	(-0.116)	(-0.154)	(0.157)

Notes: The percentiles are computed from the kernel density estimates of the log of weekly wages. The reported value is the difference between the indicated percentile for white and black women. The raw change is presented as a fraction of the total change in parentheses below. The effect of an explanatory factor indicates how much of the change at the given percentile is accounted for by computing the statistic using the counterfactual density.

*Source*: Census micro-data are from Ruggles and Sobek (IPUMS 1997).

Figure 1. Kernel Density Estimates of Real Weekly Wages for Black and White women

Panel A. 1940 Distributions

Panel B. 1950 Distributions
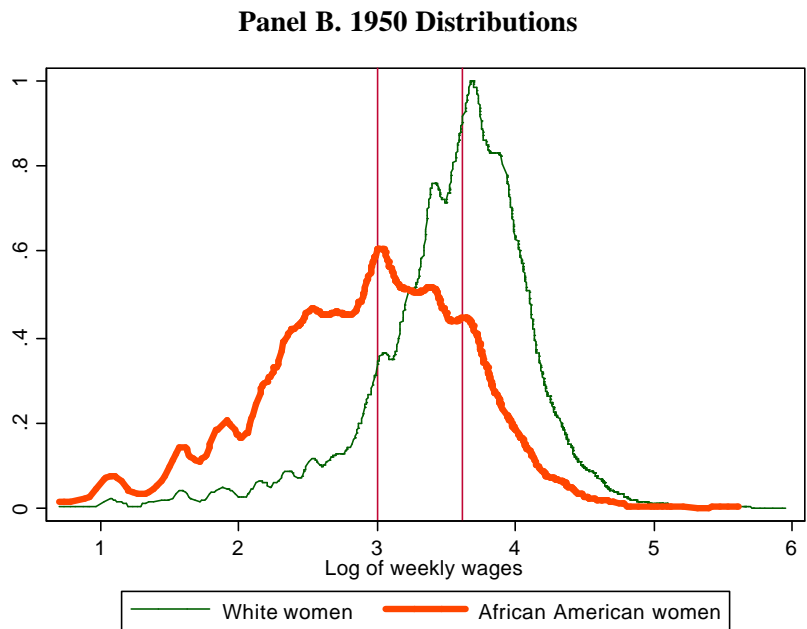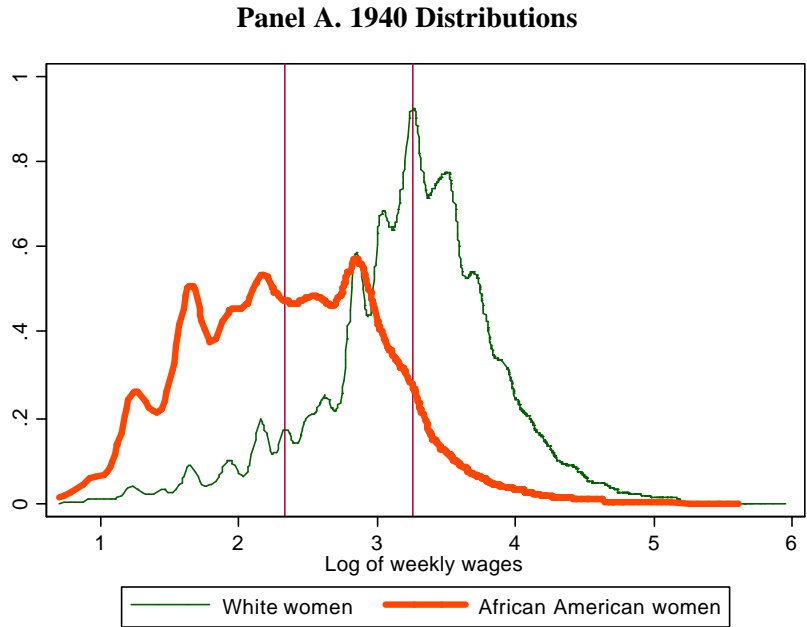
Notes: Kernel estimates are obtained using a Gaussian kernel. Sample consists of individuals between the ages of 18 and 64, who were not in school, in the Armed Forces, or self-employed; who were not farmers, farm managers, or unpaid family farm workers; who did not reside in institutional group quarters; and who worked more than four weeks in the previous calendar year. For consistency, we exclude workers who are not classified primarily as wage and salary workers in both 1940 and 1950. We also exclude relief workers in 1940. In 1950, only sample line workers have their income data reported. Extreme outliers are omitted.

Sources: IPUMS (Ruggles and Sobek 1997).

**Figure 2. Change in real weekly wages by percentile, 1940-1950**
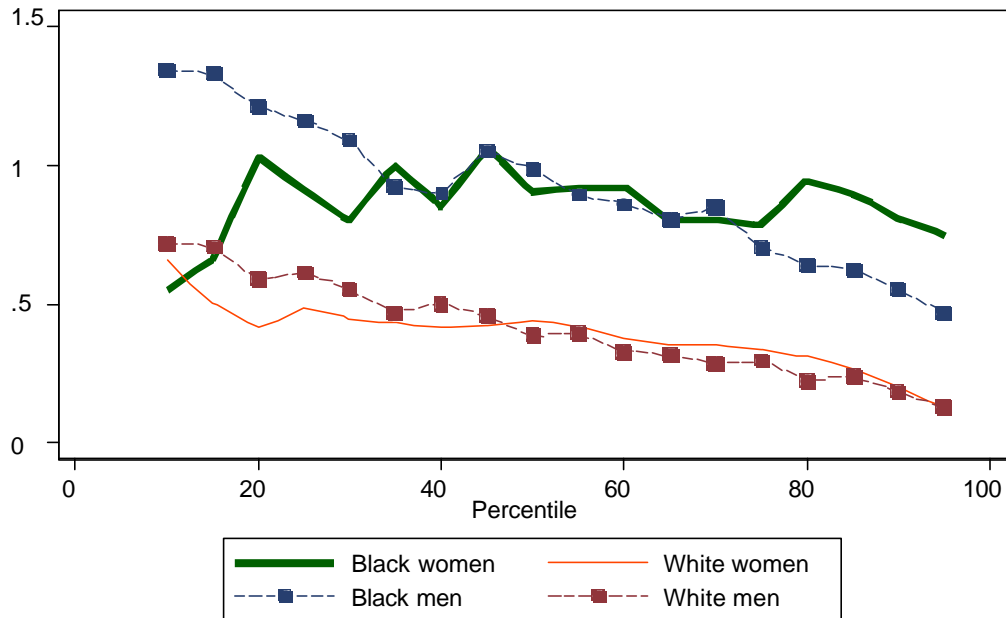
Notes: Percentage change in real weekly wages is computed as the change in the weekly wage at a given percentile divided by the 1940 weekly wage at that percentile. Sample includes individuals between the ages of 18 and 64, who were not in school, in the Armed Forces, or self-employed; who were not farmers, farm managers, or unpaid family farm workers; who did not reside in institutional group quarters; and who worked more than four weeks in the previous calendar year. For consistency, we exclude workers who are not classified primarily as wage and salary workers in both 1940 and 1950. We also exclude relief workers in 1940. In 1950, only sample line workers have their income data reported. Extreme outliers are omitted.
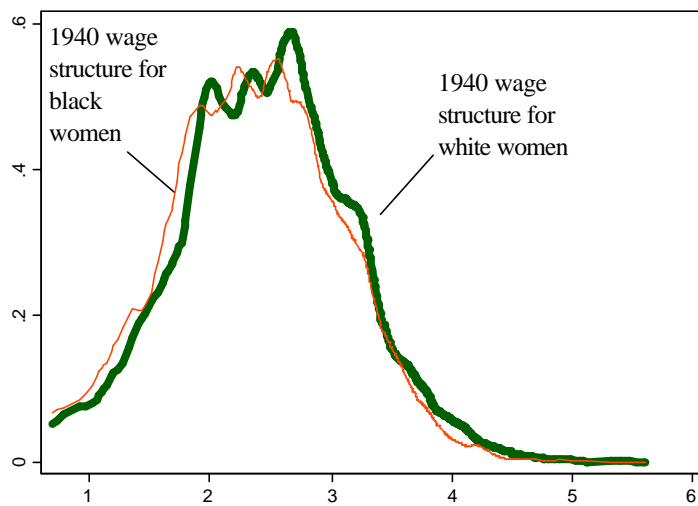*Sources*: IPUMS (Ruggles and Sobek 1997).
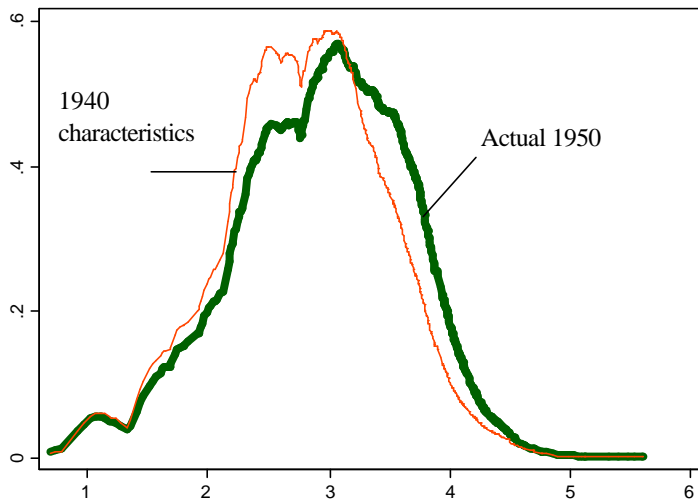
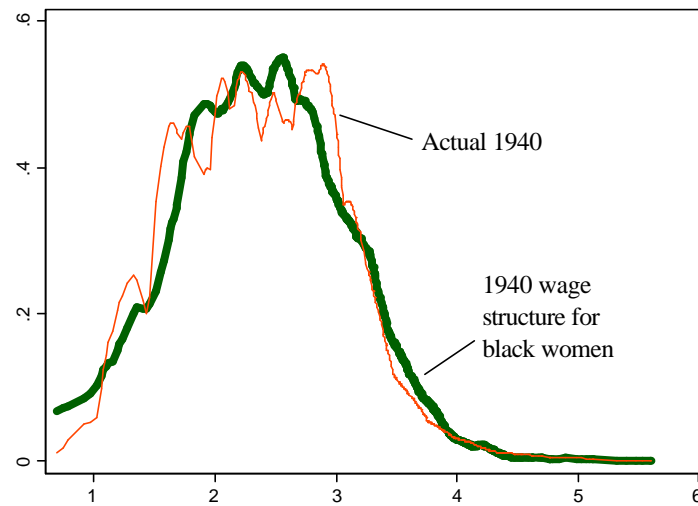A. 1940 characteristics
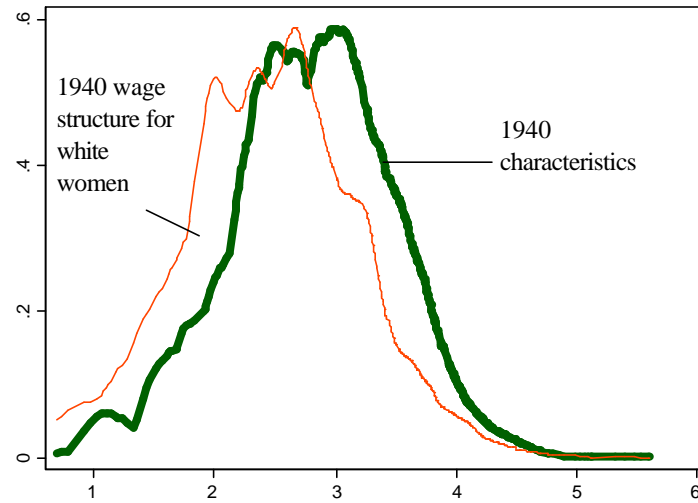
B. Change in the wage structure

C. Differential changes in the black wage structure
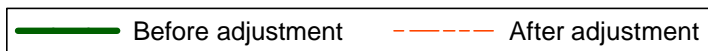
D. Residual differences

Before adjustment   After adjustment

Figure 3. Decomposing the Wage Gains of African-American Women, 1940-1950

Appendix 1. Detailed Reweighting Functions for Decomposition

In the text, we obtained the reweighting function conditional upon setting *all* individual attributes to 1940 levels simultaneously. In the context of this paper's investigation, it is useful to partition the vector of individual characteristics, (X, t_x), into four subsets, $(Z, t_z; E, t_e; O, t_o; M, t_m)$. Z contains a vector of individual attributes including eight age categories, six hours categories, and indicator variables for marital status and the presence of a child at home. E represents a set of five dummy variables for educational attainment. The elements of O include eleven occupational and ten industrial categories. M denotes a set of indicator variables for the nine census regions and metropolitan residence. As before, t_j, denotes a binary random variable for the year of observation for each subset of characteristics.

Beginning with the observed 1950 earnings distribution, we adjust each set of characteristics to reflect those of observed 1940 distribution. We first reweight the distribution in personal characteristics (Z), then the distribution of educational attainment (E), then the distribution of occupations and industries (O), and finally the regional and metropolitan distribution of workers (M). At each step along the way, the new counterfactual distribution allows us to assess how changes in a subset of characteristics transformed the overall distribution of wages, all else held constant. The sequence of adjustments matters quantitatively because each subcomponent's contribution is measured in relation to the counterfactual distribution generated in the previous step. We selected this particular sequence with the idea that we are first adjusting for changes in the worker's basic characteristics and education level (primarily pre-market factors), and then for how workers are sorted once in the labor market (occupationally, industrially, and geographically).

As in equation (2), a counterfactual density of 1950 wages that is adjusted to reflect the 1940 distribution of Z characteristics, while maintaining the residential and occupational distribution of 1950, and maintaining the 1950 wage structure, can be written as:[28]

$$f(w; t_w = 50, t_z = 40, t_e = 50, t_o = 50, t_m = 50) = E_{Z,E,O,M} \left\{ f_{50}(w \mid Z, E, O, M, t_w = 50) \times \mathbf{y}_z(Z) \right\} \qquad \text{(A1)}$$

where the reweighting function is defined

---

[28] This follows from rewriting $dF_X(x, t_x)$ in equation (2) using Bayes' theorem as a product of conditional densities: $dF_X(x, t_x) = dF_{Z,M,O}(z, m, o, t_z, t_m, t_o) = dF_{Z|MO}(z \mid m, o, t_{zmo}) \times dF_{MO}(m \mid o, t_{mo}) \times dF_O(o \mid t_o).$

$$\mathbf{y}_z(z) = \frac{dF_{Z|E,O,M}(z \mid e,o,m,t_{z|e,o,m}=40)}{dF_{Z|E,O,M}(z \mid e,o,m,t_{z|e,o,m}=50)} = \frac{P(t_{z|e,o,m}=40 \mid z,e,o,m)}{P(t_{z|e,o,m}=50 \mid z,e,o,m)} \cdot \frac{P(t_{z|e,o,m}=50 \mid e,o,m)}{P(t_{z|e,o,m}=40 \mid e,o,m)}. \tag{A2}$$

Similarly, the counterfactual density of wages, that would have prevailed if individual attributes *and* education were distributed as in 1940, while maintaining the occupational, industrial, geographic and wage distribution of 1950, can be written as:

$$f(w; t_w=50, t_z=40, t_e=40, t_o=50, t_m=50) = E_{Z,E,O,M} f_{50}(w \mid Z,E,O,M,t_w=50) \times \mathbf{y}_z(Z) \times \mathbf{y}_e(E) \tag{A3}$$

where the reweighting function is defined

$$\mathbf{y}_e(e) = \frac{dF_{E|O,M}(e \mid o,m,t_{e|o,m}=40)}{dF_{E|O,M}(e \mid o,m,t_{e|o,m}=50)} = \frac{P(t_{e|o,m}=40 \mid e,o,m)}{P(t_{e|o,m}=50 \mid e,o,m)} \cdot \frac{P(t_{e|o,m}=50 \mid o,m)}{P(t_{e|o,m}=40 \mid o,m)}. \tag{A4}$$

Finally, the counterfactual occupational and geographic distributions are

$$f(w; t_w=50, t_z=40, t_e=40, t_o=40, t_m=50) \tag{A5}$$
$$= E_{Z,E,M,O} f_{50}(w \mid Z,E,M,O,t_w=50) \times \mathbf{y}_z(Z) \times \mathbf{y}_e(e) \times \mathbf{y}_o(O) \text{ and}$$

$$f(w; t_w=50, t_z=40, t_e=40, .t_o=40, t_m=40) \tag{A6}$$
$$= E_{Z,E,M,O} f_{50}(w \mid Z,E,M,O,t_w=50) \times \mathbf{y}_z(Z) \times \mathbf{y}_e(e) \times \mathbf{y}_o(O) \times \mathbf{y}_m(m), \text{ and}$$

can be obtained by applying the reweighting functions,

$$\mathbf{y}_o(o) = \frac{dF_O(o \mid m,t_{o|m}=40)}{dF_O(o \mid m,t_{o|m}=50)} = \frac{P(t_o=40 \mid o,m)}{P(t_o=50 \mid o.m)} \cdot \frac{P(t_o=50 \mid m)}{P(t_o=40 \mid m)} \qquad \text{and} \tag{A7}$$

$$\mathbf{y}_m(m) = \frac{dF_M(m \mid t_m=40)}{dF_M(m \mid t_m=50)} = \frac{P(t_m=40 \mid m)}{P(t_m=50 \mid m)} \cdot \frac{P(t_m=50)}{P(t_m=40)}. \tag{A8}$$

Following the discussion above, the analysis of the absolute changes in the density of wages between 1940 and 1950 is based upon the sequential decomposition within each racial group described in the text.

Appendix 2. Data and Sample Description

The 1940 and 1950 data samples are drawn from the IPUMS. We exclude a number of workers to maintain consistent samples over time. The samples include workers between the ages of 18 and 64, who were not in school, in the Armed Forces, or self-employed (because non-wage income is not reported in 1940); who were not farmers, farm managers, or farm workers; who did not reside in institutional group quarters; and who worked more than four weeks in the previous calendar year.

For analysis, the age categories group individuals as follows: 18 to 25, 25 to 29, 30 to 34, 35 to 39, 40 to 44, 45 to 49, 50 to 54, and 55 to 64 years old. The hours categories are: no hours in the previous week (but with reported income for the previous year), 1 to 20 hours, 21 to 30, 31 to 40, 41 to 50, and more than 50 hours. Dummies for educational attainment pertain to: those with less than five years, five to eight, nine to 11, exactly 12 years and more than 12 years of schooling. Occupational groups are: professionals, operatives, laborers, household workers, service workers, managers, sales persons, clerical workers, crafts persons, or newly employed (without an occupation in the previous year). Industrial groups are: agriculture/forestry/fishing/mining/construction, durable manufacturing, nondurable manufacturing, transportation/communication/utilities, trade, finance/insurance/real estate, business and personal services, professional services, entertainment/recreation services, and public administration. The omitted category consists of unmarried women, ages 35 to 39, with 9 to 11 years of schooling, who worked as non-durable manufacturing operatives for 31 to 40 hours in the week before the census, and lived in the East North Central census division.

Appendix Table A1: Log Weekly Wage Regressions by Race, 1940 and 1950

	White women		Black women	
	1940	1950	1940	1950
<=4 years	-0.177	-0.104	-0.193	-0.147
	[9.23]	[3.13]	[8.13]	[3.75]
5-8 years	-0.071	-0.067	-0.065	-0.058
	[12.48]	[5.50]	[3.87]	[2.17]
12 years	0.049	0.075	0.043	0.045
	[7.98]	[8.41]	[1.67]	[1.99]
13 or more years	0.251	0.2	0.22	0.179
	[22.43]	[15.96]	[6.52]	[4.17]
Married, spouse present	0.054	0.035	0.004	-0.033
	[9.39]	[5.48]	[0.30]	[2.53]
Child	-0.079	-0.05	-0.024	-0.007
	[10.72]	[8.57]	[2.61]	[0.46]
No hours worked	0.006	-0.099	-0.056	-0.088
	[0.24]	[4.54]	[1.38]	[1.39]
1-20 hours	-0.229	-0.456	-0.112	-0.407
	[21.05]	[28.29]	[5.50]	[10.66]
21-30 hours	-0.095	-0.183	-0.075	-0.167
	[11.51]	[11.16]	[5.16]	[7.14]
41-50 hours	-0.023	-0.032	0.042	-0.067
	[4.56]	[3.85]	[4.14]	[3.02]
50 hours	-0.074	-0.107	0.103	0.001
	[5.91]	[7.31]	[6.49]	[0.03]
<=25 years old	-0.32	-0.17	-0.194	-0.098
	[26.43]	[14.02]	[9.05]	[3.36]
25-29 years old	-0.131	-0.034	-0.1	-0.035
	[16.83]	[3.17]	[6.42]	[1.20]
30-34 years old	-0.035	-0.022	-0.025	0.004
	[4.85]	[2.05]	[1.79]	[0.18]
40-45 years old	0.027	0.026	0.006	0.024
	[3.41]	[2.29]	[0.33]	[0.93]
45-49 years old	0.026	0.026	0.044	0.005
	[3.61]	[2.00]	[2.00]	[0.14]
50-54 years old	0.028	0.028	0.047	-0.05
	[3.23]	[1.93]	[2.67]	[1.56]
55-65 years old	-0.029	-0.029	0.012	-0.092
	[3.16]	[1.61]	[0.50]	[3.52]
New England	0.013	-0.063	0.161	-0.063
	[0.58]	[2.38]	[11.22]	[0.96]
Middle Atlantic	0.052	0.018	0.109	0.015
	[1.22]	[0.36]	[2.53]	[0.26]
West North Central	-0.136	-0.075	-0.161	-0.243
	[4.62]	[3.51]	[5.64]	[6.17]
South Atlantic	-0.025	-0.032	-0.313	-0.333
	[0.96]	[1.34]	[3.63]	[4.45]
East South Central	-0.151	-0.154	-0.546	-0.551
	[7.97]	[6.81]	[7.83]	[11.94]
West South Central	-0.17	-0.119	-0.435	-0.39
	[9.12]	[4.73]	[14.23]	[8.81]
Mountain	-0.001	-0.011	0.09	0.145

	[0.03]	[0.29]	[0.91]	[1.13]
Pacific	0.112	0.082	0.2	0.133
	[3.82]	[3.46]	[10.72]	[3.44]
Lives in city	0.234	0.158	0.36	0.261
	[16.42]	[11.87]	[9.98]	[8.64]
Professionals	0.402	0.236	0.585	0.561
	[34.15]	[13.95]	[9.51]	[7.03]
Clerical	0.157	0.026	0.196	0.025
	[17.14]	[2.20]	[3.40]	[0.48]
Craft	0.155	0.083	-0.157	0.029
	[11.05]	[4.62]	[2.06]	[0.41]
Laborer	-0.036	0.005	0.056	-0.018
	[1.97]	[0.15]	[0.97]	[0.29]
HH Service	-0.508	-0.47	-0.315	-0.25
	[16.78]	[15.32]	[12.47]	[8.71]
Manager	0.244	0.141	-0.169	-0.371
	[7.71]	[5.95]	[1.15]	[2.94]
Sales	-0.015	-0.134	-0.017	-0.158
	[1.35]	[9.13]	[0.16]	[1.86]
Unemployed	-0.161	-0.112	-0.124	-0.152
	[9.71]	[3.38]	[2.25]	[2.00]
Not in labor force	-0.156	-0.111	-0.211	-0.17
	[5.68]	[1.93]	[1.75]	[0.75]
Service, not HH	-0.155	-0.194	-0.149	-0.034
	[14.24]	[14.14]	[4.84]	[1.31]
Ag, forest, fish; mining, construct.	0.011	-0.008	0.232	-0.195
	[0.50]	[0.19]	[4.58]	[1.55]
Durable manuf.	0.071	0.047	-0.027	-0.042
	[3.33]	[2.36]	[0.29]	[0.78]
Trans, comm.., utility	0.07	0.073	0.009	0.059
	[4.81]	[5.92]	[0.08]	[0.69]
Trade	-0.094	-0.094	-0.225	-0.171
	[7.78]	[7.31]	[2.64]	[2.93]
Finance, ins., real est.	-0.005	-0.089	-0.264	-0.155
	[0.46]	[7.52]	[2.53]	[2.54]
Business and pers. services	-0.159	-0.156	-0.297	-0.197
	[8.90]	[9.33]	[3.22]	[3.74]
Ent. and rec. services	-0.025	-0.142	-0.081	-0.142
	[0.47]	[3.21]	[0.72]	[1.44]
Prof. services	-0.049	-0.084	-0.169	-0.124
	[2.92]	[6.85]	[2.10]	[1.80]
Pub. Administration	0.106	0.045	-0.049	0.17
	[5.06]	[2.21]	[0.32]	[2.07]
No industry, but wages	-0.057	-0.098	-0.186	-0.222
	[3.41]	[2.43]	[1.68]	[0.93]
Constant	3.228	3.587	2.981	3.435
	[148.31]	[154.02]	[30.92]	[48.86]
Observations	86166	39597	12131	5413
R-squared	0.42	0.25	0.49	0.42

Notes: Robust t statistics are in brackets. Omitted categories are women ages 35-39 with 9-11 years of schooling who were working 31-40 hours per week as operatives in nondurable manufacturing and lived in the East North Central Division.
Source: Micro data are from IPUMS samples (Ruggles and Sobek 1997).