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Candace Hamilton Hester, Chris Meyer, and Steven Raphael

ABSTRACT

This paper analyzes changes in gender employment rate (GER) differentials for whites and blacks in the United States from 1950 to 2008. We document the evolution of the GER gap, which narrows considerably within both racial groups and turns slightly negative for blacks. We document the changing employment levels that drive these patterns as well as compositional shifts in each gender-race population. Among whites, nearly all of the narrowing is attributable to increasing employment rates among women. For blacks, a large component of the narrowing is explained by declining employment rates among men. Black employment rates decline precipitously for the least educated and post-1980 are reduced further by increased institutionalization and declining marriage rates. In an analysis of state-level interdecade changes in female outcomes, we find that a worsening of black male employment prospects is associated with an increase in female education and a decline in marriage and fertility rates.

1. INTRODUCTION

Throughout the twentieth century, men in the United States have exhibited stronger attachment to the formal workforce than have women. Whether measured by current employment, annual hours worked, or annual weeks worked, gender differences in employment have persisted

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throughout the last century and into the current one. The canonical model of gender-based specialization presented in Becker (1991) provides a strong theoretical interpretation of these disparities. Becker posits that members of a household specialize in market work or household production according to his or her comparative advantage. To the extent that women have a comparative advantage in childbearing or child rearing, or have had a comparative disadvantage in the marketplace due to wage discrimination or lower levels of human capital, a gender employment rate (GER) differential will result. Specialization early in one's career may also cement these differences, as men accumulate experience valued in the market at a faster rate than do women. Moreover, to the extent that young women anticipate such specialization in their futures, women may devote less effort and resources to early accumulation of human capital.

The GER gap has closed considerably in the last 60 years, which suggests that the within-household specialization along gender lines hypothesized by Becker is less important today than in the past. In 1950 the employment rate of prime-age white men (18–54-year-olds) exceeded that of white women by 55 percentage points; by 2008 that employment rate differential had closed to a mere 9 percentage points. For African Americans, the male-to-female GER differential turned negative by the 2000 census. By 2008, the employment rate of black women surpassed that of black men by 5 percentage points.

This paper analyzes the causes and consequences of changes in GER differentials for non-Hispanic whites and non-Hispanic blacks in the United States over the period from 1950 to 2008. We begin by documenting the evolution of the GER gap. In particular, we analyze how this employment differential varies over time for various subsets of each racial group (by age, educational attainment, and marital status) as well as how the distribution of the population across each of these dimensions changes. We provide an accounting of the relative contributions of changes in marriage rates, educational attainment, fertility rates, and institutionalization rates to changes in employment rates for each gender. We also ascertain the relative contributions of each gender to changes in the employment rate differential. For both racial groups, large increases in female labor force participation within marital categories, educational attainment groupings, and groups defined by child care responsibilities explain much of the narrowing of the GER prior to 1990. For African Americans, the decrease in employment among men accounts for a relatively large portion of the narrowing.

Next, we assess the extent to which the human capital, fertility, and marriage choices of women respond to the employment prospects of men within a racial group. We estimate a series of state-level panel regressions that model the changes in female outcomes as a function of the changes in male employment. We find evidence for both black and white women that suggests that poorer male employment prospects lead to lower marriage rates and lower proportions of young women with small children. We also find some evidence that the employment differential between white women with small children and white women without children narrows when male employment rates decline. This latter finding suggests that women with children are less likely to withdraw from the labor force in order to specialize in home production when male employment prospects worsen. While the implied impacts of male employment prospects on marriage and fertility rates are modest, in conjunction with the higher employment rates of unmarried women and women without children, these results suggest that declining male employment rates may contribute more to the narrowing of GER differentials than is implied by simple accounting exercises.

2. TRENDS IN GENDER DIFFERENTIALS IN EMPLOYMENT

We begin by documenting the evolution of GER differentials. We analyze data from the Integrated Public Use Microdata Series (IPUMS) files from the U.S. Census of Population and Housing for each census year between 1950 and 2000[1] and from the 2008 American Community Survey (ACS). Throughout this section, we focus on non-Hispanic white and non-Hispanic black men and women only. We exclude all other racial and ethnic groups, as the composition and size of these groups changed considerably over our period of analysis. We further restrict the analysis to individuals 18–54 years of age to focus on prime-working-age individuals. For most of the descriptive results, we do not exclude the institutionalized. The gender imbalance in the institutionalized population, especially in the latter years of the period analyzed, contributes significantly to the narrowing of GER differentials and changes in marriage market conditions. Hence, omitting this population would create an

1. We use the 1 percent sample from the Integrated Public Use Microdata Series files for 1950–1970 and the 5 percent sample files for 1980–2000.

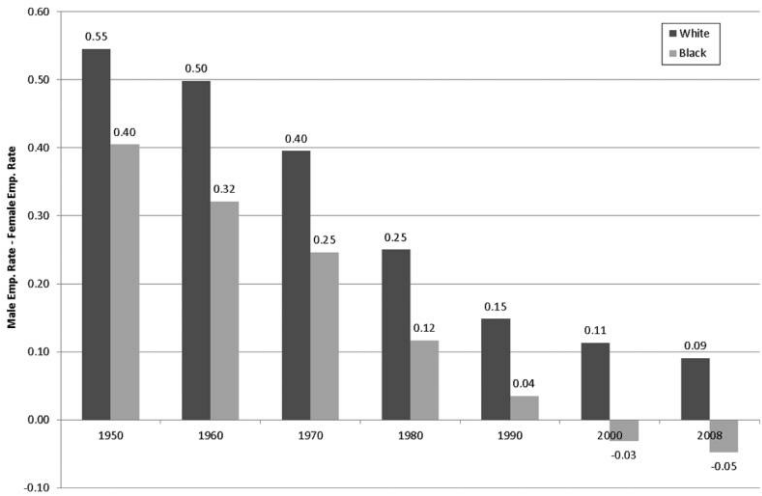

Figure 1. Gender employment rate differentials for prime-age adults, 1950–2008

inaccurate portrait of the relative work propensities of men and women from certain demographic subgroups.[2]

Throughout the paper, we analyze GER disparities within race, as we believe that the within-race comparisons provide the clearest depiction of the changes in the marriage prospects for women. To be sure, sufficiently frequent interracial marriage would render such comparisons inaccurate. However, simple comparisons from the U.S. census reveal the pervasiveness of endogamy in the United States (a point made in Charles and Luoh [2010]). While data from the 1950 census and the 2008 ACS on the racial distribution of the spouses of married white and black women 18–54 years of age reveal an increase in interracial marriage (the proportion of married white women with a white spouse declined from .999 to .977, while the proportion of married black women with a black spouse declined from .991 to .925), the overwhelming majority of marriages in 2008 were intraracial. Hence, the employment prospects of black men are key determinants of the marriage prospects of black women, while the employment prospects of white men are of disproportionate importance to white women.

Figure 1 displays the male-female difference in the employment-to-

2. Western and Pettit (2000) document the bias associated with omitting the institutionalized on measures of labor force participation among African Americans.

population ratio by race for each census year 1950–2000 and for 2008. Employment rate differentials narrow dramatically for each racial group. For whites, we observe very large declines between 1950 and 1990 (from 55 percentage points to 15 percentage points). After 1990, this narrowing slows considerably, with a 4-percentage-point change between 1990 and 2000 and an additional 2-percentage-point change between 2000 and 2008.

The gender differential for African Americans is consistently smaller than that for whites yet follows a narrowing trend. Between 1950 and 1980, the black GER differential narrowed by 28 percentage points, compared with a 30-percentage-point change for whites. Between 1980 and 2008, the gap narrowed by an additional 17 percentage points, while the comparable figure for whites is 16 percentage points. Most notable, the differential for African Americans turned negative in 2000 (with a value of −3 percentage points) and widened further to −5 percentage points in 2008.

One potential explanation for the narrowing and the reversal of the GER differential among African Americans may lie in the higher unemployment rates experienced by black men relative to black women.[3] Juhn (1992) documents systematic erosion in the rate at which unemployed black men transitioned into employment during the 1970s and 1980s. If relatively greater unemployment among men is driving the trends shown in Figure 1, a comparison of gender differences in labor force participation rates (the employed plus the unemployed divided by the population) rather than employment-to-population ratios should exhibit less narrowing. Interestingly, the gender disparities in labor force participation rates are consistently larger for African Americans in all years except for 1970, while the differences between the gender gap in the employment-to-population ratio and labor force participation ratios are generally small. Moreover, these differences decline in later years, with the participation differentials for African Americans exceeding the employment differential by 3 percentage points in the early decades (1950 and 1960) but by only 1 or 2 percentage points since 1990. Hence, rather than greater unemployment among labor force participants, relative declines in black male labor force participation explain the reversal

3. For example, in February 2009 the seasonally adjusted unemployment rate for black men 20 years and older stood at 15.1 percent, compared with an unemployment rate for black women of 10.1 percent. The comparable figures for white men and women are 7.6 and 6.1 percent, respectively (U.S. Department of Labor 2010).

of the gender gap after 1990. A similar description applies to the gender disparities for whites.

A key difference between racial groups concerns the relative contributions of changes in male employment rates to the narrowing of the GER differentials. Table 1 presents the change in the male employment rate, the comparable change in the female employment rate, and the corresponding change in the GER differential (the first change minus the second) for each consecutive pairing of census years in our analysis period. The overall narrowing of the GER differential is similar for blacks and whites. However, the relative contribution of the declines in the male employment rate to the differential is much larger for blacks. Over the entire period, the black male employment rate declined by roughly 17 percentage points, accounting for 38 percent of the overall change in the African American GER differential. We observe particularly large declines in black male employment during the 1970s and 1990s. By contrast, the white male employment rate declined by only 5.6 percentage points over the entire period and contributes 12 percent to the narrowing of the GER differential for whites.

There are well-documented empirical relationships between observable demographic and human capital characteristics and the likelihood of employment, with these relationships varying by gender and often varying by race and gender. In seeking explanations for the trends in the GER differentials shown in Figure 1, a natural starting point is to analyze how the relationship between observable characteristics and employment has changed over time and how the distributions of men and women across categories such as marital status have changed. To be sure, the relative distributions across such categories are likely to be endogenously determined by relative employment prospects (the subject of Section 4). Nonetheless, a descriptive analysis of these specific dimensions is useful for disentangling in an accounting sense the relative contribution of each factor to the narrowing of GER gaps.

In the remainder of this section, we explore the relationship between gender-specific employment rates and age, education, marital status, the presence of children, and the degree of institutionalization. In Section 3, we present a systematic decomposition of changes in GERs into changes in observable characteristics by gender and race and changes in the relationship between these characteristics and employment.

Table 1. Contributions of Changes in Male and Female Employment Rates to Changes in the Gender Employment-to-Population Rate Differential

	1950 to 1960	1960 to 1970	1970 to 1980	1980 to 1990	1990 to 2000	2000 to 2008	1950 to 2008
Whites:							
Δ Male employment	.011	−.021	−.015	.005	−.020	−.016	−.056
Δ Female employment	.058	.082	.130	.107	.015	.007	.399
Δ Differential	−.047	−.103	−.145	−.102	−.035	−.023	−.455
Blacks:							
Δ Male employment	−.028	−.017	−.078	−.022	−.060	.034	−.171
Δ Female employment	.056	.058	.051	.059	.007	.051	.282
Δ Differential	−.084	−.075	−.130	−.081	−.067	−.016	−.453

Sources. Values were tabulated from the Integrated Public Use Microdata Series files for 1950–2000 and the 2008 American Community Survey.

2.1. The Employment-Age Profile: How Age Concentrated Is the Narrowing Gender Employment Rate Gap?

At least since Mincer (1962) and Becker (1964), economists have described theoretical models and documented the empirical relationships between age and participation in the formal economy. For men, early human capital investment coupled with specialization in market work within the household predicts a sharply increasing employment-age profile and strong labor force attachment through much of their adult lives. For women, childbearing and child rearing often result in withdrawal from the workforce and potentially weak attachment prior to such withdrawal, with later reentry as child care responsibilities wane with the aging of children (Blau and Kahn 2007; Juhn and Murphy 1997). However, with declining fertility rates, increased female educational attainment, and declining marriage rates, the employment-age profiles for women and men have converged considerably.

The GER differentials depicted in Figures 2 and 3 for whites and blacks, respectively, display this convergence. For each racial group, we present GER differentials by age for 1950, 1980, and 2008. These differentials can be understood only by discussing the absolute employment rates from which they were derived. White men exhibit a fairly stable relationship between age and employment in all three time periods, with the proportion employed during their 20s rising rapidly and stabilizing at a relatively high rate around 28 years of age. Employment rates decline notably in later time periods, especially for the young, likely because of school enrollment and later marriage. In contrast, the employment rate changes for white women have been much more dramatic over time. In 1950, employment rates peaked around the age of 19 and declined sharply thereafter, with only modest increases associated with labor market reentry when white women reached their 40s. By 1980, white female employment rates had increased for all age groups, and the peak age of employment shifted to 23, with only a modest decrease in employment rates thereafter. By 2008, white female employment rates increased again for all ages accept for the youngest, with a peak employment rate at 26 and stable employment rates in excess of 74 percent thereafter.

As such, it is not surprising that the decline in the GER differential is observed for all age groups. In Figure 2, we observe the largest declines among men and women after 28 years of age. Nonetheless, by 2008 the gender disparity narrowed considerably for all groups and never exceeded 15 percentage points.

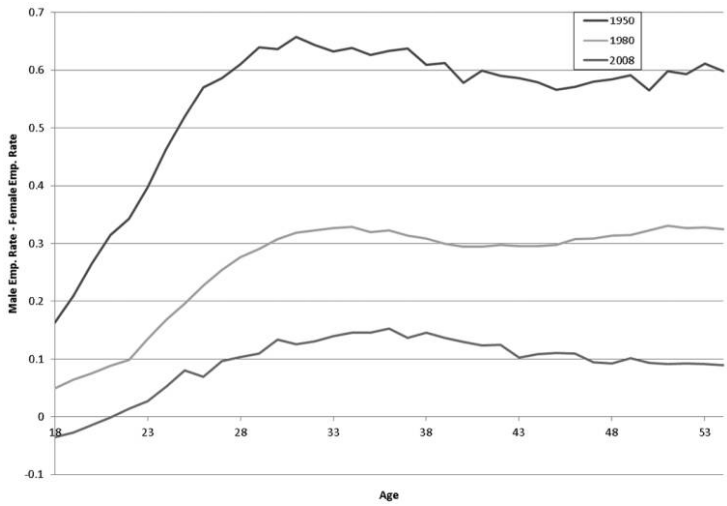

Figure 2. Gender employment rate differentials for whites by age in 1950, 1980, and 2008

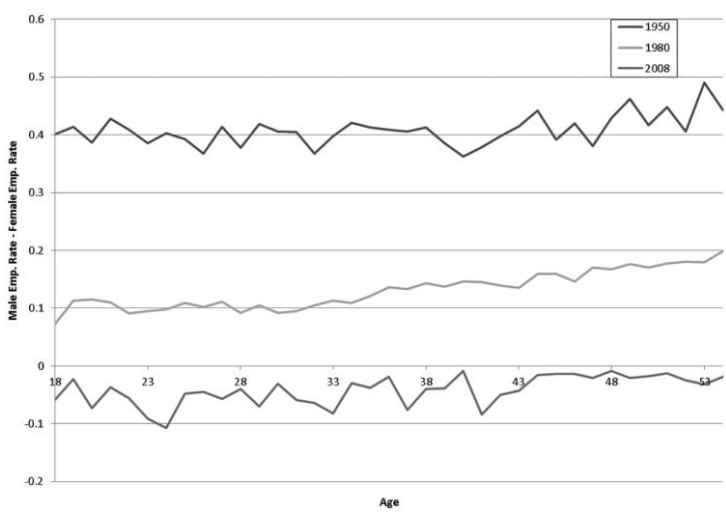

Figure 3. Gender employment rate differentials for African Americans by age in 1950, 1980, and 2008.

The trends among African Americans are similar in direction but exhibit some key differences. Within each year of analysis, the gender disparity in employment rates is fairly constant across age groups. The narrowing and reversing of this gender disparity occurs quite evenly across age groups, although the negative employment differentials in 2008 are particularly large for some age groups. Among African Americans 18–25 years of age, the average single-year difference in employment-to-population ratios is −6 percentage points. The comparable figures among 25–30-year-olds, 31–40-year-olds, 41–50-year-olds, and 51–54-year-olds are −5, −5, −3, and −2 percentage points, respectively. In sum, although the degree to which GER disparities have narrowed over time are not constant within age groups, the narrowing of the GER differentials within each racial group is broadly experienced across the age distribution.

2.2. Education

For both men and women of each race, employment rates generally increase with the level of educational attainment. This trend may be due to either greater stability in the employment matches formed by more educated workers or relatively shorter unemployment spells. In general, the relationship between employment and education has become stronger over time. An investigation of employment-to-population ratios for men and women by race for four educational attainment groupings—individuals with less than a high school diploma, those with a high school diploma, those with some college, and those with at least a 4-year college degree—demonstrates a fairly weak relationship between educational attainment and employment prior to 1980. In fact, in 1950 there is no discernible consistent relationship between education and employment, although the college educated have slightly higher employment rates than all other groups. By 1980, however, we begin to observe declining employment rates for less educated males, especially less educated black males. By the close of our study period, there is a strong, monotonically increasing relationship between employment rates and education. For black males, the employment rate differential between those with at least a college degree and high school dropouts reaches nearly 40 percentage points.

Among women, the relationship between education and employment is more consistent and positive than among men. As employment rates increase within each race–educational attainment grouping, the disparities in employment rates across educational attainment groups do not widen considerably and in some instances narrow. For example, the

college–high school dropout differential widens somewhat for black women yet narrows for white women. The employment rate differential between college-educated women and women with a high school degree narrows for both racial groups. The most striking pattern is the broad base of the increase in female labor force participation.

Differential changes in educational attainment by gender have certainly contributed to the narrowing of the GER differential. Early in the study period, white men exhibited higher levels of educational attainment than did white women, especially for the proportion with at least a college degree. By the year 2000, however, white women were on average more educated than white men, with the female-male difference in the proportion with a college degree and the proportion with some college widening further by 2008.

African American women exhibited early educational parity with African American men and had larger relative increases in educational attainment when compared with that for white women. By 2008, the modal black woman had some college education (nearly 40 percent), while roughly one-fifth of black women had a college degree. By contrast, the modal black man was a high school graduate or holder of a general equivalency diploma (GED) (36 percent), 31 percent had some college, while 14 percent had at least a college degree.

Figures 4 and 5 display the GER differentials for whites and blacks, respectively, by level of educational attainment. In 1950, the gender disparities were greatest for the least educated for both whites and blacks. By 2008, this ordering disappeared. Among whites, the GER differential was greatest among men and women with less than a high school degree, though not by much relative to other educational attainment groups. Among blacks, we observe the largest negative differential for the least educated, and the differential declines in absolute value and turns slightly positive for those with a college degree.

2.3. Marital Status and the Presence of Children

Over the past 60 years, the marriage and fertility rates among American women have changed dramatically, altering the nature and degree of the sexual division of labor. These changes have also likely influenced the labor force expectations of young women, which are key inputs into human capital investment and career choices (Blau 1998). As the extent of the sexual division of labor within a household varies by marital status and the presence of children, these developments have influenced the relative employment rates of women. Even in households with chil-

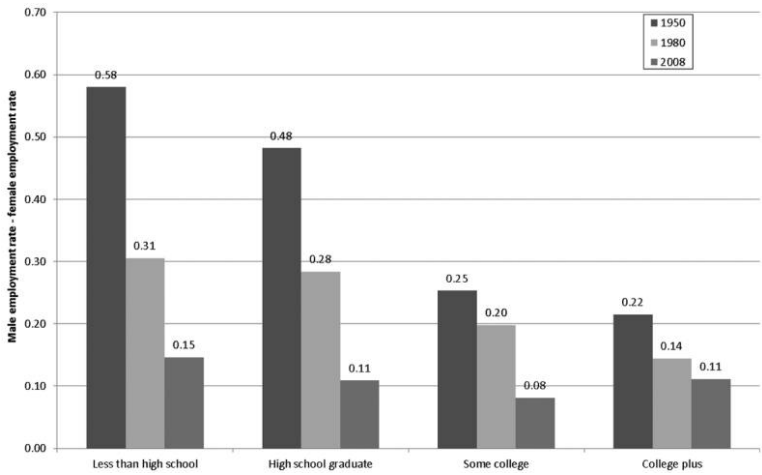

Figure 4. Male-female differences in the employment-to-population ratio for whites by level of educational attainment in 1950, 1980, and 2008.

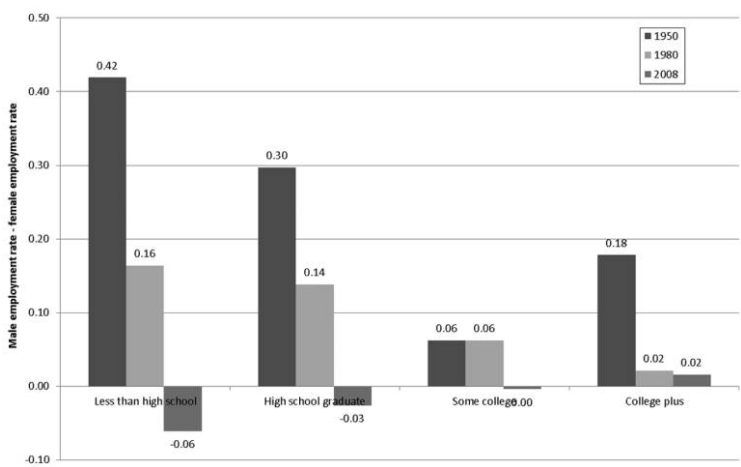

Figure 5. Male-female differences in the employment-to-population ratio for African Americans by level of educational attainment in 1950, 1980, and 2008.

dren, expectations regarding future support from current or future nonresident fathers figure prominently in decisions of women regarding market work.

There are important distributional changes across groups defined by race, marital status (never married, currently married, separated, widowed, or divorced), and the presence of minor children. For both black and white women, the proportions who have been married and the proportions with minor children have declined. However, there are relevant differences by racial group: among white women, the proportion of those who have never married increased from roughly 16 to 30 percentage points, with most of the increase among never married women without minor children. The proportion of white women who never married and have children increased (from .001 to .035) but still constitutes a small proportion of women. For African American women, the proportion who have never married increased by far more, from approximately .14 to .54. Moreover, the proportion who have never married and have children is many multiples the comparable figure for white women (.195 for blacks and .035 for whites).

The proportion of white women who were married declined between 1950 and 2008 from .77 to .58. The comparable figures for black women are .626 and .278. Among both black and white married women, the proportion with no minor children increased dramatically. Finally, we observe large increases in the overall proportion of white women who were divorced, separated, or widowed, with larger proportional increases among those with minor children. Interestingly, the proportion of black women who are divorced has not changed much since 1950.

The impact of these changes on female employment rates depends on the relationship among marriage, fertility, and work. The changing nature of these relationships is illustrated in Figures 6 and 7. Figure 6 presents the GER differential (male less female) for married and unmarried whites, while Figure 7 presents the comparable differential for African Americans. Among whites, the employment rate differential among the unmarried has never been that large and by 2008 turned slightly negative. Among the married, men are considerably more likely to work than are women, though the differential declined from 71 percentage points in 1950 to 19 percentage points in 2008.

There is a similar ordering among African Americans, although some of the changes are more dramatic. Among the unmarried, black men were initially 15 percentage points more likely to be employed than were black women. By 2008 this differential switched signs, and unmarried

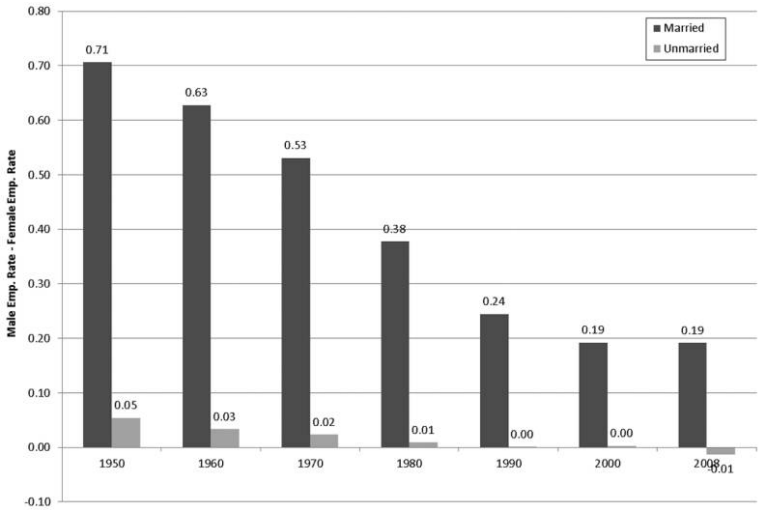

Figure 6. Gender employment rate differentials for whites by marital status, 1950–2008

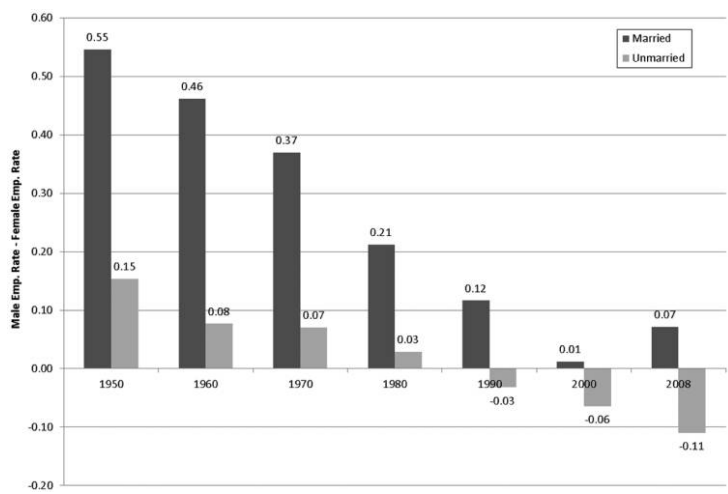

Figure 7. Gender employment rate differentials for African Americans by marital status, 1950–2008.

black women were 11 percentage points more likely to be employed than were unmarried black men. Even among married African Americans, the gender gap declined to trivially small numbers. While in 1950 the male-female difference in employment-to-population ratios among married blacks stood at .55, by 2008 this difference shrank to .07.

2.4. Institutionalization Rates

Part of these gender employment trends may be understood in the context of changing incarceration rates. Over the past 30 years, jail and prison incarceration rates have ballooned. Between 1975 and 2007, the U.S. prison incarceration rate increased from 111 per 100,000 residents to 502 per 100,000 residents. Over the same period, the incarceration rate in the nation's jails more than tripled to 259 per 100,000 in 2007. If we aggregate the jail and prison populations, the United States now incarcerates people at a higher rate than every other country in the world (Raphael and Stoll 2009). This increase has been borne disproportionately by men, who constitute more than 90 percent of the prison and jail population (Raphael 2010). Increased incarceration has had a particularly large impact on black males.

This differential impact can be highlighted by analyzing trends in the proportion of men residing in institutionalized group quarters for 1950–2008 (an outcome observable in the U.S. census). Such institutionalized quarters include mental hospitals, prisons, and jails. While the mental hospital population was important numerically during the 1950s and 1960s (with a peak population of more than 600,000), by 1980 most of the mental hospital population had been deinstitutionalized, and by 2000 the population had dwindled to below 60,000 (Raphael and Stoll, forthcoming). Hence, any increases observed over the period are driven entirely by changes in correctional facility populations.

For white men, institutionalization rates declined between 1950 and 1980 (driven by the decline in mental hospital populations) and then increased to 1.4 percent by 2008. White women, on the other hand, experienced pronounced and sustained declines in the proportion institutionalized, largely because of deinstitutionalization and the fact that there are relatively few white women in U.S. prisons and jails.

The starkest changes occur for African American men. While black men experienced small declines in institutionalization rates between 1960 and 1980 (from 4.2 percent to 3.6 percent), this proportion increased sharply thereafter, reaching 9 percent by 2000 and then declining slightly by 2008. Black women did not experience the sustained declines

of white women, nor did they experience the largest increases observed for black men.

Gender- and race-biased increases in institutionalization rates affect GER differentials through several channels. First, there is a simple contemporaneous mechanical incapacitation effect of incarceration, in that institutionalized men cannot be employed in a conventional manner. To be sure, such a mechanical effect may be limited by low employment rates among those who do time. Nonetheless, ample empirical research finds that a nontrivial fraction of the incarcerated have formal recent preincarceration work experience.[4] Because the bulk of the increase in incarceration since the mid-1970s reflects changes in sentencing policy rather than changes in behavior,[5] this short-term contemporaneous effect should directly affect the employment rates of men with elevated likelihoods of serving time.[6] By extension, this mechanical effect should exert a disproportionate impact on the African American GER differential.

Incarceration may also have a lagged impact on the employment prospects of former inmates and a contemporaneous impact on the employment outcomes of some men who have not been to prison. The lagged effects are derived from the failure to accumulate human capital while incarcerated and the stigmatizing effects associated with a prior felony conviction and incarceration. The alternative contemporaneous effect results from employers statistically discriminating against men from demographic groups with high rates of incarceration in an attempt to avoid hiring ex-offenders.[7] All of these pathways are likely to suppress the current and future employment and earnings of men from demographic groups with high incarceration rates.

The mechanical contribution of increases in incarceration to GER

4. A number of studies demonstrate that roughly one-third to two-thirds of inmates are employed at the time of the arrest leading to their current incarceration (see Kling 2006; Pettit and Lyons 2007; Tyler and Kling 2007; Sabol 2007).

5. Blumstein and Beck (1999) and Raphael and Stoll (2009) demonstrate that when the number of offenses is held constant, most of the increase (80–85 percent) in state incarceration rates is attributable to increased sentence length conditional on being sent to prison and an increased propensity to punish felons with incarceration.

6. To be sure, causality may also run in the reverse direction—that is, from declining employment prospects to criminal activity to incarceration. However, the evidence on this front is rather weak. The decline in wages of the least-skilled men between 1980 and 2000 was heavily concentrated in the 1980s, with some low-skilled men regaining lost ground during the 1990s and beyond. However, the increase in incarceration during the 1990s was equal in magnitude to the increase that occurred during the 1980s, and the incarceration rate continued to increase between 2000 and 2006.

7. See Raphael (2010) for a review of the research.

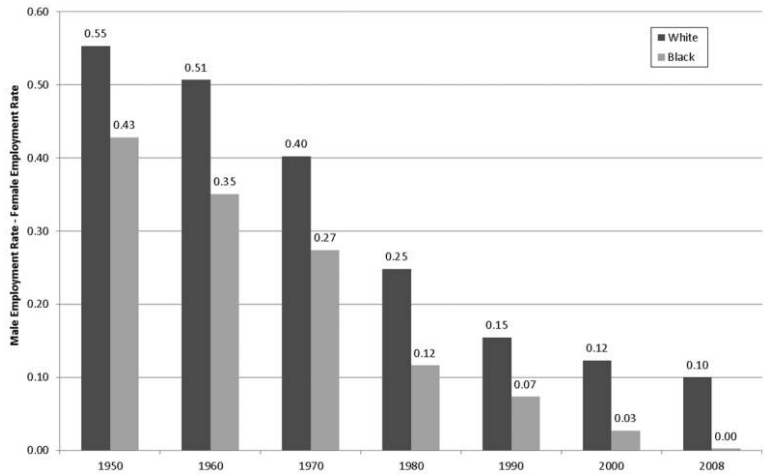

Figure 8. Gender employment rate differentials for prime-age adults excluding the institutionalized, 1950–2008.

differentials is best illustrated by tabulating the GER differentials omitting the institutionalized. Figure 8 presents these differentials. The GER differentials omitting the institutionalized are larger than those including the institutionalized (Figure 1). In fact, the negative differentials for African Americans disappear when we omit the institutionalized. Given the much lower institutionalization rates among white men, the white GER differentials in Figures 1 and 8 are roughly the same.

3. DECOMPOSING THE CHANGES IN GENDER EMPLOYMENT RATE DIFFERENTIALS

The descriptive analysis identifies key dimensions along which the distributions of men and women in racial groups have shifted as well as changes in the relationship between these dimensions and employment that account for the changing GER differentials. While these changes (both in the distributions and in the relationships to employment) are likely themselves functions of the relative employment prospects of men, their documentation sharpens our focus on the likely root causal relationships driving the evolution of GER gaps. In this section, we summarize the descriptive analysis using more formal decomposition methods in order to highlight those factors that are common to both races and those that are distinct. In Section 4, we address the issue of the

likely endogeneity of the dimensions of our decomposition to shifting male employment prospects.

To decompose changes in the GER differential, we present separate decompositions of the changes in employment rates occurring over time for each race-gender group. For example, let $\overline{E}_1$ be the observed employment rate for black women in period 1 and $\overline{E}_0$ be the comparable employment rate for period 0. Assume that the employment probabilities for African American women in each period are determined by the linear probabilities models

$$E_{1i} = \boldsymbol{X}_{1i}\boldsymbol{\beta}_1 + \varepsilon_{1i} \quad \text{and} \quad E_{0i} = \boldsymbol{X}_{0i}\boldsymbol{\beta}_0 + \varepsilon_{0i}, \tag{1}$$

where $\boldsymbol{X}_{ti}$ is a vector of covariates that determine the likelihood of employment for person i in year t, $\boldsymbol{\beta}_t$ is the corresponding vector of year-specific coefficients, and ε_{ti} is a random disturbance term for person i in year t. If we assume that $E(\varepsilon_{ti}|\boldsymbol{X}_{ti})$ equals zero for both years, premultiplying the coefficient vector by the expected values of $\boldsymbol{X}_{ti}$ returns the expected value of employment for each year.[8] If we use the sample analogue and the ordinary least squares (OLS) estimates of the parameter vectors, it must be the case that $\overline{E}_1 = \overline{\boldsymbol{X}}_1\hat{\boldsymbol{\beta}}_1$ and $\overline{E}_0 = \overline{\boldsymbol{X}}_0\hat{\boldsymbol{\beta}}_0$. Thus, the change in the employment rate can be expressed as a function of the average covariates and the OLS coefficients:

$$\overline{E}_1 - \overline{E}_0 = \overline{\boldsymbol{X}}_1\hat{\boldsymbol{\beta}}_1 - \overline{\boldsymbol{X}}_0\hat{\boldsymbol{\beta}}_0. \tag{2}$$

Adding and subtracting the term $\overline{\boldsymbol{X}}_1\hat{\boldsymbol{\beta}}_0$ from the right-hand side of equation (2) and factoring yields the standard Blinder-Oaxaca decomposition formula:

$$\overline{E}_1 - \overline{E}_0 = (\overline{\boldsymbol{X}}_1 - \overline{\boldsymbol{X}}_0)\hat{\boldsymbol{\beta}}_0 + \overline{\boldsymbol{X}}_1(\hat{\boldsymbol{\beta}}_1 - \hat{\boldsymbol{\beta}}_0). \tag{3}$$

Equation (3) decomposes the change in employment rates for black women into two broad components. The first term on the right-hand side of equation (3) is the proportion of the change attributable to changes in the average values of the vector $\boldsymbol{X}$, in which the impact of the elements of $\boldsymbol{X}$ on employment from the base period are used. In the context of the current question, this term characterizes the contribution of changes in educational attainment, marriage, childbearing, and so forth, to the overall change in employment rates. The second term on the right-hand side of equation (3) shows the contribution of the chang-

8. For the purposes of our decomposition, these conditional expectation conditions on the error terms are unnecessary, as estimation by ordinary least squares regression forces the regression function through the sample averages of the explanatory and dependent variables.

ing relationships between the elements of $\boldsymbol{X}$ and employment to the overall change in employment rates. For example, a narrowing of the employment rate differential between married and unmarried women would be reflected in this component.

Our approach in this section is the following. First, we split our study period into two subperiods: 1950–80 and 1980–2008. Second, we calculate the contributions of the change in overall female employment rates and the change in overall male employment rates to the change in the GER differential for each subperiod. Next, we estimate regression equations corresponding to the models in equation (1) for each gender for the start and end years of our two subperiods. We then decompose the changes in employment rates by gender into the component parts illustrated in equation (3), providing a separate accounting of the impacts of each of the dimensions discussed in Section 2.[9]

Table 2 presents the decomposition results for changes in the GER differential among African Americans. Beginning with the result for 1950–80, we see that nearly 45 percent of the change in the GER differential of −.289 for this period is attributable to declining employment among men, with the remainder attributable to increased employment among women. Among women, roughly 6.3 percentage points of the 16.5-percentage-point increase in employment rate are due to changes in underlying average characteristics, with increasing educational attainment and the changing distribution of African American women across marital and fertility categories playing particularly large roles.

The lion's share of the increase in black female employment over this period is attributable to the changing relationship between the covariates and employment. To start, the education-employment differentials widen considerably. In addition, the differences between groups of women defined by marriage and fertility categories narrow. The omitted group of

9. The underlying regression model specifications are the following: For women, we estimate separate models by year and race in which the dependent variable is a dummy indicating employment and the explanatory variables include dummies for eight age categories (18–21, 22–25, 26–30, 31–35, 36–40, 41–45, 46–50, and 51–54), four educational attainment categories (less than high school, high school or general equivalency diploma, some college, college plus), dummies for school enrollment and institutionalization, and dummies for nine categories defined by the interaction of marital status (never married, currently married, and widowed/separated/divorced) and the presence of children (no children, children under 5 years of age, and children 5–18 years of age). For men, we estimate separate equations by year and race with a model specification that closely parallels that for women. The one difference is that for men we define three marital status groups but do not interact them with the presence of children, since noncustodial or nonresident fathers of minor children cannot be identified in the census.

Table 2. Changes in the Gender Employment Rate Differential among African Americans

	1950 to 1980	1980 to 2008
Overall	−.289	−.165
Δ African American female employment rate:		
Overall	.165	.117
Due to change in average characteristics	.063	.075
Age distribution	−.009	.007
Education distribution	.066	.077
School enrollment	−.027	−.009
Institutionalization	.002	−.001
Marriage and fertility	.031	.002
Due to change in regression coefficients	.101	.042
Age	.030	−.012
Education	.078	.026
School enrollment	.011	.016
Institutionalization	.000	.000
Marriage and fertility	−.221	−.006
Intercept	.204	.019
Δ African American male employment rate:		
Overall	−.124	−.048
Due to change in average characteristics	−.075	−.023
Age distribution	−.004	.003
Education distribution	−.007	.033
School enrollment	−.036	−.004
Institutionalization	−.003	−.027
Marriage	−.026	−.029
Due to change in regression coefficients	−.049	−.024
Age	.045	.036
Education	.092	.069
School enrollment	.017	.013
Institutionalization	.006	.003
Marriage	−.039	.026
Intercept	−.170	−.171

women in the underlying regression model who are described by the model's intercept are married women who are the least-educated and have children in the youngest age group. In conjunction, these changes indicate that women in all groups were increasingly employed, with a narrowing of employment gaps by household structure but an increase in the importance of educational attainment.

For black men over this time period, most of the 12.4-percentage-point decline in employment is attributable to changing average characteristics. Increased school enrollment and declining marriage rates together account for 6.2 percentage points of this decline. With respect to shifts in the underlying employment functions, educational-employment

rate differentials widen considerably for black men. The omitted category described by the intercept are the youngest, least-educated, married men. The large decline in the estimated intercepts coupled with the increased contribution of between-education group differentials suggest that declining employment among the least-skilled African American men is a particularly important contributor to the narrowing of the gender employment differential over this first period.

For both black men and black women, changes in employment between 1980 and 2008 are smaller than the comparable changes for the period from 1950 to 1980. In particular, women experienced an increase in employment of 11.7 percentage points, while men experienced a decrease of 4.8 percentage points, which led to a further narrowing of the GER differential by −16.5 percentage points. In contrast to the earlier period, much of the increase for black women in the latter period is attributable to changing average characteristics, with increases in educational attainment a particularly important contributor. The impact of higher levels of educational attainment is enhanced by further increases in the employment differentials between education groups. For black men, changes in two characteristics in particular lower male employment rates: the increase in the proportion who are institutionalized (reducing employment by 2.7 percentage points) and the decline in marriage rates (reducing employment by 2.9 percentage points). With regard to changes in the underlying employment function, employment differentials across age groups widen, as do the employment differentials across educational attainment groups. The intercept measuring the employment rate of the youngest and least-skilled men continues to decline.

Since the declining employment rates for low-skilled black men is a particularly important contributor to the narrowing of GER differentials among African Americans, we present a separate decomposition for the subset of African American men and women who have education levels not exceeding a high school degree. These results are presented in Table 3. The first notable difference relative to the results in Table 2 concerns the overwhelming contribution of declining male employment for this subgroup. Between 1950 and 2008, black male employment among those with no more than a high school degree declined by 29.2 percentage points, while comparable black female employment increased by 16.7 percent. In other words, declining male employment rates account for roughly 64 percent of the narrowing GER differential.

Another key difference concerns the disproportionate contribution of increased institutionalization during the latter period. Among lower

Table 3. Changes in the Gender Employment Rate Differential among African Americans with a High School Degree or Less

	1950 to 1980	1980 to 2008
Overall	−.268	−.191
Δ African American female employment rate:		
Overall	.118	.049
Due to change in average characteristics	.045	.023
Age distribution	−.009	−.003
Education distribution	.027	.035
School enrollment	−.003	−.003
Institutionalization	.001	−.004
Marriage and fertility	.029	−.002
Due to change in regression coefficients	.073	.026
Age	.009	−.030
Education	.062	.013
School enrollment	.001	−.003
Institutionalization	.000	.000
Marriage and fertility	−.222	−.006
Intercept	.223	.051
Δ African American male employment rate:		
Overall	−.150	−.142
Due to change in average characteristics	−.040	−.077
Age distribution	−.004	.001
Education distribution	.010	.022
School enrollment	−.011	−.007
Institutionalization rate	−.009	−.048
Marriage rate	−.027	−.045
Due to change in regression coefficients	−.110	−.065
Age	.011	.045
Education	.045	.030
School enrollment	.003	.008
Institutionalization	.008	.008
Marriage	−.049	.014
Intercept	−.128	−.171

skilled African American men, roughly one-third of the 14.2-percentage-point decline in employment between 1980 and 2008 is attributable to increased incarceration rates among this group.

A final difference worth noting is the much lower increase in employment rates among lower skilled African American women. For this group, employment increased by 16.7 percentage points between 1950 and 2008, compared with an overall increase of 28.2 percentage points for all African American women.

In contrast to the decomposition results for African Americans, the narrowing of white GER differentials is mainly attributable to increasing employment among women rather than decreasing employment among

Table 4. Changes in the Gender Employment Rate Differential among Whites

	1950 to 1980	1980 to 2008
Overall	−.295	−.160
Δ Female employment rate:		
Overall	.270	.129
Due to change in average characteristics	.072	.072
Age distribution	.001	−.014
Education distribution	.057	.064
School enrollment	−.039	−.008
Institutionalization	.002	.000
Marriage and fertility	.051	.030
Due to change in regression coefficients	.198	.057
Age	.003	.060
Education	.074	.069
School enrollment	.025	.013
Institutionalization	.000	.000
Marriage and fertility	−.049	−.144
Intercept	.146	.059
Δ Male employment rate:		
Overall	−.025	−.031
Due to change in average characteristics	−.034	−.003
Age distribution	−.004	.000
Education distribution	.015	.019
School enrollment	−.036	−.002
Institutionalization	.003	−.005
Marriage	−.012	−.014
Due to change in regression coefficients	.009	−.028
Age	−.022	.023
Education	.071	.066
School enrollment	.021	.006
Institutionalization	.001	.000
Marriage	.005	−.005
Intercept	−.067	−.119

men. The increase in employment among white women can be seen in Table 4, which presents the decomposition results for all whites. In the early period, the increase in female employment accounts for 92 percent of the narrowing of the gender differential, while in the latter period increased female employment accounts for 81 percent of the change. For white women during the earlier period, increased educational attainment and changes in the distribution of women across marital and fertility categories greatly increased female employment, while increased school enrollment moderately decreased employment. As with the results for black women, we also observe widening of the employment differentials between education groups and narrowing of the employment differen-

tials across marriage and fertility groups. In addition, much of the increase in female employment occurs within groups (as is evident by the strong shift in the intercept during the earlier period).

For white men, employment rates declined only slightly between 1950 and 1980 (by 2.5 percentage points). Underlying the aggregate changes are shifts in average characteristics and the shape of the employment function, which largely offset each other. Increased school enrollment and decreased marriage rates reduced employment, while increased educational attainment slightly increased employment. The employment differential widened across educational attainment groups.

For the latter period, most of the increase in employment for white women is explained by changing average characteristics, with increased educational attainment and declining marriage and fertility rates the chief contributors. In addition, the employment differentials by age and education widened. Men experienced further slight declines in employment (by 3.1 percentage points). Increases in educational attainment lead to higher employment, while widening differentials across education groups and a decline in employment among the youngest and least educated lead to lower employment rates.

Table 5 presents comparable results for lower skilled whites. Similar tothe results for lower skilled African Americans, declining male employment rates account for a greater proportion of the narrowing GER differentials, though to a lesser extent. Between 1950 and 2008, white male employment rates among those with no more than a high school degree declined by 14.6 percentage points (accounting for 32 percent of the narrowing GER differential). We observe a much lower contribution from increased institutionalization among white men during the latter period relative to what we find for black men. Finally, we observe smaller increases in employment for lower skilled white women relative to all white women. Nonetheless, the overall increase in employment for this group (a change of 30.9 percentage points) is substantial.

Comparing and contrasting the results in Tables 2–5, we observe a number of trends that are common to both blacks and whites and some key differences. For both black and white women, increased educational attainment and shifts in the distribution of women across marriage and family structure groups were key contributors to increases in female employment rates. In addition, both black and white men who were the youngest and least educated experienced declines in employment. Perhaps the most important difference between the decomposition results lies in the proportionally larger contribution of declining male employ-

Table 5. Changes in the Gender Employment Rate Differential among Whites with a High School Degree or Less

	1950 to 1980	1980 to 2008
Overall	−.285	−.170
Δ Female employment rate:		
Overall	.233	.076
Due to change in average characteristics	.065	.051
Age distribution	−.008	−.010
Education distribution	.040	.016
School enrollment	−.004	−.007
Institutionalization	.001	−.002
Marriage and fertility	.037	.055
Due to change in regression coefficients	.168	.025
Age	−.029	.041
Education	.058	.048
School enrollment	.003	.001
Institutionalization	.000	.000
Marriage and fertility	−.038	−.148
Intercept	.175	.083
Δ Male employment rate:		
Overall	−.052	−.094
Due to change in average characteristics	.004	−.035
Age distribution	−.008	.000
Education distribution	.029	.014
School enrollment	−.005	−.008
Institutionalization	.000	−.012
Marriage	−.012	−.029
Due to change in regression coefficients	−.056	−.059
Age	−.071	.011
Education	.032	.032
School enrollment	.000	−.002
Institutionalization	.001	.001
Marriage	−.003	−.021
Intercept	−.016	−.078

ment for blacks relative to whites. We also observe much larger declines in employment among the least-educated black men relative to the least-educated white men, while the proportion of black men who remained in this category did not decline as much as it did for whites. In addition, increasing incarceration rates explain more of the relatively recent declines in black male employment than in white male employment. For women, the employment differentials across marriage and fertility groups narrow much more for black women than white women.

4. RELATIVE MALE EMPLOYMENT PROSPECTS AND THE MARRIAGE, FERTILITY, AND EDUCATION CHOICES OF WOMEN

Until now, we have been implicitly treating the demographic and human capital dimensions of our decompositions and the distribution across these dimensions as exogenous. To be sure, the traits by which we stratify the data may themselves be endogenously determined by males' employment prospects. For example, the less likely the average man is to be working, the less likely the average woman may be to marry. Given the close (but imperfect) link between marriage and fertility rates, one might expect such an impact on marriage rates to consequently decrease the likelihood of having children at all and the number of children conditional on having any. Even within marriage, a married woman may have fewer children if the expected durability of the marriage is attenuated by the weak employment prospects of her spouse. Future prospects for financial support from a noncustodial father should exert similar influences on women considering having children outside of marriage.[10] Finally, women may be less likely to specialize in household production and may exhibit greater attachment to the labor force. In anticipation of this path, we might expect women to invest more in human capital valued in the labor market by pursuing higher levels of formal education.

In this section, we explore the extent to which these decision margins depend on the employment prospects of men. We restrict the analysis to the period 1970–2008 because most of the decline in employment for African American men occurred after 1970. We use data from the 1 percent samples of the 1970 IPUMS, the 5 percent IPUMS samples for 1980–2000, and the 2008 ACS to estimate average outcomes for African American women and white women who were 18–30 years of age by state and year. Here we focus on young women since their choices are more likely to be linked to contemporaneous changes in males' employment prospects. We also estimate the corresponding employment rate for 18–30-year-old men by race, state, and year. The sample used to generate these state-year averages is restricted to non-Hispanic white and black men and women who meet the age criteria.[11] We use these state-level averages to estimate the model

10. Here, however, the structure of state support for such families is an important factor in this decision, as women having children outside of marriage may not be influenced on the margin by males' employment prospects (Neal 2004).

11. We explicitly do not stratify women by education, as we believe that the educational attainment choice and the distribution of women across educational attainment categories may be endogenously determined by male employment outcomes.

$$\Delta \text{Outcome}_{it} = \alpha_i + \delta_t + \beta \Delta \text{Male Employment}_{it} + \varepsilon_{it}, \quad (4)$$

where $\Delta \text{Outcome}_{it}$ is the interdecade change in the outcome of analysis for women in state i between years t and $t + 10$,[12] $\Delta \text{Male Employment}_{it}$ is the corresponding change in state-level male employment rates, α_i is a state fixed effect allowing for state-level linear time trends in the outcome variable, δ_t indicates time fixed effects allowing separate intercepts for the changes between any 2 census years, and ε_{it} is an error term.

We estimate models for six dependent variables: the change in the proportion of women enrolled in school, the change in the proportion of women with education beyond high school, the change in the proportion of women with a college degree, the change in the proportion of women who are married, the change in the proportion of women with young children (under 5 years of age), and the change in the employment differentials between women with children under 5 and women with no children. The last outcome variable is taken from a regression model estimated by state, year, and race of a dummy variable indicating employment on dummies indicating having a minor child younger than 5, having a minor child 5 or older, eight age dummy variables, and four educational attainment dummies. For this outcome, we use the full sample of women 18–54 years of age to increase the precision of the estimated employment differentials.[13]

A priori, we expect school enrollment, the proportion of women with education beyond a high school degree, and the proportion of women with a college degree to increase when male employment rates decrease. This would be the case if women invest more in human capital in response to the weaker employment prospects, and perhaps marriage prospects, of men. Similarly, we expect that the proportion of women who are married is positively associated with the proportion of men who are employed, as the benefits to marriage are certainly greater when male employment prospects are higher. We expect young women to be less likely to have young children when male employment rates decline, as expectations of future support from the father would affect fertility choices. We expect that women with young children should be less likely to withdraw from the labor force than women with no children when male employment prospects are weak. Hence, we expect a negative re-

12. The ending year is $t + 8$ for the period 2000–2008.

13. We also explored models in which we added marital status to the list of control variables used to regression adjust the employment differential between women with young children and women without children. The results are quite close to those presented here.

lationship between the change in this employment differential and the corresponding change in male employment rates.

One obvious weakness of this exercise is that we are treating the change in male employment rates at the state level as exogenous. While the time effects and the state-level time trends do separate out national-level trends in male employment for each decade and state-linear trends above and beyond what is happening in the nation, there are still reasons to believe that changes in rates of male employment may be reverse caused by some of the dimensions that we are analyzing. For example, declining marriage rates may be reducing male employment since married men generally exhibit greater labor force attachment (perhaps because of the within-household benefits from the division of labor). We did explore using the change in male institutionalization rates as an instrument for the change in male employment rates. This is similar to the strategy pursued by Charles and Louh (2010), who study the relationship between male incarceration and marital outcomes for African American women using a methodological framework quite close to that pursued here. While we did indeed find a significant negative relationship between the change in the proportion employed and the change in the proportion institutionalized, the first-stage relationship is relatively weak (the *t*-statistic does not exceed 2.6 in our most detailed specification), leading to quite imprecise instrumental variables regression estimates in the second stage. As we have no other plausible instrument for male employment, here we restrict our attention to estimates from OLS estimation.

Table 6 presents the estimation results for African Americans. For each model, we report only the coefficient on male employment. Beginning with the education outcomes, we observe a strong positive association between the change in the proportion of women who are enrolled in school and the change in male employment rates, counter to our expectations. We do find some evidence that declining male employment rates are associated with a higher proportion of women attaining education levels beyond high school. The coefficient estimate for this outcome, however, is not statistically significant in the final specification. The coefficients on the proportion of women with a college degree are generally small, of the opposite sign of what we hypothesize, and marginally statistically significant in two of the specifications. Hence, we find little evidence that human capital accumulation by African American women is responding to male employment trends.

We find stronger evidence of an impact on marriage and fertility rates.

Table 6. The Impact of Changes in State-Level Employment Rates for Young African American Men on Changes in Outcomes of Young African American Women

Dependent Variable	(1)	(2)	(3)
Δ Proportion enrolled	.189**	.301**	.314**
	(.041)	(.044)	(.049)
Δ Proportion with post–high school education	−.292**	−.094+	−.084
	(.078)	(.051)	(.054)
Δ Proportion with college degree	.054+	.029	.042+
	(.032)	(.022)	(.022)
Δ Proportion married	.345**	.339	.340**
	(.079)	(.042)	(.048)
Δ Proportion with children under 5	.135	.110*	.097*
	(.047)	(.045)	(.049)
Δ Employment differential[a]	−.210*	.051	.055
	(.089)	(.069)	(.069)

Note. The values are for African American men and women 18–30 years of age. Each coefficient is for a variable measuring the between-census year change in young black male employment rates from a regression of the comparable change in the dependent variable on the change in male employment and a set of control variables. Specification (1) is a simple bivariate regression. Specification (2) adds year fixed effects. Specification (3) includes a complete set of year and state fixed effects. Regressions are estimated with data for all states for the years 1970, 1980, 1990, 2000, and 2008. We exclude cells for states with fewer than 30 observations in either the base or the end year of the change, which eliminates a relatively small number of observations. All models are weighted by the average of the number of observations used to calculate the endpoint averages for the change in the dependent variables. Standard errors are in parentheses.

[a]Measures the regression-adjusted employment differential between women without children and women with children under 5 years of age. The variable is constructed from the coefficient on a dummy variable indicating having a child under 5 years of age from a microlevel regression of an employment indicator on eight age dummies, four educational attainment dummies, and a dummy indicating the presence of a child between the ages 5 and 18. Separate regressions are estimated for each state and year and use the complete sample of women 18–54 years of age.

$^{+}p < .10$.
$^{*}p < .05$.
$^{**}p < .01$.

In all three model specifications, the change in the proportion of African American women who are married is positively associated with the change in male employment prospects (and significant at the 1 percent level in two of the specifications). We observe similar statistically significant relationships (at the 5 percent level) in the change in the proportion of women with young children. As these two dimensions are particularly important contributors to the change in black women's employment rates in our decomposition analysis, these results indicate that the contribution of the decline in male employment to the narrowing of

GER differentials extends beyond the accounting contribution documented above.

Finally, there is mixed evidence concerning the relationships between the extent to which African American women with young children withdraw from the workforce (as measured by the regression-adjusted employment differential between such women and black women with no children) and changing male employment prospects. The bivariate specification shows a statistically significant (at the 5 percent level of confidence) negative correlation between the change in this employment differential and the change in male employment rates. In other words, increasing male employment rates increase the likelihood that women with young children do not work. However, adding time and state fixed effects in specifications (2) and (3) reduces this estimate to a small, positive, and statistically insignificant value.

Table 7 presents comparable results for white women. As with the results for black women, we find little evidence that the educational attainment outcomes of white women are responding to the employment prospects of white men in the manner that we hypothesize. We do, however, find strong relationships between the change in the proportion of white women who are married and the change in the proportion of white men who are employed. In all three models, the coefficient estimate is positive and statistically significant at the 1 percent level. There is also a strong positive relationship between the change in the proportion of women with young children and the change in male employment prospects. The one departure relative to the results for black women is that in the latter two specifications, the relative employment rates of women with young children indeed decline with increases in male employment. This difference relative to black women may be due to the greater precision in the estimation of the dependent variable for white women (given the much larger sample sizes of the underlying regression model).

The relative magnitudes of the impacts on marriage and fertility rates can be gauged by tabulating the impacts of the actual decline in employment rates for young men on each outcome implied by the coefficient estimates in Tables 6 and 7. Between 1970 and 2008, the employment rate for young black men declined by 1.5 percentage points (from .687 to .537). If we use the parameter estimates from the most complete specification (specification [3] in the tables), this decline implies a decline of 5.1 percentage points in the proportion of young black women who are married and a decline of approximately 1.5 percentage points in the proportion of young black women with young children. Relative to the

Table 7. The Impact of the Change in State-Level Employment Rates for Young White Men on Changes in Outcomes of Young White Women

Dependent Variable	(1)	(2)	(3)
Δ Proportion enrolled	.247**	.351**	.336**
	(.060)	(.051)	(.058)
Δ Proportion with post–high school education	.264**	−.024	.000
	(.065)	(.062)	(.064)
Δ Proportion with college degree	.564**	.056	.101
	(.126)	(.067)	(.062)
Δ Proportion married	.159**	.241**	.207**
	(.063)	(.056)	(.065)
Δ Proportion with children under 5	.059	.218**	.224**
	(.081)	(.054)	(.061)
Δ Employment differential[a]	.350**	−.179*	−.230**
	(.121)	(.084)	(.065)

Note. The values are for white men and women 18–30 years of age. Each coefficient is for a variable measuring the between-census year change in young white male employment rates from a regression of the comparable change in the specific dependent variable on the change in male employment and a set of control variables. Specification (1) is a simple bivariate regression. Specification (2) adds year fixed effects. Specification (3) includes a complete set of year and state fixed effects. Regressions are estimated with data for all states for the years 1970, 1980, 1990, 2000, and 2008. We exclude cells for states with fewer than 30 observations in either the base or the end year of the change, which eliminates a relatively small number of observations. All models are weighted by the average of the number of observations used to calculate the endpoint averages for the change in the dependent variables. Standard errors are in parentheses.

[a]Measures the regression-adjusted employment differential between women without children and women with children under 5 years of age. We estimate separate regressions for each state and year and use the complete sample of women 18–54 years of age. The variable is constructed from the coefficient on a dummy variable indicating having a child under 5 years of age from a microlevel regression of an employment indicator on eight age dummies, four educational attainment dummies, and a dummy indicating the presence of a child between the ages 5 and 18.

*$p < .05$.

**$p < .01$.

actual observed declines for these variables, the prediction amounts to 15 percent of the observed decline in marriage rates and 9 percent of the observed decline in the proportion of white women with young children. The decline in employment rates among young white men over this period is 4.6 percentage points (from .789 to .743). Combined with the coefficient estimates in specification (3) of Table 7, this change implies a decline in the marriage rate of less than 1 percentage point and a decline in the proportion of women with young children of roughly 1 percentage point. This amounts to 2.7 percent of the actual decline in marriage rates for young white women and 6 percent of the decline in

the proportion with young children. To summarize, the OLS models estimated here suggest modest responses of the marriage and fertility decisions of young women to changing male employment prospects.

5. CONCLUSION

This accounting of the GER differential illustrates an important aspect of how the labor market has changed over the past 60 years. For both racial groups, the GER gap has declined, turning slightly negative for African Americans. The changes in the differentials are attributable to changes in employment levels of each gender-race group as well as shifting demographic characteristics of the groups over time. For whites, increasing employment among women accounts in large part for the closing of the GER gap, as do increased levels of educational attainment and declines in marriage and fertility rates. The African American employment differentials follow a similar trend, with increased levels of employment among women. However, declines in employment among African American men constitute a large component of the change in the GER gap. In particular, employment rates of African American men have dropped for the least educated since 1980 and are driven down further by increased institutionalization and declines in marriage rates, especially for the least educated.

Regression decompositions of the changes in employment rate differentials show that employment rates of women are responsive to changes in the employment prospects of men. Controlling for differences between states and overall time trends, we find that a worsening of employment prospects for African American men is associated with an increase in the proportion of women with education beyond high school, a decline in the marriage rate, and a decline in the fertility rate. Similarly among whites, decreases in male employment rates are associated with reductions in the marriage and fertility rates of women. We also find that the employment rate differential between white women with very young children and white women without children declines with declining white male employment.

REFERENCES

Becker, Gary S. 1964. *Human Capital*. 1st ed. New York: Columbia University Press.

———. 1991. *A Treatise on the Family*. Cambridge, Mass.: Harvard University Press.

Blau, Francine D. 1998. Trends in the Well-Being of American Women, 1970 to 1995. *Journal of Economic Literature* 36:112–65.

Blau, Francine D., and Lawrence M. Kahn. 2007. Changes in the Labor Supply Behavior of Married Women: 1980 to 2000. *Journal of Labor Economics* 25:393–438.

Blumstein, Alfred, and Allen J. Beck. 1999. Population Growth in U.S. Prisons, 1980–1996. *Crime and Justice: A Review of Research* 26:17–62.

Charles, Kerwin Kofi, and Ming Ching Luoh. 2010. Male Incarceration, the Marriage Market, and Female Outcomes. *Review of Economics and Statistics* 92:614–27.

Juhn, Chinhui. 1992. The Decline in Male Labor Force Participation: The Role of Declining Market Opportunities. *Quarterly Journal of Economics* 107: 79–121.

Juhn, Chinhui, and Kevin Murphy. 1997. Wage Inequality and Family Labor Supply. *Journal of Labor Economics* 15:72–97.

Kling, Jeffrey R. 2006. Incarceration Length, Employment, and Earnings. *American Economic Review* 96:863–76.

Mincer, Jacob. 1962. Labor-Force Participation of Married Women: A Study of Labor Supply. Pp. 63–97 in *Aspects of Labor Economics,* edited by H. Gregg Lewis. Princeton, N.J.: Princeton University Press.

Neal, Derek. 2004. The Relationship between Marriage Market Prospects and Never-Married Motherhood. *Journal of Human Resources* 39:935–57.

Pettit, Becky, and Christopher Lyons. 2007. Status and the Stigma of Incarceration: The Labor Market Effects of Incarceration by Race, Class, and Criminal Involvement. Pp. 206–26 in *Barriers to Reentry? The Labor Market for Released Prisoners in Post-industrial America,* edited by Shawn D. Bushway, Michael A. Stoll, and David Weiman. New York: Russell Sage Foundation.

Raphael, Steven. 2010. Improving Employment Prospects for Former Prison Inmates: Challenges and Policy. Working Paper No. W15874. National Bureau of Economic Research, Cambridge, Mass.

Raphael, Steven, and Michael A. Stoll. 2009. Why Are So Many Americans in Prison? Pp. 27–72 in *Do Prisons Make Us Safer? The Benefits and Costs of the Prison Boom,* edited by Steven Raphael and Michael A. Stoll. New York: Russell Sage Foundation.

———. Forthcoming. Assessing the Contribution of the Deinstitutionalization of the Mentally Ill to Growth in the U.S. Incarceration Rate. *Journal of Legal Studies*.

Sabol, William J. 2007. Local Labor-Market Conditions and Post-prison Employment Experiences of Offenders Released from Ohio State Prisons. Pp. 257–303 in *Barriers to Reentry? The Labor Market for Released Prisoners*

in Post-industrial America, edited by Shawn D. Bushway, Michael A. Stoll, and David Weiman. New York: Russell Sage Foundation.

Tyler, John H., and Jeffrey R. Kling. 2007. Prison-Based Education and Reentry into the Mainstream Labor Market. Pp. 227–56 in *Barriers to Reentry? The Labor Market for Released Prisoners in Post-industrial America*, edited by Shawn D. Bushway, Michael A. Stoll, and David Weiman. New York: Russell Sage Foundation.

U.S. Department of Labor. Bureau of Labor Statistics. 2010. *The Employment Situation—February 2010*. USDL-10–0256. Washington, D.C.: U.S. Department of Labor.

Western, Bruce, and Becky Pettit. 2000. Incarceration and Racial Inequality in Men's Employment. *Industrial and Labor Relations Review* 54:3–16.