# UI BENEFITS STUDY

## Recent Changes in the Characteristics of Unemployed Workers

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# ABSTRACT

This paper examines how gender, racial, and ethnic differentials in unemployment and Unemployment Insurance (UI) receipt have changed over the past 50 years. Our primary analysis focuses on the degree to which such differences, in the past 20 years, are explained by differences in the industrial and occupational structure of employment. Using Current Population Survey (CPS) data, we find that: (1) the female unemployment rate has converged to the male unemployment rate since the 1980s, (2) the nonwhite and Hispanic unemployment rates are converging to the unemployment rate of the rest of the population, but racial and ethnic unemployment rate gaps have not yet been eliminated, and (3) the U.S. labor market has experienced significant shifts in its industrial and occupational distribution.

To examine how gender, racial, and ethnic differences in the unemployment experience are affected by differences in the primary industries and occupations in which each group is employed, we use the 1992-2007 CPS March supplement data. Our analysis shows that, when controlling for industry and occupation differences: (1) women have higher unemployment rates than men but are equally likely to receive UI benefits, (2) the racial unemployment rate gap is smaller than in earlier years but remains substantial, yet nonwhites are only marginally more likely to receive UI benefits than whites, and (3) there is a dramatic convergence in the unemployment rates between Hispanics and non-Hispanics, although Hispanics remain less likely to receive UI benefits.

# 1. Introduction

In the last 50 years, the gender, racial, and ethnic composition of the U.S. labor force has changed dramatically. The labor force participation of women has increased substantially, and in the past 20 years, women have become nearly as likely as men to participate in the labor market. There has also been a steady increase in the Hispanics' share of the U.S. labor force. In the face of these dramatic changes in the demographic makeup of the labor force, a number of papers have addressed the experiences of specific demographic groups. For example, Gorgens (2002) examines the labor market experience of female workers; Holzer et al. (2005) does the same for black workers.

There were also important changes in the characteristics of the unemployed and of Unemployment Insurance (UI) recipients during this period. Numerous studies focus on the structure of U.S. unemployment and the UI system in recent years (Nichols and Needels, 2006), including several that provide historical summaries of the UI program (Kletzer and Rosen, 2006; Burtless, 2007).

Yet another important change is the shift in the industrial and occupational distribution of the labor market. The U.S. economy has transitioned from a system in which a large share of employment was in manufacturing to one in which services play a dominant role. There has also been a change in the occupational distribution of the employed population, with the employment share of white collar occupations increasing steadily over time. Although changes in the industrial and occupational structure of employment are well known and widely documented (Groshen and Potter, 2003), essentially no work examines how these interact with the shifting demography of the labor force. Such an examination is necessary to understand the new employment environment faced by the U.S. labor force.

This paper focuses on determining the role of the industrial and occupational changes in the U.S. labor market in explaining patterns of unemployment across core demographic groups in the past 20 years. In particular, we examine how the unemployment experience of gender, racial, and ethnicity groups has changed over time, and whether such changes are connected to changes in the industrial and occupational distribution of the labor force. We also examine the role that

differences in labor market experience between these groups play in explaining overall unemployment patterns.

The paper is organized as follows. In section 2, we provide a brief overview of historical shifts in the U.S. labor force and changes in the unemployment rate. In section 3, we discuss the growing role of women in the labor market, focusing on differences in the unemployment experience between women and males, and on the degree to which these differences are connected to the changed industrial and occupational structure of the labor market. In sections 4 and 5, we focus on the same issues for nonwhite and Hispanic labor force participants, respectively. We end with a brief summary and conclusion.

## 2. Historic Overview

A summary of the demographic changes that have occurred in the U.S. labor market in the past 50 years is presented in the upper portion of Table 1. One of the most important has been the dramatic increase in the number of women in the labor force. Women accounted for just 32 percent of the labor force in 1955, compared to 46 percent in 2005, an increase of nearly 50 percent. As Table 2 shows, the female experience with unemployment has also changed. Before the 1980s, women in the labor force were much more likely to experience unemployment than men, but convergence has occurred in the last two decades.

The proportion of nonwhites in the labor force has gradually increased over the last several decades, and, although the unemployment differential has declined, the unemployment rates for nonwhites remain appreciably above those for the general population. Perhaps the most striking change has been the increase in the Hispanic labor force, which has grown from less than 5 percent of the total in 1975 to over 13 percent in 2005. Table 2 shows that, although Hispanics continue to have higher unemployment rates than non-Hispanics, the gap has gradually declined over time.

**Table 1: Historic Changes in the Composition of the Labor Force**

| | Proportion of the Labor Force | | | | | |
|---|---|---|---|---|---|---|
| | 1955 | 1965 | 1975 | 1985 | 1995 | 2005 |
| Female | 31.6 | 35.2 | 40.0 | 44.2 | 46.1 | 46.3 |
| Nonwhite | 10.7 | 11.2 | 11.7 | 13.5 | 15.4 | 18.1 |
| Hispanic | -- | -- | 4.4 | 6.7 | 9.3 | 13.3 |
| Industry | | | | | | |
|    Manufacturing | 28.7* | 26.0* | 23.6 | 20.1 | 16.9 | 11.6 |
|    Trade | 17.7* | 18.6* | 21.6 | 21.4 | 21.5 | 23.5 |
|    Service | -- | -- | 29.4 | 32.0 | 36.2 | 44.8 |
|    Other | 53.6* | 55.4* | 18.7 | 19.5 | 19.1 | 13.0 |
|    Construction | -- | -- | 6.6 | 6.9 | 6.4 | 7.0 |
| Occupation | | | | | | |
|    White collar | -- | -- | -- | 53.7 | 57.2 | 61.5 |
|    Blue collar | -- | -- | -- | 46.3 | 42.8 | 38.5 |

Source: Each number represents the average of Current Population Survey monthly values for the referenced period. *Data from the U.S. Department of Commerce, Bureau of Economic Analysis: http://www.bea.gov/bea/dn/nipaweb/index.asp.

Table 1 also provides information on the distribution of the labor force across major industries and occupations. The most dramatic change in the industrial structure is the shift from manufacturing to services. Between 1955 and 2005, the relative share of the labor force in manufacturing declined from 28.7 to 11.6 percent, and the service category increased by a similar amount. The shift toward white collar jobs has also been dramatic.

These shifts may interact with changes in the labor force demography. In the next sections, we discuss historic changes in the composition of the labor force across gender, race, and ethnicity groups. We also consider how the unemployment rates of women, nonwhites, and Hispanics relate to that of the rest of the population and the extent to which any gaps are explained by differences in the employment distributions of these groups across industries and occupations. In addition, we examine how the composition of the Unemployment Insurance (UI) recipient population corresponds to these changes.

**Table 2: Unemployment Rate, by Demographic Category and Job Type**

|  | 1953-57 | 1963-67 | 1973-77 | 1983-87 | 1993-97 | 2003-07 |
|---|---|---|---|---|---|---|
| Population | 4.2 | 4.6 | 6.7 | 7.5 | 5.8 | 5.2 |
| Male | 4.0 | 4.0 | 6.1 | 7.5 | 5.8 | 5.3 |
| Female | 4.8 | 5.7 | 7.8 | 7.5 | 5.7 | 5.1 |
| White | 4.1 | 4.1 | 6.1 | 6.5 | 5.0 | 4.6 |
| Nonwhite | 8.6 | 8.6 | 11.8 | 14.1 | 10.0 | 8.2 |
| Non-Hispanic | -- | -- | 6.6 | 7.3 | 5.4 | 5.0 |
| Hispanic | -- | -- | 9.9 | 10.9 | 9.3 | 6.4 |
| Industry |  |  |  |  |  |  |
|    Manufacturing | -- | -- | 7.2 | 8.2 | 5.5 | 6.4 |
|    Trade | -- | -- | 7.5 | 7.6 | 6.6 | 6.4 |
|    Services | -- | -- | 5.1 | 5.0 | 4.3 | 4.3 |
|    Construction | -- | -- | 11.1 | 11.6 | 9.2 | 7.4 |
|    Other | -- | -- | 4.0 | 4.9 | 3.7 | 3.9 |
| Occupation |  |  |  |  |  |  |
|    White collar | -- | -- | -- | 3.8 | 3.4 | 3.5 |
|    Blue collar | -- | -- | -- | 9.6 | 7.5 | 6.7 |

Source: Each number represents the average of Current Population Survey monthly values for the referenced period.

## 3. Women in the Labor Market

### 3.1. Historic Changes

Figure 1 illustrates how the proportions of women in the labor force and the unemployed population have changed over time. In order to remove variation during the year, these are measured as 12-month moving averages. From the early 1950s to the early 1970s, the proportion of women in the labor force increased from just over 30 percent to nearly 40 percent. This upward trend continued through the 1970s and the early 1980s before reaching 45 percent in 1987. Until the 1980s, women were overrepresented in the unemployed population. In 1954, for example, women made up 31 percent of the labor force and 35 percent of the unemployed. By 1970, the unemployment rate gap had increased and women were 37 percent of the labor force and 50 percent of the unemployed population. Between 1965 and 1980, female labor force participation continued to rise while the female proportion of the unemployed did not exhibit any upward trends. By the early 1980s, the two proportions were about equal.

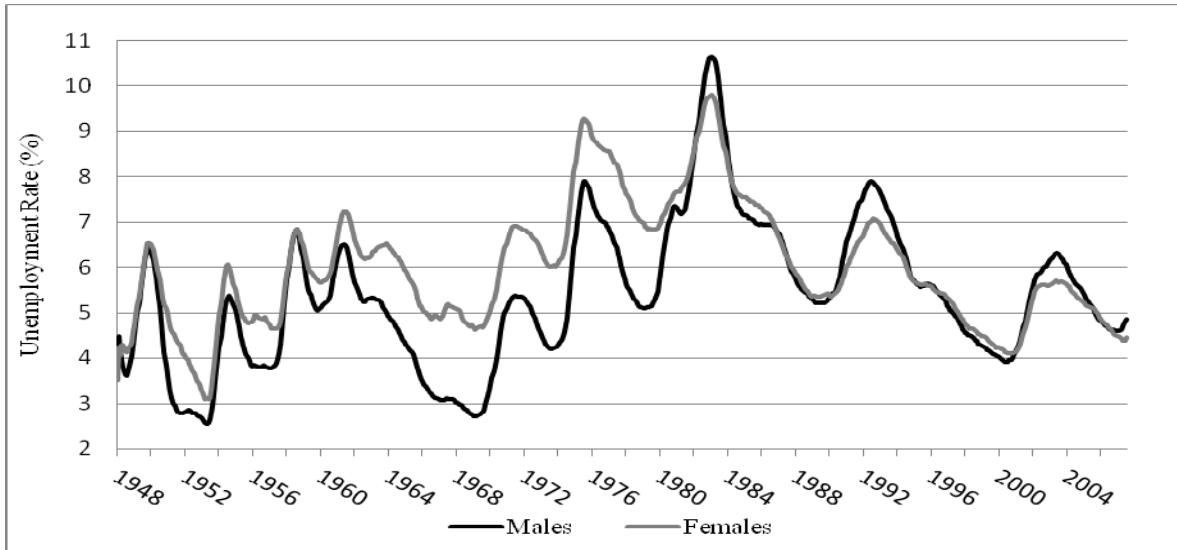**Figure 1: Labor Force and Unemployment Proportions, Women**
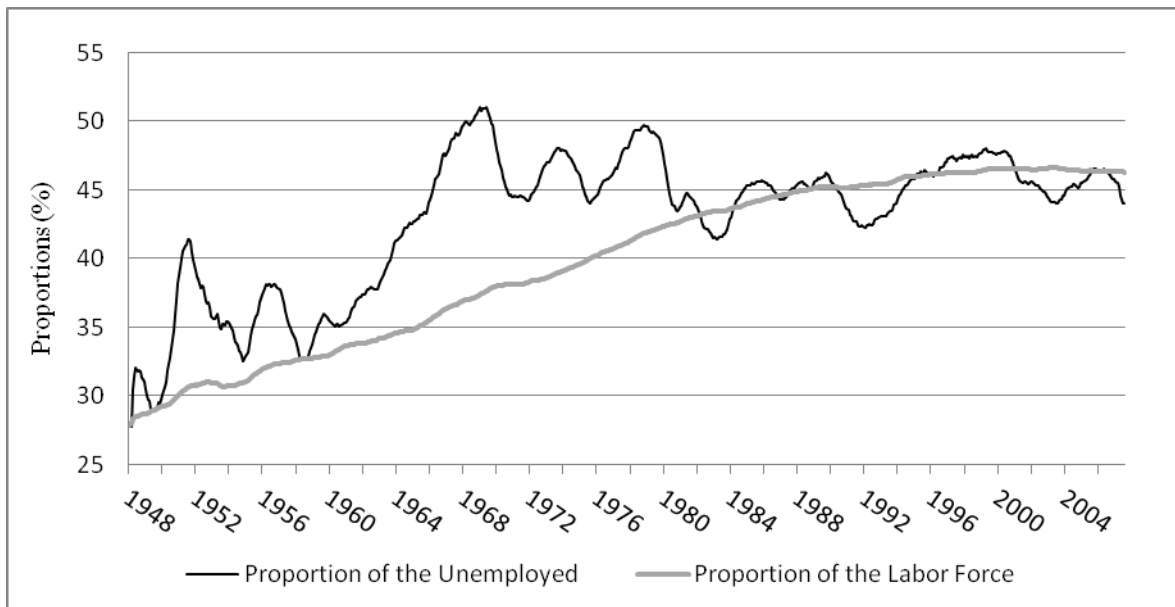


Source: Current Population Survey monthly values, 1948-2007. Values represent 12-month centered moving averages.

The convergence in the unemployment experience of men and women is shown in Figure 2. Before 1980, the male unemployment rate was consistently lower than the female one at all points during the economic cycle. After 1980, the male and female unemployment rates had largely converged, except during the recessionary periods of the early 1980s, the early 1990s, and the early 2000s, when male rates were higher, reflecting greater sensitivity to the business cycle. The increase in the female unemployment rate between the economic peak in 1980 and the 1984 trough was 3 percentage points, compared to the male rate over the same period, which increased by more than 5 percentage points. Similar differentials are apparent for 1989-1992 (1.5 points versus 2.4 points) and 2000-2004 (1.1 points versus 2.1 points).

It is possible that the convergence of the female and male unemployment rates, as well as the relatively low volatility of the female unemployment rate during recessions in the last 20 years, is due to differences in the industrial or occupational distributions of the employed population in the two groups. It may also result, in part, from the decline in the number of women who were new entrants to the labor force in the 1980s and thereafter. We explore these possibilities in the next section.

Naturally, these patterns reflect both differences in the choices made by men and women, as well as the direct and indirect effects of employer and customer discriminatory preferences. Although we are not able to identify the underlying reasons for differences, these analyses allow us to investigate the extent to which differences trace to the types of jobs – occupation and industry – held by men and women, or exist within a given job type.

**Figure 2: Unemployment Rate, by Gender, 1948-2007**



Source: Current Population Survey monthly values, 1948-2007. Values represent 12-month centered moving averages.

## 3.2. Female Unemployment Experience between 1992 and 2007

We use the Current Population Survey (CPS) March supplement for 1992-2007 to generate estimates of the unemployment rates by gender. The CPS March supplement includes not only the basic CPS monthly data reports (demographic characteristics, industry and occupation affiliation, labor force, and employment status), but also income information of the respondents for the year prior to the survey. The latter information can be used to determine which individuals received UI benefits in the year prior to the survey and the benefit amounts received.

Figure 3 depicts male and female unemployment rates based on the March CPS data. Here we see that the male unemployment rate is relatively higher than in the earlier graph, and, as a result, it is above the female rate at all times. This difference is due to the overrepresentation in the March data of men in industries that experience slowdowns during winter, most notably

construction.[1]  Despite this difference, it is important to note that the *patterns* of unemployment by gender we see in the March data (Figure 3) almost exactly reproduce those in the 12-month moving average (Figure 2).

**Figure 3: Unemployment Rate, by Gender, 1992-2007**
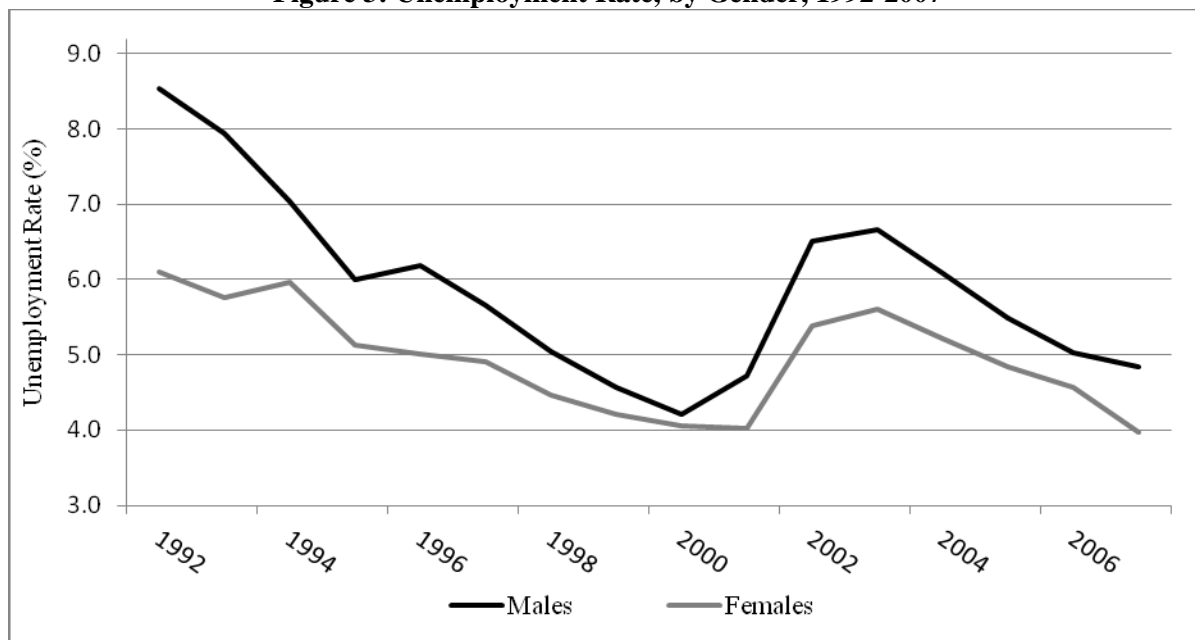


Source: Authors' tabulations of the CPS March Supplement, 1992-2007.

It is interesting to examine whether the gender gap in the unemployment rate reflects in part gender differences in labor market experience.  For example, if women are more likely than men to be new entrants in the labor market (i.e., inexperienced), the overall female-to-male unemployment rate gap may be even larger.  The importance of this factor is easily explored by comparing the overall unemployment rate with that of experienced workers (i.e., those with a job prior to becoming unemployed).  Whereas the overall unemployment rate is the ratio of the total number of unemployed people to the total labor force, the experienced unemployment rate is the ratio of the experienced unemployed to the experienced labor force (i.e., the sum of the employed plus the experienced unemployed).[2]

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[1]  In Appendix A, we provide more details of the cyclical variation in the gender unemployment gap.

[2]  Where the distinction between the overall unemployment rate (UR) and the experienced unemployment rate (EUR) is either unimportant or obvious, we will refer to them as "unemployment."  Note that whenever unemployment is identified by industry or occupation, only the EUR is has meaning.

**Figure 4: Experienced Unemployment Rate, by Gender, 1992-1997**
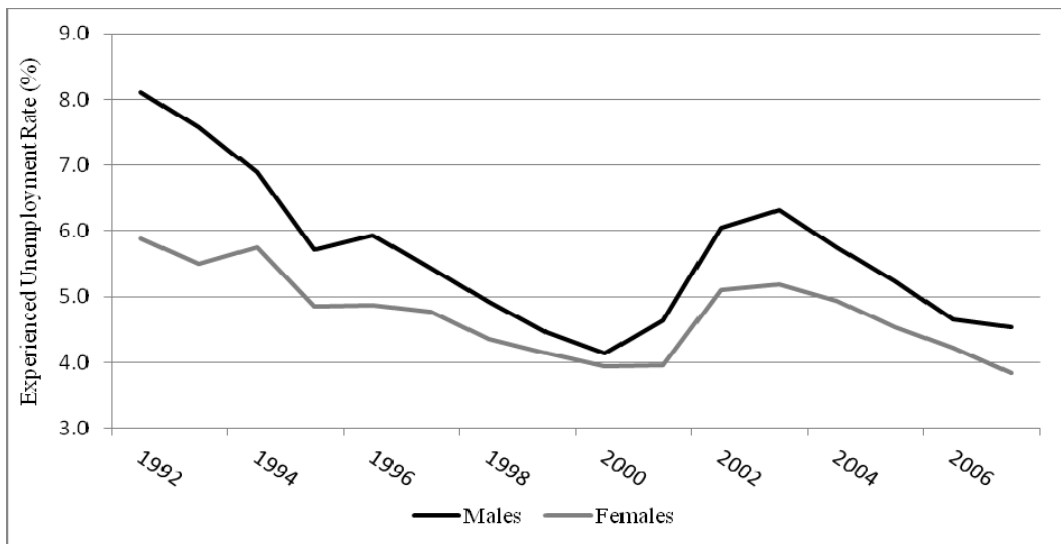


Source: Authors' tabulations of the CPS March Supplement, 1992-2007.

**Figure 5: Male – Female Unemployment Rate Gaps**
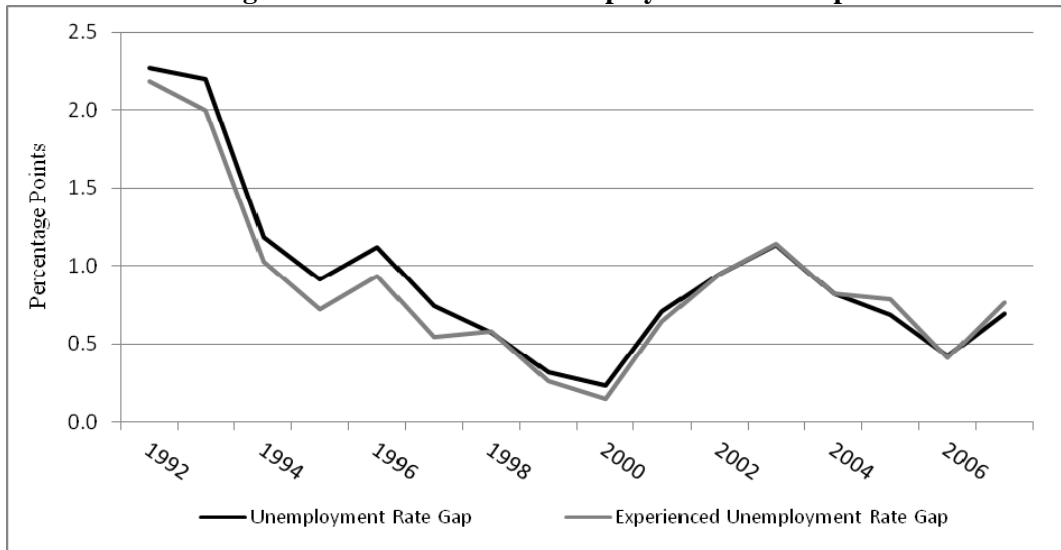


Source: Authors' tabulations of the CPS March Supplement, 1992-2007.

Figure 4 presents the experienced unemployment rate for men and women. Although the experienced unemployment rate is lower than the unemployment rate for both groups by about 0.6 percentage points, the gender patterns over time are very similar. Figure 5 shows that the male-female unemployment rate gap and male-female experienced unemployment rate gap are essentially the same over time, confirming the similarity. The conclusion is therefore clear, that

is, gender differences in labor market experience do not account for the unemployment rate gap between men and women at any point between 1992 and 2007.

### 3.3. Decomposition of the Gender Experienced Unemployment Rate Gap

Two interesting patterns emerged in the previous section when comparing the female and male unemployment experience in the past 20 years. First, the female unemployment rate is lower than the male rate, especially during recessions. Second, the female rate is less sensitive to changes in the business cycle. These patterns are not explained by gender differences in the labor market experience, since the female experienced unemployment rate is also generally lower and less volatile than the comparable male rate. In this section, we consider an alternative explanation for these patterns, namely, that women may be less likely than men to be employed in sectors or occupations with higher unemployment rates and higher sensitivity to changes in the business cycle. If so, the female experienced unemployment rate would be lower than that of males, even if women do not have lower unemployment rates within an industry or occupation.

### Gender Differences in Industry and Occupation

Using the industry classifications in the March CPS, we define 17 industry categories. Table 3 presents the unemployment rate by gender for the period between 1992 and 2007 for each industry category, starting with the industry with the highest overall experienced unemployment rate (construction) and going down to the sector with the lowest average rate (health care services) during that period.

The same table reports the employment distribution for men and women in the period between 1992 and 2007 by each industry category. Over this period, the female employment distribution across industries was quite different from the male distribution. For example, only 1 percent of women were employed in construction relative to 12 percent of men. Women were also less likely to be employed in manufacturing (both durables and non-durables), in the 'other' industries category (which includes agriculture, mining, fishing, and forestry), and in transportation, warehouse, and utilities.

**Table 3: Employment Distribution by Gender, across Industries:**
**Averages of March CPS Supplement Values, 1992-2007**

| | Experienced Unemployment Rate | | Employment Distribution | |
|---|---|---|---|---|
| | Males | Women | Males | Women |
| Construction | 11.3 % | 7.3 % | 12 % | 1 % |
| Food Services | 7.1 % | 7.8 % | 12 % | 15 % |
| Manufacturing – Non-Durables | 5.1 % | 8.0 % | 6 % | 4 % |
| Personal Services | 7.8 % | 6.9 % | 2 % | 3 % |
| Business Support Services | 6.9 % | 7.4 % | 8 % | 7 % |
| Repair and Maintenance | 5.9 % | 6.1 % | 2 % | 3 % |
| Manufacturing – Durables | 5.0 % | 5.8 % | 11 % | 5 % |
| Other Industries | 5.7 % | 5.2 % | 6 % | 2 % |
| Wholesale Trade | 3.8 % | 5.6 % | 5 % | 2 % |
| Information and Communications | 4.2 % | 5.1 % | 3 % | 2 % |
| Transportation, Warehouse, and Utilities | 4.2 % | 4.7 % | 8 % | 3 % |
| Retail Trade | 3.6 % | 3.8 % | 5 % | 6 % |
| Entertainment and Recreation Services | 3.7 % | 3.5 % | 2 % | 6 % |
| Education and Social Services | 3.0 % | 3.1 % | 5 % | 12 % |
| Finance, Insurance, and Real Estate | 3.0 % | 2.9 % | 4 % | 5 % |
| Public Administration | 2.9 % | 2.8 % | 3 % | 4 % |
| Health Care Services | 2.3 % | 2.6 % | 6 % | 19 % |

Source: Authors' tabulations of the CPS March Supplement, 1992-2007. Industry categories are mutually exclusive.

In contrast, a greater proportion of women were employed in health care services (19 percent versus 6 percent) and in education and social services (12 percent versus 5 percent). Women were also more likely to be employed in the finance, real estate, and insurance sector and in the entertainment and recreation sector. These differences display a clear pattern - women were, indeed, less likely to be employed in high unemployment sectors relative to males.

Figure 6 presents the unemployment rates over time of two sectors in which women are significantly overrepresented relative to men (health care services, and education and social services), and the unemployment rates of two sectors in which women are significantly

underrepresented relative to men (construction, durables manufacturing). In addition to substantially higher rates of unemployment, construction and manufacturing display much greater volatility than the health care services and education/social services sectors over the business cycle. For example, the decline in the unemployment rate between 1992 and 2000 was 11 percentage points for construction and less than 2 percentage points for health care services; comparable figures for 2000 and 2003 were 2.5 percentage points for construction and 1 percentage point for health care services.

**Figure 6: Experienced Unemployment Rate, Select Industries, 1992-2007**
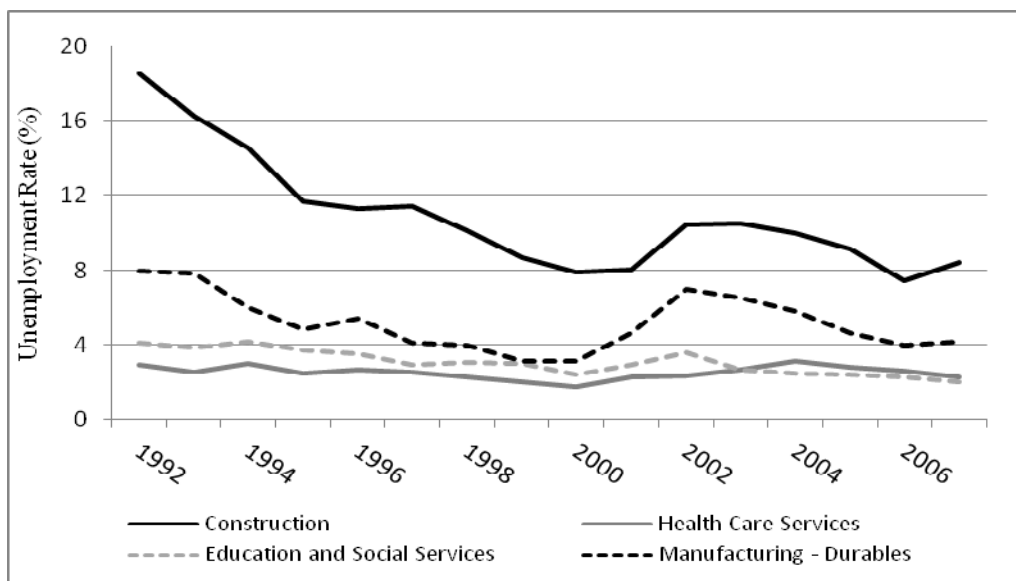


Source: Authors' tabulations of the CPS March Supplement, 1992-2007.

Using the occupation classification in the March CPS, we next define five blue collar and seven white collar occupation groups. Table 4 presents the average unemployment rate by occupation group between 1992 and 2007 and the gender employment distributions across occupations during the same period.

**Table 4: Employment Distribution by Gender, across Occupations:**
**Averages of March CPS Supplement Values, 1992-2007**

| | Experienced Unemployment Rate | | Employment Distribution | |
|---|---|---|---|---|
| | Males | Women | Males | Women |
| **Blue Collar Occupations** | **7.9 %** | **7.7 %** | **53 %** | **34 %** |
| Construction Workers | 11.6 % | 15.0 % | 10 % | 0 % |
| Farming, Fishing, and Forestry Workers | 9.8 % | 11.9 % | 3 % | 1 % |
| Other Blue Collar Occupations | 7.3 % | 8.9 % | 22 % | 8 % |
| Other Service-Related Occupations | 7.3 % | 6.8 % | 12 % | 15 % |
| Mechanics and Repairers | 4.3 % | 4.3 % | 6 % | 0 % |
| **White Collar Occupations** | **3.1 %** | **3.7 %** | **47 %** | **66 %** |
| Sales Occupations | 4.1 % | 6.6 % | 11 % | 13 % |
| Office and Administrative Support | 5.1 % | 4.2 % | 6 % | 25 % |
| Engineers and Scientists | 2.7 % | 3.2 % | 7 % | 3 % |
| Professional Specialty Occupations | 2.7 % | 2.9 % | 4 % | 5 % |
| CEOs and Managers | 2.3 % | 2.6 % | 13 % | 11 % |
| Health Care Occupations | 1.7 % | 2.7 % | 2 % | 11 % |
| Teachers and Social Workers | 1.6 % | 1.5 % | 3 % | 8 % |

Source: Authors' tabulations of the CPS March Supplement, 1992-2007. Occupation categories are mutually exclusive.

Employment distributions across occupations for women and men were even more discrepant than the industrial distributions. Sixty-six percent of women were employed in white collar occupations compared to 47 percent of men. Women were most dramatically overrepresented in health care occupations (11 percent versus 2 percent), teachers and social workers (8 percent versus 3 percent), and office and administrative support occupations (25 percent versus 6 percent). Men, in contrast, were more likely to be employed in certain blue collar occupation categories. Ten percent of men were construction workers relative to less than 0.5 percent of women, while 22 percent of men were employed in the 'other blue collar occupations' category (which includes laborers, extraction workers, material moving workers, and other low-skill blue collar occupations) compared to 8 percent of women.

We also see in Table 4 that women were more likely to be employed in occupational groups with lower unemployment rates than men. Women were underrepresented relative to men in the two occupation categories with the highest unemployment rates (construction workers and farming, fishing, and forestry workers), while they were greatly overrepresented relative to men in the two occupation groups with the lowest unemployment rates (teachers and social workers, health care occupations). Therefore, it is possible that the lower female unemployment rate between 1992 and 2007 is a reflection of the gender differences in the employment distribution across occupations during that period.

**Figure 7: Experienced Unemployment Rate, Blue Collar vs. White Collar Occupations**
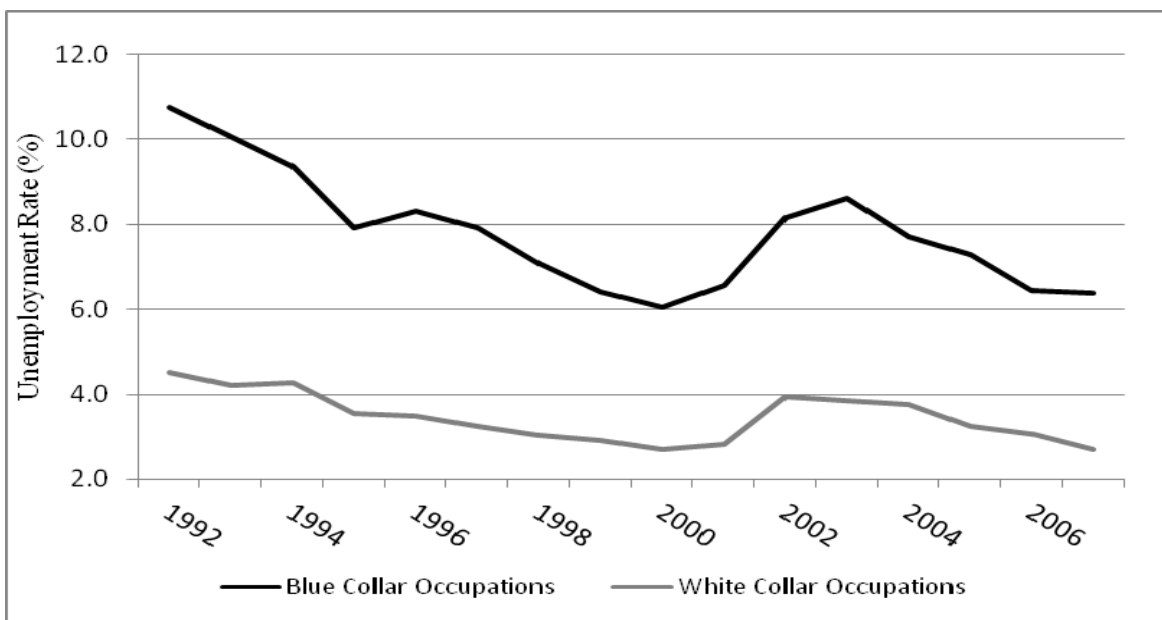


Source: Authors' tabulations of the CPS March Supplement, 1992-2007.

Figure 7 compares the unemployment rate for blue collar and white collar occupations between 1992 and 2007. This figure shows that blue collar occupations had higher unemployment rates during that period and were also more volatile over the business cycle than white collar occupations. Since women were much more likely to be employed in white collar occupations relative to men, their lower overall unemployment rates, especially during the early 1990s and early 2000s recessions, may be partly traced to these occupational differences.

*Decomposing the Experienced Unemployment Rate Gap*

The discussion in the previous section shows that women were less likely to be employed in high-unemployment and cyclically sensitive industries and occupations than men during the period between 1992 and 2007. To determine whether gender differences in the employment distribution in fact affect the gender experienced unemployment insurance gap, we need to take one more step – compare the female and male unemployment rates holding employment distributions constant. In this section, we describe analytical exercises that enable us to determine to what degree differences in the gender employment composition by industry, by occupation, and by both industry and occupation, affect gender differences in unemployment.

Our approach is to adjust the experienced unemployment rate of each gender to reflect the employment distribution of across industries and occupations of the other gender. To do so, we classify jobs into 184 industry-by-occupation categories (17 industries by 12 occupations). Using these classifications, we first construct a measure that shows what the female rate would be if the female distribution across jobs corresponded exactly to that of men.[3] The difference between this adjusted female unemployment rate ($EUR_F^{adj}$) and the actual male unemployment rate ($EUR_M$) is one measure of the experienced unemployment rate gender gap after adjusting for gender differences in the employment distributions. We also adjust the male rate to the female job distribution. Comparison of the adjusted male unemployment rate ($EUR_M^{adj}$) to the actual female unemployment rate ($EUR_F$) provides an alternative estimate of the gender gap after adjusting for differences in the employment distribution. Insofar as there is a positive association between male and female unemployment rates across industry-occupation cells, these estimates will be similar.[4]

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[3] The female unemployment rate can be rewritten as the weighted sum of the female unemployment rate for each industry-occupation cell weighted by the proportion of female labor force participants in each cell. Our adjusted measure replaces the female proportion for each cell with the male proportion. See Appendix B for a formal discussion.

[4] The method requires modification for those industry-occupation cells that only contain men (for $EUR_F^{adj}$) or only contain women ($EUR_M^{adj}$). In such cases, we use the unemployment rate that is available. For example, if no women are in the relevant cell, we use the male unemployment rate where we would normally use the female rate. Given the relatively small weight that applies to such cells, the exact method used in dealing with them does not affect the results.

Figure 8 presents the output of this exercise. The gap between $EUR_F^{adj}$ (grey dashed line) and $EUR_M$ (black solid line) was around 1 percent between 2000 and 2007, even during the trough of the 2002 recession. This indicates that if women had the same industry-occupation employment distribution as did men, the female unemployment rate would be substantially higher than the male rate between 1992 and 2007. Therefore, the lower observed female experienced unemployment rate actually hides higher within-cell unemployment rates for women.[5]

**Figure 8: Experienced Unemployment Rate, by Gender,
Actual and Adjusted for Industry-Occupation**
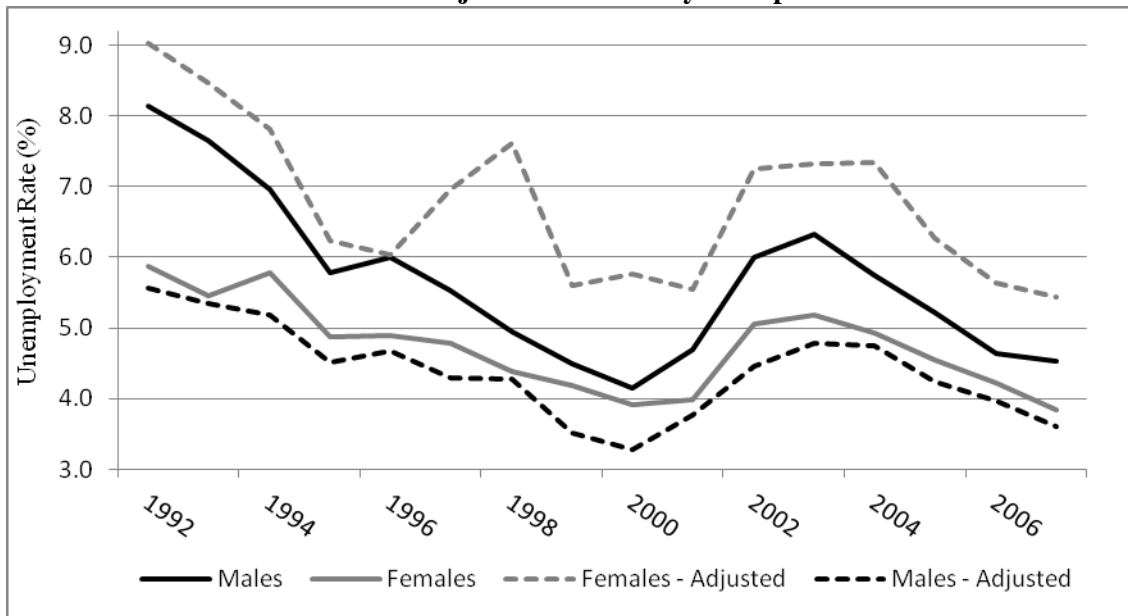


Source: Authors' tabulation of the CPS March Supplements, 1992-2007.

This result also holds if we compare $EUR_M^{adj}$ (black dashed line) with $EUR_F$ (grey solid line). Figure 8 shows $EUR_M^{adj}$ is everywhere below $EUR_F$, showing that women have higher average unemployment rates than men across industry-occupation categories when weighted according to the female distribution. Our conclusion from the two measures is therefore the same: female

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[5] We observe that, in 1997 and 1998, the female adjusted unemployment appears to depart from the overall pattern, displaying a much larger adjustment increment than at other points. In part, this reflects the instability of our adjustment procedures. Several cells with very small numbers of women relative to men have high levels of female unemployment during this period.

unemployment is reduced by the kinds of job women hold. If women held the same jobs as men, the female experienced unemployment rate would be higher than the male rate.

The lower volatility of the female experienced unemployment rate relative to the male unemployment rate can also be explained in part by the fact that women were less likely to be employed in cyclical sectors or occupations. Figure 8 shows, for example, that between 2000 and 2003, $EUR_F^{adj}$ increased by 1.5 percentage points, $EUR_F$ by 1.2 percentage points, and $EUR_M$ by 2 percentage points. These numbers indicate that about a third of the volatility difference between $EUR_F$ and $EUR_M$ is explained by gender differences in the employment distribution. When we compare the volatility of $EUR_M^{adj}$ and of $EUR_F$, this also implies that a significant portion of the difference in cyclical sensitivity between male and female experienced unemployment rates is explained by gender differences in the industry-occupation employment distribution.

### 3.4. Women and the Unemployment Insurance Program

Workers who experience unemployment and fulfill certain criteria may apply for and receive UI benefits.[6] In this section, we examine the degree to which female workers use the UI program and whether female use of the UI program differs from that of male use of the program. We also examine how industry and occupation affiliations affect differences in participation in the UI program between women and men.

The most suitable publicly available data for characterizing the general trends of UI receipt over time is the CPS March Supplement. In this data, respondents are asked to list their income sources for the year prior to the survey, including whether they received UI benefits and the amount received. We use the information on UI receipt to calculate the number of UI recipients by gender in the prior year. We then construct the *receipt rate*, by dividing the total number of

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[6] UI eligibility criteria vary by state. Federal legislation specifies that the program must be designed to serve those who have lost their jobs through no fault of their own and are available for work. In all states, recipients must meet certain minimum requirements in terms of their prior employment and earnings, and satisfy rules regarding job separation. The duration of UI benefits for a given individual varies by state, but the maximum duration is, in most cases, 26 weeks.

individuals receiving UI at some point in the prior year by an estimate of the labor force.[7] In the analysis that follows, we use the UI receipt rate constructed using the CPS March Supplement to describe changes in UI receipt over time, by gender.

Another data source that can be used to conduct this type of analysis is the Benefit Accuracy Measures (BAM) data, a U.S. Department of Labor, Employment and Training Administration (DOL/ETA) dataset. The advantage of the BAM data, which is not publicly available, is that it reports the demographic and employment characteristics of a nationally representative sample of UI recipients for each week between 1988 and 2007. This enables the construction of consistent estimates of UI receipt, by gender and other characteristics, on a weekly basis for the past 20 years. With the support of DOL/ETA, we are currently in the process of producing a complementary research paper, which uses the BAM data to assess: (1) the characteristics of UI recipients (e.g. gender, race, and ethnicity), (2) how these change over time, and (3) how any changes are related to changes in the structure of the economy and the business cycle.

Figure 9 presents the receipt rate by gender over time. Comparing the receipt rate between women (grey solid line) and men (black solid line), we see that female labor force participants were generally less likely their male counterparts to receive UI benefits. Looking at the two recessions, we see that 5.3 percent of female labor force participants in 1992 received UI benefits compared to 8.5 percent for men, and 4.2 percent of women in 2003 received UI benefits compared to 6 percent of men. Although the receipt rate was countercyclical for both genders, male receipt was also significantly more volatile. During the period of economic growth of the 1990s, the rate declined by 5.5 percentage points for men, in contrast to only 2.4 percentage points for women; in the early 2000s, the growth in the unemployment rate was 3 percentage points for men but only 1.2 points for women.

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[7] Labor force in the previous year is estimates by adding the number of individuals receiving either earnings or UI benefits in that year. Labor force participants who were never employed during the year are therefore omitted. Note also that the receipt rate constructed for our purposes differs from a measure of UI participation at a single point in time.

**Figure 9: Unemployment Insurance Receipt Rate, by Gender,**
**Actual and Adjusted for Industry-Occupation**
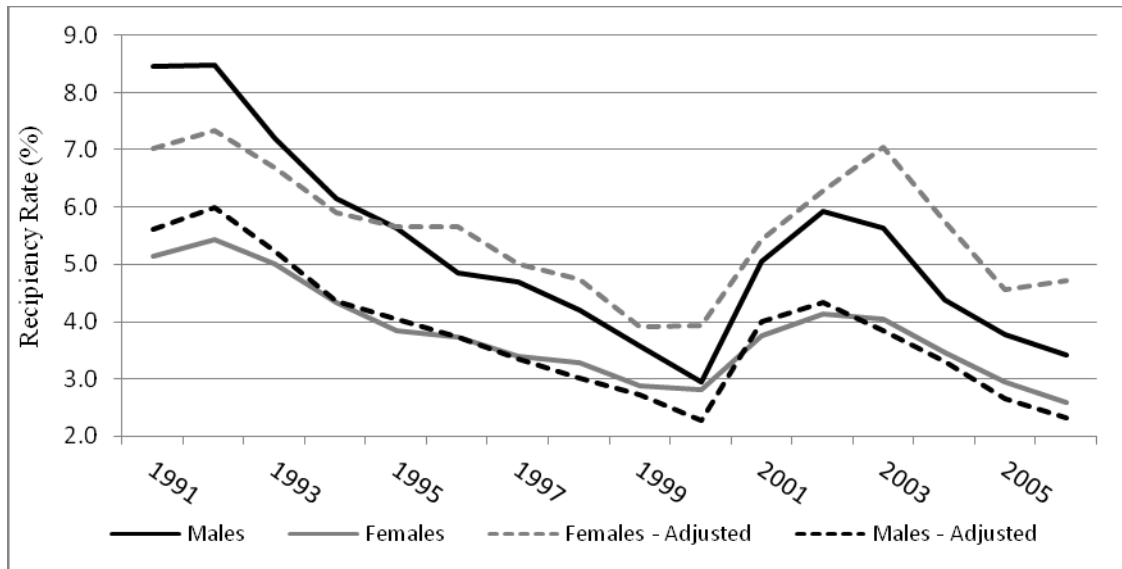


Source: Authors' tabulations of the CPS March Supplement, 1992-2007.

Interestingly, gender differences in the UI receipt rate correspond, at least roughly, to gender differences in unemployment described above. Therefore, part of the difference between male and female UI receipt rates may be a product of gender differences in the industry and occupation distribution. The grey dashed line in Figure 9 shows that, if we adjust the female UI receipt rate to the male industry and occupation distributions, the adjusted female receipt rate generally exceeds the actual male receipt rate. The lower observed receipt rate for women is therefore more than explained by the types of jobs they hold. Adjusting the male UI receipt rate (black dashed line) provides a similar conclusion, with the difference between male and female UI receipt rate eliminated.

The greater cyclical variability for men is also explained in part by industry and occupation. We see that, when we adjust the female UI receipt rate for job type cyclical sensitivity increases, although the trough-to-peak variation is still lower for women than it is for men. Similarly, the adjusted male receipt rate has lower cyclical sensitivity than the actual male receipt rate. Either adjustment yields a pattern for which the peak-to-trough change is an approximate compromise between the male and female patterns. Hence, roughly speaking, about half the gender difference in the cyclical sensitivity of the UI receipt rate is explained by differences in the industry and occupation of the jobs held by those two groups.

### 3.5. Summary

Female and male workers are employed in very different kinds of jobs and this has a large impact on their unemployment experiences. Since women are disproportionately in jobs where unemployment is lower, the difference in their distribution across jobs reduces their overall unemployment by 1-2 percentage points. Adjusting for this difference reveals that, within a job type in a given industry and occupation, the female unemployment rate is in fact somewhat higher than the male unemployment rate. Similarly, differences in industry and occupation by gender impact the UI receipt level. Although female UI receipt rates are below those for males, those differences disappear, and are to some degree even reversed, when industry and occupation are taken into account.

## 4. Nonwhites in the Labor Market

### 4.1. Historic Changes

Figure 10 presents the proportion of nonwhites in the labor force and in the unemployed population between 1954 and 2007. In the 1950s, nonwhites accounted for 11 percent of the labor force, a proportion that did not change much through the mid-1970s.[8] After 1975, there was a steady increase in the percentage of nonwhites until, by 2007, 18.5 percent of the labor force were nonwhites. We observe a similar pattern for the nonwhite proportion of the unemployed. Between the early 1950s and the mid 1970s, the nonwhite proportion of the unemployed was around 20 percent. This proportion increased steadily to 2007, when 28 percent of the unemployed were nonwhites.

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[8] Nonwhites are mostly black, but include other races as well (Asians, American Indians, and those who identify with more than one race). Hispanics are discussed later since they are not classified as a racial group in the CPS or in this paper.
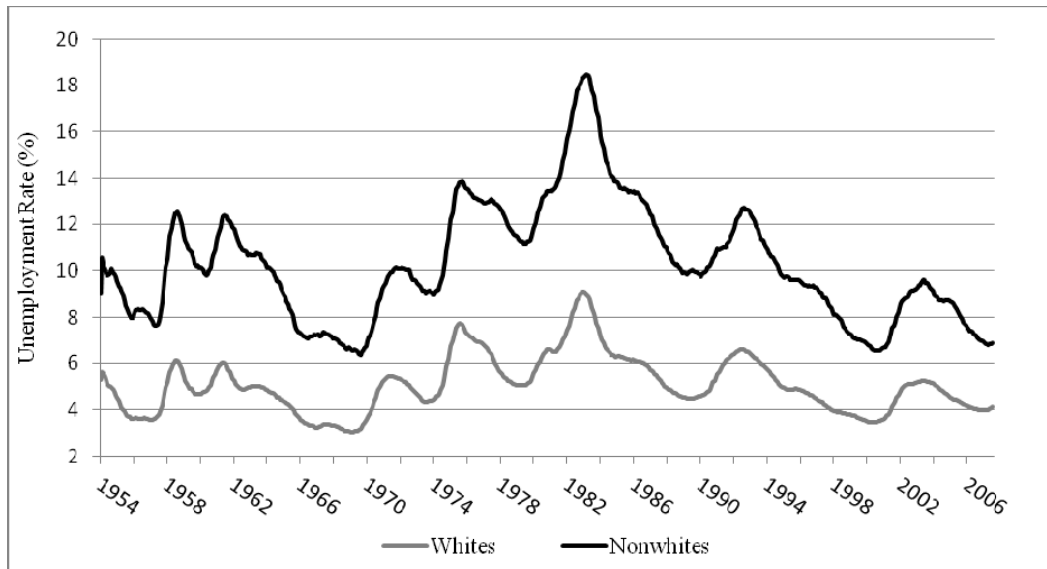
**Figure 10: Labor Force Participation and Proportions, Nonwhites**
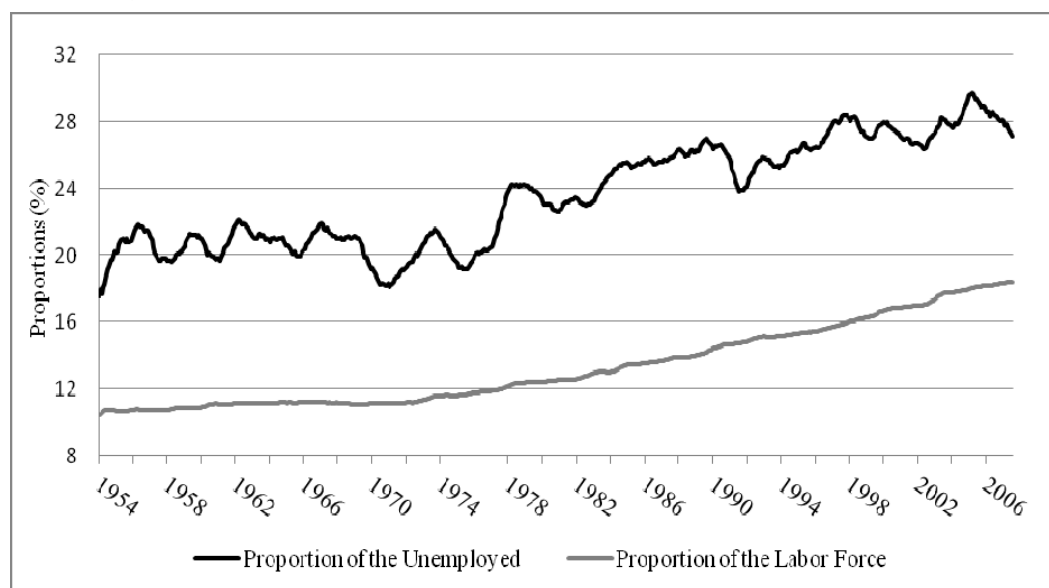


Source: Current Population Survey monthly values, 1948-2007. Values represent 12-month centered moving averages.

There are two other interesting patterns here. First, nonwhite labor force participants are overrepresented among the unemployed compared to white labor force participants. Second, changes over time in both the labor force and the unemployed populations correspond closely between 1954 and 1974. Between 1974 and 2007, however, the nonwhite proportion of the unemployed increased less rapidly than the percentage of nonwhites in the labor force. This is also reflected in a decline in the unemployment gap between nonwhites and whites (see Figure 11). However, nonwhites are still overrepresented in the unemployed population. In the following sections, we investigate the degree to which these differences, and changes in the last two decades, can be explained by differences in the industry and occupation distributions between whites and nonwhites.

**Figure 11: Unemployment Rate, by Race, 1954 - 2007**



Source: Current Population Survey monthly values, 1948-2007. Values represent 12-month centered moving averages.

## 4.2. Unemployment Experience of Nonwhites between 1992 and 2007

In turning to our analysis for the period 1992-2007 based on the CPS March supplement, we consider the extent to which racial differences in unemployment are explained by differences in the levels of experience by race and differences in the industrial or occupational distribution.

We first address the issue of whether racial differences in the number of unemployed new entrants into the labor force are of concern. Figure 12 shows that the racial gap for the unemployment rate and the experienced unemployment rate are very similar. Only in the period 2002-2005 do the two measures differ by as much as a third of a percentage point. It appears that, during this period, nonwhite new entrants were relatively less likely to be unemployed than white new entrants. Although this means that the experienced unemployment rate racial gap was somewhat larger during those years than the unemployment rate racial gap, the pattern did not change. It is quite clear that both unemployment rate gaps display an overall declining trend, supportive of the view that racial unemployment experiences are converging. If this trend continues over the next two decades, it is possible that the difference in the unemployment rates between the two groups may be largely eliminated.

**Figure 12: Nonwhites - Whites Unemployment Rate Gaps**



Source: Authors' tabulations of the CPS March Supplement, 1992-2007.

## 4.3. Decomposition of the Racial Experienced Unemployment Rate Gap

We now examine the extent to which racial differences in the industrial and occupational distribution are partly responsible for differences in the unemployment experience by race. As we noted in previous sections, unemployment rates were higher and more sensitive to the business cycle in certain industries (e.g., construction) and occupations (e.g., blue collar). If nonwhites were more likely than whites to be in such industries or occupations, this could explain some of the racial differences in the levels and volatility of the unemployment rate.

Table 5 presents the nonwhite and white employment distributions across industries, showing that the two distributions were marginally different from one another. Whites were more likely than nonwhites to be employed in construction (7 and 4 percent, respectively) but were equally likely to be employed in the remaining high-unemployment sectors.

**Table 5: Employment Distribution by Race, across Industries:**
**Averages of March CPS Supplement Values, 1992-2007**

| | Experienced Unemployment Rate | | Employment Distribution | |
|---|---|---|---|---|
| | Whites | Nonwhites | Whites | Nonwhites |
| Construction | 10.2 % | 17.5 % | 7 % | 4 % |
| Food Services | 6.6 % | 12.3 % | 14 % | 14 % |
| Manufacturing – Non-Durables | 5.6 % | 9.1 % | 8 % | 6 % |
| Personal Services | 6.7 % | 10.1 % | 2 % | 2 % |
| Business Support Services | 6.3 % | 11.5 % | 8 % | 9 % |
| Repair and Maintenance | 5.2 % | 8.8 % | 3 % | 3 % |
| Manufacturing – Durables | 4.8 % | 7.9 % | 5 % | 7 % |
| Other Industries | 5.2 % | 8.8 % | 5 % | 3 % |
| Wholesale Trade | 4.0 % | 6.9 % | 4 % | 2 % |
| Information and Communications | 4.1 % | 6.1 % | 3 % | 2 % |
| Transportation, Warehouse, and Utilities | 3.7 % | 6.3 % | 5 % | 6 % |
| Retail Trade | 3.3 % | 6.1 % | 6 % | 5 % |
| Entertainment and Recreation Services | 3.2 % | 4.8 % | 3 % | 5 % |
| Education and Social Services | 2.6 % | 5.7 % | 8 % | 8 % |
| Finance, Insurance, and Real Estate | 2.6 % | 5.2 % | 5 % | 4 % |
| Public Administration | 2.2 % | 5.2 % | 3 % | 5 % |
| Health Care Services | 2.1 % | 4.5 % | 12 % | 13 % |

Source: Authors' tabulations of the CPS March Supplement, 1992-2007. Industry categories are mutually exclusive.

A comparison of the occupation distributions for nonwhites and whites (Table 6) shows that these were also very similar. Nonwhites were slightly less likely to be employed in white collar occupations (57 percent versus 60 percent). Nonwhites were underrepresented in low-unemployment occupation groups, such as CEOs and managers and sales occupations, but they were overrepresented in others, such as health care and office and administrative support.

## Table 6: Employment Distribution by Race, across Occupations:
## Averages of March CPS Supplement Values, 1992-2007

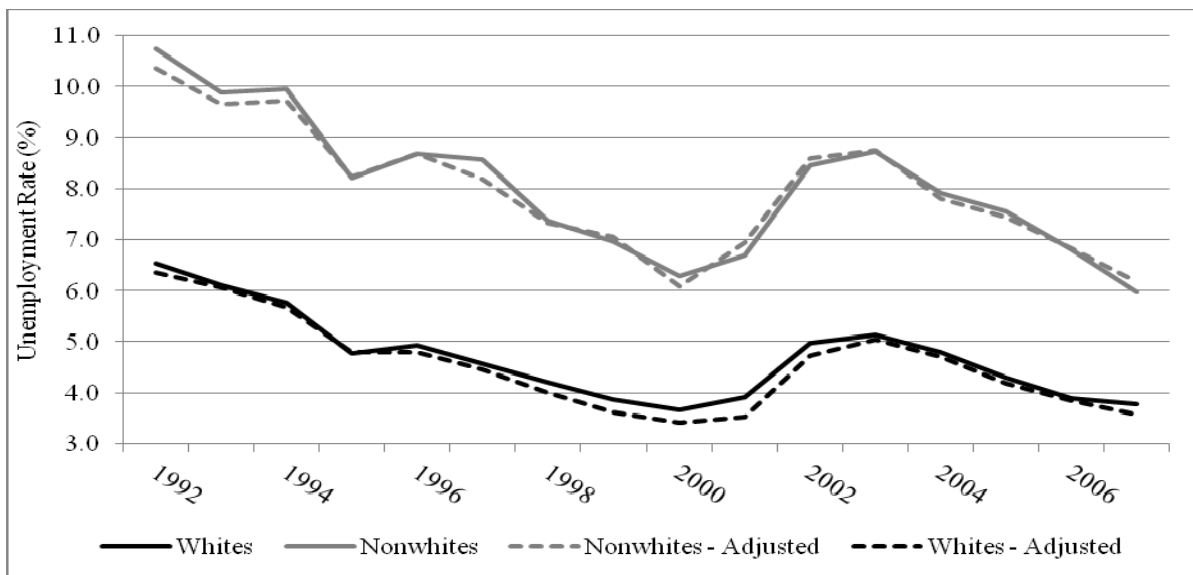| | Experienced Unemployment Rate | | Employment Distribution | |
|---|---|---|---|---|
| | Whites | Nonwhites | Whites | Nonwhites |
| **Blue Collar Occupations** | **7.2 %** | **11.2 %** | **40 %** | **43 %** |
| Construction Workers | 10.9 % | 18.7 % | 6 % | 4 % |
| Farming, Fishing, and Forestry Workers | 9.5 % | 18.6 % | 2 % | 1 % |
| Other Blue Collar Occupations | 7.1 % | 10.5 % | 15 % | 18 % |
| Other Service-Related Occupations | 6.2 % | 10.3 % | 13 % | 17 % |
| Mechanics and Repairers | 4.1 % | 6.5 % | 4 % | 3 % |
| **White Collar Occupations** | **3.1 %** | **5.7 %** | **60 %** | **57 %** |
| Sales Occupations | 4.6 % | 10.2 % | 12 % | 10 % |
| Office and Administrative Support | 3.9 % | 6.9 % | 14 % | 16 % |
| Engineers and Scientists | 2.7 % | 3.5 % | 5 % | 5 % |
| Professional Specialty Occupations | 2.6 % | 4.2 % | 4 % | 4 % |
| CEOs and Managers | 2.3 % | 3.1 % | 13 % | 9 % |
| Health Care Occupations | 2.1 % | 4.3 % | 6 % | 8 % |
| Teachers and Social Workers | 1.3 % | 2.8 % | 6 % | 5 % |

Source: Authors' tabulations of the CPS March Supplement 1992-2007. Occupation categories are mutually exclusive.

Perhaps the most interesting patterns in Tables 5 and 6 are in the unemployment rate by race within each category. In all 17 industries and all 12 occupational categories, the nonwhite unemployment rate is appreciably higher than the white level. Although the proportions across race employed in high- and low-unemployment jobs are similar, the level of unemployment is uniformly higher for nonwhites. This is in marked contrast to the comparable tabulations by gender, where women had higher experienced unemployment rates in some jobs while men had higher rates in other jobs.

We now perform a set of unemployment rate decomposition exercises similar to those described in the prior section of this paper for gender. Figure 13 shows that adjusting the nonwhite experienced unemployment rate for the white industry-occupation distribution does not explain the gap or the differences in volatility of the experienced unemployment rate across races.

Adjusting the white rate to the nonwhite distribution, similarly, has essentially no impact. Clearly, the difference in the experienced unemployment rate by race cannot be attributed to racial differences in the employment distribution across industry and occupation.

**Figure 13: Experienced Unemployment Rates, by Race,**
**Actual and Adjusted for Industry-Occupation Adjustments**



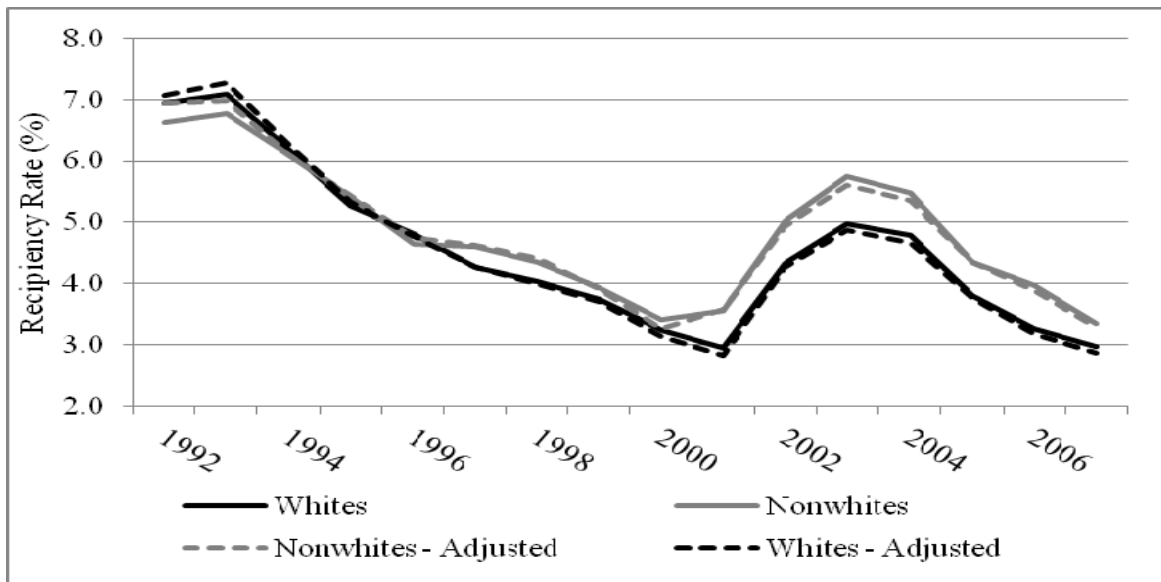Source: Authors' tabulations of the CPS March Supplement, 1992-2007.

## 4.4. Nonwhites in the Unemployment Insurance Program

Since nonwhites had higher experienced unemployment rates between 1992 and 2007 than whites, we might expect that they would also be more likely than whites to receive UI benefits. In this section, we examine differences in UI receipt rate by race. Figure 14 shows that the nonwhite and white receipt rates (solid grey and solid black lines, respectively) were very similar through the 1990s, but beginning in 2000, the nonwhite rate was higher by about half a percentage point.

This reflects two opposing factors. On one hand, nonwhites had consistently higher experienced unemployment rates during that period. As we showed above, new entrants do not contribute to this difference, so nonwhite unemployment is higher exclusively because of the racial difference. Since UI is only available to the experienced labor force, we might expect higher unemployment among experienced nonwhites to lead to greater levels of UI receipt. On the other hand, however, even in the same industries and occupations nonwhites suffer greater employment

instability and lower earnings, making them less likely to meet states' minimum earnings or employment requirements. They may also be more likely to separate from jobs under circumstances that make them ineligible for benefits.

**Figure 14: Unemployment Insurance Receipt Rate, by Race**
**Actual and Adjusted for Industry-Occupation**



Source: Authors' tabulations of the CPS March Supplement, 1992-2007.

The dashed lines show that adjustments for industry and occupation - whether applied to whites or nonwhites - have no important role in explaining UI benefit receipt. It is interesting to note, however, the shift in the nonwhite receipt rate relative to the white receipt rate after 2000. This indicates that during and after the early 2000s recession, nonwhites became more likely to receive UI benefits than whites. The higher UI receipt rate for nonwhites after 2000 is consistent with the fact that nonwhites had higher unemployment rates than whites during that period. Since the racial unemployment rate gap after 2000 was about 2 percentage points and the UI receipt rate gap was less than 1 percentage point, it is still true that unemployed nonwhites were less likely to receive UI benefits than unemployed whites.

## 4.5. Summary

Since the early 1990s, the gap between nonwhite and white unemployment rates has declined, but it remains substantial, in the range of 2 to 3 percentage points. However, nonwhite use of UI
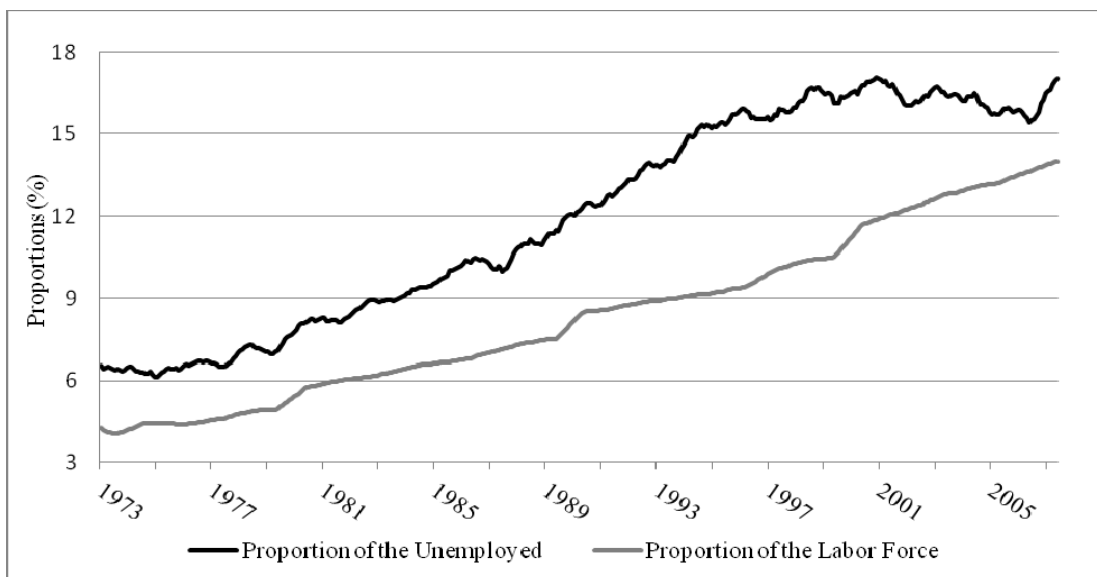
benefits, as a proportion of the labor force, is very similar to that of whites.  Differences in the industrial and occupational distributions of employment by race are very modest, and they have no role in explaining the observed differences.


## 5. Hispanics in the Labor Market

### 5.1. Historic Changes

The Hispanic population in the U.S. has increased dramatically over the last 30 years.  Figure 15 shows that, in the early- to mid-1970s, Hispanics accounted for only 4.5 percent of the labor force.  This figure had increased to 14 percent by 2007.

**Figure 15: Labor Force and Unemployment Proportions, Hispanics**



Source: Current Population Survey monthly values, 1948-2007.  Values represent 12-month centered moving averages.


As Figure 15 shows, the Hispanic proportion of the unemployed was higher than the Hispanic proportion of the labor force in all years between 1973 and 2007.  In the 1980s and 1990s, the Hispanic proportion of the unemployed grew at a faster pace than the Hispanic proportion of the labor force.  But the proportion of Hispanic unemployed in the 2000s exhibited no upward trend, despite the continued growth of the Hispanic labor force.

This pattern is reflected in Figure 16, which shows that the Hispanic unemployment rate was higher than the non-Hispanic unemployment rate during this period. However, this gap has decreased over time, as is illustrated clearly by considering three periods of recession: the early 1980s, the early 1990s, and the early 2000s. In the early 1980s recession, the unemployment rate gap for Hispanic workers relative to non-Hispanics was 4.9 percentage points, At the trough of the early 1990s recession, that gap was marginally lower, at 4.3 percentage points. But in the early 2000s recession, the gap was distinctly lower, at only 2 percentage points.

In addition, the volatility of the Hispanic unemployment rate has declined over this period. The trough-to-peak unemployment rate decline between 1992 and 2000 was 4 percentage points for Hispanics and 3 percentage points for non-Hispanics. The subsequent peak-to-trough increase in the unemployment rate, between 2000 and 2003, was around 1.6 percentage points for both groups.

If we compare the unemployment patterns observed here with those discussed in the gender section, we find some striking similarities in how the position of women and Hispanics has changed in the labor market. Hispanics display patterns in the early 2000s that are similar to those of women in the 1970s. The female labor force proportion increased steadily during the 1970s, whereas the female proportion of the unemployed was more or less constant. These patterns reflect the decline in the relative unemployment rate for women. In the 2000s, we see that, as the Hispanic labor force proportion continued to increase, the proportion of Hispanics among the unemployed remained steady, reflecting a similar convergence between Hispanic and non-Hispanic unemployment rates.

**Figure 16: Unemployment Rate, by Ethnicity**
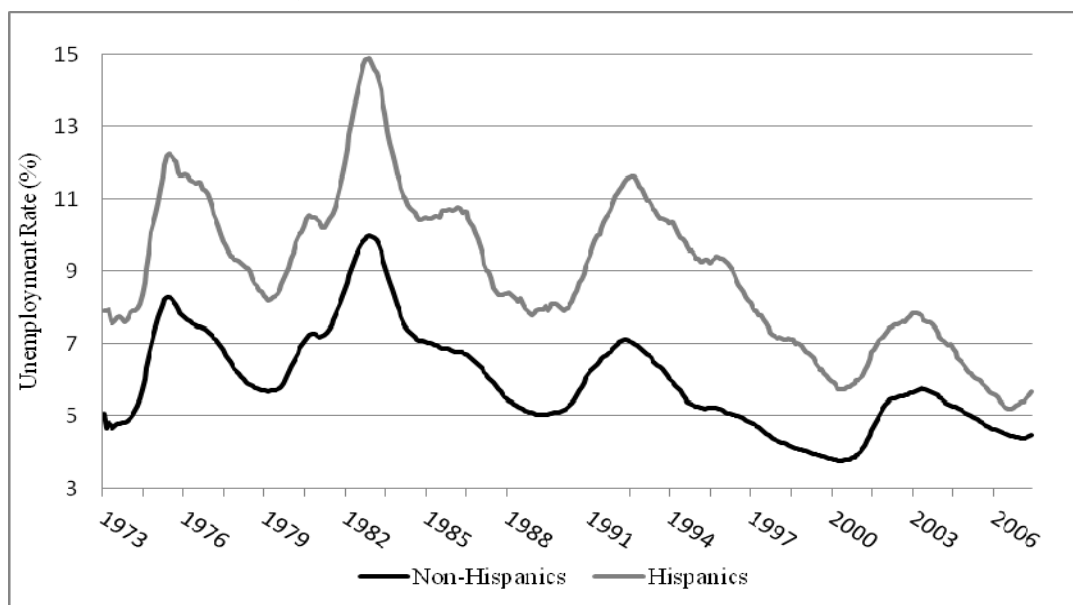


Source: Current Population Survey monthly values, 1948-2007.  Values represent 12-month centered moving averages.

## 5.2. The Unemployment Experience of Hispanics between 1992 and 2007

Unemployment differences between Hispanics and non-Hispanics based on the CPS March Supplement data correspond closely to those reported in Figure 16.  Between 1992 and 2007, Hispanics had higher unemployment rates than non-Hispanics, a gap that declines over time, as displayed in Figure 17, for both the unemployment rate and the experienced unemployment rate. In the early 1990s, the experienced unemployment rate gap was over 3.5 percentage points, whereas it declined to less than 1.5 percentage points after 2004.  Since 2000, the ethnicity experienced unemployment rate gap was about a quarter of a percentage point higher than the overall ethnicity unemployment rate gap.  This suggests that new labor force entrants are less important among unemployed Hispanics than they are among other unemployed workers. Despite this difference, it is clear that limiting consideration to the experienced labor force makes little difference in comparing Hispanics and non-Hispanics.

**Figure 17: Hispanic – Non-Hispanic Unemployment Rate Gaps**
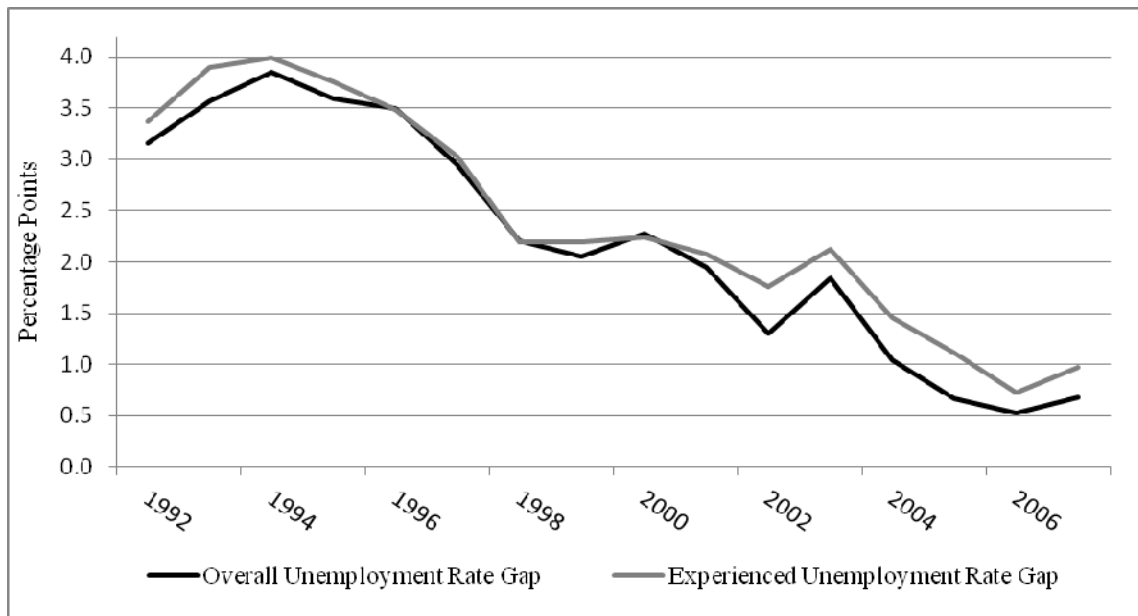


Source: Authors' tabulations of the CPS March Supplement, 1992-2007.

It appears that the unemployment experience of Hispanics is gradually becoming more like the experience of non-Hispanics. In the next section, we examine whether these relationships persist after controlling for differences in the industrial and occupational employment distributions of the two ethnicity groups.

## 5.3. Decomposition of the Ethnicity Experienced Unemployment Rate Gap

Table 7 summarizes the employment distribution across industries for Hispanic and non-Hispanic workers. Hispanics were slightly more likely to be employed in high-unemployment sectors like construction, food services, and nondurable manufacturing over the period, and less likely to be in low-unemployment sectors like education and social services, and health care services. Nonetheless, the industry distributions across the two ethnicity groups were not very different.

**Table 7: Employment Distribution by Ethnicity, across Industries:**
**Averages of March CPS Supplement Values, 1992-2007**

| | Experienced Unemployment Rate | | Employment Distribution | |
|---|---|---|---|---|
| | Non-Hispanics | Hispanics | Non-Hispanics | Hispanics |
| Construction | 11.0 % | 10.6 % | 7 % | 9 % |
| Food Services | 7.5 % | 7.8 % | 13 % | 16 % |
| Manufacturing – Non-Durables | 5.5 % | 9.0 % | 4 % | 8 % |
| Personal Services | 7.3 % | 6.9 % | 2 % | 2 % |
| Business Support Services | 6.7 % | 9.5 % | 8 % | 9 % |
| Repair and Maintenance | 5.6 % | 6.7 % | 2 % | 4 % |
| Manufacturing – Durables | 4.9 % | 7.2 % | 8 % | 8 % |
| Other Industries | 4.1 % | 12.6 % | 4 % | 5 % |
| Wholesale Trade | 3.8 % | 8.2 % | 4 % | 4 % |
| Information and Communications | 4.2 % | 5.8 % | 3 % | 2 % |
| Transportation, Warehouse, and Utilities | 4.1 % | 5.0 % | 5 % | 5 % |
| Retail Trade | 3.6 % | 4.7 % | 6 % | 5 % |
| Entertainment and Recreation Services | 3.6 % | 3.7 % | 4 % | 3 % |
| Education and Social Services | 2.9 % | 4.9 % | 9 % | 6 % |
| Finance, Insurance, and Real Estate | 2.8 % | 4.2 % | 5 % | 3 % |
| Public Administration | 2.8 % | 3.5 % | 4 % | 2 % |
| Health Care Services | 2.4 % | 3.7 % | 13 % | 9 % |

Source: Authors' tabulations of the CPS March Supplement, 1992-2007. Industry categories are mutually exclusive.

However, the occupational distribution of Hispanics was dramatically different from that of non-Hispanics. Table 8 shows that Hispanics were much less likely than non-Hispanics to be employed in white collar occupations, with only 41 percent of Hispanics employed in white collar occupations compared to 63 percent of non-Hispanics. In fact, Hispanics were underrepresented in all white collar occupation categories relative to non-Hispanics. In contrast,

they were overrepresented in most blue collar jobs, especially the service-related occupations category (19 percent compared to 13 percent for non-Hispanics) and the 'other blue collar occupations' category (23 percent compared to 14 percent for non-Hispanics).

**Table 8: Employment Distribution by Ethnicity, across Occupations: Averages of March CPS Supplement Values, 1992-2007**

| | Experienced Unemployment Rate | | Employment Distribution | |
|---|---|---|---|---|
| | Non-Hispanics | Hispanics | Non-Hispanics | Hispanics |
| **Blue Collar Occupations** | **7.6 %** | **8.9 %** | **37 %** | **59 %** |
| Construction Workers | 12.1 % | 10.8 % | 5 % | 9 % |
| Farming, Fishing, and Forestry Workers | 8.1 % | 16.6 % | 2 % | 4 % |
| Other Blue Collar Occupations | 7.4 % | 8.7 % | 14 % | 23 % |
| Other Service-Related Occupations | 7.0 % | 7.2 % | 13 % | 19 % |
| Mechanics and Repairers | 4.2 % | 5.6 % | 4 % | 4 % |
| **White Collar Occupations** | **3.3 %** | **5.2 %** | **63 %** | **41 %** |
| Sales Occupations | 5.1 % | 7.5 % | 12 % | 9 % |
| Office and Administrative Support | 4.1 % | 5.9 % | 15 % | 14 % |
| Engineers and Scientists | 2.8 % | 3.6 % | 5 % | 2 % |
| Professional Specialty Occupations | 2.7 % | 4.4 % | 5 % | 2 % |
| CEOs and Managers | 2.4 % | 3.3 % | 13 % | 7 % |
| Health Care Occupations | 2.4 % | 3.3 % | 7 % | 4 % |
| Teachers and Social Workers | 1.4 % | 2.4 % | 6 % | 3 % |

Source: Authors' tabulations of the CPS March Supplement 1992-2007. Occupation categories are mutually exclusive.

In most cases, the Hispanic unemployment rates were higher than those for other workers. Among construction workers, in contrast, Hispanics had slightly lower unemployment rates than others, and unemployment rates by ethnicity were essentially the same in other service-related occupations.

In order to isolate the effect of industry and occupation distribution on the ethnicity experienced unemployment rate gap, we produce the same decomposition exercise described in previous

sections. Table 18 presents the actual experienced unemployment rate and the same rate adjusted for industry-occupation, by ethnicity. The adjusted Hispanic rate (grey dashed line) is consistently 1 percentage point lower than the actual Hispanic rate (grey solid line), indicating that ethnicity differences in the industry-occupation distribution account for about one percentage point of the ethnicity experienced unemployment rate gap.

Between 1992 and 1998, between 40 and 60 percent of the ethnicity experienced unemployment rate gap was explained by differences in the employment distributions across industries and occupations between the two groups. After 1998, more than 70 percent of the gap was explained by such differences, and after the end of the early 2000s recession, the industry-occupation adjusted Hispanic rate was identical to the non-Hispanic rate. We conclude that, although differences in the employment distributions cause the Hispanic experienced unemployment rate to be higher, this effect has not changed over time, even as the ethnicity gap in that rate has been declining.

Looking at the adjustment of the non-Hispanic experienced unemployment rate for the Hispanic distribution provides a very similar conclusion, although the impact of the adjustment was slightly smaller in the beginning of the period. This confirms our conclusion that all remaining differences between Hispanics and non-Hispanics in average unemployment after the recession of the early 2000s are explained by industry and occupation distributional differences.

**Figure 18: Experienced Unemployment Rate, by Ethnicity,
Actual and Adjusted for Industry-Occupation**
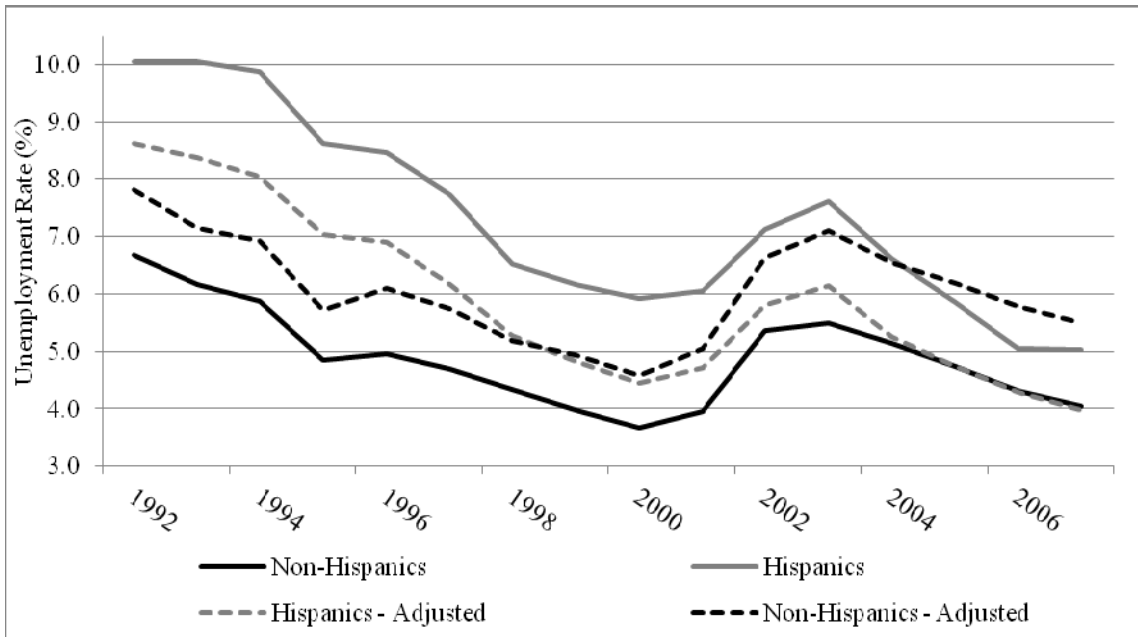


Source: Authors' tabulations of the CPS March Supplement, 1992-2007.

## 5.4. Hispanic Workers and the Unemployment Insurance Program

Figure 19 presents the probability of receiving UI benefits for Hispanic and non-Hispanic labor force participants between 1992 and 2007. As we might expect, the UI receipt rate for Hispanics was higher than that for non-Hispanics in the early 1990s, a period during which the Hispanic experienced unemployment rate was also higher. However, during that period, the Hispanic EUR was considerably higher than that for non-Hispanics (4 percentage points according to Figure 17), a difference that it is not reflected by the size of the receipt rate gap, which is generally less than 1 percent.

Following 2000, the receipt rate difference disappears, and after 2006, non-Hispanic labor force participants became slightly more likely to receive UI benefits than Hispanics. A possible explanation is that some Hispanic labor force participants may not be familiar enough with the U.S. labor market to know that they could be eligible to receive UI benefits if they become unemployed. Another possible explanation is that unemployed Hispanics are on average less

likely to be eligible to receive UI benefits compared to unemployed non-Hispanics, due to either work history or citizenship status.

The dashed lines in Figure 19 show how adjusting for the industry and occupational distribution of employment influences the UI receipt rate. Adjusting the Hispanic UI receipt to the non-Hispanic employment distribution shows that until the late 1990s, the entire difference in UI receipt was explained by industry and occupation. Since Figure 18 shows that the adjusted levels of Hispanic experienced unemployment rate were above those for others during this period, this implies that unemployed Hispanics were less likely to receive UI benefits. By the end of our period, we see that UI usage rates for Hispanics adjusted for industry and occupation were appreciably below those for non-Hispanics. We also see that when we adjust the non-Hispanic UI receipt rates for the Hispanic employment distribution, the rate was appreciably higher than those observed for Hispanics. Both results confirm the view that, within occupation-employment cells, Hispanic UI receipt rates were 1 to 1.5 percentage points lower than those of non-Hispanics.

**Figure 19: Unemployment Insurance Receipt Rate, by Ethnicity,
Actual and Adjusted for Industry-Occupation**
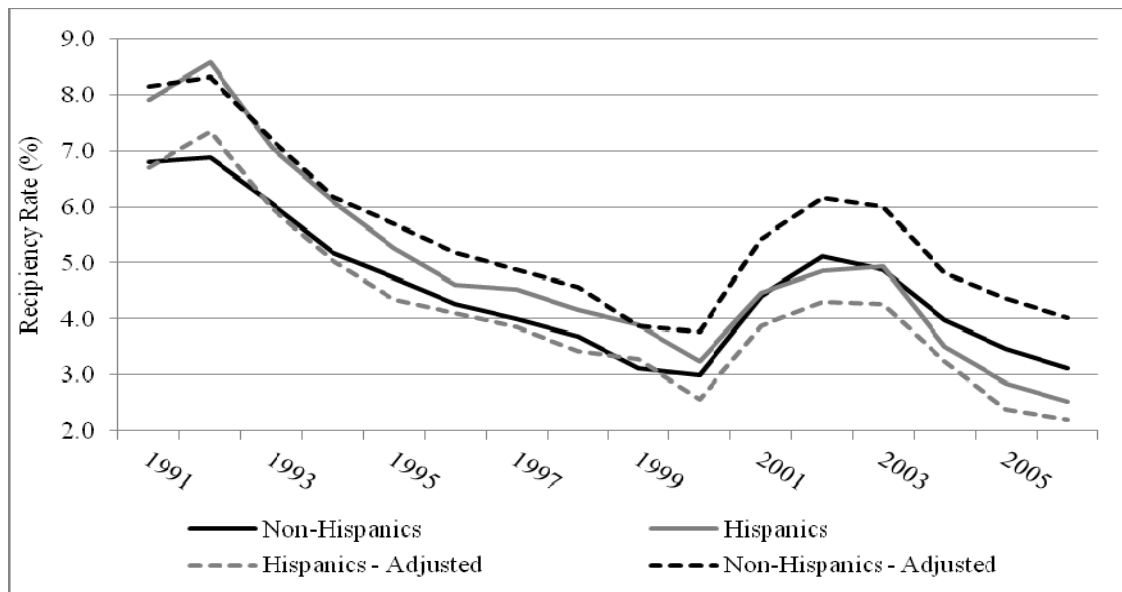


Source: Authors' tabulations of the CPS March Supplement, 1992-2007.

### 5.5. Summary

In the last 16 years, as the Hispanic proportion of the labor force has increased, and their unemployment rate has tended to converge to that of the overall labor force. Over the same period, Hispanics were more likely to be employed in blue collar occupations and in industries with higher unemployment rates. Controlling for differences in the industrial and occupational employment distribution, we find that a substantial portion of the ethnicity experienced unemployment rate gap is attributable to those differences. After the early 2000s recession, those differences fully explain the relatively modest remaining Hispanic/non-Hispanic gap. These numbers suggest that Hispanic labor force participants are becoming more and more alike in terms of their unemployment experience to their non-Hispanic counterparts. UI benefit receipt rates are also converging for Hispanics and non-Hispanics, but here we see that once we control for industry and occupation, important differences remain.

## 6.    Conclusion

Our analyses show that as the female proportion of the labor force has increased, the female unemployment rate has converged with the male unemployment rate. This may be an indication that gender differences in the employment and unemployment experiences are disappearing over time. However, we find that, between 1992 and 2007, there were substantial gender differences in the industry and occupation employment distribution, and that these differences had an important effect on the gender unemployment rate gap. In fact, when we adjust for such differences, the female unemployment rate is higher than the male unemployment rate.

Our analysis also indicates that women were appreciably less likely than men to receive UI benefits in the past two decades. This difference in the UI receipt rates is fully explained by differences in industry-occupation distribution, implying that men and women in the same kinds of jobs were equally likely to receive UI benefits. Even so, it is necessary to recognize that men and women continue to be distinct populations with different experiences in the labor market and in the UI system.

Racial differences in the unemployment are of longstanding importance. Even the most casual reference to unemployment and UI statistics reveals that nonwhite levels of unemployment remain substantially above those for whites. Despite this conclusion, our analyses provide some evidence of convergence. In the last decade, the nonwhite increment in unemployment rates has declined somewhat; although differences remain large, they are less dramatic than they were two decades ago. In addition, although nonwhites were more likely to experience unemployment than whites, the UI receipt rates between the two groups were not very different. This indicates that unemployed nonwhites were less likely than unemployed whites to receive UI benefits.

The story of Hispanics is more clearly one of convergence. In the face of growth in the number of Hispanics in the labor market, the unemployment rate gap between Hispanics and non-Hispanics has declined dramatically. When we adjust for differences in the industry-occupation distribution, we find that the Hispanic unemployment rate in the last several years is essentially the same as the non-Hispanic unemployment rate. We do find that Hispanics are somewhat less likely to receive UI benefits, although differences are fairly modest. Overall, the evidence suggests that, at least in terms of unemployment patterns, Hispanic labor force participants are becoming increasingly similar to non-Hispanic labor force participants.

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# APPENDIX A:  CYCLICALITY OF THE UNEMPLOYMENT RATE

**Table A: Cyclicality of the Gender Unemployment Rate Gap, 1992-2007**

|  | Quarter 1 (Jan-Mar) | Quarter 2 (Apr-Jun) | Quarter 3 (Jul-Sep) | Quarter 4 (Oct-Dec) |
|---|---|---|---|---|
| Female UR | 5.52 (.91) | 4.96 (.84) | 5.81 (.86) | 5.10 (.91) |
| Male UR | 6.39 (1.32) | 5.38 (1.20) | 5.29 (1.05) | 4.87 (.95) |
| Gap | -0.87 (.52) | -0.42 (.42) | 0.53 (.28) | 0.23 (.27) |
| Nonwhite UR | 9.17 (1.84) | 8.79 (1.94) | 8.99 (1.60) | 8.38 (1.67) |
| White UR | 5.18 (.99) | 4.60 (.90) | 4.58 (.81) | 4.33 (.80) |
| Gap | 3.99 (.92) | 4.20 (1.11) | 4.41 (.90) | 4.05 (.93) |
| Hispanic UR | 7.12 (1.66) | 7.32 (1.52) | 7.18 (1.53) | 7.96 (1.70) |
| Non-Hispanic UR | 4.90 (.84) | 4.91 (.69) | 4.57 (.71) | 5.24 (.75) |
| Gap | 2.22 (1.18) | 2.41 (1.17) | 2.60 (1.15) | 2.72 (1.24) |

Source: CPS Monthly Surveys, 1992-2007.  Standard deviations are reported in parenthesis.

**Figure A2: Cyclicality of the Unemployment Rate, Construction**
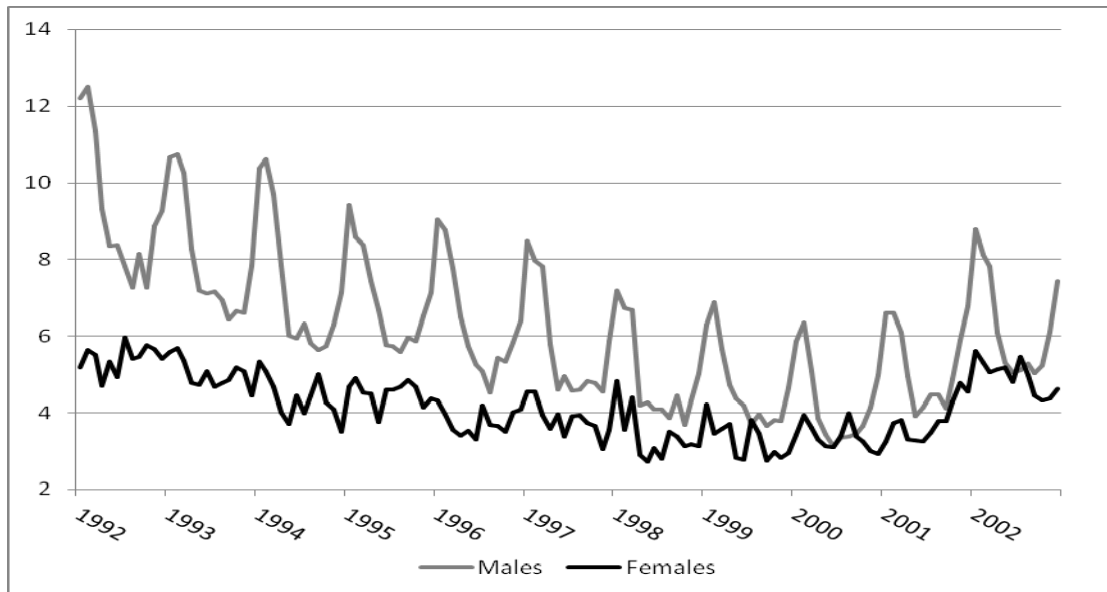


Source: CPS Monthly Surveys, 1992-2007.  Standard deviations are reported in parenthesis.

# APPENDIX B: DECOMPOSITION OF THE
# UNEMPLOYMENT RATE

Let $U_g$ be the number of experienced unemployed workers for gender $g$ ($g = f, m$) and $E_g$ be the number employed. The EUR for gender $g$ is:

$$EUR_g = \frac{U_g}{U_g + E_g} \qquad (1)$$

Let $U_{g,i}$ be the number of unemployed workers in industry-occupation cell $i$ of gender $g$, and $E_{g,i}$ the number of employed workers. Using equation (1), we can re-write the total EUR as:

$$EUR_g = \sum_i \left( \frac{U_{g,i}}{U_{g,i} + E_{g,i}} \frac{U_{g,i} + E_{g,i}}{\sum_i (U_{g,i} + E_{g,i})} \right) \qquad (2)$$

The first term in the summation, $\dfrac{U_{g,i}}{U_{g,i} + E_{g,i}}$, represents the unemployment rate for gender $g$ in industry-occupational cell $i$. The second term, $\dfrac{U_{g,i} + E_{g,i}}{\sum_i (U_{g,i} + E_{g,i})}$, is the ratio of the experienced labor force for gender $g$, cell $i$, to the total experienced labor force for gender $g$. This represents the proportion of the experienced labor force for gender $g$ that is in cell $i$. Equation (2) represents the unemployment rate for gender $g$ as a weighted sum of the unemployment rate by industry-occupation cell, where the weights are the cell proportions.

The gap between the male and female unemployment rate is a function of cell-specific unemployment rates, and the employment distributions. In order to determine what effect differences in gender industry and occupation composition have on the observed unemployment rate gap, we have to isolate the effect of the distribution. Writing the female unemployment rate as:

$$EUR_F = \sum_i \left( \frac{U_{F,i}}{U_{F,i} + E_{F,i}} \frac{U_{F,i} + E_{F,i}}{\sum_i (U_{F,i} + E_{F,i})} \right) \qquad (3)$$

We may adjust the female unemployment rate to the male distribution by applying the male industry weights to equation (3). The adjusted measure is then written as:

$$EUR_F^{ADJ} = \sum_i \left( \frac{U_{F,i}}{U_{F,i} + E_{F,i}} \frac{U_{M,i} + E_{M,i}}{\sum_i \left( U_{M,i} + E_{M,i} \right)} \right) \qquad (4)$$

Note that we can use the same methodology to adjust the male unemployment rate according to the female industry and occupation distribution. We use the same approach in adjusting the UI receipt rates, and adjusting rates for nonwhite and Hispanic workers.