Unemployment Problems among College-Educated Immigrants in the United States

Neeta P. Fogg and Paul E. Harrington
Center for Labor Markets and Policy
Drexel University
Philadelphia, Pennsylvania

August 2012

Drexel
UNIVERSITY

Contents

Introduction

This is the third in a series of five research papers that examines the nature of labor force underutilization problems of immigrants with college degrees, with special reference to those who earned their degrees from overseas colleges and universities. Our previous paper on the levels of labor force participation of immigrant professionals, *Findings from an Examination of the Labor Force Participation of College-Educated Immigrants in the United States*, reported very high rates of labor market participation among college-educated immigrants. In fact, among college-educated individuals, the rate of job market attachment was nearly 2 percentage points higher among immigrants than among their native-born counterparts—89.8 percent among immigrants versus 88 percent among native-born college graduates. Immigrant males with college degrees had very high rates of labor market participation, with over 96 percent either working or seeking work during the reference week of the 2003 National Survey of College Graduates (NSCG). The labor force participation rate of male immigrants with college degrees was 2.4 percentage points higher than that of their native-born counterparts (96.1% versus 93.7%). Labor force participation among female college-educated immigrants was 0.4 percentage points higher than among native-born college graduate women. Labor market participation is typically lower among women than among men as women are likely to reduce their labor market participation at certain ages when they are engaged in childrearing and related family responsibilities. Our analysis of the labor force participation rates of college-educated immigrants found a gender gap of 13.2 percentage points among immigrants and 11.2 percentage points among those who were born in the United States.

Unemployment is one of a number of forms of labor market underutilization that we are examining in this series of papers. Individuals who are unemployed are willing and able to work but are unable to find work and are actively searching for jobs.[1] Among college graduates, unemployment results in an underutilization of the human capital that they acquired throughout their lives, including completing college and university degree programs.

This paper examines unemployment experiences of college graduates during the fall of 2003, at the time the most recently available National Survey of College Graduates was conducted. The U.S. economy at that time was recovering from the dot.com recession of 2001. While Gross Domestic Product (GDP) growth had rebounded beginning in late 2001, monthly job losses persisted through much of 2003 and the overall unemployment rate peaked during the second and third quarters of 2003 at around 6.1 percent of the labor force (from a prerecession low of 3.9% during the fourth quarter of 2000). Thus, the overall job market context at the time of the NSCG during the third quarter of 2003 was one of considerable excess labor supply. Just prior to the dot.com bust in early 2001, the nation had reached the Beveridge full employment unemployment rate—a condition of approximate equality between the number of unemployed persons and the number of vacant jobs (Beveridge, 1945). Indeed, at the end of 2000 the ratio of unemployed job seekers to vacant jobs (U:V ratio) stood at 1.09, with about 5.6 million unemployed workers and 5.2 million vacant jobs at that time (Figure 1).

---

[1] The National Survey of College Graduates definition of unemployment is similar but not identical to the unemployment measure published monthly by the U.S. Bureau of Labor Statistics in its monthly *Employment Situation* release; to be classified as unemployed by the NSCG, respondents must be jobless and have looked for work in the four weeks prior to the survey reference week or on a temporary layoff.

The dot.com recession and subsequent jobless recovery meant that by the fall of 2003 the U:V ratio had risen to a peak of 2.92—nearly three times as many job seekers as vacant jobs—suggesting a considerable labor surplus; in other words, a jobs deficit. The economic recession of 2008 (the Great Recession) has had a profound impact on the U.S. labor market, shifting the nature of labor market conditions even more from one of labor shortage to one of labor surplus, or jobs deficit (Fogg & Harrington, 2009; Lazear & Spletzer, 2012). The Great Recession has had a far wider and more persistent adverse impact on the size and nature of the nation's labor market problems, including a growing problem of mal-employment among recent college graduates (Fogg & Harrington, 2011).

Figure 1: Ratio of Unemployment to Job Vacancies in the United States, Monthly, 2000 to 2012 (Seasonally Adjusted)
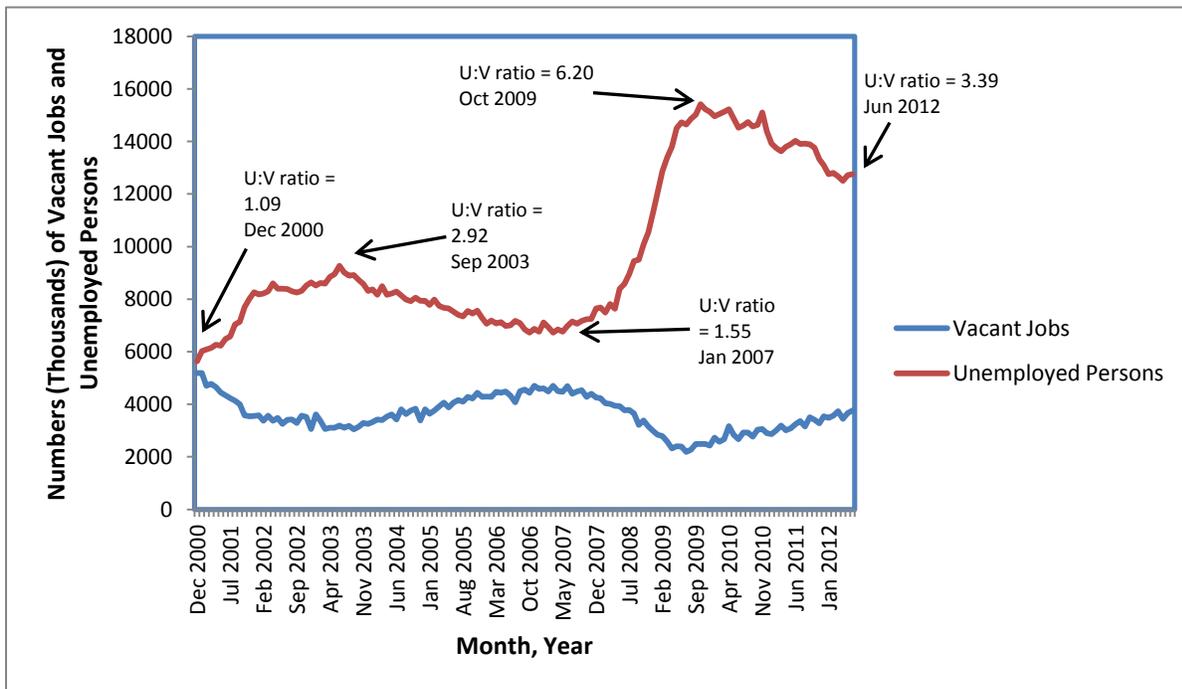
In this paper, we examine unemployment problems among immigrant college graduates, with a special focus on those immigrants to the United States who earned college degrees from institutions located in other nations. The paper presents the levels and variations in unemployment rates by the demographic and human capital characteristics of college-educated immigrants, including gender, age, type of college degree, country in which the most recent college degree was earned, major field of study, English language proficiency, year of entry, and type of visa with which they first entered the United States. Since unemployment problems are related to local labor market conditions, we also have examined unemployment rates of immigrant college graduates by region of residence in the United States.

The paper begins with a comparison of the unemployment problems among 23- to 64-year-old immigrant and native-born college graduates. Overall unemployment rates are presented for 23- to 64-year-old immigrant college graduates and compared with those of their native-born counterparts. The comparison is presented for all college graduates and separately for males and females. The remainder of the paper focuses on findings from the examination of unemployment rates among immigrant college graduates, beginning with a descriptive analysis of unemployment rates among these individuals by their demographic traits, educational attainment, country/region of most recent college degree, year of entry,

and type of entry visa to the United States. The descriptive analysis is followed by findings from multivariate regression analysis of the likelihood of unemployment among college-educated immigrants.

The multivariate regression analysis will shed insight into the independent impact of the different traits of immigrant college graduates on the likelihood of unemployment. For example, the unemployment rate was found to be lower among immigrants with doctorate or professional degrees compared with those who had bachelor's or master's degrees. However, this difference could be due to systematic differences in major fields of study of individuals with these degrees or gender or country where the degrees were earned or other characteristics. Multivariate regression analysis allows us to estimate the relationship between type of college degree and unemployment after statistically controlling for other factors (demographics, major field of study, English speaking ability, etc.) that are known to be related to the likelihood of unemployment. Since the labor market behaviors of men and women vary considerably, the descriptive and regression analyses of unemployment problems are presented for all college-educated immigrants and separately for male and female immigrants.

Data Source and Definitions

This paper relies on data from the 2003 NSCG, which gathered detailed information on employment and educational status of respondents and their demographic characteristics. The database contains responses of a sample of 100,400 U.S. residents who held bachelor's or higher degrees at the time of the 2000 decennial census. The age of the NSCG sample respondents was between 23 and 76 years in 2003. The 2003 NSCG sample was drawn from 2000 decennial census long-form survey respondents with a bachelor's degree or higher. The NSCG database contains nearly 450 variables providing detailed information on educational attainment and school enrollment status, labor market status and job characteristics of employed respondents, and demographic traits of college graduates, including nativity status and the country in which foreign-born graduates earned their most recent college degrees. The contents and sample size of the 2003 NSCG provide a rich and appropriate database that is perfectly suited to this study.

The authors identified immigrants as those respondents who were born abroad. Based on answers to questions regarding citizenship, the NSCG classifies all respondents into four categories: (1) native-born U.S. citizen; (2) naturalized U.S. citizen; (3) not a U.S. citizen—permanent U.S. resident; and (4) not a U.S. citizen—temporary U.S. resident. The foreign-born or immigrant population consists of naturalized U.S. citizens and both categories of non-U.S. citizens—permanent and temporary U.S. residents.

The NSCG questionnaire contains questions about respondents' employment status during the survey reference week—the week of October 1, 2003. Respondents were asked to report whether they were working for pay or profit during the survey reference week; those who reported currently working were classified as employed. Labor force status of the working-age population and definitions of the labor force and labor force participation rate are presented in Figure 2. Those who reported not currently working were asked a follow-up question about whether they had looked for paid employment during the four weeks preceding the survey reference week. Those who replied affirmatively were classified as being unemployed. Also classified as unemployed were those respondents who replied that they had not looked for paid employment during the four weeks preceding the survey reference week because they were on a layoff from a job.

Figure 2: Labor Force Concepts and Measures

$$\text{Population} = \text{Employed} + \text{Unemployed} + \text{Not in the labor force}$$

$$\text{Labor Force} = \text{Employed} + \text{Unemployed}$$

$$\text{Unemployment Rate} = \frac{\textit{Number Unemployed}}{\textit{Labor Force}}$$

The remaining respondents were classified as a third labor market category—not in the labor force. The term "labor force" represents a practical measure of available labor supply and is the sum of individuals who are employed (working for pay or profit) and unemployed (not working but actively looked for work in the past four weeks). This last group of respondents is entirely excluded from the analysis in this paper because, by definition, unemployment does not occur among those who are not working and not actively seeking employment (out of the labor force). The unemployment rate is the proportion of the labor force that is unemployed and measures the percentage of labor force participants in a group (for example, immigrants) who are unemployed. So, for example, out of 120 college-educated immigrants, if 96 are employed and 4 are unemployed (not employed but looking for work), the labor force is 100 (96+4) and the unemployment rate is (4/100=4%).

The age of respondents included in the 2003 NSCG data ranges between 23 and 76 years. However, the analyses presented in this paper are restricted to individuals between 23 and 64 years of age because of the markedly lower labor force attachment of the elderly population (65 years and older, and associated with retirement income) compared with the non-elderly. It also should be noted that since the unemployment rate is computed only among labor force participants, the analyses presented in this paper are restricted to the household population of 23- to 64-year-old college-graduate U.S. residents who were active participants in the labor force during the reference week of the 2003 NSCG survey—the week of October 1, 2003.

Unemployment Rates of Native-Born and Immigrant College Graduates

Although a positive first step, active participation in the labor market is not always met with success. A number of individuals who are actively engaged in the labor market (labor force participants) remain jobless. The unemployment rate measures the proportion of all labor force participants who remain unemployed at a given point in time. Generally, the unemployment rate is expected to be lower among better-educated individuals. According to data from the Bureau of Labor Statistics, the U.S. unemployment rate of all adults 25 years and older in October 2003 varied from 9 percent among high school dropouts and 5.5 percent among high school graduates to just 3.1 percent among college graduates (U.S. Bureau of Labor Statistics). During the Great Recession and subsequent recovery, the unemployment rate of college graduates has remained well below that of labor force participants with lower levels of educational attainment. At the beginning of the Great Recession in December 2007, the unemployment rate of 25+-year-old college graduates was only 2.1 percent compared with 4.7 percent among high school graduates without any college education, and 7.7 percent among high school dropouts. Three years after the economic (GDP) recovery began in 2009 and two years after the labor market (jobs) recovery began in 2010, the unemployment rate of college graduates in July 2012 stood at 4.1 percent, a rate much lower than 8.7 percent among high school graduates and 12.7 percent among those who failed to complete high school.

The unemployment rates of 23- to 64-year-old college graduates at the time of the 2003 NSCG survey are presented in the lower half of Table 1. While only 3 percent of native-born labor force participants were unemployed in October 2003, the unemployment rate among their immigrant counterparts was 4.8 percent, representing 1.8 percentage points, or a 60 percent higher unemployment rate among college-educated immigrants. The unemployment rate of male college graduates stood at 4.3 percent among immigrants versus 2.9 percent among the native born; a difference of 1.4 percentage points, or 48 percent. The differential was even higher among female college graduates. The unemployment rate of female college graduates who were born abroad was 5.5 percent versus only 3.1 percent among their counterparts who were born in the United States. Immigrant college graduates participated in the labor force at higher rates and experienced higher rates of unemployment than did native-born college graduates. The immigrant/native-born unemployment rate gaps were higher among female than among male college graduates.

Table 1: U.S. Labor Force Participation and Unemployment Rates of 23- to 64-Year-Old Foreign-Born and Native-Born College Graduates, by Gender, 2003

Gender	(A)	(B)	(C)	(D)
Labor Force Participation Rate	Percent Foreign Born	Percent Native Born	Absolute Change (Percentage Points) (Col. A-Col. B)	Relative Change (Percent) (Col. C/Col. B)
All	89.8	88.0	1.8	2.0
Male	96.1	93.7	2.4	2.6
Female	82.9	82.5	0.4	0.5
Unemployment Rate	Percent Foreign Born	Percent Native Born	Absolute Change (Percentage Points) (Col. A-Col. B)	Relative Change (Percent) (Col. C/Col. B)
All	4.8	3.0	1.8	60.0
Male	4.3	2.9	1.4	48.3
Female	5.5	3.1	2.4	77.4

Descriptive Analysis of Unemployment Rates of Immigrant College Graduates

In this section, we examine unemployment rates among immigrants by demographic characteristics such as gender, age, marital status, presence of young children, and disability status, as well as by human capital characteristics such as type of college degree, major field of study, English-speaking proficiency, and country or region in which college degrees were earned. We also examine unemployment problems by immigration characteristics, including year of entry and type of entry visas into the United States.

In addition to the demographic, human capital, and immigration characteristics listed above, we also have examined unemployment problems among immigrants by their school enrollment status at the time of the NSCG. NSCG data provide information on the full-time school enrollment status of respondents at the time of the Survey. Full-time enrollment in school is likely to limit suitable employment options for students whose work schedules are restricted by their school obligations. Furthermore, even though the measurement of unemployment is restricted to those who are actively participating in the labor force, immigrants who are enrolled in school on a full-time basis might be legally restricted in the amount or

nature of labor market work they could perform, which also would limit employment options and therefore potentially increase the likelihood of unemployment among these individuals.

We also have examined the unemployment rate by the nine major geographic regions of the United States in which college-educated immigrants resided. Labor market conditions can vary considerably across states and regions, so an attempt was made to account for these differences by analyzing the NSCG data at the regional level as well. The NSCG public use data files do not provide further details on the geography of the residence of respondents beyond the nine-region level. Consequently, we could not use a more accurate and detailed measure of the localized labor market conditions that are potentially more pertinent to the employment outcomes of immigrant college graduates, such as the state or town in which an immigrant resided at the time of the NSCG.

Age and Year of Entry to the United States

Unemployment rates of college-educated immigrants varied by age, although the patterns of variation were somewhat different among male and female immigrants. As shown in Figure 3, at the time of the 2003 NSCG, the unemployment rate of male immigrants declined from 3.8 percent among 23- to 29-year-olds to 3.1 percent among 30- to 34-year olds and increased with age after age 34, reaching a maximum of 6.9 percent among 55- to 64-year-olds.

Figure 3: U.S. Unemployment Rates of 23- to 64-Year-Old Immigrant College Graduates, by Age and Gender, 2003
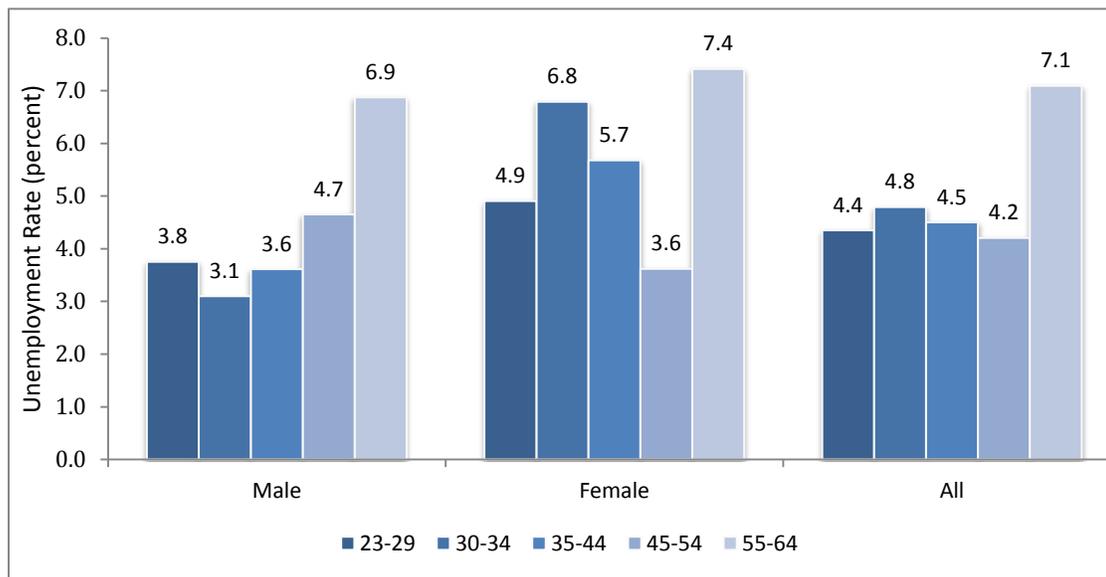
Among immigrant women, the unemployment rate was higher than among their male counterparts in each age group except those between the ages of 45 and 54 years. However, the pattern of unemployment rates by age among college-educated immigrant women was different from that of their male counterparts. The unemployment rate of female immigrants increased sharply (by 2 percentage points) between the ages of 23 to 29 and 30 to 34. The rate of unemployment declined thereafter to 5.7 percent among immigrant women in the mid-30s to mid-40s age group and further down to 3.6 percent among the mid-40s to mid-50s age group. Similar to the pattern among males, the unemployment rate of immigrant women reached a high of 7.4 percent among those in the preretirement age group of 55 to 64 years. The increase in unemployment among 30- to 34-year old women was not unique to immigrant college graduates. A look

at the unemployment rates of native-born college-educated women and men by age (from the 2003 NSCG) reveals a similar pattern—among males, the unemployment rate for 30- to 34-year olds was lower than that of 23- to 29-year-olds whereas among native-born women the unemployment rate was higher among 30- to 34-year-olds compared with that among 23- to 29-year-olds. This may be due partly to family/child-rearing responsibilities among 30- to 34-year old women that may require them to seek jobs with more flexibility and thereby restrict the number of appropriate employment opportunities available to them, resulting in higher rates of unemployment among this group.

The unemployment rate among all immigrant college graduates increased from 4.4 percent among 23- to 29-year-olds to 4.8 percent among 30- to 34-year-olds, declined to 4.5 and 4.2 percent among 35- to 44- and 45- to 54-year-olds, and increased to 7.1 percent among those in the preretirement age group (55-64 years old).

The 2003 NSCG gathered data on the year in which an immigrant respondent first entered the United States and then remained for a period of six months or more. The six-month period ensures that the year of first entry records first entry with temporary or permanent resident visas and not with tourist or non-resident visas. We have classified those who entered the United States after 1990 as recent immigrants and the remaining immigrants (those who entered in 1990 or earlier) as established immigrants. Immigrants who have been in the United States for fewer than 10 or 12 years have been regarded by many researchers as recent immigrants (Lo, Wang, Anisef, Preston, & Basu, 2010; Chapman & Bernstein, 2003; National Center for Children in Poverty [NCCP], 2004). Among college-educated immigrants between 23 and 64 years of age who were participating in the labor force at the time of the 2003 NSCG, a little under one-third had entered the United States after 1990 (Table 2). The share of recent immigrants was higher among males than among females (33% versus 30%).

Among male immigrants, the unemployment rate of recent immigrants was, somewhat surprisingly, lower than that of established immigrants (3.2% versus 4.9%), whereas among female immigrants recent arrivals had considerably higher unemployment rates than did those who arrived in 1990 or earlier (8.1% versus 4.4%). Since recently arrived immigrants have had less time to assimilate and adapt to the U.S. labor market, one would expect recently arrived immigrants to face greater difficulty in the labor market and higher unemployment rates. However, recently arrived immigrants also typically are younger than established immigrants. The median age of college-educated immigrants according to the 2003 NSCG data was 37 years among recent immigrants and 45 years among established immigrants. The analysis of unemployment rate by age shows a rise in the unemployment rate by age, especially among male immigrants. Consequently, the unemployment rate among established immigrants (which includes a higher share of older workers) was higher than that of recent immigrants among males.

Among female college-educated immigrants, the unemployment rate of middle-aged groups—30-34 and 35-44 (which make up the bulk of new arrivals)—was almost as high as that of older female immigrants (the preretirement age group). Consequently, the unemployment rate of recently arrived female immigrants (with a large share of middle-aged women with higher unemployment rates) was higher than that of established female immigrants. Furthermore, the fact that some recently arrived immigrants entered the United States with work visas may have resulted in lower unemployment rates among that group, as immigrants with work visas have jobs ready for them before they arrive. We have included age, type of entry visa, and year of arrival in the regression analysis (presented in a later section of this paper) so we can estimate the relationship between recent immigrants and the likelihood of unemployment after statistically controlling for the effect of age and entry visa on unemployment.

Table 2: Unemployment Rates of 23- to 64-Year-Old Recent (Entered after 1990) and Established (Entered 1990 or Earlier) U.S. College-Graduate Immigrants, by Gender, 2003

Status	Male	Female	All
Number in labor force	2,271,682	1,776,684	4,048,366
Number recent immigrants	758,720	531,995	1,290,715
Percent recent immigrants	33.4	29.9	31.9
Unemployment rates			
Recent immigrants (percent)	3.2	8.1	5.2
Established immigrants (percent)	4.9	4.4	4.7
Absolute difference (recent-established; percentage points)	-1.7	3.7	0.5
Relative difference (percent)	-53.1	84.1	10.6

Marital Status and Presence of Children

Labor market outcomes vary systematically with the marital status of workers and the presence of children, especially young children. In the previous paper in this series (*Findings from an Examination of the Labor Force Participation of College-Educated Immigrants in the United States),* we reported that labor force participation was higher among married men and men with children compared with unmarried men and men without children. In contrast, marriage and the presence of children had the opposite effect on labor force participation among women—college-educated immigrant women who were married were less likely to participate in the labor force than were those who were unmarried. Women with children were considerably less likely to participate in the labor market than were women without children.

The unemployment rates of college-educated immigrants by their marital status and presence of children at the time of the 2003 NSCG are presented in Table 3. Immigrant males who were married were less likely to be unemployed than were their unmarried counterparts. In October 2003, the unemployment rate was 4.1 percent among married immigrant men and 5.7 percent among their unmarried counterparts.

The NSCG gathers data on the presence and age of all respondents' children living with respondents and the ages of each child. We have used these data to identify immigrants with one or more preschool-aged children, with one or more school-aged children between the ages of 6 and 18, and a third group consisting of immigrants without children living with them.[2] The unemployment rates of these three groups of male and female immigrants presented in Table 3 reveal that among male college-educated immigrants, those with the youngest children had the lowest unemployment rate. Only 3.5 percent of immigrant men in the labor force with one or more preschool-aged children were unemployed. The unemployment rate was one-half percentage point higher among men with children between the ages of 6 and 18 (compared with fathers with younger children); while those without any children had an unemployment rate of 4.6 percent.

---

[2] For this paper, immigrants with children were defined as those immigrants who had children living with them in the United States.

Table 3: U.S. Unemployment Rates of 23- to 64-Year-Old Immigrant College Graduates, by Marital Status and Presence of Children in the Household (in the U.S.) by Gender, 2003 (percent)

Marital Status/Children	Male	Female	All
Married	4.1	5.4	4.6
Not married	5.7	5.7	5.7
With children under age 6	3.5	7.2	5.0
With children age 6-18	4.0	5.3	4.6
Without children	4.6	4.9	4.8

Some of these differences in male unemployment rates by the presence and age of children might be related to the age of the immigrants. As noted above, older immigrant men had higher unemployment rates than did younger men. Some of these older immigrants have 6- to 18-year-old children or much older children who no longer live in their household, but a part of the group of men with no children are also younger men. Therefore, the relationship between male unemployment rate and presence of children, particularly young children, might be due partly to age and partly to the same reasons, outlined in the discussion below, that likely underlie higher wages among married men and men with young children.

In the first paper in this series, *The Earnings of Foreign-Educated College Graduates*, we presented research findings on marriage wage premiums among men. In our research review, we found that studies that examined wages of married and unmarried men consistently found higher earnings among married men compared with unmarried men, even after controlling for other factors that are likely to affect earnings (Lincoln, 2008; Antonovics & Town, 2004). Our review found that although research on the subject is not yet conclusive, three reasons are commonly cited for the marriage wage premium among men. First, according to the specialization hypothesis by Gary Becker (1985), married men typically are responsible for fewer household-related tasks, which leaves them more time to focus on their careers and, in turn, may make them more productive on their jobs. The second reason cited for the marriage wage premium among men is that employers prefer to hire married men and discriminate in favor of married men by paying them higher wages. Third, those qualities that make married men successful in the labor market are the same qualities that make them more marriageable. The same reasons likely underlie better labor market outcomes among married men and men with children, such as higher rates of labor market participation and lower rates of unemployment.

Among college-educated immigrant women, the likelihood of unemployment was very similar among married and unmarried women. The unemployment rate at the time of the 2003 NSCG was 5.4 percent among married immigrant women and 5.7 percent among their unmarried counterparts. However, the unemployment rate among college-educated immigrant women varied widely by the presence of children, especially young children. Women with the youngest children had a much higher unemployment rate than did those with older children or those without any children (this group includes women who had never had children, who were likely to be younger, and women whose children no longer lived in their households, who were likely to be older). The unemployment rate of immigrant women with preschool-aged children was 7.2 percent—nearly 2 percentage points higher than the rate among their counterparts with school-aged children, 5.3 percent. The unemployment rate of women without children was 4.9 percent.

An examination of the unemployment rate of college-educated immigrant women by marital status and the presence of children in the household (Table 3) revealed that while the unemployment rate did not

vary much by marital status, women with preschool-aged children had a much higher unemployment rate than did women with older children and those without any children. Decisions regarding labor market participation among unmarried women might be quite similar to those of men. However, the labor market experiences of married women and women with children appear quite different from those of men.

In the same paper (*The Earnings of Foreign-Educated College Graduates)*, we described the basis of labor supply decisions among women and the reasons for lower levels of labor market participation and labor supply among married women and women with children, especially young children. Labor supply decisions of women, particularly married women, are based on their allocation of time between not only labor market work and leisure but also home production of goods and services, which includes caring for children (Becker, 1964). Thus, supplying labor in the labor market and earning a wage are worthwhile for women if the additional earnings can make up for lost leisure time and home production. Marriage and children create more demands for home production, which in turn cause a resulting decline in female labor market participation (Triest, 1990). Therefore, marriage and the presence of children are likely to suppress female labor market participation and female labor supply.

By definition, unemployment problems are involuntary and occur among those women who already have decided to supply labor by entering the labor force. Marriage may influence the labor supply decisions of women but does not appear to have an impact on their unemployment rate. However, the presence of young children may affect the likelihood of unemployment among women by limiting the amount of time they can allocate to the labor market. Limits on weekly hours available for work (or perhaps limits on weeks per year of work) may potentially limit the number of suitable employment opportunities that are available. For example, a woman who is seeking a job with a flexible schedule because she can only work while her child is at preschool or in the care of a family member is more restricted in finding a job (and therefore more likely to be unemployed) than is a woman without young children who potentially has more flexibility and time to devote to the labor market and is therefore in a position to accept jobs with different work schedules.

School Enrollment and Disability Status

Individuals who are enrolled in school are less likely to participate in the labor market and when they do participate, they supply fewer hours of labor. The labor market participation decision is based on how individuals choose to allocate the finite amount of time available during, say, a week. Among those who are enrolled in school, some of that finite amount of time is devoted to schooling activities and simply is not available for distribution to leisure, labor market work, or home production of goods and services and caring for children. Therefore, enrollment in school is likely to reduce the labor market participation and labor supply of individuals as well as raise the risk of unemployment.

Our analysis of the NSCG data reveals that among college-educated immigrants, the unemployment rate was higher among those who were enrolled in school compared with those who were not enrolled. As shown in Table 4, at the time of the 2003 NSCG, the unemployment rate among college-educated immigrant men was 6.8 percent, or 2.6 percentage points higher than the 4.1 percent unemployment rate among their nonenrolled counterparts. Similarly large differences existed between the unemployment rates of immigrant women who were enrolled in school and those who were not enrolled. Almost 9 percent of immigrant women in the labor force who were enrolled in school were unemployed compared with 5.1 percent among those who were not enrolled in school, representing a difference of 3.6 percentage points, or nearly 70 percent. The difference in unemployment rates for all college-educated immigrants

(men and women combined) by their school enrollment status was 3.2 percentage points, or 70 percent—the unemployment rate of those who were enrolled in school was 7.8 percent whereas those who were not enrolled in school had an unemployment rate of 4.6 percent.

Table 4: U.S. Unemployment Rates of 23- to 64-Year-Old Immigrant College Graduates, by School Enrollment and Disability Status, by Gender, 2003 (percent)

School Enrollment/Disability Status	Male	Female	All
Enrolled in school	6.8	8.7	7.8
Not enrolled in school	4.1	5.1	4.6
Absolute difference (enrolled-nonenrolled; percentage points)	2.6	3.6	3.2
Relative difference	63.9	69.8	70.1
With disabilities	10.2	8.4	9.3
Without disabilities	4.1	5.3	4.6
Absolute difference (with disabilities-without disabilities; percentage points)	6.2	3.1	4.7
Relative difference	151.8	58.2	102.4

Having a disability has a strong negative impact on an individual's labor market outcome. Research studies have consistently found sizable differences between the labor market outcomes of individuals with and without disabilities. Individuals with disabilities are less likely to participate in the labor market, and when they do, they are more likely to be unemployed; when they are employed, they are more likely to earn lower wages (Fogg, Harrington, & McMahon, 2010; 2011).

The 2003 NSCG disability measure is somewhat different than that adopted by the Census Bureau in both the American Community Survey and the Current Population Survey. The NSCG measure includes as disabled those who report limitation in one of the following four activities: 1) seeing words or letters in ordinary newsprint (with glasses/contact lenses if the respondent usually wears them); 2) hearing what is normally said in conversation with another person (with a hearing aid if the respondent usually wears it); 3) walking or using stairs without human or mechanical assistance; and 4) lifting or carrying something as heavy as 10 pounds, such as a bag of groceries (U.S. Department of Commerce, Economics and Statistics Administration, & U.S. Census Bureau, 2003). The NSCG does not include a measure of cognitive or emotional limitations in its measure of disabilities. However, unlike the standard census measure, NSCG respondents were asked to rate the difficulty they had with the four activities (seeing, hearing, walking, and lifting) on a five-point scale: none, slight, moderate, severe, or unable to do. For this paper, we defined an individual as having a disability if they reported having moderate or severe difficulty with any of the four functional areas.

Among college-educated immigrants, there were large gaps between the unemployment rates of those with and without disabilities. The unemployment rate of immigrants with disabilities was more than two times as high as that among immigrants without disabilities (9.3% versus 4.6%). Among immigrant men, the gap between the unemployment rates of those with and without disabilities was even larger. Immigrant men with disabilities had an unemployment rate that was 2.5 times as high as that of immigrant men without disabilities (10.2 % versus 4.1%). Among immigrant women, 8.4 percent of those with disabilities in the labor force were unemployed compared with 5.3 percent among their counterparts without disabilities, representing a difference of 3.1 percentage points, or 58 percent.

Type of Entry Visa to the United States

Type of visa or class of admission provides information about unobservable characteristics of the immigrant associated with legal criteria under which the immigrant migrated. An immigrant who enters the United States with a work visa is more likely to make a lateral instead of a downward transition into the U.S. labor market. Migrants who enter the country with student visas are more likely to have U.S. degrees and, therefore, also more likely to have lateral transitions to the U.S. labor market after completing their education in the United States. In contrast, individuals who enter as permanent residents or as dependents of U.S. residents (family-based migrants) do not make their migration decisions based on their earning potential. Rather, their migration decisions are influenced by the prior immigration of their sponsoring relatives. Therefore, they may have labor market skills that are not readily transferable to the U.S. labor market (Akresh, 2008). Moreover, reduced mobility of family-based immigrants who choose to live near their sponsoring relatives can hamper their ability to access jobs outside of the local labor market.

Every legal immigrant enters the United States with a visa. The 2003 NSCG questionnaire asks foreign-born respondents to identify the type of visa they held when they first visited the United States for six months or longer. Respondents were asked to select from one of the following categories: permanent U.S. resident status (colloquially known as having a "green card"); temporary U.S. resident visa for work (e.g., H-1B, L-1A, L-1B, etc.); temporary U.S. resident visa for study or training (e.g., F-1, J-1, H-3, etc.); temporary U.S. resident visa as a dependent of another person (e.g., F-2, H-4, J-2, K-2, etc.); or temporary U.S. resident visa for any other reason. The last category could include any other temporary U.S. resident visas, including visas granted to religious workers and other specialized categories.

An examination of unemployment rates of immigrant college graduates bears out this association between type of entry visa and labor market outcomes. As shown in Figure 4, college-graduate immigrants, men as well as women, who entered the United States with work visas had the lowest unemployment rates—2.8 percent among all immigrants and 2.3 percent and 3.8 percent, respectively among male and female immigrants. Those who entered with student visas also had low levels of unemployment. In contrast, immigrants who entered the United States as permanent residents or as dependents of U.S. residents or citizens had unemployment rates of 5.3 and 5.5 percent, respectively. The highest rate of unemployment was found among those who were admitted into the United States with other types of temporary visas (not work or student or dependent visas) such as visas granted to religious workers, etc. The unemployment rates of college-educated immigrants—male and female—varied systematically by the type of visas with which they first entered the United States. Those who entered with work visas were least likely to be unemployed, while entrants with student visas, green cards, and dependent visas had progressively higher unemployment rates. Immigrants who entered with other types of temporary visas, such as religious workers, had the highest unemployment rate of 7.8 percent.

Figure 4: U.S. Unemployment Rates of 23- to 64-Year-Old Immigrant College Graduates, by Type of Entry Visa to the United States, by Gender, 2003
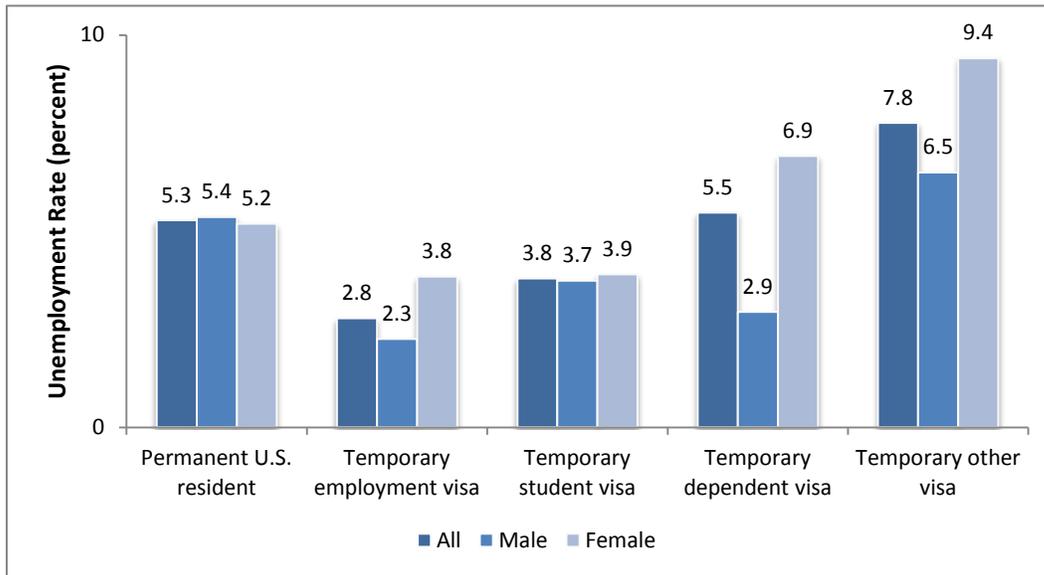
Level of College Education

The labor market outcomes of individuals with higher levels of education are generally better than those with lower levels of education. Analyses in this paper focus only on college graduates, but even within the group of college graduates, those with a higher level of human capital—higher-level degrees—are expected to have better labor market outcomes. Therefore, we have analyzed unemployment rates among college graduates by level of college degree earned—bachelor's, master's, doctorate (PhD, DSc, EdD, etc.) or professional degree (JD, MD, DDS etc.). Findings presented in Figure 5 reveal that immigrants with higher levels of college education had lower unemployment rates.

Figure 5: U.S. Unemployment Rates of 23- to 64-Year-Old Immigrant College Graduates, by Educational Attainment, by Gender, 2003

13
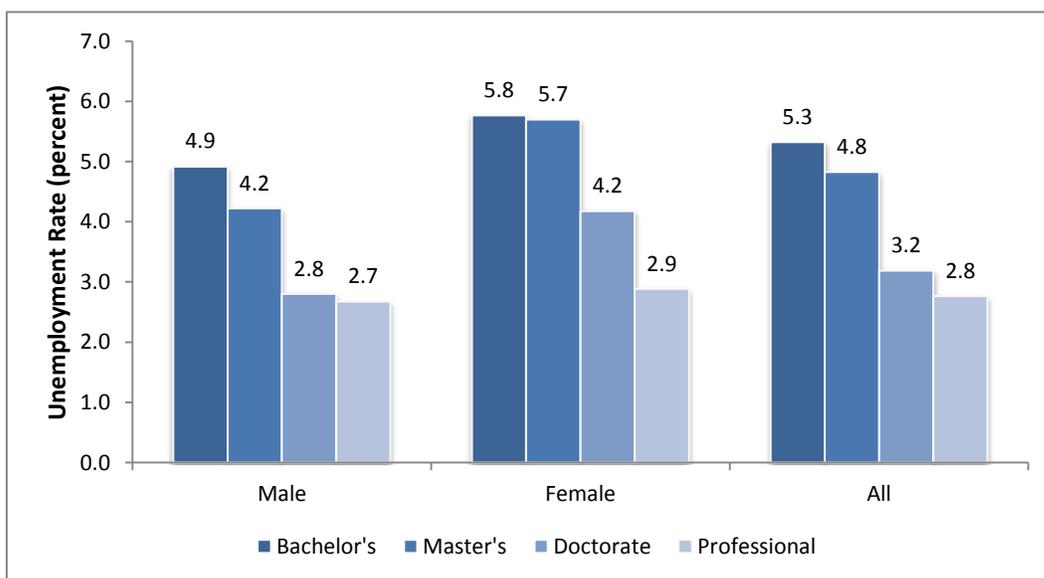
Immigrants overall, as well as male and female immigrant groups individually, with higher levels of education had lower rates of unemployment. Among immigrant men, those with doctorate or professional degrees had the lowest unemployment rates (2.8% and 2.7%, respectively). Among female immigrants, the unemployment rate among those with master's degrees was only one-tenth of a percentage point lower than among those with bachelor's degrees (5.8% versus 5.7%, respectively); whereas women with doctorate or professional degrees had considerably lower unemployment rates (4.2% and 2.9%, respectively).

The lower unemployment rates among better-educated immigrant college graduates might be attributable mainly to higher levels of educational human capital. However, it also could be attributable partly to other traits of college-graduate immigrants with higher degrees. For example, it is possible that better-educated immigrants had been in the United States longer and were therefore more integrated into the American labor market or that they were more likely to have earned their college degrees in the United States. Findings from the regression analysis will shed light on the independent effect of higher levels of educational human capital on the likelihood of unemployment among college-educated immigrants.

Major Field of Study

The unemployment rates of immigrant college graduates varied widely by major field of study of most recent college degree (Figure 6). Labor market outcomes of college graduates in the American economy vary widely by major field of study (Fogg, Harrington, & Harrington, 2004). The college major represents the specific set of skills or type of human capital that the college graduate acquired in college, and some skill sets have a higher labor market demand relative to supply than do others. Furthermore, the structure of jobs in the economy in which a worker is operating is closely associated with demand for college graduates with different skills and proficiencies that are associated with different major fields of study.

Figure 6: U.S. Unemployment Rates of 23- to 64-Year-Old Immigrant College Graduates, by Major Field of Study of College Degree, 2003
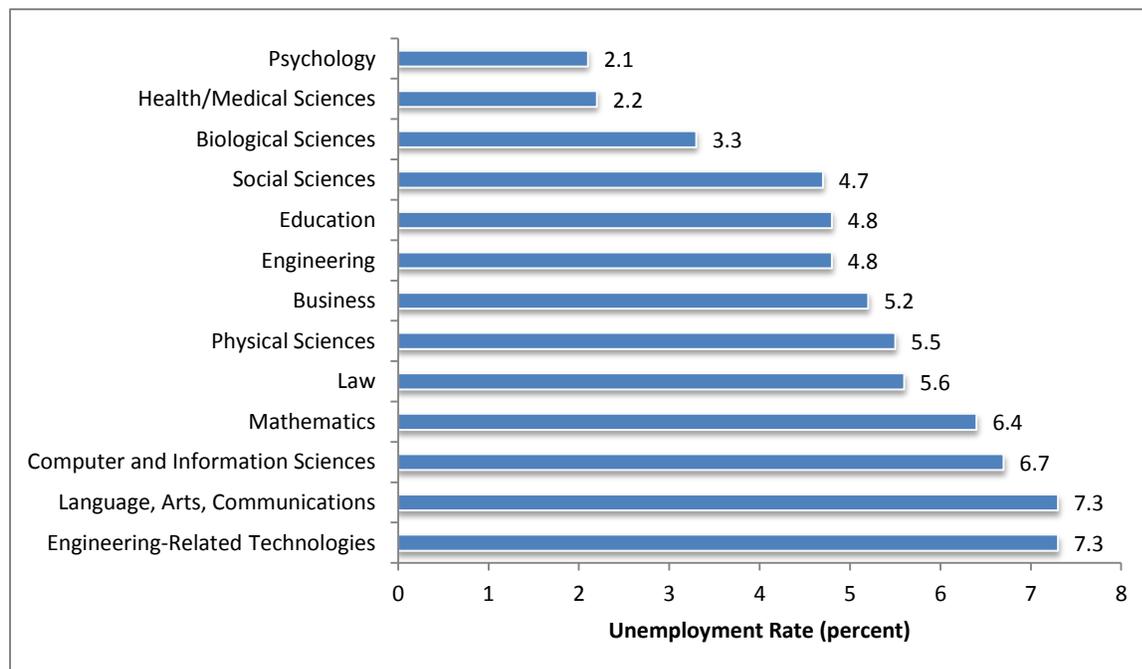
At the time of the 2003 NSCG in October 2003, the unemployment rate of immigrant college graduates varied from a low of just 2 percent among those who earned college degrees in psychology to 7.3 percent among humanities and engineering-related technologies majors. Unemployment rates of psychology, health sciences, and biological sciences majors ranged between 2 and 3 percent. Social science, education, and engineering majors faced an unemployment rate of 4.8 percent, while business, physical sciences, and law graduates faced unemployment rates between 5 and 5.6 percent. At the upper end of the distribution were math, computer science, humanities, and engineering technology majors with unemployment rates between 6.4 and 7.3 percent.[3]

The unemployment rates of immigrant men and women across different major fields of study are presented in Figure 7. The pattern of major fields with high and low unemployment rates was similar among men and women. The unemployment rate of immigrant women was higher than that of immigrant men across all major fields of study. However, the unemployment rates across major fields among immigrant women ranged from a low of 2.1 percent among psychology majors to 9 percent among engineering-related technology majors, a difference of 7 percentage points. Among immigrant men, the range was from 1.9 percent among those who majored in psychology to 7 percent among engineering-related technology majors, a difference of 5 percentage points. Immigrant women who majored in engineering, engineering technology, mathematics, computer science, and language, arts and communications had the highest unemployment rates, which were 2 to 3 percentage points higher than those of their male counterparts in the same majors. The unemployment rate gap between men and women was also large among education majors—5.6 percent among women and 2.2 percent among men, for a gap of 3.4 percentage points. The female unemployment rate of 5.6 percent among education majors was close to the 5.5 percent rate among all immigrant women; however, the male unemployment rate among education majors was about half of the overall male unemployment rate (2.2% versus 4.3%). However, only 2 percent of all male immigrants in the labor force in 2003 were education majors compared with 9 percent of female labor force participants.

Country or Region of College Degree

Our earlier paper that examined hourly wages reported that the country in which an immigrant earned a college degree influences the degree of transferability of the education and skills acquired prior to immigration to the United States. The portability of human capital (education and skills) that is acquired abroad determines the labor market pathways of immigrants in the United States. According to the immigrant assimilation model (Akresh, 2008), the imperfect portability of human capital acquired in different countries to the labor market in the United States (or any destination country) means that immigrants typically experience an initial downward trend in labor market outcomes. However, after spending some time in the United States, their labor market outcomes and overall socioeconomic position tend to improve as they accumulate U.S.-specific experiences and skills (such as language fluency, social

---

[3] The dot.com bubble had especially adverse impacts on unemployment among experienced labor force participants in science, technology, engineering, and mathematics (STEM) occupations. The annual average unemployment rate for all labor force participants at the time was 6.0 percent. Among all professional workers combined, the unemployment rate in 2003 averaged just 3.0 percent; however, computer science professionals had an unemployment rate of 5.8 percent and engineers had an average unemployment rate in 2003 of 4.4 percent. At the same time, health professionals' unemployment rate was under 2 percent.

and job contacts, and familiarity with business cultures and practices) that are necessary to succeed in the labor market (Akresh, 2008; Batalova, Fix, & Creticos, 2008; Chiswick, 1978).

Figure 7: U.S. Unemployment Rates of 23- to 64-Year-Old Immigrant College Graduates, by Major Field of Study of College Degree, by Gender, 2003
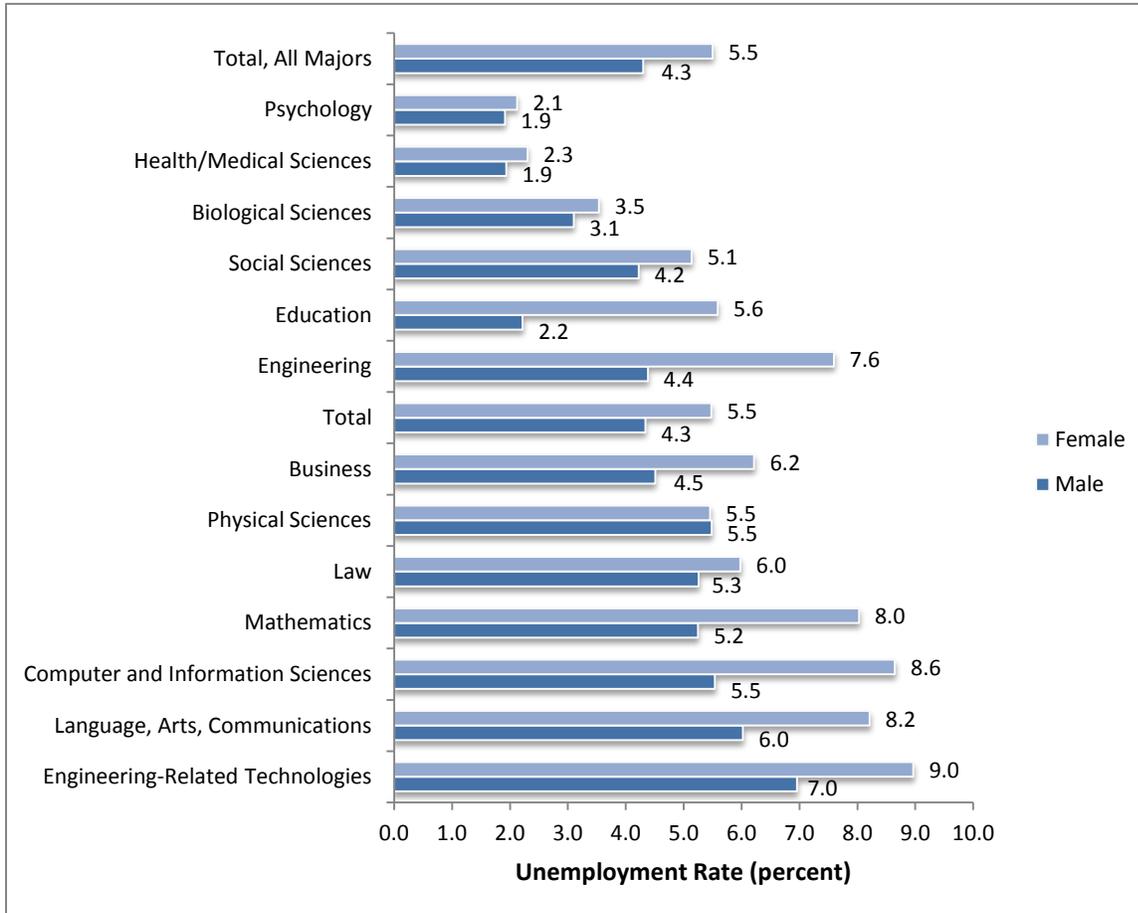
Immigrants therefore typically experience a U-shaped trajectory in their labor market outcomes, with the depth of the U's trough determined by the degree of transferability of the skills, education, and experience acquired prior to immigration (Chiswick, Lee, & Miller 2005; Duleep & Regets, 1999). Chiswick and Miller (2009) have stated that some immigrants' human capital has greater international transferability than that of others. For example, individuals from countries that are linguistically, socially, and economically more similar to the United States are likely to assimilate more quickly into the U.S. labor force and to experience less labor market downgrading than their peers with more dissimilar origins. Among immigrants who do not have U.S. schooling, labor market returns are expected to be higher for immigrants with schooling from highly developed countries and where English is an official language (Bratsberg & Ragan, 2002).

Findings from our examination of the association between unemployment rates and the countries in which college-educated immigrants earned their most recent college degrees are presented in Table 5. The unemployment rates across college-educated immigrants varied from a low of 3.2 percent and 3.3 percent among those with degrees from the United Kingdom (UK)/Northern Ireland and Canada, respectively, to a high of 7.7 and 7.4 percent among immigrants with college degrees from Africa and Asia excluding

China, India, and the Philippines, respectively. Immigrants with college degrees from the United States had an unemployment rate of 4.5 percent, which was *higher* than the unemployment rate of immigrants with college degrees from the UK, Canada, and the Philippines.

Table 5: U.S. Unemployment Rates of 23- to 64-Year-Old Immigrant College Graduates, by Country or Region of Most Recent College Degree, by Gender, 2003 (percent)

Country/Region	All	Male	Female
Total	4.8	4.3	5.5
UK/Northern Ireland	3.2	2.2	6.4
Canada	3.3	3.5	2.9
Philippines	4.0	4.7	3.6
United States	4.5	4.5	4.5
China	4.6	3.0	5.9
Europe (excluding UK/Northern Ireland)	4.9	3.4	7.5
Latin America (Mexico, Central/South America, and Caribbean)	5.5	3.3	8.2
India	6.5	4.5	9.7
Asia (excluding China, India, and Philippines)	7.4	6.3	8.8
Africa	7.7	6.9	8.8

The lower unemployment rates among immigrants with Canadian or British college degrees might be due partly to the large share of these immigrants with work visas. One-half of the labor force of immigrants with Canadian college degrees and 40 percent of those with British college degrees had entered the United States with work visas. Immigrants with work visas usually have jobs waiting for them when they land here and are therefore more likely to have skills and education that are easily transferable to the U.S. labor market. Among Philippines-educated college immigrants, women had lower unemployment rates than did men. An examination of the major field of study of these women found that nearly 40 percent had earned degrees in health sciences compared with only 15 percent of the remaining immigrant women, including those with U.S. college degrees. As noted previously, college-graduate immigrants with degrees in the health sciences had very low rates of unemployment. Furthermore, our examination of the class of admission of Philippines-educated immigrant women found that nearly one-quarter had entered the United States with work visas compared with just 7 percent among immigrant women with college degrees from other countries (including the United States).

The unemployment rates of immigrants from the remaining six countries/regions were higher than that of immigrants with U.S. college degrees. The unemployment rates of college-educated immigrant males with college degrees from the UK and Europe, Canada, China, and Latin America were lower than those of their U.S.-degreed counterparts, while men with college degrees from India and the Philippines had about the same level of unemployment as did immigrant men with U.S. college degrees. Among immigrant women, only those educated in Canada and the Philippines had lower unemployment rates than that of their U.S.-educated counterparts. Unemployment among immigrant women with college degrees from the remaining countries ranged from 5.9 percent among those with college degrees from China to 9.7 percent among immigrant women who had earned their college degrees in India.

In general, immigrants with college degrees earned abroad experienced somewhat higher unemployment rates than that of their U.S.-educated counterparts. The patterns were somewhat different between men and women. In fact, among male immigrants, those with college degrees from many countries/regions of the world had the same or somewhat lower unemployment rates as did their U.S.-educated counterparts. One explanation of this finding may be that immigrant men with degrees from overseas are more inclined to trade unemployment for underemployment. Underemployment in the labor market may occur in the form of involuntary part-time employment or mal-employment (Fogg & Harrington, 2011). Involuntary part-time employment occurs when a worker is employed in a part-time job but wants a full-time job and cannot find one. Mal-employment occurs among college graduates when they are employed in noncollege labor market jobs; that is, jobs that do not use the knowledge, skills, and abilities that usually are developed by earning a college degree.

It seems that when faced with the prospect of unemployment, foreign-educated immigrants (particularly immigrant men) may be more likely than their counterparts with degrees from U.S. colleges to accept jobs outside of the college labor market or work part-time but wish to work full-time. If this is true, labor market underutilization problems among foreign-educated immigrants likely will manifest in the form of underemployment. Our examination of the two underemployment problems—involuntary part-time employment and mal-employment—among college-educated immigrants in the next two papers in this series will shed light on the prevalence of underemployment problems among college-educated immigrants.

English Language Proficiency

Proficiency in the English language is a valued human capital trait in the U.S. labor market. Chiswick and Miller (1992) consider English language proficiency to be the most basic form of human capital in the U.S. labor market. While all aspects of English language proficiency—reading, writing, speaking, and understanding English—are important to the labor market success of immigrants, Carnevale, Fry, and Lowell (2001) found that understanding English is the most important English ability in the U.S. labor market and that the positive labor market impact of English reading, writing, and speaking ability among immigrants is contingent upon their ability to understand spoken English.

Most studies on the effect of English language ability of immigrants on their labor market success use the self-reported English-speaking ability of respondents on the decennial census long-form survey. Our measure of the English language proficiency of NSCG respondents is also based on the self-reported English-speaking ability of immigrant college graduates. However, because the NSCG survey does not provide data on the English language proficiency of respondents and the NSCG sample is drawn from college graduates in the 2000 decennial census, we used the 2000 decennial census data to obtain this information. We measured the average English language proficiency of nonelderly college-educated immigrants from 168 countries from the decennial census and used these measures to represent the English-speaking ability of nonelderly college-educated immigrants from each of the same 168 countries in the NSCG. The mean English language proficiency of the immigrant group of nonelderly college graduates in the labor force included in this paper ranged between 3.06 to 4.96 on the following five-point scale of English-speaking proficiency: 1=does not speak English, 2=speaks English but not well, 3=speaks English well, 4=speaks English very well, 5=speaks only English.

We classified all college-educated immigrants in the labor force at the time of the 2003 NSCG into two groups by their English-speaking proficiency. The first group of immigrants is from countries with an average English-speaking proficiency of nonelderly college graduates at the time of the 2000 decennial

census between 3.06 and 3.99, which represents the "speaks English well" level of English-speaking proficiency. We refer to this group as "English rating well." The other group consists of immigrants from countries where the average English-speaking proficiency of nonelderly college graduates was at or above 4.0. This level represents the "speaks English very well" level of English-speaking proficiency. We refer to this group as "English rating very well."

An examination of the unemployment rates of immigrant college graduates by their English-speaking ability revealed a lower level of unemployment among immigrants with an "English rating very well" compared with their counterparts with just an "English rating well (Table 6)." Immigrants in the "English rating well" group had an unemployment rate (5%) that was 1 percentage point, or 25 percent, higher than the unemployment rate of the "English rating very well" group. The unemployment rate gap between these two groups was much higher among male immigrants (1.4 percentage points, or 46%) than among female immigrants (0.5 percentage points, or 9%). The association between unemployment and English-speaking ability of college-educated immigrants was stronger among males than among females. These gender-based differences in the relationship between English-speaking proficiency and unemployment rate warrants further research to examine the potential sources of differences.

Table 6: U.S. Unemployment Rates of 23- to 64-Year-Old Immigrant College Graduates, by English-Speaking Proficiency,[a] by Gender, 2003 (percent)

English-Speaking Proficiency	All	Male	Female
Speaks English well	5.0	4.5	5.5
Speaks English very well	4.0	3.1	5.1
Absolute difference (speaks well-speaks very well; percentage points)	1.0	1.4	0.5
Relative difference	25.5	46.2	9.0

[a] Scale: 3-3.99: speaks English well; 4-4.96: speaks English very well.

Region of Residence

The labor market outcomes of workers are influenced by both their personal characteristics, particularly their human capital traits, as well as overall labor market conditions in the area in which they reside. Local labor markets in which they operate have an impact on the labor market outcomes of college graduates by influencing the chance of employment and employment in college labor market occupations. For example, workers who reside in strong labor markets where the number of job vacancies equals or may even exceed the number of unemployed job seekers will be less likely to be unemployed (or underemployed) than those who operate in weak labor markets where the labor demand is not strong and the number of unemployed substantially exceeds the number of vacant jobs.

The NSCG provides information on the residence of workers but, because of confidentiality concerns, the residence of respondents is provided only at a broad multistate regional level. The NSCG data file identifies the region in which the respondent resided at the time of the survey. The nine regions identified on the NSCG and the unemployment rates of college-educated immigrants who reside in them are presented in Figure 8. Appendix B contains a list of the states that make up each of the nine regions. We use these regions to account at least partially for differences in labor market conditions across the nation.

Figure 8: Unemployment Rates of 23- to 64-Year-Old Immigrant College Graduates, by Region of Residence in the United States, 2003
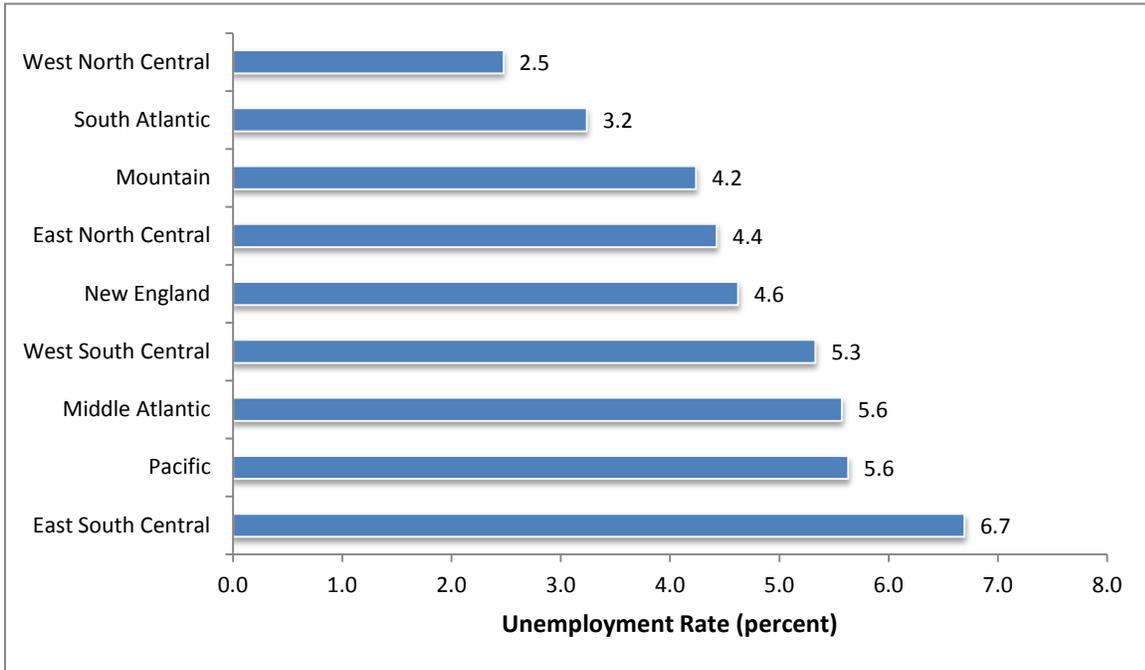
The unemployment rates of college-educated immigrants varied across the regions in which they resided at the time of the 2003 NSCG. Immigrants who lived in the West North Central region of the country (North and South Dakota, Nebraska, Kansas, Minnesota, Iowa, and Missouri) had the lowest unemployment rate, 2.5 percent. However, only 3 percent of the college-educated immigrant labor force lived in that region (Figure 9). Those who lived in the East South Central region (Arkansas, Louisiana, Oklahoma, and Texas), which was home to just 1 percent of the college-educated immigrant labor force, had an unemployment rate of 6.7 percent, the highest among all nine regions. The Pacific region (Alaska, California, Hawaii, Oregon, and Washington) and the Middle Atlantic region (New York, New Jersey, and Pennsylvania) together were home to nearly half of the college-educated immigrant workforce, and each had an unemployment rate of 5.6 percent, the second highest among all nine regions. The South Atlantic region (Delaware; Washington, DC; Florida; Georgia; Maryland; North and South Carolina; Virginia; and West Virginia), which was home to nearly one-fifth of the college-educated immigrant workforce, had the second lowest unemployment rate (3.2%).

Similar variations were found by region of residence among male as well as female college-educated immigrants (Table 7). The highest unemployment rates among both sexes were among those who lived in the East South Central region. The lowest unemployment rate among female immigrants was among those who lived in the West North Central region, whereas male immigrants of this region had the second lowest unemployment rate (2.8%). The lowest male immigrant unemployment rate was among those who lived in the Mountain region (2.6).

Figure 9: Percentage Distribution of 23- to 64-Year-Old Labor Force of Immigrant College Graduates, by Region of Residence in the United States, 2003
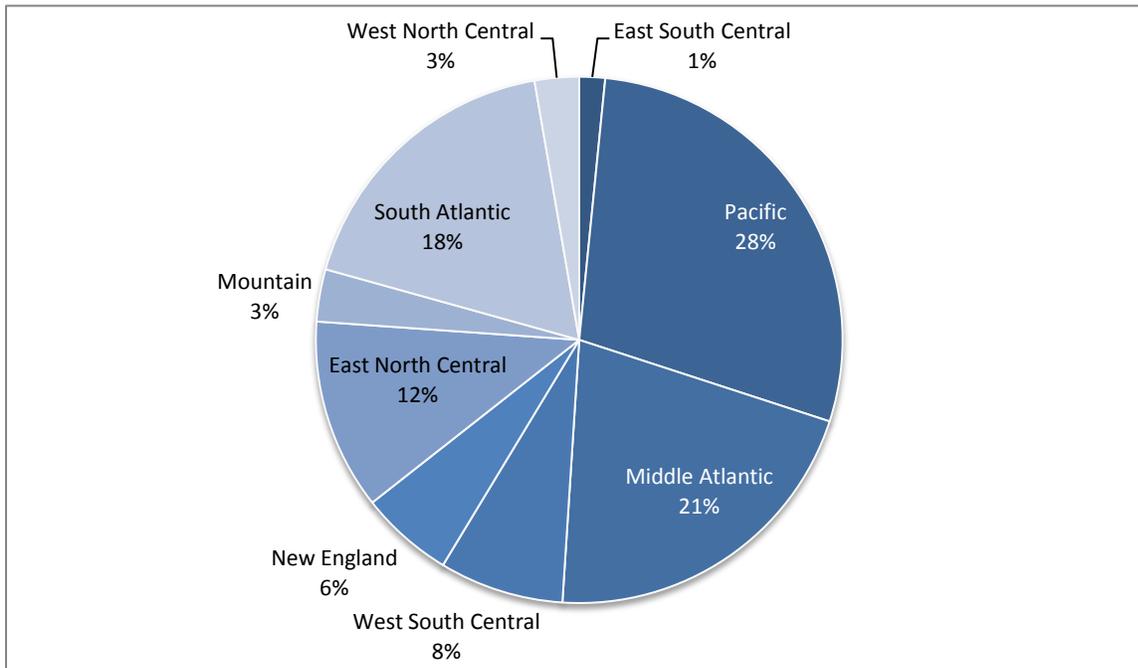
Table 7: Unemployment Rates of Male and Female 23- to 64-Year-Old Immigrant College Graduates, by Region of Residence in the United States, 2003 (percent)

Region	Male	Female
East South Central	5.4	8.6
Pacific	5.3	6.1
Mid Atlantic	5.1	6.1
West South Central	4.1	7.0
New England	4.4	5.0
East North Central	4.2	4.8
Mountain	2.6	6.5
South Atlantic	2.8	3.8
West North Central	2.8	1.9

Multivariate Regression Analysis of Unemployment among Immigrant College Graduates

The descriptive analysis presented in the previous sections examines a number of variables that measure demographic traits, traditional human capital stock and quality, human capital pertinent to immigrants, type of visa and year of entry, and region of residence that affect the unemployment rates of immigrant college graduates. We have examined the level and variation in the unemployment rates of different groups of college-educated immigrants individually. We also have discussed potential ways in which different traits of these immigrants may affect their likelihood of being unemployed. In this section, we

present estimates of the independent impact of each of these variables on the probability of unemployment using multivariate regression analysis. The logistic regression models we employ allow measurement of the independent effect of each of these key variables on the probability of unemployment, after statistically controlling for other variables included as explanatory variables in the regression models.

We prepared three models to estimate the impact of the following variables on likelihood of unemployment among college-educated immigrants in the labor force:

- Traditional human capital measures, including educational attainment, major field of study (a measure of the type of human capital), and human capital
- Other measures pertinent to immigrants such as country of most recent college degree, English language proficiency, class of admission (type of visa) of first entry to the United States, and year of first entry to the United States. The year of entry identifies recently entered immigrants, who are more likely to be unemployed and have poorer labor market outcomes since they have had a shorter time to assimilate.
- Demographic controls—demographic variables that are known to influence unemployment are included as explanatory variables, including marital status, presence of young children, gender, and age.

The likelihood of unemployment and, indeed, all labor market outcomes are influenced by the strength of the local labor market. Although the NSCG does not provide state or local geographic detail of the residence of respondents, it does provide more general data about which of the nine U.S. regions the respondent resided in at the time of the Survey. We included these regional unemployment measures as explanatory variables in the unemployment regressions to statistically control for and measure the effect of the regional U.S. labor markets on the likelihood of unemployment among immigrant college graduates.

The unemployment regressions were estimated for immigrant college graduates overall and separately for male and female college-educated immigrants. Similar to the descriptive analysis presented in the first part of this paper, the regression analysis includes immigrant college graduates between the ages of 23 and 64 who were in the labor force (employed and not employed but actively looking for work) at the time of the 2003 NSCG. The definitions of the dependent variable and all of the explanatory variables, as well as complete output from the estimated regression models, are presented in Appendix C.

The primary objective of the multivariate regression analysis is to estimate the independent effects of the explanatory variables on the probability of unemployment among college-educated immigrants who were in the labor force at the time of the 2003 NSCG. The multivariate regression equations for all, male, and female college-educated immigrants were estimated with a dependent variable representing the unemployment status at the time of the 2003 NSCG taking on the value of 1 if the individual immigrant was unemployed and 0 if the immigrant was employed. We have estimated logistic regression models that are considered appropriate in cases of dichotomous dependent variables (taking on the value 1 or 0; Greene, 1993; Kmenta, 1986).

The estimated coefficients in the logistic regression models are difficult to interpret because they measure the impact of a change in an explanatory variable on the log of odds. The coefficients simply indicate the direction and relative strength of the explanatory variables on the outcome of unemployment. The computer program (STATA) that we used to estimate these regression models provides several measures

to interpret logistic regression coefficients. We have provided two of these additional measures for each explanatory variable that enable us to better interpret the impact of each explanatory variable on the probability of unemployment among college-educated immigrants. The first measure is the ratio of odds, which measures the regression-adjusted ratio of the odds of unemployment of the group represented by the explanatory variable (for example, male) to the odds of unemployment of the reference group (females). The second measure is the marginal effect for each explanatory variable, which measures the marginal effect of the change in an explanatory variable (at the mean value of all explanatory variables) on the probability of unemployment.

An example is provided here to illustrate the three measures. The negative and statistically significant coefficient of the explanatory variable "male" (in Table 11) means that male immigrants are likely to have a lower regression-adjusted probability of unemployment than are female immigrants. Other than that, the coefficient (-0.303) is difficult to interpret. The estimated ratio of odds for the "male" explanatory variable is .739. This means that the regression-adjusted odds of unemployment among immigrant males were 73.9 percent of the odds of unemployment among female immigrants. The estimated marginal effect for the "male" explanatory variable is -.011. This means that after statistically controlling for other variables known to affect unemployment, the regression-adjusted probability of unemployment among male immigrant labor force participants is expected to be 1.1 percentage points lower than that of their female counterparts.

Findings from the regression analysis are presented in five tables (Tables 8-12), each containing one of the following five sets of explanatory variables: traditional human capital measures, human capital measures pertaining to immigrants, type and year of entry to the United States, demographic traits, and region of residence. Although we present findings for each set of explanatory variables separately, all of these explanatory variables were included together in the regression models.

Level of Education and Major Field of Study

Table 8 contains estimated regression findings for the effect of the level of education and major field of study on unemployment among all, male, and female immigrant labor force participants. The coefficients of each level of education—master's, doctorate, and professional degree—is estimated to be negative for all immigrants. However, these coefficients are not statistically significant, which means that after adjusting for all other explanatory variables that are included in the regression, the likelihood of unemployment among those with a master's, doctorate, or professional degree was no different from that of immigrants with a bachelor's degree (the reference group). Findings for male and female immigrants also indicate no statistically significant regression-adjusted effect of additional education on the probability of unemployment. The only exception is among male immigrants with a doctorate, who were estimated to have a likelihood of unemployment that was 1.3 percentage points lower than that among their counterparts with only a bachelor's degree. The coefficient of this variable, doctorate degree among male immigrants, was only marginally significant at the .10 level.

Analysis of the regression-adjusted impact of major fields of study found that immigrants who had majored in biological sciences or psychology were less likely to be unemployed compared with those who had majored in arts, language, and communication—the reference group. The regression-adjusted likelihood of unemployment among biological science and psychology majors was estimated to be 2 and 4.5 percentage points, respectively, lower than among humanities majors. Immigrant college graduates with their most recent college degrees in the remaining major fields of study were found to have a

regression-adjusted likelihood of unemployment that was similar to that of the reference group—those who majored in arts, language, and communications.

Table 8: Regression-Adjusted Effect of Educational Attainment and Major Field of Study on Probability of Unemployment among 22- to 64-Year-Old College-Educated Immigrants in the U.S. Labor Force in 2003[a]

Variable	All			Male			Female		
Degree/Field of Study	Coefficient[b]	Ratio of Odds	Marginal Effect	Coefficient[b]	Ratio of Odds	Marginal Effect	Coefficient[b]	Ratio of Odds	Marginal Effect
Master's degree	-0.075	0.928	-0.003	-0.097	0.908	-0.003	-0.097	0.907	-0.004
Doctorate degree	-0.236	0.790	-0.009	-0.391*	0.676	-0.013	-0.114	0.892	-0.005
Professional degree	-0.065	0.937	-0.002	0.015	1.015	0.001	-0.191	0.826	-0.008
Bachelor's degree (reference group)	--	--	--	--	--	--	--	--	--
Computer & information sciences	0.318	1.374	0.012	0.334	1.397	0.011	0.180	1.198	0.007
Mathematics	0.109	1.115	0.004	0.151	1.163	0.005	-0.105	0.900	-0.004
Biological sciences	-0.567*	0.567	-0.021	-0.376	0.687	-0.013	-0.772**	0.462	-0.031
Physical sciences	-0.046	0.955	-0.002	0.125	1.133	0.004	-0.432	0.649	-0.017
Psychology	-1.217***	0.296	-0.045	-1.272	0.280	-0.042	-1.286***	0.277	-0.051
Social sciences	-0.303	0.739	-0.011	-0.274	0.761	-0.009	-0.347	0.707	-0.014
Engineering	-0.023	0.977	-0.001	-0.094	0.910	-0.003	0.023	1.023	0.001
Health/ medical sciences	-1.051	0.350	-0.039	-1.085**	0.338	-0.036	-1.065***	0.345	-0.042
Education	-0.437	0.646	-0.016	-1.177**	0.308	-0.039	-0.314	0.730	-0.012
Engineering-related technologies	0.306	1.357	0.011	0.324	1.383	0.011	0.137	1.147	0.005
Business	-0.119	0.887	-0.004	-0.174	0.840	-0.006	-0.184	0.832	-0.007
Law	-0.052	0.949	-0.002	-0.129	0.879	-0.004	-0.089	0.915	-0.004
Arts, Language, & Comm. (Humanities; reference group)	--	--	--	--	--	--	--	--	--

[a] Other explanatory variables in the regression model include region/country of most recent college degree, English-speaking proficiency, type of entry visa, recent immigrant status, gender, age, marital status, presence of young children, school enrollment status, disability status, and U.S. region of residence in 2003 (dependent variable: unemployment status: 1=unemployed, 0=employed).

[b] Statistical significance: ***.01 level, **.05 level, *.10 level.

Regression findings on the effect of college major and the likelihood of unemployment was somewhat different among male and female immigrants. Male immigrants who had majored in education and health/medical sciences had a lower regression-adjusted likelihood of unemployment than did humanities majors (the reference group). According to the estimates of marginal effects for these two major fields, men with college degrees in education and health/medical sciences were, respectively, 3.9 and 3.6 percentage points less likely to be unemployed than were members of the reference group—humanities majors.

Immigrant women with college degrees from three major fields—psychology, health/medical sciences, and biological sciences—were considerably less likely to be unemployed than were humanities majors after statistically controlling for the effects of other variables that are known to affect unemployment rates and are included in the regression. The odds of unemployment among immigrant women in the labor force who had college degrees in psychology, health/medical sciences, and biological sciences were, respectively, only 28, 34, and 46 percent of the odds of unemployment among their counterparts with college degrees in the humanities. According to the estimates of marginal effects, the regression-adjusted probability of unemployment was expected to be 5, 4, and 3 percentage points, respectively, lower among psychology, health/medical sciences, and biological sciences majors than among women with humanities majors.

Country/Region of College Degree and English Language Proficiency

According to our earlier descriptive analysis of the unemployment rates of immigrants by the country/region where the college degree was earned, 4.5 percent of immigrants with college degrees from the United States (who were in the labor force at the time of the 2003 NSCG) were unemployed. This unemployment rate was higher than that of immigrants with degrees from Canada, the UK, and the Philippines and lower than that of immigrants with degrees from the remaining seven regions/countries across the world. The descriptive analysis also revealed that the unemployment rate of male immigrants with college degrees from U.S. institutions was lower than that of male immigrants with degrees from three regions (Africa, the Philippines, and Asia excluding China, India, and the Philippines), the same as that of male immigrants with college degrees from India, and higher than the unemployment rate of male immigrants from other countries/regions. Female immigrants with U.S. college degrees had lower unemployment rates than did their counterparts with college degrees from any country/region of the world except Canada and the Philippines. Women with Canadian and Filipino college degrees had unemployment rates of 2.9 percent and 3.6 percent, respectively, compared with 4.5 percent among their counterparts with U.S. college degrees.

The regression-adjusted differences in unemployment rates by country/region of immigrants' college degrees were much smaller (Table 9). After statistically controlling for all other variables in the regression that are known to affect the likelihood of unemployment among immigrants to the United States, the regression-adjusted unemployment rate of U.S.-educated immigrants was 1.4 percentage points lower than that of immigrants with college degrees from India and 1.5 percentage points higher than that of immigrants with college degrees from the Philippines. Among male immigrants, there were almost no regression-adjusted differences in the likelihood of unemployment by country/region of college degree. The estimated coefficients were not statistically significant, except one—Europe excluding the UK—which was only marginally significant at the .10 level and indicates a 1.6 percentage point lower

likelihood of unemployment among immigrant men with European (excluding the UK) college degrees compared with their counterparts with U.S. college degrees.

Similar to their male counterparts, the regression-adjusted difference in unemployment rates of female immigrants by country/region of college degree was much smaller than the differences found in the descriptive analysis section of this paper. The regression-adjusted unemployment rate of women with college degrees from India was expected to be 2.5 percentage points higher than that of their U.S.-educated counterparts. Among the remaining immigrant women with college degrees from other countries/regions of the world, regression-adjusted unemployment rates were not statistically different from that of immigrant women with U.S. college degrees.

Table 9: Regression-Adjusted Effect of Country/Region of Most Recent College Degree and English-Speaking Proficiency on Probability of Unemployment among 22- to 64-Year-Old College-Educated Immigrants in the U.S. Labor Force in 2003[a]

Variable	All			Male			Female		
Region/Country of Most Recent College Degree	Coefficient[b]	Ratio of Odds	Marginal Effect	Coefficient[b]	Ratio of Odds	Marginal Effect	Coefficient[b]	Ratio of Odds	Marginal Effect
Canada	-0.084	0.919	-0.003	0.221	1.247	0.007	-0.539	0.583	-0.021
Europe									
UK/N. Ireland	-0.248	0.780	-0.009	-0.568	0.566	-0.019	0.084	1.087	0.003
Rest of Europe	-0.139	0.870	-0.005	-0.471*	0.624	-0.016	0.241	1.272	0.010
Asia									
India	0.377*	1.458	0.014	0.140	1.150	0.005	0.621**	1.861	0.025
China	-0.198	0.820	-0.007	-0.506	0.603	-0.017	0.038	1.039	0.002
Philippines	-0.394*	0.674	-0.015	-0.327	0.721	-0.011	-0.457	0.633	-0.018
Rest of Asia	0.358	1.430	0.013	0.207	1.230	0.007	0.470	1.599	0.019
Africa	0.320	1.377	0.012	0.321	1.378	0.011	0.273	1.314	0.011
Latin America (Mexico, N. & S. America, Caribbean	0.102	1.108	0.004	-0.284	0.752	-0.009	0.436	1.547	0.017
United States (reference group)	--	--	--	--	--	--	--	--	--
Speaks English very well	-0.055	0.947	-0.002	-0.248	0.780	-0.008	0.223	1.250	0.0088
Speaks English well (reference group)	--	--	--	--	--	--	--	--	--

[a] Other explanatory variables in the regression model include educational attainment, major field of study, type of entry visa, recent immigrant status, gender, age, marital status, presence of young children, school enrollment status, disability status, and U.S. region of residence in 2003 (dependent variable: unemployment status: 1=unemployed, 0=employed).

[b] Statistical significance: ***.01 level, **.05 level, *.10 level.

The effect of English language proficiency on the unemployment rate of college-educated immigrants was measured on our regression equation with a variable that represented immigrants from countries of the world where 23- to 64-year old college graduates on average rated themselves as speaking English very well. The regression findings for this variable represent the likelihood of unemployment among immigrant college graduates from these countries relative to the likelihood of unemployment among their counterparts from countries where college graduates rated themselves as speaking English "well." There were some differences in the unemployment rates of college-educated immigrants by English-speaking proficiency, but after statistically controlling for other variables that are known to affect the likelihood of unemployment among immigrants, the unemployment rate of college-educated immigrants from countries where college graduates rated themselves as speaking English "very well" is expected to be no different from that of the reference group (immigrants from countries where college graduates rated themselves as speaking English "well." The coefficient of this variable is not statistically significant in regressions estimated for all, male, and female immigrant college graduates.

Type of Visa and Recent Immigration Status

The descriptive analysis presented in this paper found lower unemployment rates among college-educated immigrants who had first entered the United States with employment or student visas, whereas those who had entered as permanent residents (with Green Cards), as dependents of U.S. permanent residents or citizens, or with other types of temporary visas such as those granted to religious workers, etc., had higher unemployment rates. Findings from our regression analysis reveals that among all college-graduate immigrants, the regression-adjusted likelihood of unemployment among those who had entered with employment visas or student visas was (2.8 and 1.1 percentage points, respectively) lower compared with the reference group (those who had entered the United States as permanent residents). Among immigrants who had entered with dependent visas, the regression-adjusted likelihood of unemployment was no different from that of the reference group, whereas those immigrants who had entered the United States with other types of temporary visas (such as those granted to religious workers) had a higher (1.4 percentage points) regression-adjusted likelihood of unemployment.

Recently entered immigrants had spent less time in the United States and therefore had had less time to assimilate than those who had entered earlier and spent more time in this country. We have defined as recent entrants those college-educated immigrants who entered the United States after 1990 (between 1991 and October 2003 when the NSCG was conducted). Immigrants who had entered the United States in 1990 or earlier are defined as "established immigrants." According to the findings from our regression analysis (Table 10), the likelihood of unemployment among college-educated labor force participants who were recent immigrants was 1.3 percentage points higher than that among their established counterparts (who had entered the United States in 1990 or earlier). Among male immigrant college graduates, the regression-adjusted likelihood of unemployment among recent arrivals was no different from that among earlier arrivals. However, among female immigrants, the regression-adjusted unemployment rate of recent arrivals was expected to be nearly 2 percentage points higher than that of the reference group (female immigrants who had entered the United States in 1990 or earlier).

Table 10: Regression-Adjusted Effect of Type of Entry Visa to United States and Recent Immigrant Status on Probability of Unemployment among 22- to 64-Year-Old College-Educated Immigrants in U.S. Labor Force in 2003[a]

Variable	All			Male			Female		
Visa Type/ Immigrant Status	Coefficient[b]	Ratio of Odds	Marginal Effect	Coefficient[b]	Ratio of Odds	Marginal Effect	Coefficient[b]	Ratio of Odds	Marginal Effect
Temporary: employment visa	-0.760***	0.468	-0.028	-0.813***	0.444	-0.027	-0.400	0.670	-0.016
Temporary: student visa	-0.296**	0.744	-0.011	-0.349**	0.706	-0.012	-0.304	0.738	-0.012
Temporary: dependent visa	0.053	1.055	0.002	-0.520	0.594	-0.017	0.220	1.246	0.009
Temporary: other visa	0.382**	1.464	0.014	0.262	1.300	0.009	0.491**	1.635	0.019
Permanent resident visa (reference group	--	--	--	--	--	--	--	--	--
Recent immigrant (entry after 1990)	0.362***	1.436	0.013	-0.027	0.973	-0.001	0.683***	1.980	0.027
Established immigrant (1990 or earlier entry; reference group)	--	--	--	--	--	--	--	--	--

[a] Other explanatory variables in the regression model include educational attainment, major field of study, region/ country of most recent college degree, English-speaking proficiency, gender, age, marital status, presence of young children, school enrollment status, disability status, and U.S. region of residence in 2003 (dependent variable: unemployment status: 1=unemployed, 0=employed).

[b] Statistical significance: ***.01 level, **.05 level, *.10 level.

Demographic Characteristics

Our descriptive analysis presented in the first half of this paper revealed systematic variations in unemployment rates of college-educated immigrants by gender, age, marital status, presence of young children in the household, school enrollment status, and disability status. We have included these demographic controls in our regression analysis, and findings for all college-educated immigrants and for males and females separately are presented in Table 11. The regression findings for all immigrants reveal that the regression-adjusted likelihood of unemployment was 1.1 percentage points lower among males compared with females.

Among married immigrants, the regression-adjusted unemployment rate was expected to be 1.4 percentage points lower than among those who were not married. A comparison of the regression estimates of the effect of marital status on unemployment among male and female immigrants reveals that married men were 1.6 percentage points less likely to be unemployed than were unmarried men, whereas among immigrant women, the regression coefficient measuring the effect of marriage on unemployment

is negative but only marginally significant at the .10 level. However, the negative sign of the coefficient means that the regression-adjusted probability of unemployment among married women was expected to be lower than among unmarried women.

Table 11: Regression-Adjusted Effect of Selected Demographic Characteristics on the Probability of Unemployment among 22- to 64-Year-Old College-Educated Immigrants in the U.S. Labor Force in 2003[a]

Variable	All			Male			Female		
Demographic	Coefficient[b]	Ratio of Odds	Marginal Effect	Coefficient[b]	Ratio of Odds	Marginal Effect	Coefficient[b]	Ratio of Odds	Marginal Effect
Male	-0.303***	0.739	-0.011	--	--	--	--	--	--
Female (reference group)	--	--	--	--	--	--	--	--	--
Married	-0.377***	0.686	-0.014	-0.496***	0.609	-0.016	-0.337*	0.714	-0.013
Not married (reference group)	--	--	--	--	--	--	--	--	--
Preschool-aged children	0.279**	1.322	0.010	0.113	1.120	0.004	0.466**	1.594	0.018
No preschool-aged children (reference group)	--	--	--	--	--	--	--	--	--
Enrolled in school	0.444	1.559	0.017	0.471	1.602	0.016	0.384	1.468	0.015
Not enrolled (reference group)	--	--	--	--	--	--	--	--	--
With disabilities	0.653***	1.921	0.024	0.798***	2.220	0.026	0.468*	1.597	0.019
Without disabilities (reference group)	--	--	--	--	--	--	--	--	--
Age	0.028***	1.028	0.001	0.035***	1.036	0.0012	0.021**	1.021	0.0008
30 years (reference group)	--	--	--	--	--	--	--	--	--

[a] Other explanatory variables in the regression model include educational attainment, major field of study, region/country of most recent college degree, English-speaking proficiency, type of entry visa, recent immigrant status, and the U.S. region of residence in 2003 (dependent variable: unemployment status: 1=unemployed, 0=employed).

[b] Statistical significance: ***.01 level, **.05 level, *.10 level.

The presence of preschool-aged children (under age 6 years) was estimated to increase the likelihood of unemployment. The regression-adjusted likelihood of unemployment among immigrants with at least one preschool-aged child present in the household was expected to be 1 percentage point higher than among their counterparts with no preschool-aged children in the household. The presence of a preschool-aged child in the household was not expected to have any impact on the regression-adjusted likelihood of unemployment among immigrant men. The regression-adjusted likelihood of unemployment among immigrant men with preschool-aged children was estimated to be no different from that of men with no

preschool-aged children. Among immigrant women with preschool-aged children, the regression-adjusted likelihood of unemployment was 1.8 percentage points higher compared with their counterparts with no preschool-aged children. As noted in the descriptive section of this paper, women with very young children are likely to have restrictions on the number of weekly hours they can work as well as their work schedules outside the home, potentially restricting their range of employment opportunities and increasing the likelihood of unemployment. In addition, many college-educated immigrant women with young children are likely married. Our analysis of the 2010 American Community Survey data found that nearly 94 percent of college-educated immigrant women in the United States with preschool-aged children were married. Therefore, they were more likely to be able to extend their job search and wait for a more appropriate employment opportunity before becoming employed.

A simple comparison of unemployment rates of college-educated immigrants by school enrollment status at the time of the 2003 NSCG that was presented in the descriptive section of this paper found a higher unemployment rate among immigrants who were enrolled in school than among those who were not enrolled. Our regression results find no statistically significant difference between the regression-adjusted likelihood of unemployment among immigrants who were enrolled in school and those who were not enrolled in school at the time of the 2003 NSCG.

A wide range of research has found a negative impact of disability on all labor market outcomes. People with disabilities are less likely to participate in the labor force, and when they do participate in the labor force, they are more likely to be unemployed. Our descriptive analysis of unemployment rates of college-educated immigrants also found a higher unemployment rate among immigrants with disabilities than among those without disabilities. Regression findings presented in Table 12 reveal that even regression-adjusted, the risk of unemployment was considerably higher among immigrants with disabilities than among those without disabilities. These findings reveal that the impact of a disabling condition exerted a strong influence on the expected unemployment rate among college-graduate immigrants with disabilities. The unemployment rate among college-graduate immigrants with disabilities overall was 2.4 percentage points higher compared with that among their nondisabled counterparts, 2.6 percentage points higher among male immigrants with disabilities, and 1.9 percentage points higher among female immigrants with disabilities.

The descriptive analysis presented in earlier sections of this paper found that recent immigrants who were younger than established immigrants had a higher unemployment rate than did established immigrants. But our analysis of unemployment rates by age found that older immigrants, particularly those in the preretirement ages of 55 to 64 years, had higher unemployment rates than did middle-aged and younger immigrants. Including the two variables (recent immigrant status and age) in the regression equation enables us to isolate the effect of age from that of recent immigrant status on unemployment. The regression-adjusted effect of age on unemployment was estimated to be statistically significant and positive. For every ten additional years of age, the regression-adjusted likelihood of unemployment among college-educated immigrants was expected to increase by 1 percentage point among all immigrant labor force participants (male and female), 1.2 percentage points among males, and 0.8 percentage points among females.

Region of Residence in the United States

The region of residence of workers is expected to affect their labor market outcomes. Our descriptive analysis immigrants who lived in the West North Central (North and South Dakota, Minnesota, Nebraska,

Iowa, Kansas and Missouri) and South Atlantic (Delaware; Washington, DC; Florida; Georgia; Maryland; North and South Carolina; Virginia; and West Virginia) regions had the lowest unemployment rates, while those who lived in the East South Central, Pacific, and Mid-Atlantic regions had the highest unemployment rates. The reference group in our regression analysis was the New England region, with an immigrant college-graduate unemployment rate of 4.4 percent that placed it in the middle of the nine regions.

Our regression findings presented in Table 12 reveal that after controlling for other variables known to affect the unemployment rates of college-educated immigrants (included in the regression models), the regression-adjusted unemployment rate of immigrants who lived in the South Atlantic region was 1.8 percentage points lower than that of the reference group (those who lived in New England). Among those who lived in the West North Central region, the regression-adjusted unemployment rate was estimated (only marginally statistically significant at the .10 level) to be 2.4 percentage points lower than that of the reference group. The regression-adjusted unemployment rate among immigrants in the remaining six regions was estimated to be no different from that of the reference group. Among immigrant men, only those who lived in the South Atlantic region had a lower regression-adjusted unemployment rate compared with the reference group, while male immigrants who lived in other regions had no statistically significant difference between their unemployment rates and that of the reference group (New England). The regression-adjusted unemployment rate of female immigrants did not vary by region of residence in the United States.

Table 12: Regression-Adjusted Effect of U.S. Region of Residence on Probability of Unemployment among 22- to 64-Year-Old College-Educated Immigrants in the U.S. Labor Force, 2003[a]

Variable	All			Male			Female		
Region	Coefficient[b]	Ratio of Odds	Marginal Effect	Coefficient[b]	Ratio of Odds	Marginal Effect	Coefficient[b]	Ratio of Odds	Marginal Effect
Middle Atlantic	0.113	1.120	0.004	0.044	1.045	0.001	0.160	1.173	0.006
E.N. Central	-0.102	0.903	-0.004	-0.114	0.893	-0.004	-0.124	0.884	-0.005
W.N. Central	-0.651*	0.521	-0.024	-0.434	0.648	-0.014	-1.136	0.321	-0.045
S. Atlantic	-0.478**	0.620	-0.018	-0.583**	0.558	-0.019	-0.359	0.698	-0.014
E.S. Central	0.389	1.476	0.014	0.274	1.315	0.009	0.407	1.502	0.016
W.S. Central	0.066	1.068	0.003	-0.149	0.862	-0.005	0.220	1.246	0.009
Rocky Mountain	-0.170	0.843	-0.006	-0.605	0.546	-0.020	0.294	1.341	0.012
Pacific	0.138	1.147	0.005	0.024	1.025	0.001	0.270	1.310	0.011
New England (reference group)	--	--	--	--	--	--	--	--	--

[a] Other explanatory variables in the regression model include educational attainment, major field of study, region/country of most recent college degree, English-speaking proficiency, type of entry visa, recent immigrant status, gender, age, marital status, presence of young children, school enrollment status, and disability status (dependent variable: unemployment status: 1=unemployed, 0=employed).

[b] Statistical significance: ***.01 level, **.05 level, *.10 level.

Bibliography

Akresh, I. R. (2008). Occupational trajectories of legal US immigrants: Downgrading and recovery. *Population and Development Review, 34* (3), 435-456.

Antonovics, K., & Town, R. (2004). Are all the good men married? Uncovering the sources of the marital wage premium. *American Economic Review, 94* (2), 317-321.

Batalova, J., Fix, M., & Creticos, P. A. (2008). *Uneven progress: The employment pathways of skilled immigrants in the United States*. Washington, DC: National Center on Immigration Integration Policy.

Becker, G. (1964). *Human capital: A theoretical and empirical analysis with special reference to education.* New York: National Bureau of Economic Research.

Becker, G. (1985). Human capital, effort, and the sexual division of labor. *Journal of Labor Economics*, *3* (1, Part 2) S33-S58.

Beveridge, W. H. (1945). *Full employment in a free society.* New York: Norton.

Bratsberg, B., & Ragan, Jr., J. F. (2002). The impact of host country schooling on earnings: S Study of male immigrants in the United States. *The Journal of Human Resources, 37* (1), 63-105.

Carnevale, A. P., Fry, R. A., & Lowell, B. L. (2001). Understanding, speaking, reading, writing, and earnings in the immigrant labor market. *The American Economic Review, 91* (2), 159–163.

Chapman, J., & Bernstein, J. (2003). Immigration and poverty: How are they linked? *Monthly Labor Review,* 10-15.

Chiswick, B. (1978). The effect of Americanization on the earnings of foreign-born men. *Journal of Political Economy, 86* (5), 897-922.

Chiswick, B. R., Lee, Y. L., & Miller, P. W. (2005). A longitudinal analysis of immigrant occupational mobility: A test of the immigrant assimilation hypothesis. *International Migration Review, 39* (2), 332–353.

Chiswick, B. R., & Miller, P. (1992). Language in the immigrant labor market. In B. R. Chiswick (Ed.), *Immigration, language and ethnicity: Canada and the United States* (pp. 229-296). Washington, DC: American Enterprise Institute.

Chiswick, B. R., & Miller, P. (2009). The international transferability of immigrants' human capital. *Economics of Education Review, 28* (2), 162-169.

Duleep, H. O., & Regets M. C. (1999). Immigrants and human capital investment. *The American Economic Review, 89* (2), 186-191.

Fogg, N. P., & Harrington, P. E. (2009). From labor shortage to labor surplus: The changing labor market context and its meaning for higher education. *Continuing Higher Education Review, 73*, 11-31.

Fogg, N. P., & Harrington, P. E. (2011). Rising mal-employment and the Great Recession: The growing disconnection between recent college graduates and the college labor market. *Continuing Higher Education Review*, *75,* 51-65.

Fogg, N. P., Harrington, P. E., & Harrington, T. F. (2004). *College majors handbook*, (2nd ed.). Indianapolis, IN: Just Publishing, Inc.

Fogg, N. P., Harrington, P. E., & McMahon, B. T. (2010). The impact of the Great Recession upon the unemployment of Americans with disabilities. *Journal of Vocational Rehabilitation*, *33,* 193-202.

Fogg, N. P., Harrington, P. E., & McMahon, B. T. (2011). The underemployment of persons with disabilities during the Great Recession. *The Rehabilitation Professional*, *19* (1), 3-10.

Lazear, E. P., & Spletzer, J. R. (2012). The United States labor market: Status quo or a new normal. Paper prepared for the Kansas City Federal Reserve Bank, Jackson Hole Wyoming Conference.

Lincoln, A. (2008). Gender, productivity, and the marital wage premium. *Journal of Marriage and Family*, *70* (3), 806-814.

Lo, L., Wang, S., Anisef, P., Preston, V., & Basu, R. (2010). Recent immigrants' awareness of, access to, use of, and satisfaction with settlement services in York region. Working Paper No. 79. Toronto, Ontario, Canada: CERIS – The Ontario metropolis Center.

National Center for Children in Poverty. (2004). *Children of low income recent immigrants.* Mailman School of Public Health, Columbia University.

Triest, R. K. (1990). The effect of income taxation on labor supply in the United States. *Journal of Human Resources*, *25* (3), 491-516.

U.S. Bureau of Labor Statistics. Labor force statistics from the Current Population Survey. Retrieved from: http://data.bls.gov/pdq/querytool.jsp?survey=ln

U.S. Department of Commerce, Economic and Statistics Administration, U.S. Census Bureau, for National Science Foundation. National Survey of College Graduates. (2003). Form NSCG-13, OMB No.: 3145-0141. Retrieved from: http://www.nsf.gov/statistics/srvygrads/survey2003/grads_2003.pdf

Appendix A: Countries in World Regions

REGION	**COUNTRIES**	
Canada	Canada	
United Kingdom/ Northern Ireland	United Kingdom, not specified England Scotland Wales Northern Ireland	
Rest of Europe	Albania Austria Belgium Bulgaria Czechoslovakia Denmark Finland France Germany, not specified Greece Hungary Iceland Ireland Italy Luxembourg Malta Netherlands Norway Poland Portugal Azores Islands Romania Spain Sweden	Switzerland Yugoslavia Europe, not specified Southern Europe, not specified Czech, Rep. of Slovakia Serbia-Montenegro Slovenia Macedonia Bosnia-Hercegovina Croatia USSR Estonia Latvia Lithuania Moldova Belarus [Byelarus] Russia Kazakhstan Armenia Azerbaijan Georgia Uzbekistan Ukraine Turkemnistan
India	India	
China	China	
Philippines	Philippines	
Rest of Asia	Afghanistan Bahrain Bangladesh Myanmar [formerly Burma] Cambodia Cyprus Hong Kong Indonesia Iran Iraq	Israel Japan Jordan Korea, not specified South Korea Kuwait Laos Lebanon Macao Malaysia

Rest of Asia (continued)	Nepal	Thailand
	Pakistan	Turkey
	Saudi Arabia	Vietnam
	Singapore	Yemen, Peoples Democratic Republic
	Sri Lanka	Yemen, Unified [1991 and after]
	Syria	Middle East, not specified
	Taiwan	
Central and South America and the Caribbean	Belize	Netherlands Antilles
	Costa Rica	St. Kitts-Nevis
	El Salvador	St. Lucia
	Guatemala	St. Vincent and the Grenadin
	Honduras	Trinidad and Tobago
	Mexico	Caribbean, not specified
	Nicaragua	West Indies, not specified
	Panama	Argentina
	Central America, not specified	Bolivia
		Brazil
	Antigua and Barbuda	Chile
	Aruba	Colombia
	Bahamas	Ecuador
	Barbados	Guyana
	Cuba	Paraguay
	Dominica	Peru
	Dominican Republic	Surinam
	Grenada	Uruguay
	Haiti	Venezuela
	Jamaica	South America, not specified
Africa	Algeria	Senegal
	Angola	Sierra Leone
	Cameroon	South Africa
	Congo	Sudan
	Egypt	Tanzania
	Ethiopia	Tunisia
	Ghana	Uganda
	Ivory Coast	Zaire
	Kenya	Zambia
	Liberia	Zimbabwe
	Libya	Africa, not specified
	Madagascar	Central Africa, not specified
	Morocco	Eastern Africa, not specified
	Mozambique	Western Africa, not specified
	Nigeria	Southern Africa, not specified
	Rwanda	
Australia/ New Zealand	Australia	
	Fiji	
	New Zealand	
	Tonga	
	Western Samoa	
	Oceania, not specified	

Appendix B: States in the Nine Regions of the United States

New England
Connecticut
Maine
Massachusetts
New Hampshire
Rhode Island
Vermont

Middle Atlantic
New Jersey
New York
Pennsylvania

East North Central
Illinois
Indiana
Michigan
Ohio
Wisconsin

West North Central
Iowa
Kansas
Minnesota
Missouri
Nebraska
North Dakota
South Dakota

Pacific
Alaska
California
Hawaii
Oregon
Washington

South Atlantic
Delaware
District of Columbia
Florida
Georgia
Maryland
North Carolina
South Carolina
Virginia
West Virginia
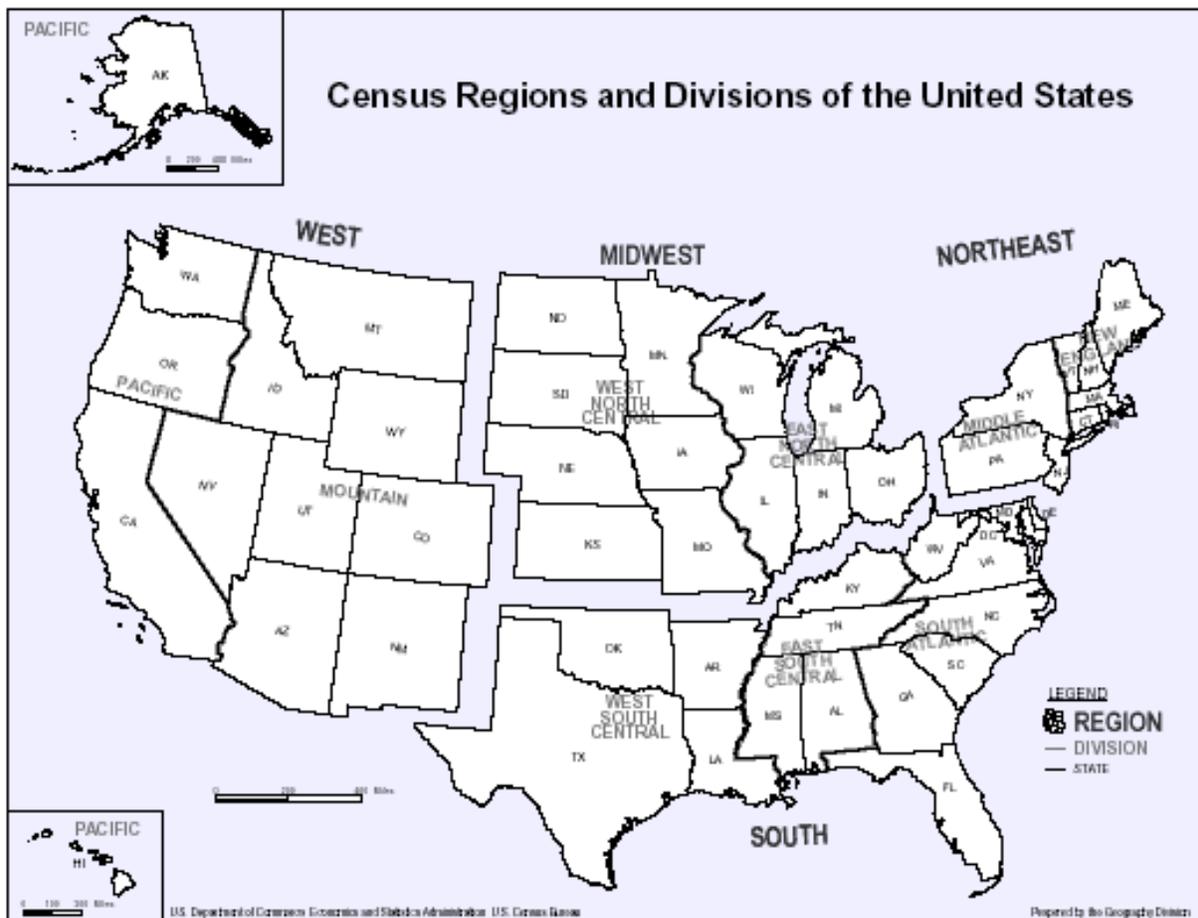
East South Central
Alabama
Kentucky
Mississippi
Tennessee

West South Central
Arkansas
Louisiana
Oklahoma
Texas

Mountain
Arizona
Colorado
Idaho
Montana
Nevada
New Mexico
Utah
Wyoming

Census Regions and Divisions of the United States

Appendix C: Findings from Regression Analysis of Unemployment

ALL IMMIGRANTS UNDER AGE 65 IN THE U.S. LABOR FORCE, 2003

Variable	Coef.	Robust Std. Err.	Z	P>|Z|	95% Conf. Interv.	95% Conf. Interv.	P>|Z|	1 minus P>|Z|	Marginal Effect
Male	-0.303	0.112	-2.7	0.007	-0.523	-0.083	0.007	0.993	-0.011
Age	0.028	0.007	3.94	0.000	0.014	0.042	0.000	1.000	0.001
Entered the U.S. between 1991 and 2003	0.362	0.129	2.8	0.005	0.108	0.615	0.005	0.995	0.013
Speaks English very well	-0.055	0.204	-0.3	0.787	-0.454	0.344	0.787	0.213	-0.002
Master's degree	-0.075	0.115	-0.7	0.513	-0.300	0.150	0.513	0.487	-0.003
Doctorate degree	-0.236	0.176	-1.3	0.179	-0.581	0.108	0.179	0.821	-0.009
Professional degree	-0.065	0.348	-0.2	0.853	-0.747	0.618	0.853	0.147	-0.002
Computer science	0.318	0.218	1.46	0.145	-0.110	0.745	0.145	0.855	0.012
Mathematics	0.109	0.297	0.37	0.715	-0.474	0.691	0.715	0.285	0.004
Biological sciences	-0.567	0.304	-1.9	0.062	-1.162	0.028	0.062	0.938	-0.021
Physical sciences	-0.046	0.245	-0.2	0.851	-0.526	0.434	0.851	0.149	-0.002
Psychology	-1.217	0.442	-2.8	0.006	-2.083	-0.351	0.006	0.994	-0.045
Social sciences	-0.303	0.271	-1.1	0.264	-0.835	0.229	0.264	0.736	-0.011
Engineering	-0.023	0.200	-0.1	0.907	-0.414	0.368	0.907	0.093	-0.001
Health sciences	-1.051	0.287	-3.7	0.000	-1.613	-0.489	0.000	1.000	-0.039
Education	-0.437	0.273	-1.6	0.110	-0.973	0.100	0.110	0.890	-0.016
Engineering-related technologies	0.306	0.333	0.92	0.359	-0.348	0.959	0.359	0.641	0.011
Business	-0.119	0.204	-0.6	0.558	-0.519	0.280	0.558	0.442	-0.004
Law	-0.052	0.462	-0.1	0.910	-0.958	0.854	0.910	0.090	-0.002
Degree from Canada	-0.084	0.357	-0.2	0.814	-0.784	0.616	0.814	0.186	-0.003
Degree from the UK/N.Ireland	-0.248	0.397	-0.6	0.532	-1.026	0.530	0.532	0.468	-0.009
Degree from Europe ex. UK/N.Ireland	-0.139	0.192	-0.7	0.467	-0.515	0.236	0.467	0.533	-0.005
Degree from India	0.377	0.201	1.87	0.061	-0.017	0.772	0.061	0.939	0.014
Degree from China	-0.198	0.359	-0.6	0.582	-0.902	0.507	0.582	0.418	-0.007
Degree from the Philippines	-0.394	0.239	-1.7	0.099	-0.862	0.075	0.099	0.901	-0.015
Degree from Asia, ex. China, India, & Philippines	0.358	0.219	1.64	0.102	-0.071	0.786	0.102	0.898	0.013
Degree from Africa	0.320	0.380	0.84	0.400	-0.425	1.064	0.400	0.600	0.012
Degree from Latin America	0.102	0.238	0.43	0.667	-0.364	0.569	0.667	0.333	0.004
Work visa	-0.760	0.199	-3.8	0.000	-1.150	-0.370	0.000	1.000	-0.028
Student visa	-0.296	0.133	-2.2	0.026	-0.556	-0.036	0.026	0.974	-0.011
Dependent visa	0.053	0.163	0.33	0.745	-0.267	0.373	0.745	0.255	0.002
Other visas	0.382	0.170	2.25	0.025	0.049	0.714	0.025	0.975	0.014
Married	-0.377	0.123	-3.1	0.002	-0.619	-0.136	0.002	0.998	-0.014
With preschool-aged children	0.279	0.134	2.08	0.037	0.017	0.542	0.037	0.963	0.010
Enrolled in school	0.444	0.297	1.5	0.134	-0.137	1.026	0.134	0.866	0.017
With disabilities	0.653	0.188	3.46	0.001	0.283	1.022	0.001	0.999	0.024

Variable	Coef.	Robust Std. Err.	Z	P>|Z|	95% Conf. Interv.	95% Conf. Interv.	P>|Z|	1 minus P>|Z|	Marginal Effect
Mid-Atlantic	0.113	0.207	0.55	0.586	-0.293	0.520	0.586	0.414	0.004
East North Central	-0.102	0.251	-0.4	0.685	-0.594	0.390	0.685	0.315	-0.004
West North Central	-0.651	0.359	-1.8	0.069	-1.354	0.052	0.069	0.931	-0.024
South Atlantic	-0.478	0.212	-2.3	0.024	-0.893	-0.062	0.024	0.976	-0.018
East South Central	0.389	0.442	0.88	0.379	-0.478	1.256	0.379	0.621	0.014
West South Central	0.066	0.246	0.27	0.788	-0.415	0.548	0.788	0.212	0.003
Rocky Mountains	-0.170	0.320	-0.5	0.595	-0.798	0.457	0.595	0.405	-0.006
Pacific	0.138	0.196	0.7	0.483	-0.247	0.522	0.483	0.517	0.005
Constant	-2.823	0.293	-9.7	0.000	-3.397	-2.250	0.000	1.000	--

Dependent Variable: unemployment status; 1=Unemployed, 0=Employed.

Logistic regression number of obs = 17064.

Wald chi2(44) = 167.61.

Prob > chi2 = 0.0000.

Log pseudolikelihood = -3136.8526 Pseudo R2 = 0.0481.

MALE IMMIGRANTS UNDER AGE 65 IN THE U.S. LABOR FORCE, 2003

Variable	Coef.	Robust Std. Err.	Z	P>|Z|	95% Conf. Interv.	95% Conf. Interv.	P>|Z|	1 minus P>|Z|	Marginal Effect
Age	0.035	0.010	3.64	0	0.016	0.054	0.000	1.000	0.001
Entered the U.S. between 1991 and 2003	-0.027	0.195	-0.14	0.889	-0.409	0.355	0.889	0.111	-0.001
Speaks English very well	-0.248	0.311	-0.80	0.425	-0.858	0.361	0.425	0.575	-0.008
Master's degree	-0.097	0.140	-0.69	0.490	-0.371	0.178	0.490	0.510	-0.003
Doctorate degree	-0.391	0.203	-1.92	0.054	-0.789	0.007	0.054	0.946	-0.013
Professional degree	0.015	0.534	0.03	0.977	-1.031	1.061	0.977	0.023	0.001
Computer science	0.334	0.329	1.02	0.309	-0.310	0.978	0.309	0.691	0.011
Mathematics	0.151	0.425	0.36	0.722	-0.682	0.984	0.722	0.278	0.005
Biological sciences	-0.376	0.511	-0.74	0.462	-1.378	0.626	0.462	0.538	-0.013
Physical sciences	0.125	0.355	0.35	0.724	-0.571	0.821	0.724	0.276	0.004
Psychology	-1.272	0.953	-1.33	0.182	-3.139	0.596	0.182	0.818	-0.042
Social sciences	-0.274	0.450	-0.61	0.544	-1.156	0.609	0.544	0.456	-0.009
Engineering	-0.094	0.300	-0.31	0.753	-0.682	0.494	0.753	0.247	-0.003
Health sciences	-1.085	0.530	-2.05	0.041	-2.123	-0.047	0.041	0.959	-0.036
Education	-1.177	0.595	-1.98	0.048	-2.343	-0.011	0.048	0.952	-0.039
Engineering-related technologies	0.324	0.440	0.74	0.461	-0.538	1.186	0.461	0.539	0.011
Business	-0.174	0.327	-0.53	0.595	-0.816	0.468	0.595	0.405	-0.006
Law	-0.129	0.621	-0.21	0.835	-1.345	1.087	0.835	0.165	-0.004
Degree from Canada	0.221	0.461	0.48	0.631	-0.682	1.124	0.631	0.369	0.007
Degree from the UK/N.Ireland	-0.568	0.549	-1.04	0.301	-1.645	0.508	0.301	0.699	-0.019
Degree from Europe ex. UK/N.Ireland	-0.471	0.266	-1.77	0.077	-0.993	0.050	0.077	0.923	-0.016
Degree from India	0.140	0.265	0.53	0.597	-0.380	0.660	0.597	0.403	0.005
Degree from China	-0.506	0.573	-0.88	0.377	-1.628	0.616	0.377	0.623	-0.017
Degree from the Philippines	-0.327	0.342	-0.96	0.339	-0.999	0.344	0.339	0.661	-0.011
Degree from Asia, ex. China, India, & Philippines	0.207	0.299	0.69	0.489	-0.379	0.793	0.489	0.511	0.007
Degree from Africa	0.321	0.483	0.66	0.506	-0.625	1.267	0.506	0.494	0.011
Degree from Latin America	-0.284	0.411	-0.69	0.489	-1.091	0.522	0.489	0.511	-0.009
Work visa	-0.813	0.240	-3.38	0.001	-1.283	-0.342	0.001	0.999	-0.027
Student visa	-0.349	0.163	-2.14	0.032	-0.668	-0.030	0.032	0.968	-0.012
Dependent visa	-0.520	0.323	-1.61	0.107	-1.153	0.112	0.107	0.893	-0.017
Other visas	0.262	0.239	1.10	0.272	-0.206	0.730	0.272	0.728	0.009
Married	-0.496	0.174	-2.86	0.004	-0.837	-0.156	0.004	0.996	-0.016
With preschool-aged children	0.113	0.184	0.61	0.539	-0.248	0.474	0.539	0.461	0.004
Enrolled in school	0.471	0.319	1.48	0.139	-0.153	1.096	0.139	0.861	0.016
With disabilities	0.798	0.252	3.17	0.002	0.304	1.291	0.002	0.998	0.026
Mid-Atlantic	0.044	0.267	0.16	0.870	-0.479	0.567	0.870	0.130	0.001
East North Central	-0.114	0.332	-0.34	0.733	-0.765	0.538	0.733	0.267	-0.004

Variable	Coef.	Robust Std. Err.	Z	P>|Z|	95% Conf. Interv.	95% Conf. Interv.	P>|Z|	1 minus P>|Z|	Marginal Effect
West North Central	-0.434	0.412	-1.05	0.292	-1.242	0.374	0.292	0.708	-0.014
South Atlantic	-0.583	0.273	-2.13	0.033	-1.119	-0.047	0.033	0.967	-0.019
East South Central	0.274	0.673	0.41	0.684	-1.046	1.593	0.684	0.316	0.009
West South Central	-0.149	0.304	-0.49	0.624	-0.744	0.447	0.624	0.376	-0.005
Rocky Mountains	-0.605	0.441	-1.37	0.170	-1.469	0.258	0.170	0.830	-0.020
Pacific	0.024	0.256	0.10	0.924	-0.477	0.526	0.924	0.076	0.001
Constant	-2.688	0.408	-6.59	0.000	-3.488	-1.888	0.000	1.000	--

Dependent Variable: unemployment status; 1=Unemployed, 0=Employed.

Logistic regression number of obs = 10779.

Wald chi2(43) = 151.94.

Prob > chi2 = 0.0000.

Log pseudolikelihood = -1609.8106 Pseudo R2 = 0.0562.

FEMALE IMMIGRANTS UNDER AGE 65 IN THE U.S. LABOR FORCE

Variable	Coef.	Robust Std. Err.	Z	P>|Z|	95% Conf. Interv.	95% Conf. Interv.	P>|Z|	1 minus P>|Z|	Marginal Effect
Age	0.021	0.011	1.96	0.050	0.000	0.041	0.050	0.950	0.001
Entered the U.S. between 1991 and 2003	0.683	0.183	3.74	0.000	0.325	1.042	0.000	1.000	0.027
Speaks English very well	0.223	0.270	0.83	0.409	-0.306	0.752	0.409	0.591	0.009
Master's degree	-0.097	0.187	-0.5	0.604	-0.464	0.270	0.604	0.396	-0.004
Doctorate degree	-0.114	0.321	-0.4	0.722	-0.744	0.516	0.722	0.278	-0.005
Professional degree	-0.191	0.500	-0.4	0.703	-1.172	0.790	0.703	0.297	-0.008
Computer science	0.180	0.301	0.6	0.549	-0.410	0.770	0.549	0.451	0.007
Mathematics	-0.105	0.428	-0.3	0.806	-0.945	0.734	0.806	0.194	-0.004
Biological sciences	-0.772	0.346	-2.2	0.025	-1.449	-0.095	0.025	0.975	-0.031
Physical sciences	-0.432	0.368	-1.2	0.241	-1.154	0.290	0.241	0.759	-0.017
Psychology	-1.286	0.502	-2.6	0.010	-2.269	-0.302	0.010	0.990	-0.051
Social sciences	-0.347	0.349	-1	0.320	-1.031	0.337	0.320	0.680	-0.014
Engineering	0.023	0.315	0.07	0.942	-0.594	0.640	0.942	0.058	0.001
Health sciences	-1.065	0.354	-3	0.003	-1.759	-0.370	0.003	0.997	-0.042
Education	-0.314	0.319	-1	0.325	-0.940	0.311	0.325	0.675	-0.012
Engineering-related technologies	0.137	0.536	0.26	0.798	-0.913	1.187	0.798	0.202	0.005
Business	-0.184	0.263	-0.7	0.485	-0.699	0.331	0.485	0.515	-0.007
Law	-0.089	0.704	-0.1	0.900	-1.468	1.290	0.900	0.100	-0.004
Degree from Canada	-0.539	0.601	-0.9	0.370	-1.717	0.639	0.370	0.630	-0.021
Degree from the UK/N.Ireland	0.084	0.577	0.15	0.885	-1.046	1.214	0.885	0.115	0.003
Degree from Europe ex. UK/N.Ireland	0.241	0.267	0.9	0.368	-0.283	0.765	0.368	0.632	0.010
Degree from India	0.621	0.285	2.18	0.029	0.062	1.180	0.029	0.971	0.025
Degree from China	0.038	0.464	0.08	0.935	-0.871	0.947	0.935	0.065	0.002
Degree from the Philippines	-0.457	0.336	-1.4	0.174	-1.114	0.201	0.174	0.826	-0.018
Degree from Asia, ex. China, India, & Philippines	0.470	0.319	1.47	0.142	-0.156	1.096	0.142	0.858	0.019
Degree from Africa	0.273	0.618	0.44	0.658	-0.937	1.484	0.658	0.342	0.011
Degree from Latin America	0.436	0.295	1.48	0.139	-0.142	1.014	0.139	0.861	0.017
Work visa	-0.400	0.319	-1.3	0.210	-1.025	0.225	0.210	0.790	-0.016
Student visa	-0.304	0.227	-1.3	0.180	-0.749	0.141	0.180	0.820	-0.012
Dependent visa	0.220	0.203	1.09	0.277	-0.177	0.617	0.277	0.723	0.009
Other visas	0.491	0.237	2.07	0.038	0.026	0.957	0.038	0.962	0.019
Married	-0.337	0.173	-2	0.051	-0.675	0.002	0.051	0.949	-0.013
With preschool-aged children	0.466	0.190	2.45	0.014	0.093	0.840	0.014	0.986	0.018
Enrolled in school	0.384	0.446	0.86	0.390	-0.491	1.258	0.390	0.610	0.015
With disabilities	0.468	0.267	1.75	0.080	-0.056	0.992	0.080	0.920	0.019
Mid-Atlantic	0.160	0.325	0.49	0.622	-0.476	0.796	0.622	0.378	0.006
East North Central	-0.124	0.392	-0.3	0.752	-0.891	0.644	0.752	0.248	-0.005
West North Central	-1.136	0.705	-1.6	0.107	-2.518	0.245	0.107	0.893	-0.045

Variable	Coef.	Robust Std. Err.	Z	P>|Z|	95% Conf. Interv.	95% Conf. Interv.	P>|Z|	1 minus P>|Z|	Marginal Effect
South Atlantic	-0.359	0.336	-1.1	0.285	-1.018	0.300	0.285	0.715	-0.014
East South Central	0.407	0.576	0.71	0.480	-0.722	1.535	0.480	0.520	0.016
West South Central	0.220	0.386	0.57	0.568	-0.536	0.976	0.568	0.432	0.009
Rocky Mountains	0.294	0.468	0.63	0.530	-0.624	1.211	0.530	0.470	0.012
Pacific	0.270	0.311	0.87	0.386	-0.340	0.880	0.386	0.614	0.011
Constant	-3.131	0.441	-7.1	0.000	-3.994	-2.267	0.000	1.000	--

Dependent Variable: unemployment status; 1=Unemployed, 0=Employed.

Logistic regression number of obs = 6285.

Wald chi2(43) = 108.27.

Prob > chi2 = 0.0000.

Log pseudolikelihood = -1477.2021 Pseudo R2 = 0.0675.