POPULATION BULLETIN

Vol. 63, No. 2 June 2008

A PUBLICATION OF THE POPULATION REFERENCE BUREAU

U.S. Labor Force Trends

by Marlene A. Lee and Mark Mather

- Population aging is contributing to slower growth of the U.S. labor force.
- Since 1980, jobs have shifted from manufacturing to the service sector, but white-collar service jobs are increasingly lost overseas.
- Ron Hira, author of *Outsourcing America*, provides a brief overview of offshoring.

PRB

POPULATION REFERENCE BUREAU

Population Reference Bureau

The Population Reference Bureau **informs** people around the world about population, health, and the environment, and **empowers** them to use that information to **advance** the well-being of current and future generations.

Marlene Lee, *Population Bulletin* Editor; Senior Research Associate, Domestic Programs

The *Population Bulletin* is published four times a year and distributed to members of the Population Reference Bureau. *Population Bulletins* are also available for $7 each (discounts for bulk orders). To become a PRB member or to order PRB materials, contact PRB, 1875 Connecticut Ave., NW, Suite 520, Washington, DC 20009-5728; Tel.: 800-877-9881; Fax: 202-328-3937; E-mail: popref@prb.org; Website: www.prb.org.

The suggested citation, if you quote from this publication, is: Marlene A. Lee and Mark Mather, "U.S. Labor Force Trends," *Population Bulletin* 63, no. 2 (2008). For permission to reproduce portions from the *Population Bulletin*, write to PRB, Attn: Permissions; or e-mail: popref@prb.org.

Cover photos (clockwise from left): ©:Joe Raedle/Getty Images; jon lowenstein/Noor Images; Eli Reed/Magnum Photos; Joe Raedle/Getty Images.

Printed on recycled paper PRINTED WITH SOY INK

POPULATION BULLETIN

Vol. 63, No. 2 June 2008

A PUBLICATION OF THE POPULATION REFERENCE BUREAU

U.S. Labor Force Trends

About the Authors

Marlene A. Lee is a senior research associate and editor of the *Population Bulletin* at the Population Reference Bureau. She holds degrees in public policy analysis and development sociology/demography from the University of North Carolina at Chapel Hill and Cornell University.

Mark Mather is associate vice president of Domestic Programs at the Population Reference Bureau, where he coordinates several projects that communicate population research to advocacy groups, educators, the media, and the public. He holds a doctorate and a master's degree in sociology/demography from the University of Maryland.

The authors thank Ron Hira, Linda A. Jacobsen, and Lisa M. Frehill for reviewing this publication.

U.S. Labor Force Trends

by Marlene A. Lee and Mark Mather

In the last 40 years, changing labor markets, globalization, and industrial restructuring have greatly influenced the size and composition of the U.S. labor force. The increasing mobility of labor, goods, and capital associated with globalization also potentially affects wages. Industrial restructuring, which has been characterized by a decline in manufacturing and growth in the service sector, affects the distribution of workers across industries, occupations, and geographic regions. In addition, deunionization and the declining value of the minimum wage in recent decades have affected worker access to health care and other employee benefits.

In this *Population Bulletin*, we examine demographic and socioeconomic characteristics of the U.S. civilian labor force and changes since 1950 and relate these trends to demographic and institutional changes and economic restructuring internationally and within the United States (see Box 1, page 4).

Computer technology has affected work in all sectors and enhanced productivity of professional and technical workers.

Demographic Trends

As the U.S. population nearly doubled between 1950 and 2000, the labor force has also grown, from 62 million in 1950 to 149 million in 2005 (see Table 1, page 4). Wages and benefits have increased, and occupations continue to shift from mostly farming and manufacturing work to white-collar jobs. Changes in population composition and labor force participation rates have also resulted in a workforce that includes more older Americans, women, racial and ethnic minorities, and people born outside of the United States.

Labor Force Growth

The historical growth of the U.S. labor force in the last four decades is linked to two main factors: growth in population size and increases in women's labor force participation rates.

In the 1960s, the U.S. labor force increased by 1.7 percent annually, as baby boomers—those born during the high-fertility period from 1946 to 1964—started to enter the workforce. Labor force growth accelerated during the 1970s as more baby boomers reached adulthood. At the same time, women started to enter the labor force in greater numbers. As a result of both these trends, the labor force grew at a fast pace of 2.6 percent each year.

By the 1980s and 1990s, most of the baby boomers had already entered the workforce, and a smaller cohort of workers followed. Labor force growth slowed to 1.6 percent during the 1980s and to 1.1 percent during the 1990s. Growth rates would have slowed even further without the inflow of workers arriving from outside the United States. Between 1960 and 2000, the proportion of the civilian employed workforce that was foreign-born increased from 6 percent to 13 percent. In 2007, they were 16 percent of civilian workers and accounted for about half of the total annual labor force increase.

Over the next 50 years, the labor force is projected to grow even more slowly (at about 0.6 percent per year) as baby boomers retire.[1] As a result, there are mounting concerns about future growth of the U.S. economy.

Despite the aging of the baby-boom cohort, the U.S. labor force is in a better position than most countries in Europe and East Asia, which are facing shrinking workforces in coming decades.[2] Japan, for example, is projected to see a 12 percent drop in its labor force between 2000 and 2020.[3] In contrast, the relatively young age structure of

Box 1

Who Is in the Labor Force?

The Bureau of Labor Statistics defines the labor force as all civilians classified as employed and unemployed. The employed are those who work for pay for themselves or someone else or who work 15 hours or more as unpaid workers in a family-operated business. Also included among the employed are those who were temporarily absent from work for reasons such as illness and child-care problems. The unemployed include individuals who had no job but were available for work and looking for employment.

At first glance, the concepts of employment and unemployment seem straightforward, with only the retired, disabled, homemakers, or full-time students excluded from the labor force. But these concepts seem less clear when we consider some specific examples more closely.

Homemakers often provide the household with services that would otherwise be unaffordable. In fact, many families must make difficult decisions about whether they would be better off if the homemaker were to take a paying job. Also, retired people may volunteer in work activities for which people are usually paid. Their work is not counted in the labor force.

Many other "workers" also go uncounted for a variety of reasons. Although family members working without pay in a family business are counted as employed, family members working without pay in their own home are not counted as employed, even though the work may be identical to paid work. Prisoners engaged in work are not counted as employed nor are other institutionalized persons who may be paid for work (for example, household chores) they do in these institutions. People under the age of 16 can work, and are counted in some employment statistics but not in others. Some people may be counted as either unemployed or not in the labor force but may nevertheless be "employed" in illegal activities. And workers in the military are not counted in the commonly used employment statistics.

Sources of data on workers also determine who is counted in the labor force. The most commonly used source of labor force data is the Current Population Survey (CPS), a household survey that captures employment and unemployment of household members ages 16 and older. The CPS does not capture paid employment of 15-year-olds, who may work legally, and is unlikely to capture informal employment. Other sources include monthly surveys of business establishments. These surveys do not count the self-employed or unpaid family workers. Unemployment insurance (UI) tax filings by employers provide a count only of workers covered by this program, but employees in most businesses are covered by UI. The Longitudinal Employer Household Dynamics data combine federal and state administrative data on employers and employees with Census Bureau censuses and surveys.

References

Art Ayre, "Uncounted Employment in Oregon," Oregon Labor Market Information System, June 21, 2001, accessed online at www.olmis.org/olmisj/ArticleReader?itemid=00001927, on May 1, 2008; and Bureau of Labor Statistics, *Handbook of Methods*, accessed online at www.bls.gov, on May 1, 2008.

Table 1

U.S. Population and Labor Force, 1950 to 2010

	Total population (thousands)	Civilian labor force (thousands)
1950	152,271	62,208
1955	165,931	65,023
1960	180,671	69,628
1965	194,303	74,455
1970	205,052	82,771
1975	215,973	93,774
1980	227,726	106,940
1985	238,466	115,461
1990	250,132	125,840
1995	266,557	132,304
2000	282,194	142,583
2005	295,896	149,320
2010*	309,653	157,695

* Projected

Sources: U.S. Census Bureau, *2008 Statistical Abstract of the United States*: table 2, "Population: 1900 to 2006" (www.census.gov/compendia/statab/tables/08s0002.xls, accessed May 6, 2008); U.S. Census Bureau Population Estimates: table 1, "Annual Estimates of the Population for the United States, Regions, States, and Puerto Rico: April 1, 2000 to July 1, 2007" (www.census.gov/popest/states/tables/NST-EST2007-01.xls); Pew Hispanic Center, *U.S. Population Projections: 2005-2050* (http://pewhispanic.org/files/reports/85.pdf, accessed May 6, 2008); Bureau of Labor Statistics, "Employment Status of the Civilian Noninstitutional Population, 1942 to date" (www.bls.gov/cps/cpsaat1.pdf, accessed May 6, 2008); and Bureau of Labor Statistics, "Medium-Term Projections to 2016" (www.bls.gov/emp/emplab1.htm, accessed May 6, 2008).

the U.S. population will keep the labor force growing, just at a slower pace than in recent decades.

Female Labor Force Participation

Since 1970, the proportion of all women in the labor force has increased from 43 percent to nearly 60 percent, while the proportion of men in the labor force decreased slightly, from 80 percent to 73 percent in 2007 (see Figure 1). This convergence between men's and women's labor force participation rates represents the tail end of a trend that began at least 100 years ago; in 1900, only 19 percent of women of working age were working or looking for work.[4] In 2007, women represented 46 percent of people in the labor force.

Some of the decline in men's labor force participation rates can be explained by increasing incomes of people over age 50, made possible through the expansion of benefits provided by both Social Security and private pensions. Social Security provides full benefits for retirees at age 65 (the retirement age will increase to 67 in coming years) and partial benefits beginning at age 62.

Decline in men's labor force participation also has been observed at younger ages, particularly among the less educated. Between 1970 and 2005, the labor force participation rate for men ages 25 to 54 with less than a

high school education fell by 12 percentage points while the rate for those with a college degree dropped nearly 3 percentage points. Two factors may explain these trends: The jobs available to less-educated men pay less than in the past, and access to Social Security disability benefits has increased.[5]

Factors affecting the rise in women's employment are more complex. During the past 50 years, as manual labor required for many jobs decreased and more white-collar jobs were created, a greater number of jobs became available to women. Better wages may also have provided an incentive for women to enter the workforce and to limit the number of children they have. In addition, with increasing rates of divorce and separation, many women had to start careers or, at the very least, develop track records in the labor market. Politically, the Civil Rights Act of 1964 and associated amendments have made it more costly for employers to discriminate against women.

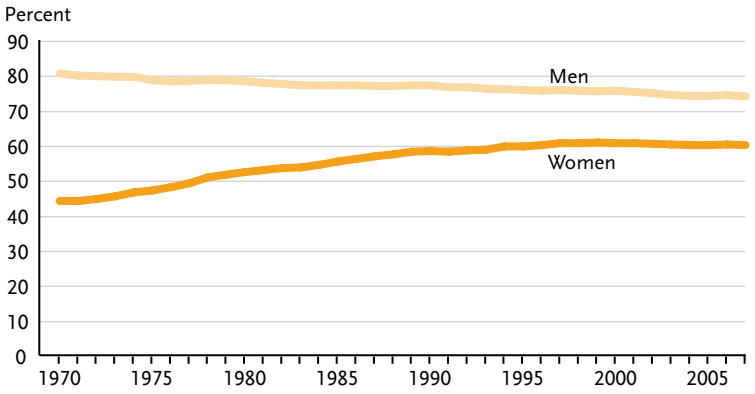
Not only are there economic reasons why women now need to work, but women are also more likely to choose to work even when not economically compelled to do so. In modern times, women have gained more control over when they have children. This means women have had greater opportunity to pursue an education than in the past. And they have also delayed marriage and childbearing. On average, women now have fewer children, thereby decreasing demands on parental time and freeing up time to work outside the home. In addition, the increased life expectancy of women means that they have more years of life after their childrearing responsibilities have diminished.

Although these factors can help explain women's entry into the labor force, they do not explain why their participation rates have leveled off since 1990. It may be that unprecedented economic growth during the 1990s raised men's incomes to the point that some married women opted out of the labor force.[6] One proposed explanation of the stagnation in women's labor force participation rates since 2000 holds that the slowing economy and weakening demand for labor curtailed women's access to jobs.

Another possibility is that women's ability to balance work responsibilities inside and outside of the home may finally have reached a limit. As more women entered the labor force, the time available for raising children and doing household chores has been compressed, creating stress for families and particularly for working mothers.[7] Some women may choose to stay at home to avoid this work-family conflict.

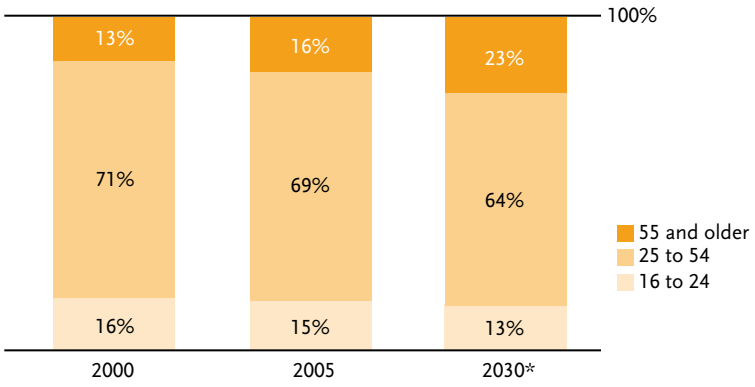
Based on recent trends, it appears that women's labor force participation has plateaued. However, the labor force participation rate for women with young children, women with no children, and women with adult children still lags well behind that of women with children ages 6 to 17, for whom the rate was 77 percent in 2005. Evidence from other developed countries suggests that the U.S. women's rate could move higher under the right mix of work-family policies. For example, generous parental leave and child care benefits have helped push Sweden's female labor force participation rate above those in other developed countries.[8]

Figure 1
U.S. Labor Force Participation of Men and Women, 1970 to 2007



Source: Estimates and projections from the U.S. Census Bureau, Bureau of Labor Statistics, and Pew Hispanic Center.

Figure 2
Age Distribution of U.S. Labor Force, 2000, 2005, and 2030



* Projected

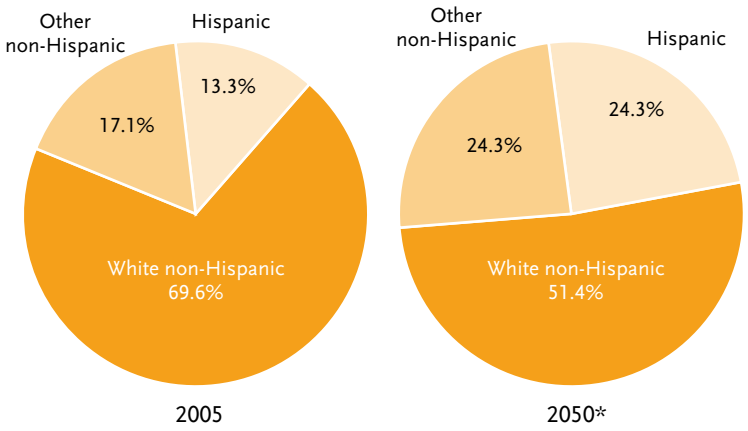
Source: Bureau of Labor Statistics; and M. Toossi, *Monthly Labor Review* (November 2006).

Baby Boomers Retire

As baby boomers grow older, so does the U.S. workforce. Three decades ago the median age of the labor force was 35 years. Today, the median age is estimated to be 41 years.[9] By 2030, 23 percent of the U.S. labor force is projected to be ages 55 and older, compared with 13 percent in 2000 (see Figure 2).

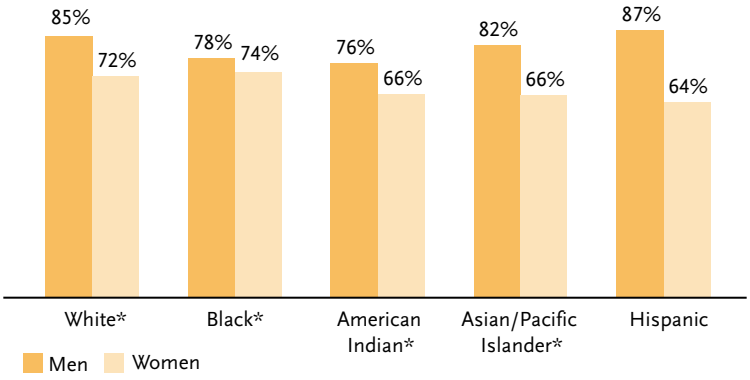
Most of the concerns about baby boomers relate to their retirement and the ability of the workforce to support them as they grow older. In January 2008, the oldest baby

Figure 3
Distribution of U.S. Labor Force by Race/Ethnicity, 2005 and 2050



* Projected
Source: M. Toossi, *Monthly Labor Review* (November 2006).

Figure 4
Labor Force Participation Rates, Ages 20 to 64, 2005



* Non-Hispanic
Source: Population Reference Bureau analysis of the 2005 American Community Survey, Public Use Microdata Sample.

boomers turned 62—the age at which workers can start collecting Social Security benefits. In three years, the same group of baby boomers will be eligible to collect Medicare benefits.

However, given improvements in health and longevity in the United States, people might be expected to stay in the workforce longer and retire later. Research indicates that many baby boomers expect to work past age 65, at least part-time. Several factors may contribute to this changing attitude toward work: improved health; new legislation that has eliminated mandatory retirement; changing attitudes about work; and, in the case of higher-income workers, the recent stock market slump and erosion of wealth in 401k retirement plans since 2000.[10]

Evidence from other countries suggests that public policy can play an important role in retirement decisions. In the industrialized economies of Europe, the United States, Australia, and New Zealand, the average retirement age in the early 1990s was actually below the age at which men became eligible for full retirement benefits. A groundbreaking cross-national study of pension systems found that when penalties for early retirement were smaller, the age of retirement among men was lower.[11] Reforms that raised the eligibility age for social security retirement benefits and legislation that abolished mandatory retirement ages in the United States and elsewhere have helped reverse this downward trend in male retirement ages. Since 1995, participation among men and women ages 55 and older has increased even as labor force participation rates among young adults and prime working age individuals have declined.[12]

Racial and Ethnic Diversity

In 2005, the majority of people in the workforce were non-Hispanic white (70 percent). But the racial and ethnic composition of the workforce will change dramatically by 2050 (see Figure 3). Hispanics and Asians are currently the fastest-growing groups in the workforce. By 2050, the Hispanic population is projected to reach 24 percent of the labor force. Asians will account for 8 percent of the labor force in 2050, up from 4 percent in 2005. In contrast, the African American share of the labor force will only grow from 11 percent to 14 percent in 2050. Because other groups are growing faster, the non-Hispanic whites' share of the labor force is projected to drop to just over 50 percent by 2050.

More rapid growth of Hispanics in the labor force is a consequence of the increasing Hispanic population and this group's high labor force participation rates (see Figure 4). Across racial and ethnic groups, Hispanic men ages 20 to 64 had the highest labor force participation rates in 2005, at around 87 percent. Hispanic women, however, had the lowest rate (64 percent). Labor force participation rates of Hispanic men may be higher because many are young men who migrated to the United States for work opportunities.

Foreign-born men are more likely than their U.S.-born counterparts to be working or looking for work.[13] In contrast, foreign-born women are less likely to work, particularly if they have young children. The low participation rates of Hispanic women may be attributed to a combination of factors—the high proportion of foreign-born in this population, lower education levels among Hispanic women, and family structure.

High labor force participation rates among Asian men may also be traced to the relative youthfulness of this population and the presence of the foreign-born. Foreign-born Asian men, similar to foreign-born Hispanic men, migrate for work opportunities, but many Asian men

Box 2

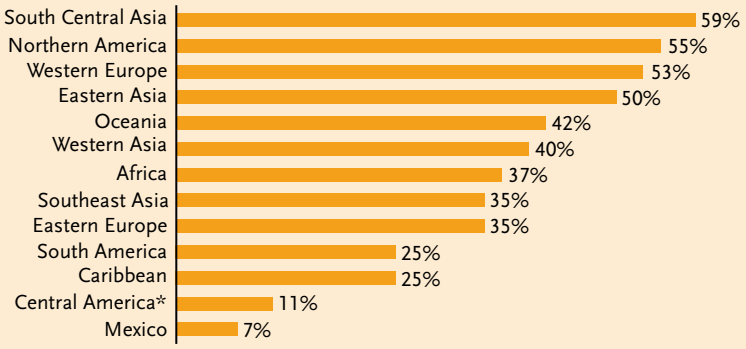
Foreign-Born Workers

In 2006, the number of foreign-born people in the United States reached an all-time high of more than 37 million. Although policymakers, journalists, and the public have focused their attention on low-skilled migrants from Mexico and other Latin American countries, there is also a large and growing number of highly skilled immigrants arriving from Asia to attend college or work in America's high-tech industries.

In 2006, over one-half of the 37.5 million foreign-born residents in the United States were from Latin America, and over one-fourth were from Asia. Taken together, the population originating from Asia and Latin America make-up four-fifths of all foreign-born residents. However, there are wide demographic and socioeconomic differences between these two groups. Those from Latin America tend to have less education, fewer skills, and lower incomes. They are filling jobs in construction, manufacturing, and the service sector. Those from Asia have higher incomes, on average, and are more likely to be enrolled in college or working in professional or managerial positions.

Among foreign-born workers, 46 percent of Asians were in professional jobs in 2006, compared with 13 percent of workers from Latin America. Among the foreign-born population from Asia, those from eastern Asia, which includes China, Japan, and Korea, were the most likely to be working as professionals. Immigrants from Mexico and other Central American countries were the least likely to be in professional positions (see figure).

Share of the Foreign-Born Population in Professional Occupations, by Region of Birth, 2006



* Excludes Mexico.

Source: Population Reference Bureau analysis of the 2006 American Community Survey (from American Factfinder).

enter the United States as students (see Box 2). Family structure and cultural influences also contribute to low labor force participation rates among Asian women.

African American women have a higher labor force participation rate than Hispanic, Asian, and non-Hispanic white women. Economic pressures have made black women historically more likely to work than white women. However, the gap between employment of black and white women has virtually closed over the last four decades. The relatively low employment rate among black men has been attributed to industrial shifts that reduced the demand for less-skilled male workers during the 1970s and 1980s.[14]

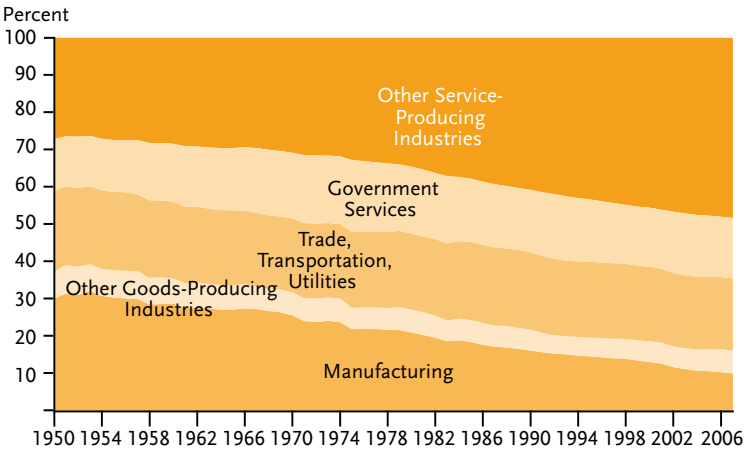
Industrial Restructuring

Since 1980 there has been a downward trend in manufacturing employment (see Figure 5), while employment in service-producing industries continued to grow at an even faster pace. As a result, the percentage of all nonfarm workers in manufacturing declined from 24 percent in March 1973 to 10 percent in March 2007, and workers in the service sectors went from 70 percent to 83 percent.

This shift from manufacturing to service jobs in the 1970s and 1980s was most acutely felt by residents of large industrial cities in the Northeast and Midwest.[15] These regions lost blue-collar manufacturing jobs while professional, administrative, and information services

Figure 5

Share of Nonfarm Employment by Major Industrial Sector, 1950 to 2007

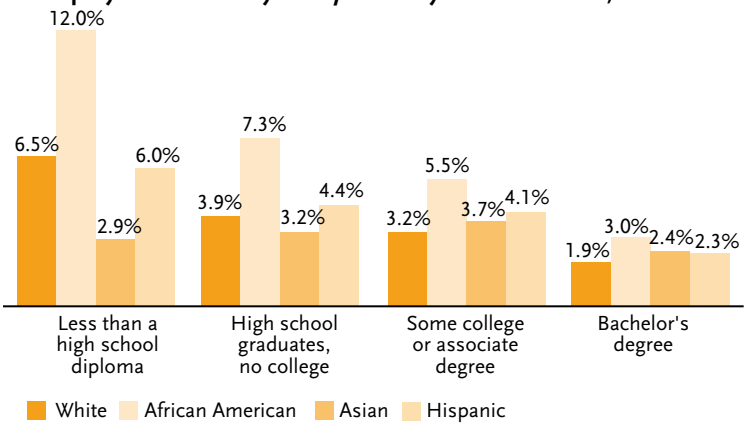


Source: Bureau of Labor Statistics, Current Employment Statistics, 1950 to 2007 (March).

increased. In the South and West, however, a net gain in manufacturing jobs contributed to job growth.[16]

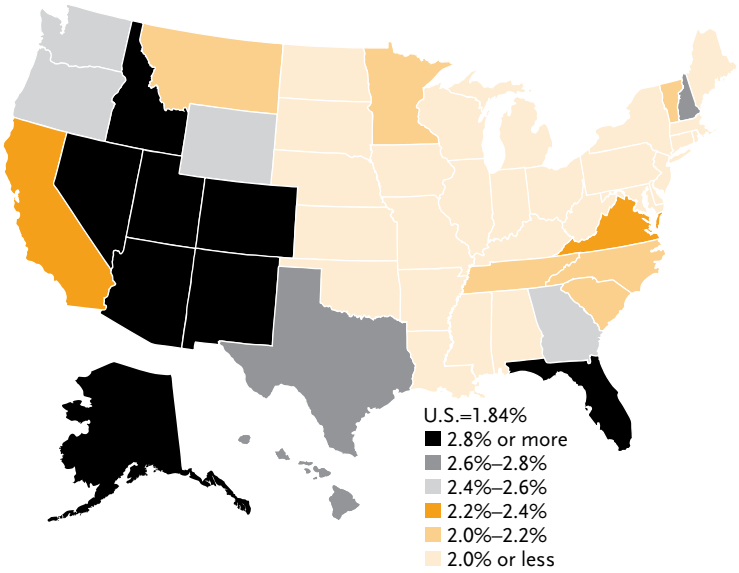
An upgrading of skill requirements accompanied the loss of manufacturing jobs, particularly in central cities, as low-skill manufacturing jobs disappeared or migrated to the suburbs or overseas.[17] At the same time, the migration of the middle class to the suburbs created a demand for services and service workers there. Research indicates that this restructuring of jobs disadvantaged both young black

Figure 6
Unemployment Rates by Race/Ethnicity and Education, 2007



Note: Civilian noninstitutionalized population 25 years and older. Hispanics may be of any race.
Source: Bureau of Labor Statistics.

Figure 7
U.S. Job Growth, Average Annual Percent Change, 1970 to 2006



Note: Employment estimates represent a jobs count, not a people count.
Source: Bureau of Economic Analysis.

men and young black female heads of households because they were disproportionately concentrated in the metropolitan areas losing these jobs, and many did not have the skills required for jobs in the new economy.[18]

Unemployment and Displaced Workers

As the demand for low-skilled labor declined in the 1970s and 1980s, the shares of men classified as nonemployed—those unemployed or out of the labor force—increased.[19] The share of prime working-age men not participating in the labor force continued to rise in the 1990s, largely because the the number of nonemployed, particularly the ill and disabled, increased.[20] On a more positive note, U.S. female unemployment declined in the 1990s and converged with male unemployment.[21] Also, the long-term pattern of declining employment among males ages 55 to 64 ceased in the 1990s.[22]

The youth unemployment rate (15.7 percent among 16-to-19-year-olds in 2007) is much higher than for other groups. Employment has historically been higher among teenagers not enrolled in school, but beginning in 2000, teen employment declined sharply among those who were in school.[23] Higher rates of school enrollment may explain the decline in teen labor force participation, with 82.5 percent of teenagers 16 to 19 enrolled in school in 2007, 10 percentage points higher than in 1985.

Although the growing importance of an education and rising family incomes may explain the decline in employment among teens enrolled in school, economic conditions, globalization, and the immigrant population may also play a role. Foreign-born workers with lower education and skills work in occupations similar to those in which teenagers work. Also, during economic downturns, older workers with more experience or skills may look for work in industries that usually employ teens.

Demand for workers with higher education also affects the jobs available to teens (see Figure 6). College-educated individuals have the lowest unemployment rates, and those without a high school diploma have the highest. Although Hispanics and blacks have higher unemployment rates than Asians and whites, all groups benefit from higher education, with the largest racial and ethnic differences in unemployment rates found among the least educated.

Unemployment is also higher among those who lose their jobs when firms go out of business, plants shut down, or positions are abolished. Only 70 percent of workers who lost jobs for these reasons between 2003 and 2005 were reemployed by 2006. The reemployment rate for displaced manufacturing workers (65 percent) was even lower, and these workers were not necessarily reemployed in the same industries. Among those who were reemployed, about one-half earned less in their new jobs than they earned in the lost job, and 29 percent took a pay cut of 20 percent or more.

Regional Fortunes

From 1970 to 2006, higher rates of job growth have been concentrated in the western and northwestern regions of the United States and selected parts of the South (see Figure 7). Employment growth in the Midwest and Northeast has been more sluggish. In the 1970s, U.S. jobs grew at an annual rate of 2.2 percent and most states in the western half of the United States had job growth of 2.8 percent or more.

However, with the loss of manufacturing jobs and the oil bust in the 1980s, job growth slowed to 2 percent or less in states in the northern Frost Belt, the Midwest, and parts of the South.[24]

The 1990s emerged as a period of recovery in job growth for northwestern states such as Oregon, but job growth in California slowed as the dot.com bubble burst. From 2000 to 2006, a period with a recession and a housing bust, most of the country has experienced annual rates of job growth well below 2 percent. But, at 2.4 percent, U.S. job growth for 2005-2006 exceeded the average annual rate of growth for the 1970s. In addition, the majority of states experienced job growth rates above 2.2 percent.

States have diverse economic trends in employment for a number of reasons, including income and cost-of-living differentials, variation in wage rates, and the mix of industries.[25] For example, employment in Connecticut in the 1980s did not suffer as much as it did in some other states because in addition to a loss of jobs due to its large manufacturing base, this state benefited from growth of jobs in the service sector. Also, while most of the country benefited from low-energy costs due to falling oil prices in the 1980s, the Texas economy was devastated. The rebound in oil prices has helped the Texas economy, and a diversified economy combined with wage rates lower than the surrounding New England states has helped sustain long-term job growth in New Hampshire. Defense cutbacks after the end of the Cold War in the late 1980s spurred civilian job losses in some states. With reductions in the production of equipment, these cutbacks contributed to the decline in skilled manufacturing jobs. But the effects of these cutbacks on military employment are not captured in most statistics (see Box 3, page 10).

Occupational Shifts

Changes in the mix of occupations in the labor force have accompanied changes in the U.S. industrial structure. Although the shift from a labor force composed of mostly manual laborers to mostly white collar and service workers could be observed from the beginning of the 20th century, a notable acceleration of this trend occurred in the 1980s.[26] Changes in the mix of goods and services, technology, business practices, and social norms have contributed to changes in occupational patterns.

The number of workers in professional and technical and related occupations increased more than fourfold from 1910 until 2000. But computer specialists did not show up in the decennial census until 1960. As a proportion of total employment, this occupation grew from 0.02 percent to 1.9 percent between 1960 and 2000 (from 12,000 to 2.5 million). Rapid development of computer technology—hardware, software, networks, and the Internet—and falling prices led to the spread of computers throughout the economy and enhanced the productivity of professional and technical workers.

Some professions grew more rapidly as the baby-boom generation sparked social and economic change. School enrollment in degree-granting institutions more than doubled in the 1960s, and the number of college educators grew to 1.1 million by 2000. Similar increases occurred for secondary and elementary teachers. But after 1970, lower enrollments led to more moderate growth in the number of teachers and college educators over the next 30 years. However, employment of professional and personal service attendants, which include teachers' aides and child-care workers, increased.

After 1970, growth in the number of engineers slowed, reflecting sluggish growth rates in manufacturing, in which about 40 percent of engineers work. A decline in defense spending at the end of the Cold War also kept this occupation from growing as a proportion of total employment from 1990 to 2000, although the absolute number of engineers did increase.

Even in the growing service sector, technological and social changes meant the loss of some occupations. The number of porters and elevator operators has declined. On the other hand, rising incomes paved the way for increases in the employment of workers in restaurants and bars because more people could afford to eat out.

Increased use of computers eliminated many clerical activities, contributing to a decrease in these jobs as a proportion of employment—from 19 percent to 17 percent between 1980 and 2000. Other factors also contributed to the overall decrease in clerical jobs. Self-service retailing reduced the need for sales workers and spurred growth in the number of cashiers. Automation in banking dramatically reduced the need for clerical workers in this industry. However, those clerical occupations requiring personal contact—for example, bill collectors, vehicle dispatchers, attendants in physicians' and dentists' offices, and receptionists—increased as a percentage of total employment through 2000. Mechanization and automation in manufacturing and many other industries have also meant a continued decline in crafts and production employees, but the number of mechanics and repairers has remained a constant proportion of the workforce.

Scientists and Engineers

Science and engineering (S&E) employment accounts for a relatively small proportion of the total U.S. labor force but is important as an engine for higher earnings, innovation, and economic growth. With nearly twice the number of advanced degrees, and paychecks nearly twice the national average, people in the S&E labor force can boost

Box 3

The Military Workforce

During World War II, about 16 million people entered the armed forces, including more than 200,000 women. At that time, the armed forces represented about 12 percent of the population and included about 56 percent of men eligible for military service. After World War II, the United States began to demobilize its military. In 1973, the armed forces shrank when the United States withdrew from Vietnam and the draft ended. The military sought to maintain a relatively large peacetime force—about 2 million people in uniform, or 1 percent of the population—on a voluntary basis. During that period, the uniformed services became the largest U.S. employer.

Further demobilization occurred with the collapse of America's main Cold War adversaries—the Soviet Union and countries behind the Iron Curtain. At the end of the 1980s, this drawdown halted to provide personnel for the Persian Gulf war, and for the wars in Afghanistan and Iraq in the early 21st century. In 2008, the military consists of about 1.4 million uniformed active-duty personnel.

Demographic Characteristics

Today's active-duty military is different from the military before 1973, a time when the military relied on the draft for personnel and when war required more troops. The all-volunteer military is more educated, more married, more female, and less white than the draft-era military.[1]

The active-duty military is still made up of younger workers than the civilian sector. In 2005, 88 percent of new active-duty recruits were 18-to-24-years-old, compared with 37 percent of the general population. The average age of new recruits was about 20. Almost half (47 percent) of the active-duty enlisted force was 17-to-24-years-old, compared with 14 percent of the civilian labor force.[2] While officers were older than those in the enlisted ranks (32 years old and 27 years old, respectively), they too were younger than their college-educated civilian counterparts (average age 36).

Race and Ethnicity of Active Duty Personnel in the Armed Forces

	Enlisted personnel	Officers
White	774,381	13,154
Black	228,731	1,433
American Indian or Alaskan Native	18,487	91
Asian	40,364	783
Native Hawaiian or Pacific Islander	4,490	45
Two or more races	8,356	143
Unknown	72,607	1,860
TOTAL	1,147,416	17,509
Hispanic	112,328	827
Not Hispanic*	1,035,088	16,682
TOTAL	1,147,416	17,509

*Not Hispanic includes non-Hispanic and unknown.

Source: U.S. Department of Defense, *Population Representation in the Military Services, Fiscal Year 2005*: tables B24 and B33 (www.defenselink.mil/prhome/poprep2005, accessed May 8, 2008).

Since the beginning of the all-volunteer U.S. military in 1973, African Americans have enlisted for service in the armed forces at much higher levels than their share of the total population. But after reaching a high of 28 percent in 1979, enlistment levels for blacks have declined. By 2005, blacks represented 14 percent of enlistees with no prior military experience.[3]

While Latinos have been underrepresented in the all-volunteer armed forces, especially among officers (see table), increasing numbers of Hispanics are entering the military. Between 2001 and 2005, the number of Hispanic enlistments in the Army rose 26 percent. The combination of a rapidly growing U.S. Hispanic population and the Army's recruiting campaign targeting Latino youth will likely drive further increases in Hispanic representation in the military.[4]

In 2005, about 16 percent of new enlistees with no prior service were women. Military women across the enlisted forces and officer corps in both active forces and the reserves are more likely to be members of a racial minority group than military men. About four in 10 women among enlisted active-duty personnel are members of racial minority groups.

Future of the Armed Forces

Several factors have made recruiting more challenging. This is the first time in U.S. history that the country has tested an all-volunteer force in a protracted war.[5] Ongoing hostilities in Iraq and Afghanistan make it harder to find new recruits. Unlike in earlier eras, young people who enlist in the military, particularly the Army and Marine Corps, know that they will probably be asked to serve in hostile environments.[6]

In addition, military recruiters compete with the lure of higher education. In October 2005, a record high share of students—nearly 69 percent of those who graduated the previous spring—were enrolled in colleges or universities.

References

1. David R. Segal and Mady Wechsler Segal, "America's Military Population," *Population Bulletin* 59, no. 4 (2004): 3.

2. Office of the Under Secretary of Defense, Personnel and Readiness, *Population Representation in the Military Services, Fiscal Year 2005: 1*, accessed online at www.defenselink.mil/prhome/poprep2005/, on March 20, 2008.

3. David R. Segal and Mady Wechsler Segal, "Army Recruitment Goals Endangered as Percent of African American Enlistees Declines," accessed online at www.prb.org, on April 1, 2008.

4. Mady Wechsler Segal and David R. Segal, "Latinos Claim Larger Share of U.S. Military Personnel," accessed online at www.prb.org, on March 17, 2008.

5. Donald H. Rumsfeld, Secretary of Defense, *Annual Report to the President and the Congress (2005)*: 32.

6. Office of the Under Secretary of Defense, Personnel and Readiness, *Population Representation in the Military Services, Fiscal Year 2005.*

tax revenue, housing values, and consumption of goods and services in the communities where they live and work.

Nationwide, there were 7.5 million scientists and engineers (including social scientists and technicians) in the United States in 2006, representing 5 percent of the total labor force. Much of the research and debate on science and engineering in the United States has focused on a single question: Does the country have enough scientists and engineers to compete in the increasingly high-tech global economy? Many business groups and federal agencies believe there is a deficit of high-tech workers, while others argue that the supply of workers is adequate and shows no sign of impending shortages.[27] Often overlooked in this debate is the imbalance of S&E employment among men and women, and among different racial and ethnic groups.

The rise in female labor force participation has been a key step toward gender equality both at home and in the workplace, but closing the labor force gap is only part of the story. Women are still underrepresented in higher-paying positions, especially in the natural and physical sciences, mathematics, and engineering. Women currently account for nearly one-half of the total U.S. labor force but only one-fourth of the science and engineering labor force. Women make up more than half of all social scientists, but the female shares of information and technology workers and engineers is much lower.

African Americans and Hispanics are also underrepresented in S&E occupations compared with non-Hispanic whites and Asians. In 2006, whites were twice as likely as African Americans or Hispanics to be employed in S&E occupations (see Table 2).

Asian Americans were the only minority group with above-average representation in S&E occupations (14 percent). Many Asians have migrated to the United States in order to pursue degrees and careers in science, and today the majority of Asian Americans in S&E occupations are foreign-born.[28] In 2005, Asian countries accounted for four of the top-five sending countries for international students studying in the United States.[29]

Looking at the education and technical skills of minorities, regardless of field of degree or occupation, there is a mismatch between their academic skills and the demands of the knowledge-based economy. In 2006, 30 percent of non-Hispanic whites ages 25 and older had bachelor's degrees or higher, compared with 17 percent of blacks and 12 percent of Latinos. Among Asians, 48 percent had at least a bachelor's degree.[30]

The Bureau of Labor Statistics projects that the share of non-Hispanics whites in the labor force will continue to decrease. Reducing racial and ethnic gaps in school enrollment, performance, and achievement will help the United States meet the demands for workers with scientific and technical knowledge.

Table 2
Science and Engineering Labor Force by Race/Ethnicity, 2006

	Total labor force (thousands)	S&E labor force (thousands)	Percent
Total	152,221	7,522	4.9
White*	104,289	5,529	5.3
Black*	17,006	456	2.7
American Indian/Alaskan Native*	909	25	2.8
Asian/Pacific Islander*	7,044	988	14.0
Some other race*	365	17	4.6
Two or more races*	1,621	81	5.0
Hispanic/Latino	20,987	427	2.0

*Non-Hispanic.

Source: Population Reference Bureau analysis of the 2006 American Community Survey, Public Use Microdata Sample.

Wages and Benefits

Despite productivity increases of more than 30 percent in the United States in the decade from 1995 to 2005, real wages—wages adjusted for inflation—as well as health and pension benefits have stagnated in recent years.[31] Between 2000 and 2005, wages for entry-level workers actually fell. This decline contrasts with rises of 10 percent for entry-level high school men's wages, 12 percent for college-educated women's wages, and 20 percent for entry-level college-educated men in the previous five-year period. The real value of the minimum wage has fallen steadily over the past 20 years. At the same time, employees have had to absorb half the increase in costs for employer-provided health insurance premiums in addition to having higher deductibles and copayments.

In the 1990s, low unemployment and nominal increases in the minimum wage narrowed the wage gap between low-wage and middle-wage earners (the 10th percentile and 50th percentile, respectively), a gap which had been growing since 1979. While this gap in earnings at the bottom of the wage distribution has been stable or declining through the 1990s, the gap between middle-wage earners and earners at the top of the wage distribution has been growing since the 1970s. From 1992 to 2005, median pay for chief executive officers (CEOs) in major companies rose 186 percent, while the median wage rose by 7 percent. In 2005, U.S. CEOs earned 262 times more than an average worker whereas in 1965 they earned 24 times more. Decline in the real value of the minimum wage, weakening labor unions, globalization, and the shift from manufacturing to services have contributed to this growing wage inequality.

Table 3
Access to Benefits for Workers in Private Industry, 2007

	Access (percent)	Participation (percent)	Take-up (percent)
Paid vacation/holidays	77	n/a	n/a
Paid sick leave	57	n/a	n/a
All retirement plans	61	51	84
Defined benefit plans	21	20	95
Defined contribution plans	55	43	77
Medical care	71	52	73
Dental care	46	36	77
Vision care	29	22	76
Prescription drugs	68	49	73
Life insurance	58	56	96
Short-term disability	39	38	97
Long-term disability	31	30	95
Health reimbursement accounts	33	n/a	n/a
Long-term care	12	n/a	n/a

Note: Take-up rates give the percent of employees with access to benefits who participate in these benefits. N/a = not applicable.

Source: Bureau of Labor Statistics, National Compensation Survey, "Employee Benefits in Private Industry, March 2007": tables 1, 5, 13, and 19.

Union Workers

Members of unions have higher median earnings than nonmembers, $863 per week vs. $663 per week for full-time workers. But union membership has been on the decline in the United States. In 2007, 12 percent of workers ages 16 and older were members of a union or an employee association similar to a union. This represents a decline of 8 percentage points in union membership since 1983. The union membership rate in the private sector, 7.5 percent, is much lower than in the public sector, 36 percent. Local government employees in the public sector have the highest unionization rate because these jobs include highly unionized occupations such as teachers, police officers, and firefighters.[32]

Unionized workers not only earn more than comparable nonunion workers, they are also more likely to have health insurance, pension coverage, and paid leave.[33] According to the Economic Policy Institute, the erosion of unionization among male blue-collar workers between 1978 and 2005 accounts for 65 percent of the growth in the gap between wages earned by blue-collar and white-collar workers.

The decline in manufacturing and the growth of service industries have diminished the ability of unions to negotiate wage increases for their members.[34] Because manufacturing jobs tend to have higher output value per hour than the lower-skilled service jobs replacing them, manufacturing firms are more able to increase wages. The size of manufacturing plants also gives unions more bargaining power—the investment tied up in big plants makes it more difficult for firms to relocate operations. In addition, large manufacturing plants are often easier to unionize than a lot of small service companies. Many service operations require less investment, allowing employers the option of relocating in or out of the country if wage demands become too great (see Box 4, page 14). Millions of new workers added to the global labor force each year from India and China have undercut the bargaining power unions have for many jobs.

In 2007, in private industry, employee benefits were more commonly offered to workers in goods-producing industries than to workers in service-providing industries.[35] Workers in large establishments were also more likely to have access to benefits. Not all employees who have access to benefits choose to participate. For example, an employer may make a medical plan available for employees, but an employee may decline to use the plan. Such an employee would be counted as having access to medical benefits but not counted among those participating in a medical benefit plan. Access rates and participation rates shown in Table 3 are percentages of all workers surveyed, rounded for presentation. Take-up rates are the percent of workers with access to a benefit who participate (or the participation rate divided by the access rate). Seventy-seven percent of all workers in private industry may take paid holiday and vacations. Fewer have access to medical care benefits (71 percent) and retirement plans (61 percent). The rate of access to retirement plans was nearly five times higher for union than nonunion employees. Most employees with medical coverage were in plans requiring employee contributions (76 percent). In 2007, employee medical care premiums averaged $81 per month for single coverage and $313 per month for family coverage.

Some observers question how much value unions can offer workers now that laws have expanded into areas such as occupational safety and employment discrimination and now that some private options exist for health insurance and pensions. Economist Richard Freeman finds, however, that in 2005 nonunion workers were more likely to want union representation than they did 10 years ago.[36] According to Freeman, many workers see the need for a mechanism through which they can meet and discuss issues with management, either as a supplement to or in lieu of collective bargaining. Among English-speaking industrialized countries, the United States is one of the least likely to provide employee alternatives to unions as a voice in the workplace.

Race and Gender Gaps

Women's earnings have become increasingly important to family finances and keep many families out of poverty. One indicator of this change is the increase in wives'

earnings from 16 percent of income in middle-income families in 1979 to 27 percent in 2000.[37] However, in the United States, as in most other countries, women earn less than men, occupy fewer managerial positions, and have less authority in the workplace.[38]

The gender gap in men's and women's wages has persisted despite women's economic progress over the last five decades. In 1955, median earnings among women working full-time and year-round were equal to 63.9 percent of men's median annual earnings.[39] Since then, women's wages have risen relative to men's, with women's median earnings reaching 76.9 percent of men's median earnings in 2006.

Women's earnings have generally increased faster than men's since 1975 primarily because of women's rising education levels, growing labor market experience, and greater union representation in some occupations dominated by women, such as teaching and nursing. At the same time that women's wages have been rising, men have generally experienced declines in wages (adjusted for inflation). During the 1990s, the male-female wage gap widened and then flattened as men's wages began to increase relative to women's. In the late 1990s and the first years of the 21st century, the wage gap narrowed again, as men's wages did not rise as fast as women's did.

The occupations and industries in which women work strongly influence their earnings and benefits. Women are still grossly underrepresented in many higher paying occupations—science, technology, engineering, mathematics, and top managerial positions in business. However, research by the U.S. General Accounting Office shows that from 1983 to 2000, nearly half the wage gap between men and women could not be explained by the combined effect of differences in human capital, industry and occupation, unionization, and work hours.[40] Both this finding and evidence from case studies and litigation suggest that despite legislation, sex discrimination continues to play a role in holding down women's earnings.[41]

The wage gap for minority women captures both race and gender inequality. When minority women's wages are compared to white men's wages, the wage gap is greatest for Hispanic and African American women, whose median earnings in 2006 ranged from 52 percent to 63 percent of white men's earnings. White and Asian American women have the smallest wage gap relative to white men, with their earnings being 74 percent and 82 percent of white men's, respectively, in 2006.[42]

Comparisons of wages for black men and white men reveal less convergence than male and female wages. While white women have gone from earning around 60 percent of white men's median wages to over 70 percent, black men continue to earn about 70 percent of what white men earn, nearly the same as in 1970. In 2006, black men's earnings were still only 72 percent of white men's.[43]

The increasing importance of higher education may have limited the decline in black and white men's wage differentials and may have also kept men's and women's wages from converging even more. One study of wage differences by education level for black and white men from 1984 to 1995 found much more convergence for men without a high school diploma and high school graduates. There was no change in the wage differential between black and white male college graduates.[44]

In addition to the demand for more highly educated people, a number of other trends in the U.S. labor market may also limit progress in reducing wage inequality across racial and ethnic groups.[45] Some evidence suggests that immigration negatively affects the relative wages of Hispanics, Asians, and black women but not black men. Black men, however, reap more benefits from employment in unionized manufacturing jobs than other groups, so the loss of manufacturing jobs may slow convergence of black and white wages.

Future Growth

During the past four decades, baby boomers coming of age and the rise in women's labor force participation increased the size of the U.S. labor force which, in turn, helped fuel economic growth. The aging of baby boomers and the fact that women's labor force participation has already peaked are expected to slow labor force growth in the near future.[46]

Many policymakers and business leaders are concerned that as baby boomers retire, labor productivity will drop as more experienced workers are replaced by people with fewer years on the job. But there are also potential benefits for those seeking employment. For example, with a smaller pool of potential workers, employers may provide extra incentives to retain employees or to encourage women, the elderly, or people with disabilities to enter the labor force.[47]

Another long-term employment trend since the 1970s has been a shift in employment and population growth away from the Midwest and Northeast toward the South and the West. Regional differences in wages and cost of living; the attraction of natural amenities; and a desire to escape congestion, pollution, and crime in urban areas spurred these changes in the 1980s and 1990s. Another related trend has been the growth of population and jobs in suburbs and a decline in central cities. Demographic trends, with younger populations in the West and South, suggest that these regional trends will continue.

Box 4

An Overview of the Offshoring of U.S. Jobs

by Ron Hira

Offshoring is the movement of jobs and tasks from one country to another. The jobs and tasks generally move from high-cost countries, such as the United States, to low-cost countries where wages are significantly lower, such as India. Offshoring is often confused with outsourcing, which is instead the movement of jobs and tasks from within a company to a supplier firm. The offshoring of manufacturing jobs, mostly blue collar, has been occurring for decades but the offshoring of services jobs, mostly white collar, is an incipient phenomenon, emerging in substantial numbers since 2002 and growing rapidly.

Which Jobs and How Much

While there is widespread interest in measuring offshoring, available government data have significant limitations, making it nearly impossible to get an accurate picture of its scale and scope.[1] Many analysts have tried to fill this void through exploratory studies, and many studies have focused on forecasting the vulnerability of various occupations to offshoring. The table shows the results of one such study by Princeton University economist Alan Blinder. He estimates the 10 most vulnerable occupations, where U.S. workers in these jobs now face competition from overseas workers. These jobs have the potential of being offshored, but not all of these jobs will be lost overseas. Blinder's study estimates that about 30 million jobs, accounting for a little more than one-fifth of the U.S. workforce, are vulnerable to offshoring. While other analysts forecast smaller numbers, all find that offshoring is likely to affect a significant number of American workers.

Most studies identify one or both of the following factors as determining the likelihood that a job or activity may be transferred to another country: whether the work can be done remotely and whether it can be easily reduced to a set of written rules and procedures. An occupation that requires being physically present with a customer, say a barber or a surgeon, is less vulnerable because it cannot be done remotely. Work which requires judgment combined with a deep understanding of the customer's cultural context is difficult to do remotely because it cannot be easily written into a set of rules and protocols.

One important finding of many of the forecasts is that a large share of vulnerable jobs pay high wages and require advanced education (as shown in the table), making it more difficult to predict the overall impact of offshoring on the U.S. economy and to devise broad-based appropriate policy responses.

Why Offshore

Firms use offshore jobs to reduce costs. The cost differential is primarily a function of lower labor costs in the receiving country. For example, a typical accountant in India earns about $5,000 per year, whereas a U.S. accountant earns about $63,000.[2] These large wage differentials make it very attractive for companies to lower costs by substituting U.S. workers with lower-cost overseas workers. As the CEO of a major technology company put it, "If you can find high quality talent at a third of the price, it's not too hard to see why you'd do this [send jobs offshore]."[3] By lowering

Occupations Most Vulnerable to Offshoring

Rank	Occupation	Annual mean wage	Number employed
1	Computer programmers	$72,010	394,710
2	Data entry keyers	$26,350	286,540
3	Electrical and electronics drafters	$51,710	32,350
4	Mechanical drafters	$46,690	74,260
5	Computer and information scientists, research	$100,640	28,720
6	Actuaries	$95,420	18,030
7	Mathematicians	$90,930	3,160
8	Statisticians	$72,150	20,270
9	Mathematical science occupations (all other)	$61,100	6,930
10	Film and video editors	$61,180	17,410

Sources: Alan S. Blinder, "How Many U.S. Jobs Might Be Offshorable?" *CEPS Working Paper 142* (March 2007); and Bureau of Labor Statistics, *National Occupational Employment and Wage Estimates*, May 2007 (www.bls.gov/oes/current/oes_nat.htm, accessed May 28, 2008).

Some economists argue that technology changes, such as computerization, have tended to complement the work of higher-educated workers while replacing work for mid-level workers and hardly affecting the more manual work of the lowest-paid tier.[48] They propose this as one reason for divergence in wages of the middle class and the highest earners. With the availability of inexpensive computers, demand has risen for the cognitive and interpersonal skills associated with educated professionals and managers. At the same time, demand for routine clerical and analytical skills used in many positions filled by middle-educated white collar workers has declined. Technology has also reduced demand for routine manual skills used in high-paid manufacturing production jobs, but non-routine manual skills used in many service jobs such as health aides, security guards, orderlies, cleaners, and food servers have not been affected by computerization. Recent trends in computerization of customer services and billing, as well as new technology that facilitates offshore outsourcing of these services, suggest that technology will continue to eliminate some U.S. jobs.

In a global economy, a country such as the United States is affected not only by its own demographic trends, but also by the trends and policies in other countries. Many U.S. and foreign-owned multinationals are shifting production from high-wage to low-wage countries, with China as one of the primary destinations for jobs. According to one study, companies shifting jobs tend to be large, well-established, publicly held corporations.[49] Manufacturing firms are the main source of exported jobs, but offshore outsourcing of information technology jobs and customer service jobs continues to grow.

costs through offshoring, firms can gain a business advantage over their competitors.

A number of other factors influence offshoring decisions by firms. Some of these are driven by markets while others are based on government intervention. Companies selling to an overseas market sometimes find it easier to use local workers to customize (or localize) a product because they better understand the tastes of the customers. Also, the markets in many emerging countries, such as India and China, are growing at three to four times the rate of markets in developed countries in North America and Europe. Many firms want to serve the burgeoning new consumer class in these countries. In other cases, governments are actively pursuing offshore outsourcing of U.S. and European jobs through targeted policies. They offer an array of incentives, such as tax holidays (where the firm pays no income or property taxes), new facilities at reduced rates, and training subsidies. And some countries require the transfer of technology and high-wage jobs as a condition for selling in their markets.

U.S. government tax and immigration policies are actually speeding up offshoring. U.S.-based multinational corporations that outsource work offshore receive tax breaks.[4] And offshore outsourcing firms have exploited loopholes in U.S. immigration policy, particularly in the H-1B and L-1 guest worker visas, to facilitate the transfer of work overseas.[5]

Major changes in technology and social norms have enabled offshoring. Technological breakthroughs in telecommunications, the Internet, and collaborative software tools have dramatically lowered the costs of doing business remotely and across borders. Additionally, shifts in employment relations and norms have made it much easier for firms to substitute foreign workers for U.S. workers. There is little or no cost, monetary or in terms of public perception, for laying off U.S. workers.

Which Industries and Where

Information technology (IT) services was the first industrial sector to move a significant number of jobs offshore. All major firms in this sector now have a substantial workforce in low-cost countries, and nearly all major service contracts require offshoring. Labor costs, which are often 70 percent of the net cost for IT firms, make the sector ripe for offshoring. Other information-intensive sectors, such as insurance and financial services, are aggressively offshoring. While not well publicized, occupations in a wide variety of other sectors (for example, journalism, law, medicine, and animation) are also moving offshore.

India has been the major beneficiary of white-collar offshoring from the United States, but almost every other developing country is trying to replicate India's success. Work is offshored to North America, Latin America, Africa, Eastern Europe, and many parts of Asia. India has many advantages, including its large English-speaking educated workforce, its large diaspora living in the United States and the United Kingdom, and its specialization in information technology. Western Europe is about three to five years behind the United States in offshoring due to language barriers and greater protection for their domestic workers. But this phenomenon is growing in importance both economically and politically there as well.

Ron Hira is an assistant professor of public policy at Rochester Institute of Technology and co-author of *Outsourcing America* (AMACOM, 2008).

References

1. Timothy J. Sturgeon, "Why We Can't Measure the Economic Effects of Services Offshoring: The Data Gaps and How to Fill Them," *Services Offshoring Working Group Final Report*, Industrial Performance Center, Massachusetts Institute of Technology, Sept. 10, 2006.

2. India wage based on author's estimates. U.S. wage source: Bureau of Labor Statistics, *National Occupational Employment and Wage Estimates, May 2007*.

3. Brian Jackson, "EDS says offshoring great for profitability, promises to continue," *ITBusiness.ca* (Canada), April 23, 2008.

4. Kimberly A. Clausing, "The Role of U.S. Tax Policy in Offshoring," in Lael Brainard and Susan M. Collins, *Brookings Trade Forum: Offshoring White-Collar Work* (Washington, DC: Brookings Institution Press, 2006).

5. Ron Hira, "Outsourcing America's Technology and Knowledge Jobs: High-Skill Guest Worker Visas Are Currently Hurting Rather Than Helping Keep Jobs at Home," *EPI Briefing Paper* 187 (March 28, 2007).

Unionized workplaces are disproportionately affected by U.S. production shifts offshore. A study by Bronfenbrenner and Luce in 2004 estimated that 53 percent of jobs shifting out of the United States to Mexico and 34 percent shifting to China were unionized.[50] The loss of union jobs through offshoring means that jobs leaving the United States are more likely to be jobs with full health care and pension plans. In addition to being costly to workers, losing these types of jobs will be costly to some communities as this may result in a declining tax base and greater demands on social services.

Global corporate restructuring and other trends in the U.S. labor market also have the potential to exacerbate wage inequality. Corporate restructuring creates pressure to contain total compensation for many low-wage and mid-level workers but increases returns to managers at the highest levels where compensation may be linked to profits. In addition, the demand for higher-educated workers combined with technology will continue to widen the wage gap between the highly educated and the less skilled.

References

1. Mitra Toossi, "A Century of Change: The U.S. Labor Force, 1950-2050," *Monthly Labor Review* 125, no. 5 (2002): 15-28.

2. Adele Hayutin, "Why Population Aging Matters: A Global Perspective," briefing to the Senate Special Committee on Aging, May 21, 2007, accessed online at http://longevity.stanford.edu, on May 21, 2008.

3. International Labour Office, "Economically Active Population Estimates and Projections 1980-2020," accessed online at http://laborsta.ilo.org, on May 21, 2008.

4. U.S. Census Bureau, *Historical Statistics of the United States, Colonial Times to 1970*, Part 1, Series D 11-25: 128. Data are for persons ages 10 years and older reporting a gainful occupation.

5. Abraham Mosisa and Steven Hipple, "Trends in Labor Force Participation in the United States," *Monthly Labor Review* 129, no. 10 (2006): 35-57; John Chinhui and Simon Potter, "Changes in Labor Force Participation in the United States," *Journal of Economic Perspectives* 20, no. 3 (2006): 27-46; and David H. Autor and Mark G. Duggan, "The Rise in Disability Rolls and the Decline in Unemployment," *Quarterly Journal of Economics* 17, no. 1 (2003): 157-205.
6. David A. Cotter, Joan M. Hermsen, and Reeve Vanneman, "Gender Inequality at Work," in *The American People: Census 2000*, ed. Reynolds Farley and John Haaga (New York: Russell Sage Foundation, 2004).
7. Suzanne Bianchi, Lynne M. Casper, and Rosalind Berkowitz King, eds., *Work, Family, Health, and Well-Being* (Mahwah, NJ: Erlbaum, 2005).
8. Karen L. Brewster and Ronald R. Rindfuss, "Fertility and Women's Employment in Industrialized Countries," *Annual Review of Sociology* 26 (2000): 271-96.
9. Toossi, "A Century of Change."
10. National Institute on Aging, *Growing Older in America: The Health and Retirement Study* (Washington, DC: National Institutes of Health, 2007).
11. Jonathan Gruber and David A. Wise, eds., *Social Security and Retirement Around the World* (Chicago: University of Chicago Press, 1999).
12. Mosisa and Hipple, "Trends in Labor Force Participation in the United States."
13. Bureau of Labor Statistics, "Foreign-Born Workers, Their Characteristics in 2007," news release, March 26, 2007, accessed online at www.bls.gov/news.release/pdf/forbrn.pdf, on May 1, 2008.
14. John Bound and Harry J. Holzer, "Industrial Shifts, Skills Levels, and the Labor Market for White and Black Males," *Review of Economics and Statistics* 75, no. 3 (1993): 387-96.
15. Bound and Holzer, "Industrial Shifts, Skills Levels, and the Labor Market for White and Black Males."
16. John Kasarda, "Industrial Restructuring and the Changing Location of Jobs," in *State of the Union: America in the 1990s*, ed. Reynolds Farley (New York: Russell Sage Foundation, 1995).
17. Kasarda, "Industrial Restructuring."
18. Irene Browne, "Opportunities Lost? Race, Industrial Restructuring, and Employment Among Young Women Heading Households," *Social Forces* 73, no. 3 (2003): 907-29.
19. John Chinhui et al., "Why Has the Natural Rate of Unemployment Increased Over Time?" *Brookings Papers on Economic Activity* 1991, no. 2 (1991): 75-142.
20. Chinhui and his colleagues defined prime working-age men as those with one to 30 years potential experience who are ages 18 to 48 (for high school graduates). They followed up the 1991 study in: John Chinhui, Kevin M. Murphy, and Robert H. Topel, "Current Unemployment, Historically Contemplated," *Brookings Papers on Economic Activity* 2002, no. 1 (2002): 79-116.
21. The decline in female unemployment may be deceptively positive as married women who lose jobs may not claim to be unemployed but report themselves as homemakers, effectively leaving the labor force.
22. Lawrence F. Katz and Robert Shimer, "Comments and Discussion on Current Unemployment, Historically Contemplated," *Brookings Papers on Economic Activity* 2002, no. 1 (2002): 117-136.
23. Teresa Morisi, "Youth Enrollment and Employment During the School Year," *Monthly Labor Review* 131, no. 2 (2008): 51-63.
24. William Deming, "A Decade of Economic Shifts and Population Change in U.S. Regions," *Monthly Labor Review* 119, no. 11 (1996): 3-14.
25. Deming, "A Decade of Economic Shifts and Population Change in U.S. Regions."
26. Ian D. Wyatt and Daniel E. Hecker, "Occupational Changes During the 20th Century," *Monthly Labor Review* 129, no. 3 (2006): 35-57.
27. National Science Board, *An Emerging and Critical Problem of the Science and Engineering Labor Force* (Arlington, VA: National Science Board, 2004), accessed online at www.nsf.gov, on July 6, 2006; and RAND Corporation, *Is the Federal Government Facing a Shortage of Scientific and Technical Personnel?* (Santa Monica, CA: RAND Corporation, 2004), accessed online at www.rand.org/pubs/research_briefs, on July 6, 2006.
28. National Science Board, *Science and Engineering Indicators 2006* (Arlington, VA: National Science Board, 2006), accessed online at www.nsf.gov, on July 19, 2006.
29. Institute of International Education, "Open Doors 2005: Report on International Educational Exchange—Leading 25 Places of Origin of International Students, 2004/5," accessed online at http://opendoors.iienetwork.org/?p=69691, on July 7, 2006.
30. U.S. Census Bureau, *2006 American Community Survey Selected Population Profiles*, accessed online at www.census.gov/acs/www/, on May 22, 2008.
31. Lawrence Mishel, Jared Bernstein, and Sylvia Allegreto, *State of Working America 2006/2007* (Ithaca, NY: Cornell University Press, 2007).
32. Bureau of Labor Statistics, "Union Membership in 2007," news release, Jan. 25, 2008, accessed online at www.bls.gov/news.release/pdf/union2.pdf, on May 1, 2008.
33. Mishel, Bernstein, and Allegreto, *State of Working America*.
34. "Labour Pains," *The Economist*, March 6, 2007.
35. Bureau of Labor Statistics, *National Compensation Survey, Employee Benefits in Private Industry* (March 2007).
36. Richard B. Freeman, "Do Workers Want Unions? More Than Ever," *Economic Policy Institute Briefing Paper* 182 (Feb. 22, 2007).
37. Amy Caiazza, April Shaw, and Misha Werschkul, *Women's Economic Status in the United States: Wide Disparities by Race, Ethnicity, and Region* (Washington, DC: Institute for Women's Policy Research, 2004).
38. Tanja van der Lippe and Liset van Dijk, "Comparative Research on Women's Employment," *Annual Review of Sociology* 28 (2002): 221-41.
39. Institute for Women's Policy Research, "The Gender Wage Ratio: Women's and Men's Earnings," *IWPR C350* (2008), accessed online at www.iwpr.org, on May 19, 2008.
40. U.S. General Accounting Office, *Women's Earnings: Work Patterns Partially Explain Difference Between Men's and Women's Earnings* (Report GAO-04-35, 2003).
41. Evelyn Murphy, *Getting Even: Why Women Don't Get Paid Like Men and What To Do About It* (New York: Simon and Schuster, 2006).
42. U.S. Census Bureau, *Historical Income Tables* P-38, accessed online at www.census.gov, on May 22, 2008.
43. Kenneth Couch and Mary C. Daly, "Black/White Wage Inequality in the 1990s: a Decade of Progress," *Economic Inquiry* 40, no. 1 (2002): 31-41.
44. Robert I. Lerman, *Meritocracy Without Rising Inequality? Wage Rate Differences Are Widening by Education and Narrowing by Gender and Race* (Washington, DC: Urban Institute, 1997).
45. Leslie McCall, "Sources of Racial Wage Inequality in Metropolitan Labor Markets: Racial, Ethnic, and Gender Differences," *American Sociological Review* 66, no. 4 (2001): 520-41.
46. Arlene Dohm and Lynn Shniper, "Occupational Employment Projections to 2016," *Monthly Labor Review* 130, no. 11 (2007): 86-125.
47. Lynn A. Karoly and Constantijn W.J. Panis, *The 21st Century at Work: Forces Shaping the Future Workforce and Workplace in the United States* (Santa Monica, CA: RAND Corporation): 14, accessed online at www.rand.org, on May 21, 2008.
48. David H. Autor, Lawrence F. Katz, and Melissa S. Kearney, "Trends in U.S. Wage Inequality: Revising the Revisionists," *Review of Economics and Statistics* 90, no. 2 (2008): 300-323.
49. Kate Bronfenbrenner and Stephanie Luce, *The Changing Nature of Corporate Global Restructuring: The Impact of Production Shifts on Jobs in the U.S., China, and Around the Globe*, a report for the U.S.-China Economic Security Review Commission (2004), accessed online at http://digitalcommons.ilr.cornell.edu/cbpubs, on May 1, 2008.
50. Bronfenbrenner and Luce, *The Changing Nature of Corporate Global Restructuring*.

Visit www.prb.org to Find:

Articles and Reports. New data and analysis on topics as diverse as gender, reproductive health, environment, and race/ethnicity.

Graphics Bank. PowerPoint slides of population-related information, ready for use in presentations or in the classroom.

PRB Discuss Online. Available at http://discuss.prb.org. Join online discussions with experts on newsworthy population, health, and environment topics, trends, and issues. Transcripts of each discussion are archived on PRB's website.

DataFinder. Search a world database of 132 population, health, and environment variables for 210 countries, 27 world regions and subregions, and the world. A separate U.S. database includes 244 social, economic, and demographic variables for each of the 50 states and the District of Columbia.

For Educators. Access online lesson plans, maps, and educational resources.

For Journalists. Highlights news releases, frequently asked questions, webcasts, and a dictionary of population terms.

"PRB News" and "Events & Training." Announces monthly policy seminars, intern and fellowship applications, and workshops, as well as news from PRB's Communications, Domestic, and International programs.

E-Mail This. Send e-mails to others with links to PRB content.

Country Pages. Scan up-to-date population, health, and environment data for any of 210 countries, and find links to related PRB articles and reports and organizations' websites.

WebUpdate. Sign up to receive e-mail announcements about new web content and PRB-sponsored seminars and briefings.

Become a Member of PRB

With new perspectives shaping public policies every day, you need to be well informed. As a member of the Population Reference Bureau, you will receive reliable information on United States and world population trends—properly analyzed and clearly presented in readable language. Each year you will receive four *Population Bulletins*, the annual *World Population Data Sheet*, and complimentary copies of special publications. We welcome you to join PRB today.

Individual $50
Library $75
Corporation.....$300
Lifetime Membership $5,000

Population Reference Bureau
Circulation Dept. , P.O. Box 96152
Washington, DC 20077-7553

For faster service, call **800-877-9881**
Or visit **www.prb.org**
Or e-mail **popref@prb.org**
Or fax **202-328-3937**

Recent Population Bulletins

Volume 63 (2008)
No. 1 Managing Migration: The Global Challenge
by Philip Martin and Gottfried Zürcher

No. 2 U.S. Labor Force Trends
by Marlene A. Lee and Mark Mather

Volume 62 (2007)
No. 1 Population: A Lively Introduction, 5th ed.
by Joseph A. McFalls Jr.

No. 2 Challenges and Opportunities—The Population of the Middle East and North Africa
by Farzaneh Roudi-Fahimi and Mary Mederios Kent

No. 3 World Population Highlights: Key Findings From PRB's 2007 World Population Data Sheet
by Population Reference Bureau staff

No. 4 Immigration and America's Black Population
by Mary Mederios Kent

Volume 61 (2006)
No. 1 The Global Challenge of HIV and AIDS
by Peter R. Lamptey, Jami L. Johnson, and Marya Khan

No. 2 Controlling Infectious Diseases
by Mary M. Kent and Sandra Yin

No. 3 India's Population Reality: Reconciling Change and Tradition
by Carl Haub and O.P. Sharma

No. 4 Immigration: Shaping and Reshaping America
by Philip Martin and Elizabeth Midgley

Volume 60 (2005)
No. 1 Global Aging: The Challenge of Success
by Kevin Kinsella and David R. Phillips

No. 2 New Marriages, New Families: U.S. Racial and Hispanic Intermarriage
by Sharon M. Lee and Barry Edmonston

U.S. Labor Force Trends

Historically high growth rates for the U.S. labor force in the last four decades are linked to two main factors: growth in population size and increases in women's labor force participation rates. The aging of baby boomers and the fact that women's labor force participation has already peaked are expected to slow labor force growth in the near future. Foreign-born immigrants have grown as a proportion of the population since 1950, contributing to growth in the civilian workforce in the 1990s and 2000s and to changes in its racial and ethnic composition.

Global demographic trends and policies in other countries also influence employment opportunities in the U.S. labor market. With India and China adding millions of workers to the global labor force each year, the bargaining power of unions has diminished. In addition, the loss of unionized manufacturing jobs and the increasing loss of service jobs through offshoring have likely slowed progress in reducing wage inequality. The mounting importance of higher education and skills will likely continue to increase the gap in wages and employment rates between those with a college education and those without.

PRB

POPULATION REFERENCE BUREAU

1875 Connecticut Ave., NW, Suite 520 | Washington, DC 20009-5728
202-483-1100 | 202-328-3937 (fax) | www.prb.org