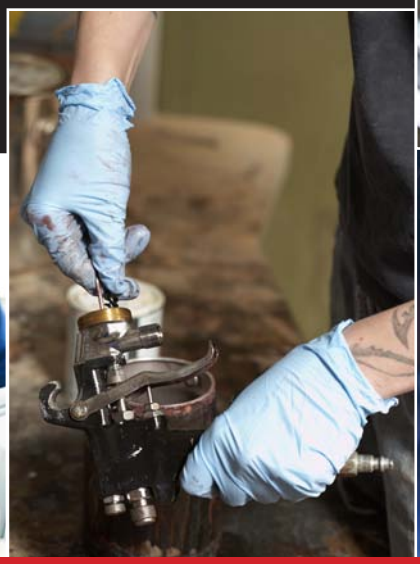
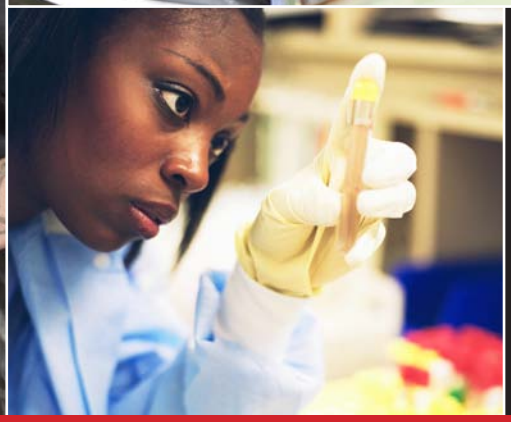
U.S. DEPARTMENT OF LABOR





america's **dynamic workforce**

August 2007 | **Full Text Version**

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SECRETARY'S MESSAGE

BY U.S. SECRETARY OF LABOR ELAINE L. CHAO

Today's U.S. economy is healthy and resilient. Despite recent challenges, including a declining housing market, financial market volatility, and high energy prices, the fundamentals of our economy remain positive. America's labor market is vibrant: unemployment is low, compensation is rising, and millions of new jobs have been created in the past four years.

In the first half of 2007, the unemployment rate averaged 4.5 percent. That's lower than the 4.6 percent average of 2006 and about a full point lower than the 5.7 percent average unemployment rate of the 1990s.

By June 2007, the latest month for which data for this report were available, the United States had enjoyed 46 months of uninterrupted job growth. More than 8.2 million net new jobs had been created in the United States since August 2003. This level of job creation reflects the overall economic growth that our country has been experiencing. The U.S. economy grew at an average rate of 2.9 percent in 2006.

But even though our economy has grown, there are challenges. Our country is in the middle of a major economic transformation. Technology has accelerated the pace of change and our country is transitioning to a knowledge-based economy.

Good jobs are still being created. In fact, the majority of employment growth over the past six years was in occupations with above-average compensation. But there is a caveat. Most of the new jobs projected for the future are expected to be filled by persons with some kind of post-secondary education. Over the next decade, new jobs will be created in high-growth industries, including health care, geospatial technology, and the life sciences. Education to gain the knowledge and skills that are in demand is key to future success in America's dynamic labor market.

Workers who acquire and maintain competitive knowledge and skills are finding jobs with good compensation. Our goal at the Department of Labor is to ensure that all workers have access to the information, training, and resources that will help them get the skills they need to access the growing opportunities in our nation's 21st century economy.

Despite the difficult challenges that America has confronted over the past six years, our economy remains healthy and resilient. Its strength is a tribute to the dynamism, productivity, and flexibility of our nation's workforce.

ACKNOWLEDGMENTS

This report was produced under the supervision of Elaine L. Chao, U.S. Secretary of Labor. It was designed and developed by the staff of the Office of the Assistant Secretary for Policy. Leon R. Sequeira, Assistant Secretary for Policy; Suey Howe and Deborah N. Misir, OASP Deputy Assistant Secretaries; and John Britton, OASP Chief of Staff, provided editorial advice and support throughout the development of ***America's Dynamic Workforce: 2007.***

Laura Genero, Associate Deputy Secretary, generously provided insightful advice and assistance at various stages of design and development of the report.

The text and charts for ***America's Dynamic Workforce: 2007*** were developed and edited by Ron Bird, Chief Economist, and by OASP economists David Langdon, Alison Pasternak, Regina Powers and Jay Berman. Economist interns Michael Chow and Ira Yeung also developed charts and text and provided valuable assistance throughout. Additional design assistance and editorial review was provided by Kathleen Franks, Sheila McConnell, Fred Siskind, Stephanie Swirsky, and Babette Williams. Richard Manning of the Office of Public Affairs coordinated production and printing.

EXECUTIVE SUMMARY

America's Dynamic Workforce: 2007 presents an overview of current conditions and notable trends affecting the American labor market and economic activity. Primary emphasis is on measures of labor market performance – employment, labor force participation, unemployment, and compensation. General measures of economic performance such as gross domestic product (GDP) and productivity growth are also described as they relate to labor market conditions and trends.

Throughout this report the focus is on the data – what the numbers actually say about the American labor market – and on how individual data items fit together to present an overall portrait of the health and dynamism of the market.

The report shows that the American labor market is strong and resilient. Labor market indicators describe an economy that is creating jobs, expanding output, and rewarding work with good compensation. Since job growth began recovering in 2003 from the effects of the last recession, the economy has tallied 46 consecutive months of job gains (through June 2007, the latest data available for this report). Employment has reached record heights.

The report also recognizes that, even as our economy grows steadily, there are challenges. The United States and the world are experiencing a major economic transformation. Technology has accelerated the pace of change, and the United States is transitioning to a knowledge-based economy.

The American economy is creating good jobs. The majority of employment growth over the past six years was in occupations with above-average compensation (wages plus benefits). This trend is likely to continue in the future, and most new jobs projected for the future are expected to be filled by persons with some kind of post-secondary education. Education to gain the knowledge and skills that are in demand is the key to success in America's dynamic labor market.

Workers who bring to the labor market the knowledge and skills that today's competitive economy demands are finding good jobs and rising compensation.

There are six chapters:

- **Chapter 1** summarizes the current levels and trends of payroll jobs, total employment, job openings, turnover, unemployment, and GDP. 2006 was a good year for American workers, and the first half of 2007 continued the growth trend. In 2006, job growth resulted in 2.3 million net new jobs, and the unemployment rate averaged 4.6 percent over the year. The pace of job growth in the first half of 2007 suggests that we are moving into a steady and sustainable economic path. With the unemployment rate holding steady at around 4.5 percent in the first half of 2007, the labor market outlook is favorable for those seeking to enter or re-enter the labor market.
- **Chapter 2** presents an overview of recent trends in labor productivity and worker compensation. Over the last two decades the capital-labor ratio and educational attainment of workers have increased, helping make American workers more productive. Greater productivity gains have translated into greater compensation gains. Today's workers earn the fruits of their labor in different forms, as benefits are both significant and increasingly diverse.
- **Chapter 3** provides a global context for understanding the U.S. labor market and compares the United States and other countries along common dimensions of labor market indicators. The

successful record of the United States across a broad range of indicators and over an extended time period is remarkable for a mature industrial economy. The fact that the United States has achieved these results in the face of growing worldwide competition and other challenges, both natural and man-made, is a further testament to the robustness and resilience of an economic system based on free and open markets.

- **Chapter 4** examines the educational attainment of the labor force, including trends and comparisons of employment, earnings, and unemployment relative to educational attainment. The 103.1 million Americans ages 25 and older in March 2006 who had completed some post-secondary education comprised a valuable national asset of knowledge, skill, and experience. The 21st century labor market seeks and rewards workers who can offer the educational foundation, technical skills and creative flexibility that employers need to compete and to adapt to changing needs successfully.
- **Chapter 5** examines the dynamic features of the labor force in terms of job tenure, work schedules, work arrangements, and factors outside of work. Workers are taking advantage of new opportunities and move relatively quickly from one job to another. Flexibility is a hallmark of the American labor market, which places a high value on the freedom to choose one's work and the terms of employment. Flexible work schedules allow workers to do more outside of work, whether it is taking care of household responsibilities, volunteering, or pursuing more education.
- **Chapter 6** highlights two trends that will significantly affect the shape of the labor force through the first half of the 21st century: an aging population and increasing racial and ethnic diversity. The aging of the population will lead to an aging of the labor force and slower labor force growth. Workers in the future will have to support a relatively greater dependent population as the baby boomer generation enters retirement. Between 2006 and 2050, the labor force will increase from 151.4 million to over 195 million, with racial and ethnic minorities comprising an increasing share of the labor force.

Data is presented through June 2007 and reflects updates and revisions published through July 31, 2007. Subsequent updates or revisions may occur that are not reflected in this report.

America's Dynamic Workforce: 2007 is presented in two versions:

The full text version, ***America's Dynamic Workforce: 2007 – Full Text Version***, includes discussion and additional data and analysis beyond the basic charts presented.

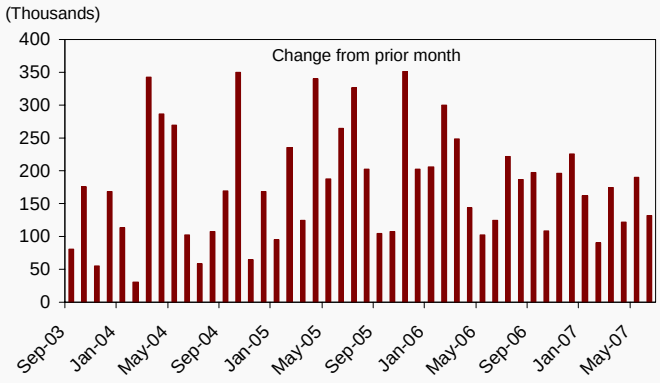
The chart book version, ***America's Dynamic Workforce: 2007 – Chartbook***, features larger format charts for easier reading and summary text related to each chart.

1 A HEALTHY LABOR MARKET

The American labor market is healthy and growing. The major labor market indicators continue to describe an economy that is creating jobs, expanding output, and rewarding work with good compensation. Since employment began recovering in mid-2003 from the effects of the last recession, the economy has tallied 46 consecutive months of job gains (through June 2007, the latest data available for this report). Employment has reached record levels.

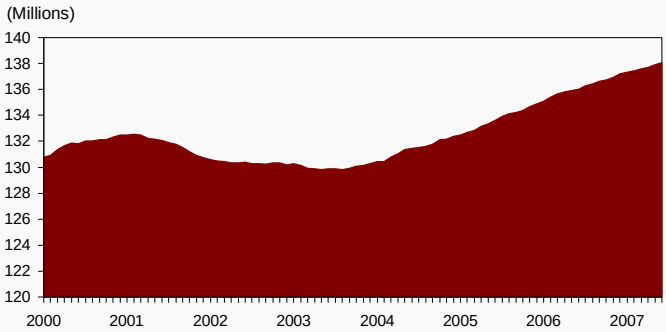
The unemployment rate has fallen significantly from its post-recession high of 6.3 percent and ranged from 4.6 percent to 4.4 percent during the first half of 2007 – in June it was 4.5 percent. Both components of compensation – wages and employer-paid benefits – were higher in terms of real purchasing power in 2006 than in 2000.

Figure 1-1. Payroll jobs have increased for 46 consecutive months through June 2007



SOURCE: Bureau of Labor Statistics, Current Employment Statistics program.

Figure 1-2. Payroll jobs have surpassed the pre-recession peak



SOURCE: Bureau of Labor Statistics, Current Employment Statistics program.

EMPLOYMENT

Net growth in nonfarm payroll employment totaled 8.2 million from August 2003 through the first half of 2007. Job growth during 2006 was 2.3 million. In the first half of 2007 a total of 871,000 net new jobs were created.

Figure 1-1 shows the monthly record of job gains that began after the post-recession low point in August 2003. Over this period, monthly job gains averaged 179,000. In the first six months of 2007, monthly gains averaged 144,000.

In 2006, nonfarm payroll employment averaged a record 136.2 million, over 3.66 million more than the pre-recession high of 132.6 million in February 2001. By June 2007, the payroll jobs total reached 138.0 million. Total employment (based on the household survey that includes self-employed and farm workers not covered by the establishment-based payroll survey) averaged 144.4 million workers in 2006, an

increase of nearly 7.5 million from 2001.[1]

Figure 1-2 shows in detail the monthly levels of payroll employment from January 2000 through June 2007. In February, just before the onset of the 2001 recession in March, payroll employment peaked at nearly 132.6 million. In the recession aftermath, payroll employment declined to a low of 129.8 million in August 2003.

The recession that began in the first quarter of 2001 had its origins in economic events in 2000, when financial market reversals and inventory build-ups appear to have triggered increased layoffs and slower job growth. The September 11 terrorist attacks added pressure to an already declining economy. Job losses totaled 775,000 in the first six months of the recession (March through August 2001). Job losses between September and December amounted to an additional 1.1 million. The overall recession impact was a loss of nearly 2.7 million jobs over 30 months between March 2001 and August 2003 – equal to 2.1 percent of the pre-recession peak employment.

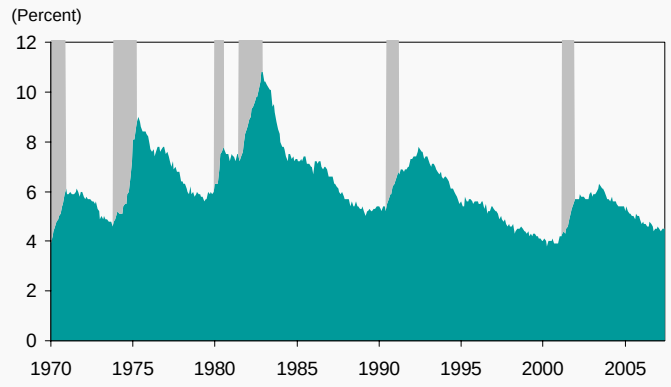
In terms of proportions of payroll jobs lost, the 2001 recession was more severe than the immediately previous (1990) recession, which recorded a 1.5 percent decline in payroll employment, but less severe than the 1981 recession, which recorded a 3.1 percent decrease in payroll employment.[2]

Job market recovery began after the low-point in August 2003 and continued without interruption for 46 months through June 2007. In the last four months of 2003, job gains totaled 480,000, or 120,000 per month, on average. In 2004, 2.1 million net new jobs were created; in 2005, the total was 2.5 million; nearly 2.3 million new jobs were created in 2006; and in the first six months of 2007, 871,000 net new jobs were created.[3]

The rebound of payroll jobs erased the recession losses by February 2005 when the total payroll employment surpassed the previous level of February 2001. By June 2007, payroll employment was nearly 5.5 million higher than the February 2001 mark.

In 2006, the average level of payroll employment increased in 48 of the 50 states compared to 2005. Louisiana and Michigan recorded job losses. The average employment increase for the 48 states that experienced job growth was 46,000, or nearly a 1.8 percent gain over 2005. The largest over-the-year increases in annual average payroll employment were in Texas (+313,000), California (+278,000), and Florida (+206,000). The largest annual average percentage increases were in Nevada and Wyoming (4.8 percent each).

Figure 1-3. The unemployment rate has declined to near-record lows



SOURCE: Bureau of Labor Statistics, Current Population Survey.

UNEMPLOYMENT

Figure 1-3 shows the trend of the unemployment rate from January 1970 to June 2007. At 4.5 percent in June 2007, the national unemployment rate was near its lowest level in nearly six years.

The unemployment rate has declined from a post-recession high of 6.3 percent in June 2003. The unemployment rate was 4.2 percent in February 2001, just prior to the start of the last recession. The previous expansion low-point for the unemployment rate was 3.8 percent in April 2000.

June 2007 marked the 75th month since the start of the last recession in March 2001. The 4.5 percent unemployment rate in June 2007 compares favorably to a 5.2 percent unemployment rate in the 75th month (September 1996) following the beginning of the previous recession in 1990.

At 6.3 percent in June 2003, the peak unemployment rate following the 2001 recession was lower than the peak rate for any recession since the 6.1 percent peak following the 1970 recession. The average peak rate for the previous five recessions (1970s – 1990s) was 8.3 percent.

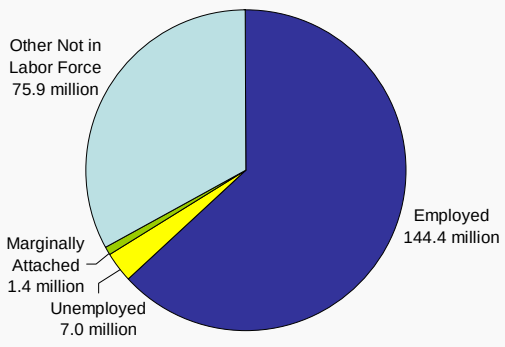
In 2006, on average, 7.0 million persons were unemployed, and by June 2007 the number was 6.9 million. These levels represent a significant decline from the 9.3 million unemployed at the post-recession peak in 2003.

The official unemployment rate calculation classifies persons as unemployed if they do not have a job, have actively looked for work in the prior 4 weeks (or are on temporary layoff), and are currently available for work. Each month, the Bureau of Labor Statistics (BLS) also publishes alternative measures of labor underutilization, one of which includes persons not in the labor force who have looked for work in the previous 12 months, and who want a job and are available for work, even though they have not actively looked during the last four weeks.

In 2006, the number of persons in this "marginally attached" category totaled 1.4 million, of whom 381,000 cited discouragement about job prospects as the reason for not actively looking for work. The remainder cited other reasons, such as lack of transportation, illness, or family responsibilities. The 1.4 million average level for this group in 2006 was down from 1.5 million in 2005 and comparable to the 1994-2004 average of 1.4 million.

Including the 381,000 discouraged workers in the unemployment rate computation would have raised the 2006 average rate from 4.6 percent to 4.9 percent.[4] Including all 1.4 million of the "marginally attached" would have raised the rate to 5.5 percent, below the post-recession peak of 7.2 percent in June 2003 for this expanded labor underutilization measure and also below the 6.0 percent average since 1994.

Figure 1-4. More than 60 percent of the population ages 16 and over worked in 2006

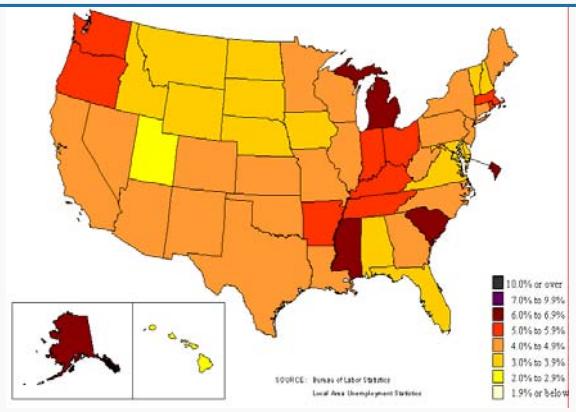


SOURCE: Bureau of Labor Statistics, Current Population Survey.

In 2006, the median duration of unemployment was 8.3 weeks (annual average). The median duration of unemployment generally declined from a post-recession high of 11.5 weeks in June 2003 to a recent low of 7.3 weeks in December 2006. Median duration averaged 8.3 weeks in the first half of 2007.

The median duration of unemployment averaged 7.1 weeks from January 1967 to June 2007.

Figure 1-5. Unemployment rates by state, 2006



SOURCE: Bureau of Labor Statistics, Local Areas Unemployment Statistics program.
NOTE: Data are 2006 annual averages.

Figure 1-4 shows the distribution in 2006 of the total 228.8 million noninstitutional civilian population ages 16 and older. The 144.4 million employed persons comprised 63.1 percent. Another 7.0 million were unemployed. Employed and unemployed combined comprise the labor force.

The 1.4 million persons "marginally attached" to the labor force comprised 0.6 percent of the ages 16 and older civilian noninstitutional population.

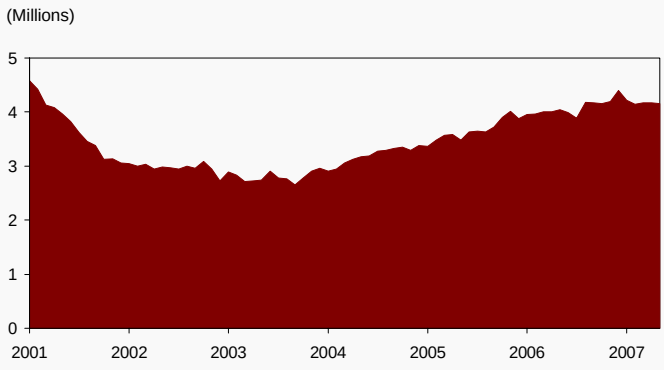
In addition to the "marginally attached," there were 75.9 million other people who were also not in the labor force. These others accounted for 33.2 percent of the civilian noninstitutional population ages 16 and older. Individuals not in the labor force include persons who are neither working nor looking for work for reasons such as retirement, disability, and school attendance.

Figure 1-5 shows average unemployment rates by state in 2006. Hawaii reported the lowest unemployment rate among the states (2.4 percent). Utah had the next lowest rate (2.9 percent) closely followed by Nebraska and Virginia (3.0 percent each).

The highest rates were recorded in Michigan and Mississippi (6.9 and 6.8 percent, respectively). The largest unemployment rate decline from 2005 to 2006 occurred in Louisiana (-2.7 percentage points), reflecting, in part, recovery from the 2005 hurricanes.

JOB OPENINGS AND TURNOVER

Figure 1-6. Job openings have increased by over one million since 2003

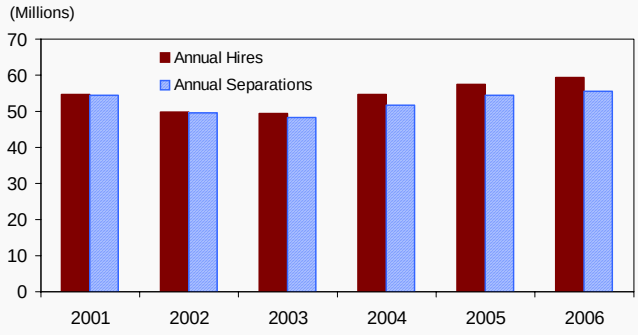


SOURCE: Bureau of Labor Statistics, Job Openings and Labor Turnover Survey.

As the unemployment rate has fallen over the past two years, the number of unfilled job openings has steadily risen – another sign of a strengthening labor market.

Figure 1-6 shows that the latest available data from the BLS Job Openings and Labor Turnover Survey (JOLTS) found 4.2 million unfilled job openings at the end of May 2007 (seasonally adjusted). This is an increase of 1.5 million from the post-recession low of 2.7 million at the end of September 2003 and an increase of 164,000 from April 2006.

Figure 1-7. Turnover shows labor market dynamics



SOURCE: Bureau of Labor Statistics, Job Openings and Labor Turnover Survey.

The BLS JOLTS program asks employers each month the number of unfilled job openings that exist on the last business day of the month.

Job openings include both existing jobs that have become vacant and new jobs that the employer has created but not yet filled. During the course of a month, many jobs become available and many are filled.

Data for job openings on the last business day of each month provide a snapshot estimate of the typical number of openings on a given day. A rising trend of openings suggests that job opportunities may be growing faster than qualified candidates are being found to fill them.

Figure 1-7 shows annual turnover – hires and separations for 2001 to 2006. In 2006, employers made 59.4 million hires to fill vacancies or newly created jobs.[5] On average about 3.6 percent of jobs were filled or re-filled each month. Parallel to hires, separations totaled 55.5 million over the course of 2006. Separations included 32.3 million voluntary quits by employees, 18.9 million layoffs or discharges, and 4.2 million other separations, including those because of retirement, disability and death. It is likely that many of the voluntary quits involved job changes from one employer to another, but the exact number is unknown.

The JOLTS program collects data from employers on changes in payrolls. The numbers of separations and hires represent jobs vacated or filled, respectively. Some individuals change jobs or enter or leave the job market several times during a year, so the numbers of individuals who are involved in hires or separations is somewhat smaller than the numbers of jobs affected.

OUTPUT AND PRODUCTIVITY

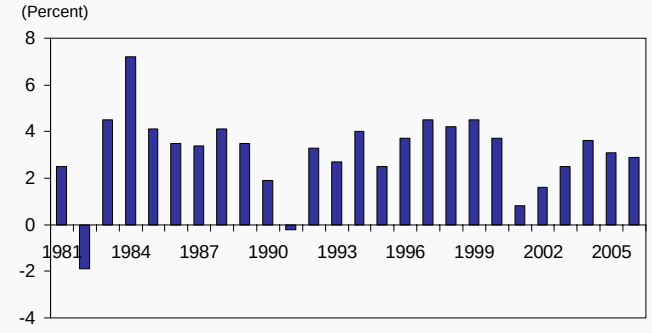
The strength of the labor market is a reflection of the growth of real (after inflation adjustment) gross domestic product (GDP) in recent years. In 2006, GDP reached $13.2 trillion.[6] Since 1980, real GDP has more than doubled.

On a per capita basis, GDP in 2006 was $44,007. This was 3.4 times the per capita real GDP of $13,063 in 1948 (2006 dollars), and 1.7 times the per capita real GDP in 1980.

Real GDP growth (Figure 1-8) averaged 2.9 percent in 2006.[7] This followed a 3.1 percent growth rate in 2005 and a 3.6 percent growth rate in 2004. For 2003 through 2006 the average annual growth rate for real GDP was 3.0 percent. Including the 2001 recession year, real GDP growth over the past six years has averaged 2.4 percent per year. Since 1948, annual real GDP growth has averaged 3.4 percent. Real GDP growth slowed in the first quarter of 2007 to 0.6 percent (seasonally adjusted annualized rate), but jobs continued expanding at a sustainable pace – averaging +145,000 net new jobs monthly in the first six months of 2007. Advance estimates for the second quarter of 2007 showed real GDP growth rebounding to a 3.4 percent annualized rate.

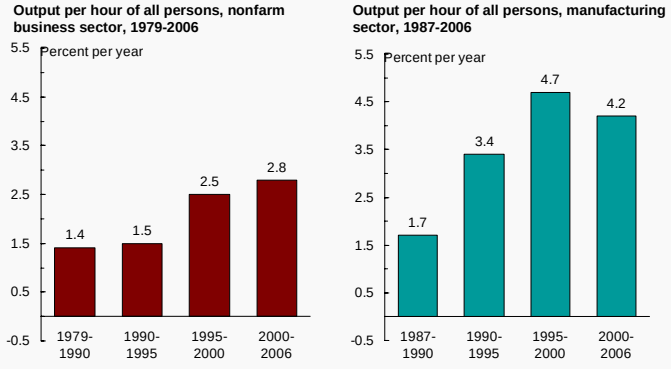
Underlying GDP growth has been a notable increase in labor productivity (Figure 1-9) in recent years. Growth of labor productivity in the nonfarm business sector averaged 2.8 percent per year over the 2000-2006 period, twice the 1979-1990 average and nearly double the 1990-1995 average. Acceleration of productivity growth in the nonfarm business sector began in the late 1990s as the annual average growth rate jumped to 2.5 percent. Slower recent productivity growth (+1.0 percent in the first quarter of 2007 compared to 4.2 percent a year earlier) is associated with the fact that GDP growth slowed while employment continued growing. The continued growth of jobs despite slower GDP growth may signal employer expectations that the slowdown will be temporary and show an underlying confidence in the health of the economy.

Figure 1-8. Annual average growth of real gross domestic product (GDP), 1981 – 2006



SOURCE: Bureau of Economic Analysis.

Figure 1-9. Labor productivity has accelerated since 1995, led by gains in manufacturing



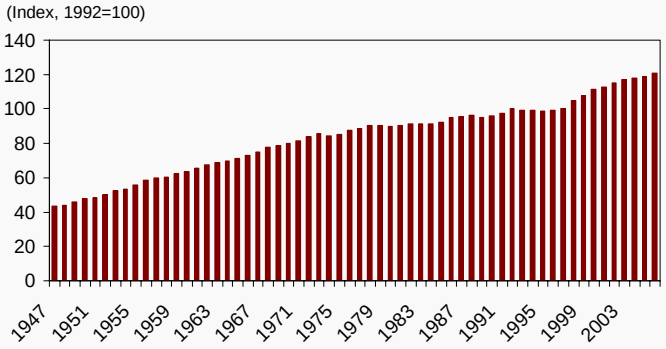
SOURCE: Bureau of Labor Statistics, Major Sector Productivity and Costs program.

Growth in manufacturing productivity also accelerated over the 2000-2006 period: Output per hour grew at an average annual rate of 4.2 percent. This was a notable gain over the 1987-1990 average of 1.7 percent average annual growth.

COMPENSATION GAINS

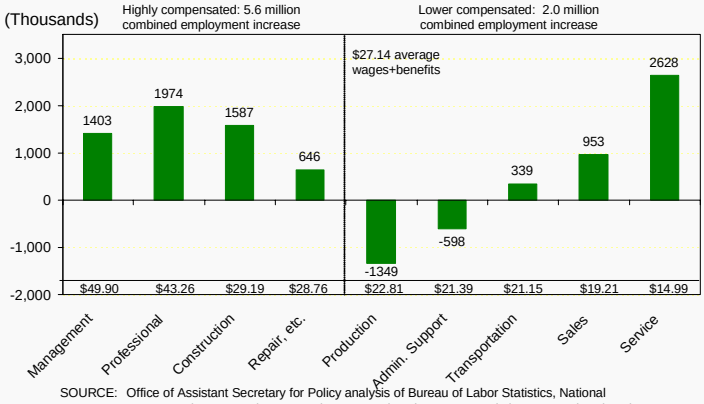
Increasing real output and productivity have yielded real gains in compensation for employees. Compensation includes both wages and the cost of benefits such as health insurance, retirement plan contributions, paid leave, and other benefits.

Figure 1-10. Real hourly compensation index, nonfarm business sector, 1947 – 2006



SOURCE: Bureau of Labor Statistics, Major Sector Productivity and Costs program.

Figure 1-11. Highly compensated jobs drove much of 2001-2006 employment growth



SOURCE: Office of Assistant Secretary for Policy analysis of Bureau of Labor Statistics, National Compensation Survey (compensation amounts) and Current Population Survey data (employment change 2001 – 2006 annual averages).

NOTE: Across all occupations, average compensation in 2006 was $27.14 per hour. Compensation includes employer cost for both wages and benefits.

Figure 1-10 shows the index of real hourly compensation of employees in the nonfarm business sector. In Figure 1-10, the recent real compensation growth experience appears similar to the 1947-1970 trend and stronger than the trend of 1970 to 1995.

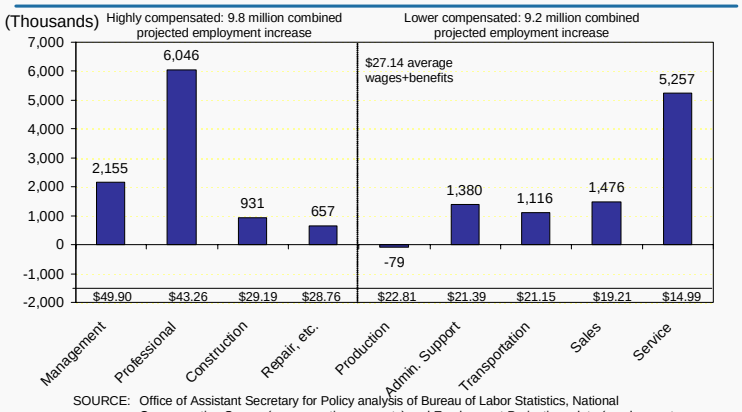
In the late 1990s, the trend of real hourly compensation increased notably, posting gains of 4.5 percent in 1998, 2.5 percent in 1999, and 3.7 percent in 2000. Over the most recent six years (2001-2006) the growth of real hourly compensation has continued at a relatively robust rate of 1.4 percent per year, compared to the 1977-1997 average annual growth of 0.6 percent and to the 0.6 percent annual average rate for the comparable business cycle years of 1991-1996. In 2006, the average level of real hourly compensation in the nonfarm business sector was 8.5 percent higher than in 2000.

Compensation measured by the Constant Dollar Employment Cost Index (CD-ECI) also shows gains in real hourly terms over the past five years. The average level of the CD-ECI in 2006 was 4.3 percent higher than in 2001; by comparison, the 1996 level was 1.6 percent higher than in 1991. The wages component of the CD-ECI was 0.9 percent higher in 2006 than in 2001. Comparing a similar post-recession period, between 1991 and 1996, wages as measured by the CD-ECI rose 0.5 percent.

Much of the increase in compensation in the past five years was due to higher benefits costs. In 2006, benefits costs measured by the CD-ECI were 13.2 percent higher than in 2001. Rapidly rising benefits costs were also an element of rising compensation in the early 1990s.[8] Benefits costs rose 4.2 percent in constant dollars from 1991 to 1996, compared to the 0.5 percent increase in real wages during that period.

Figure 1-11 illustrates the relationship between increasing compensation (includes employer cost for both wages and benefits) and the changing structure of the labor market. Over the past five years, job growth has been greater among relatively well compensated occupations: management, business

Figure 1-12. Highly compensated jobs are expected to dominate 2004-2014 job growth



SOURCE: Office of Assistant Secretary for Policy analysis of Bureau of Labor Statistics, National Compensation Survey (compensation amounts) and Employment Projections data (employment change 2001 – 2006 annual averages).
NOTE: Across all occupations, average compensation in 2006 was $27.14 per hour. Compensation includes employer cost for both wages and benefits.

and financial; professional and related; construction and extraction occupations; and installation, maintenance and repair (repair, etc.) occupations.

Each of these four occupations paid above the average compensation of $27.14 per hour in 2006.[9] These four higher-compensation occupations accounted for 5.6 million net additional workers between 2001 and 2006.[10] The five lower-compensation occupations together accounted for 2.0 million net additional workers. Two of the latter occupation categories had net employment losses over the period: production occupations (-1.3 million) and administrative support occupations (-598,000).[11] For the lower-compensation occupations, employment losses in production occupations and in administrative support occupations partly offset gains in the transportation, sales, and service occupation categories.

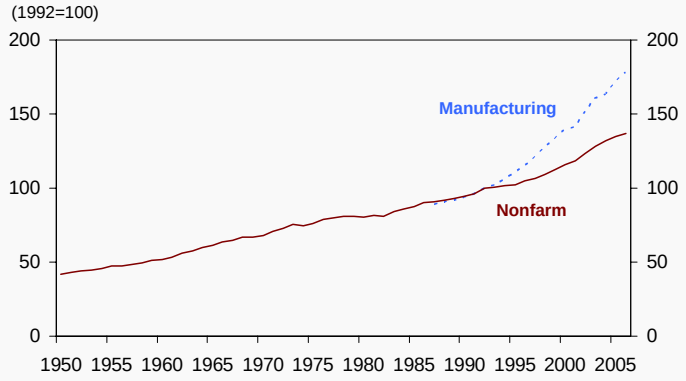
Figure 1-12 shows that jobs paying higher-than-average total compensation are expected to continue to account for the majority of net new jobs created in the future. Analysis of BLS's occupational job growth projections shows a 9.9 million net job growth over the 2004-2014 period for the major occupations that paid above average in 2006, compared to a net gain of 9.2 million among the occupations paying below-average hourly compensation.

A Good Year

2006 was a good year for American workers and the first half of 2007 continued the strong trend. In 2006, employment growth resulted in 2.3 million net new jobs and the unemployment rate averaged 4.6 percent over the year. The pace of job growth in the first half of 2007 suggests that the nation is moving into a steady and sustainable growth economic path. With the unemployment rate remaining around 4.5 percent in the first half of 2007, the labor market outlook is favorable for those seeking to enter or re-enter the labor market. The American economy is resilient, and its success in meeting the challenges of recent years while continuing economic expansion provides a foundation from which the nation can expect to successfully meet future challenges that may come its way.

2 A PRODUCTIVE WORKFORCE

Figure 2-1. Nonfarm business and manufacturing indexes of labor productivity



SOURCE: Bureau of Labor Statistics, Major Sector Productivity and Costs program.

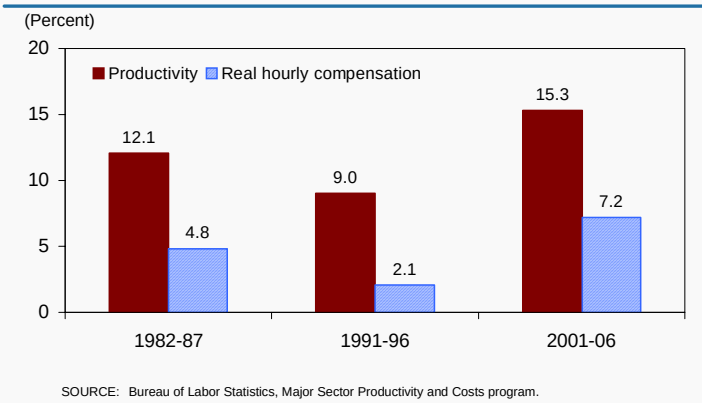
Both expanding population and rising productivity boost economic growth, but only the latter raises the standard of living. Productivity growth paves the way for increased real compensation (i.e., wages and benefits) for American workers. Labor productivity is defined as the ratio of real output to the number of labor hours required as input, and indexes of labor productivity measure its change over time.

RISING LABOR PRODUCTIVITY AND WORKER COMPENSATION

Multiple factors can raise workers' productivity. Two factors—workers' skills and efforts—are a direct reflection of the workers themselves. Other important factors include the effects of research and development and capital investment (in other words, the development and incorporation of technological change), the organization of production, and changes in managerial skills. Resource allocation also can affect overall productivity growth. If, for example, resources are shifted away from low-productivity industries to high-productivity ones, a nation's overall productivity level will rise.

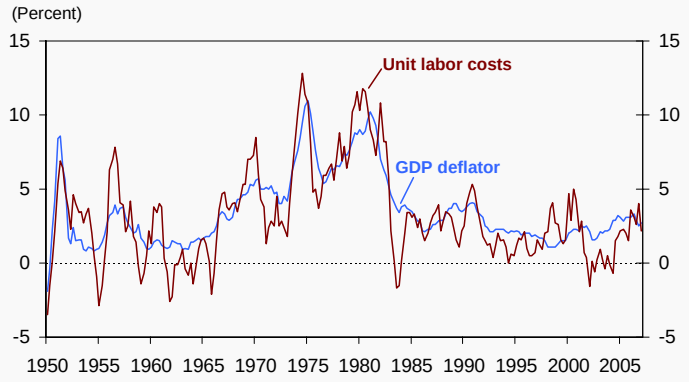
Nonfarm labor productivity has followed a long-term growth trend since the data were first published nearly 60 years ago, and growth has accelerated over the past decade. (See Figure 2-1.) Labor productivity in 2006 was double the 1970 level and triple its 1953 level. Over the past decade, productivity climbed at a 2.7 percent annualized rate, well above the 1.5 percent rate over the prior decade and the 1.7 percent rate for the prior 3 decades. Estimates of manufacturing productivity, which date from 1987, show an even more pronounced acceleration in growth. Between 1996 and 2006, manufacturing productivity surged

Figure 2-2. Growth in nonfarm business productivity and real compensation following recent recessions



SOURCE: Bureau of Labor Statistics, Major Sector Productivity and Costs program.

Figure 2-3. Year-to-year growth in nonfarm business unit labor costs and the GDP deflator



SOURCE: Bureau of Labor Statistics, Major Sector Productivity and Costs program and the Bureau of Economic Analysis.

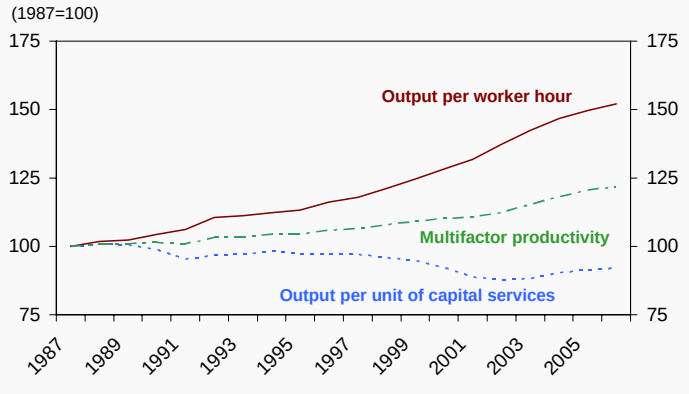
4.5 percent annually, which was more than 1.5 times the rate over the prior 9 years.

Greater productivity gains have translated into greater compensation gains. Between 2001 (the year of the latest recession) and 2006, nonfarm labor productivity increased 15.3 percent and real compensation per hour increased 7.2 percent. (See Figure 2-2.) The growth following the prior two recessions was notably lower. Between 1991 and 1996, labor productivity climbed 9.0 percent while compensation edged up 2.1 percent. Between 1982 and 1987, productivity increased 12.1 percent and compensation, 4.8 percent. In all three cases, the compensation gains fell short of productivity gains; however, the difference was least pronounced in 2001 - 2006. Productivity growth more closely translated into increased compensation over the past five years.

Unit labor costs more directly measure the relationship between output and worker compensation. This measure is defined as nominal compensation per hour divided by real output per hour, or equivalently as the average nominal cost of a unit of output. Unit labor costs are an indicator of inflationary pressures facing companies. If unit labor costs grow faster than overall inflation, then companies face pressure either to raise prices or reduce payments to other input factors.

Although growth rates in unit labor costs and other inflation measures diverge at times, their long-term trends are very similar. Figure 2-3 illustrates the year-to-year growth trends since 1950 of unit labor costs and the GDP deflator. Their correlation coefficient over the entire time period was 0.83, with 1.0 indicating perfect linear correlation. Over the past decade, the correlation was nearly 0.93. During that period, unit labor costs rose about 20 percent while the GDP deflator increased 24 percent.

Figure 2-4. Private nonfarm business labor, capital, and multifactor productivity, 1987-2006



SOURCE: Bureau of Labor Statistics, Major Sector Multifactor Productivity program.

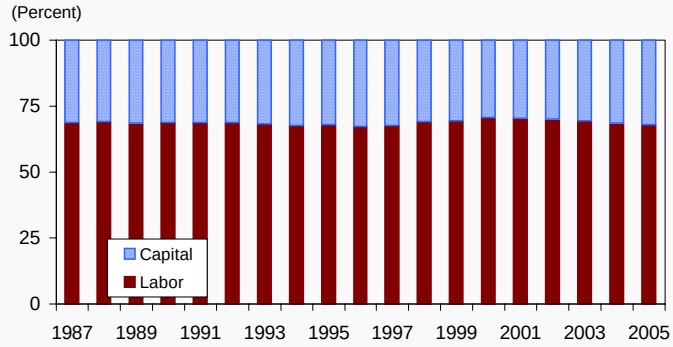
INSIGHTS FROM MULTIFACTOR PRODUCTIVITY DATA

Multifactor productivity relates output levels to the combination of inputs used in production, not just labor. The Bureau of Labor Statistics' measure of private

nonfarm business multifactor productivity takes into account labor and capital, with capital defined as the services derived from the stock of physical assets and software.[12] Increases in multifactor productivity reflect the joint influence on labor and capital of new technologies, economies of scale, managerial skill, changes in the organization of production, and other factors.

Over the past 19 years, multifactor productivity rose 21.6 percent while labor productivity increased by 52.2 percent. (See Figure 2-4.) Over this period, capital services grew faster than labor input, and the resulting increase in the capital-labor ratio helped make U.S. workers more productive. Human capital also increased steadily over this period, as measured by workers' educational attainment. Quarterly labor productivity measures do not take human capital into account, but merely focus on raw counts of worker hours. As a result, part of the increase in labor productivity is the result of workers' increased educational attainment. Specifically, human capital growth—which BLS refers to as "labor composition"—between 1987 and 2006 accounts for about one-seventh of labor productivity growth during that period. The contributions of a higher capital-labor ratio and greater human capital are fundamental as they have helped pave the way for increased earnings for U.S. workers.

Figure 2-5. Private nonfarm business labor and capital cost shares



SOURCE: Bureau of Labor Statistics, Major Sector Multifactor Productivity program.

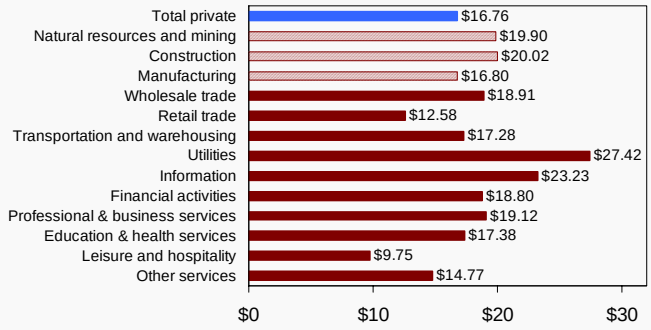
Data from the BLS multifactor productivity program provide additional insight into the relative cost of labor and capital. Labor costs are essentially equivalent to worker compensation, that is, wages and benefits.[13] Capital costs are more varied and less straightforward to define. Profits are a key part of capital costs, as are interest payments, rental payments, indirect taxes associated with capital, and inventory adjustments, with business transfers and government subsidies offsetting some costs.[14] One striking trend of the past 19 years is the stable share of costs of (and income going to) labor and capital. (See Figure 2-5.) The labor share of costs has fluctuated between 67.4 and 70.7 percent of total costs. In 2005, labor costs represented 67.9 percent of total costs, similar to the percentages reported in the mid-1990s when the economy was at a similar point in the business cycle.

Above-Average Hourly Earnings in Diverse Industries

When discussing worker compensation, growth tells an important story, but it is only part of the overall story. It is also worthwhile to analyze earnings levels. Data from the monthly payroll survey highlight which industries have above-average pay and whether those industries are driving overall job growth.

Although manufacturing jobs are commonly regarded as well-paying jobs, many other industries have higher average hourly earnings of production or nonsupervisory workers.[15] At $16.80 in 2006, the average hourly earnings of manufacturing production workers were only slightly higher than the $16.76 average for all production or nonsupervisory workers in private industries. (See Figure 2-6.)

Figure 2-6. Average hourly earnings of production workers by major industry, 2006



SOURCE: Bureau of Labor Statistics, Current Employment Statistics program.

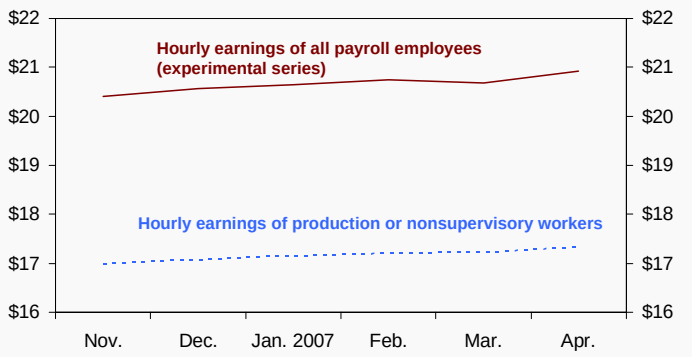
Average hourly earnings were $23.23 in the information industries, or 38 percent higher than in manufacturing. Other industries with relatively high earnings include construction ($20.02), natural resources and mining ($19.90), professional and business services ($19.12), wholesale trade ($18.91), and financial activities ($18.80).

Between 2001 and 2006, much of the employment growth came in industries with above-average hourly earnings. Employment in professional and business services, construction, and financial activities increased by nearly 2.5 million. The private education and health service industries added 2.2 million jobs. One notable exception is the information industry which lost 574,000 jobs following the recession and the dot-com bust. Among industries with below-average hourly earnings, the retail trade industry added just 81,000 jobs while the leisure and hospitality industries added 1.1 million jobs.

The payroll survey has recently added a more comprehensive measure of workers' earnings on an experimental basis: average hourly earnings of all private nonfarm employees.[16] Because these series are experimental, BLS continues to refine the editing and review of sample data and estimates. The methodology and data series are subject to change up until the series are made official. Currently, BLS plans to publish official earnings series for all employees beginning in February 2010.

The inclusion of the 18 percent of workers who are non-production or supervisory raises the overall level of hourly earnings about $3.00 per hour. (See Figure 2-7.) In April 2007, average hourly earnings of all workers totaled $20.92, compared with $17.34 for production or nonsupervisory workers.[17] The two series are following similar growth trends.

Figure 2-7. Average hourly earnings of payroll employees in private nonfarm industries

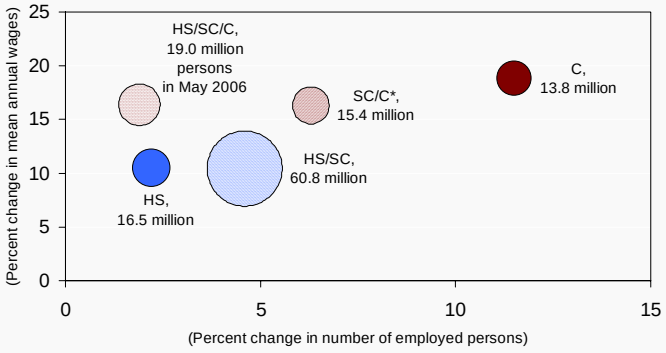


SOURCE: Bureau of Labor Statistics, Current Employment Statistics program.
NOTE: The all payroll employees series is designated as experimental due to BLS's limited experience to date in reviewing the all employee earnings sample reports and estimates. Both series are not seasonally adjusted.

EDUCATION, EARNINGS, AND EMPLOYMENT

Workers' educational attainment and occupational choices, in addition to their industry choices, influence their wages. BLS has defined a set of educational attainment clusters by detailed

Figure 2-8. Employment and wage growth by educational cluster, 2001-2006



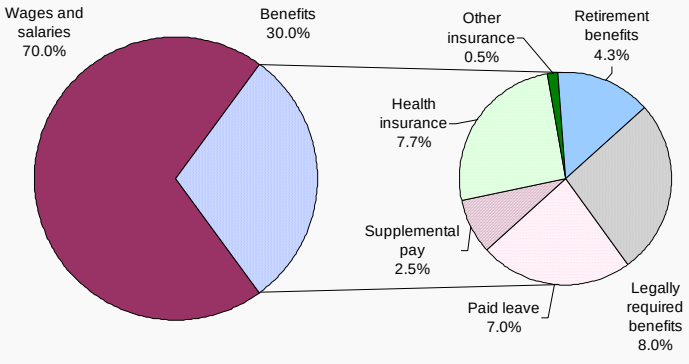
SOURCE: Office of the Assistant Secretary of Policy tabulation of data from the BLS Occupational Employment Statistics and Employment Projections programs.
NOTE: The circle icons are proportional to the number of persons employed in occupations within various educational clusters. HS refers to a high school diploma; SC, some college completed; and C, 4-year college degree.

occupation that provide "a natural hierarchical sorting of occupations that reflects increasing levels of skill, education, and training."[18] This system classifies occupations according to the educational attainment of 25- to 44-year-old workers in each occupation.[19] By using a younger cohort of workers instead of all workers, the clusters describe the educational attainment of newer workers.

Occupations are grouped on the basis of the percentage of workers who have a high school diploma or less, some college or an associate degree, or a college diploma (bachelor's degree or higher). The system defines six education clusters: high school occupations (HS), high school or some college occupations (HS/SC), some college occupations (SC), high school or some college or college (HS/SC/C), some college or college (SC/C), and college (C).[20]

According to Office of the Assistant Secretary for Policy's analysis of BLS data shown in Figure 2-8, although HS or HS/SC occupations account for most jobs in the U.S., high job growth and high wage growth occupations are associated with greater post-secondary educational attainment. (See Figure 2-8.) Between 2001 and 2006, employment at "college" jobs (generally, a bachelor's degree or higher) grew 11.5 percent (nearly 1.5 million jobs) and employment at "some college/college" jobs grew 6.3 percent (900,000 jobs). "Some college" includes both two year degree or vocational programs and college level coursework without degree completion. By far, the largest cluster in terms of employment was "high school/some college," with 60.4 million jobs in 2006. Growth in this category also was above-average at 4.6 percent (2.7 million jobs). In contrast, employment at "high school" jobs grew only 2.2 percent (350,000 jobs). Employment at occupations associated with the broadest range of education levels ("high school/some college/college") grew only 1.9 percent (360,000 jobs).

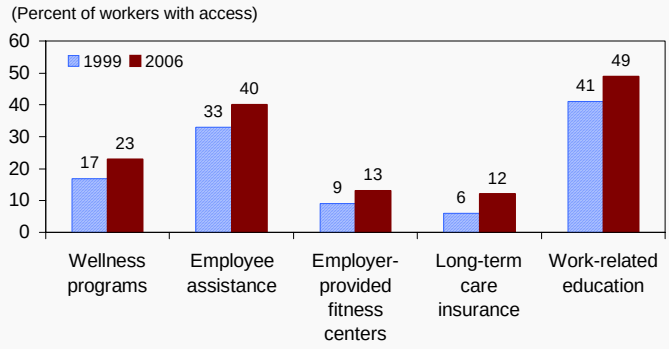
Figure 2-9. Distribution of hourly compensation costs for civilian workers, 2006 annual averages



SOURCE: Bureau of Labor Statistics, Employer Costs for Employee Compensation.

High-wage growth occupations were also associated with higher education levels. Between 2001 and 2006, mean annual wages in "college" jobs and "some college/college" jobs increased 18.8 percent and 16.3 percent, respectively. Wages in "high

Figure 2-10. Growth in access to specialized benefit programs in the private sector, 1999-2006



SOURCE: Bureau of Labor Statistics, National Compensation Survey.
NOTE: Small changes may not be statistically significant.

school" and "high school/some college" jobs only increased 10.5 percent and 10.4 percent, respectively. Wages in jobs with diverse education levels ("high school/some college/college") grew 16.4 percent.

Benefits are Significant

Although wages account for the majority of total worker compensation, benefits also represent a substantial share (30.0 percent). (See Figure 2-9.[21]) Under the umbrella of "benefits" falls a diverse range of plans and programs of great value to workers and of notable cost to employers. Benefit plans include programs that may be more difficult or costly for an individual to obtain, such as health insurance. Health insurance accounted for 7.7 percent of total employee compensation in 2006, which together with legally required benefits (e.g., Social Security, Medicare), were the largest single benefit cost to employers on average. Although health benefits have risen as a share of total compensation in recent years, the long-term increase is not as significant as one might expect. The 7.7 percent share in 2006 was only about 0.7 percentage point higher than in the first quarter of 1994. At 7.0 percent of total compensation in 2006, paid leave fell just behind health insurance and the legally required benefits. Retirement benefits accounted for 4.3 percent, and supplemental pay (e.g., overtime, shift differentials, and bonuses) accounted for 2.5 percent.

Employee benefit programs are not limited to retirement and health insurance. Although specialized benefit programs represent only a small share of benefits, they provide workers cost-saving and convenient services.

Increasing Benefit Choices

Workers are gaining access to an increasingly diverse set of specialized benefit programs. (See Figure 2-10.) Because workers are most productive when they are healthy, employers have become more conscious about keeping workers in better physical and emotional health. Between 1999 and 2006, access to wellness programs increased from 17 percent to 23 percent. These programs include smoking cessation, weight control, nutrition education, hypertension testing, and stress management classes. Employee-assistance programs, which provide workers referral and counseling services in areas such as substance abuse, financial issues, legal problems, emotional problems and marital difficulties, have also grown in popularity, with access increasing from 33 percent to 40 percent. Access to employer-provided fitness centers increased from 9 percent to 13 percent during this period, while access to long-term care insurance doubled from 6 percent to 12 percent.

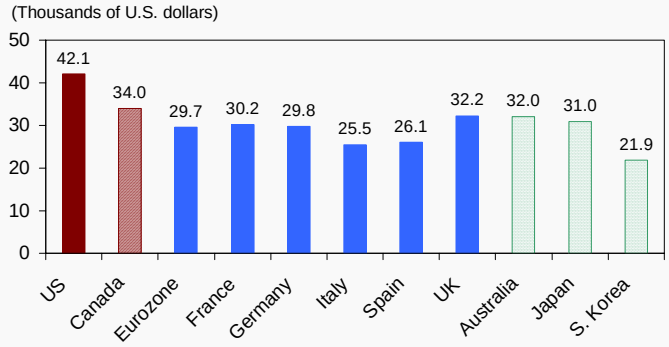
Employers know that education pays, and so it is not surprising that so many provide explicit support for work-related education. Nearly half of private sector employers made work-related education benefits available in 2006, up from 41 percent in 1999.

3 A BENCHMARK FOR OTHER NATIONS

The United States economy provides a consistent benchmark for the world across a broad range of economic and labor market indicators, including GDP per capita, the productivity of its workers, robust productivity growth, high labor force participation, low overall unemployment, and low long-term unemployment. Others nations may lead in individual indicators, but the United States is consistently at or near the top across many measures. Its vibrant, flexible labor market is a benchmark for other nations. Data on GDP per capita are remarkable. In 2005, per capita GDP totaled $42,100—about 24 percent higher than in Canada, 32 percent higher than in Australia, and 42 percent higher than the composite amount for the eurozone countries.[22] (See Figure 3-1.)

What makes such comparisons more striking is the fact that the United States is such a large country. It is easy to forget that the United States is the third most populous nation in the world with the third largest labor force. With a total population of 301 million people, the United States follows China (1.3 billion) and India (1.1 billion). The euro area outnumbers the United States in total population (311 million); however, its labor force is marginally smaller—150 million compared with 151 million in the United States.[23]

Figure 3-1. GDP per capita in 2005, United States and selected countries



SOURCE: Department of Labor, *A Chartbook of International Labor Comparisons* and Eurostat.
NOTE: GDP estimates are converted to U.S. dollars using purchasing power parities.

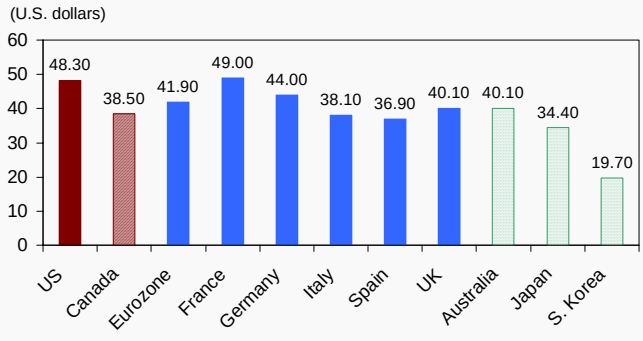
Given the long-term decline in manufacturing employment, one might also forget that the United States leads the world in manufacturing, followed by Japan, China, and Germany. The United States contributed 21 percent of global value added in manufacturing in 2005, the latest year with complete data. Japan's value added represented 13 percent of the global total, while China's and Germany's contributions were 12 percent and 8 percent, respectively. The euro area's share, at 22 percent, slightly exceeded that of the United States.[24]

This chapter provides an overview of a few selected labor market indicators across countries. For a more comprehensive review of international data, see *A Chartbook of International Labor Comparisons*, available online at www.dol.gov/asp.

HIGH LABOR PRODUCTIVITY

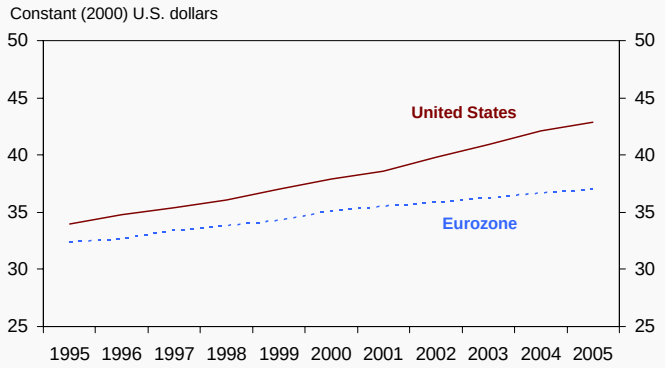
American workers are among the most productive in the world and their productivity has grown at an enviable pace in recent years. U. S. GDP was $48.30 per hour worked according to Organization for Economic Cooperation and Development (OECD) data in 2005, the most recent year for which

Figure 3-2. GDP per hour worked in 2005, United States and selected countries



SOURCE: OECD Productivity Database, September 2006.
NOTE: GDP estimates are converted to current U.S. dollars using purchasing power parities.

Figure 3-3. GDP per hour worked in the United States and the Eurozone countries, 1995-2005



SOURCE: OECD Productivity Database, September 2006.
NOTE: GDP estimates are constant (2000) U.S. dollars using purchasing power parities.

broad international comparisons of per capita GDP can be made on a purchasing power adjusted basis.[25] (See Figure 3-2.)

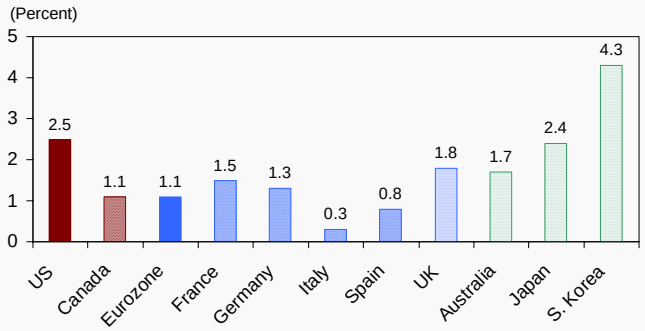
Among OECD member countries, the United States ranked near the top in terms of GDP per hour worked.[26] Among large major economies, only France posted higher productivity levels, as French workers' output was valued at $49.00 per hour in 2005. Workers in a handful of smaller European countries—Luxembourg ($64.70), Norway ($63.50), Belgium ($52.90), Ireland ($50.50), and the Netherlands ($50.10)—produced more per hour (not shown in the figure). Output per labor hour in the United States was 20 percent higher than in Australia, 25 percent higher than in Canada, and 40 percent higher than in Japan. Among the eurozone countries, GDP per hour worked averaged $41.90. Even among the largest euro area countries, however, productivity levels varied notably, from $36.90 in Spain to $49.00 in France.

Rising Labor Productivity

Not only are American workers highly productive but their productivity has grown steadily. As a result, the productivity gap between the United States and the euro area countries has widened. (See Figure 3-3.) In 1995, an hour's work resulted in about 5 percent more output in the United States than in the eurozone countries. American GDP per hour worked totaled $34.00, or 4.9 percent higher than the $32.40 per hour average for the countries that would form the euro area. Over the next 7 years, the gap had more than doubled, and by 2005, the gap had more than tripled from 4.9 percent to 15.9 percent—as U.S. growth in output per worker accelerated following the turn of the century.

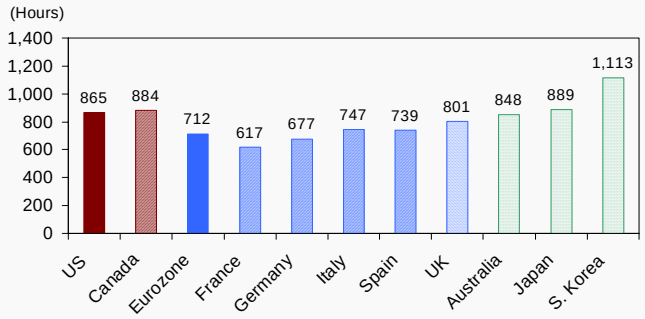
Between 2000 and 2005, GDP per hour worked expanded at a 2.5 percent annualized rate in the United States, on par with Japan and easily surpassing the gains witnessed in Australia (1.7 percent), Canada (1.1 percent), and the eurozone countries (1.1 percent). (See Figure 3-4.) Growth in the United Kingdom, which is not part of the euro area, was similar to that of Australia at 1.8 percent. With an annualized increase of 4.3 percent, South Korea handily topped the other major economies analyzed here.

Figure 3-4. Annualized growth in GDP per hour worked, 2000 to 2005
United States and selected other OECD countries



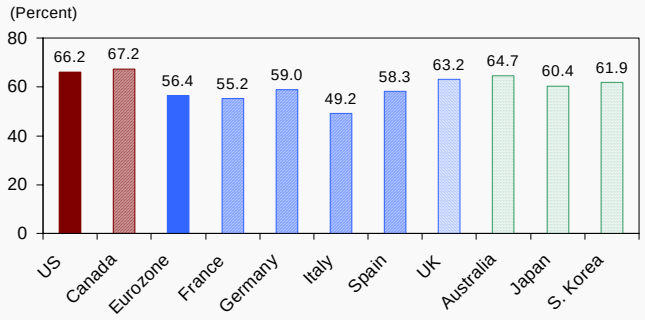
SOURCE: OECD Productivity Database, September 2006.
NOTE: Eurozone GDP estimates are in constant (2000) dollars adjusted using purchasing power parities; estimates for individual eurozone countries and other countries are in national currencies at 2000 prices.

Figure 3-5. Annual labor hours per capita in 2005, United States and selected countries



SOURCE: OECD Productivity Database, September 2006.

Figure 3-6. Labor force participation rate in 2006, United States and selected countries



SOURCE: OECD (OECD.Stat data warehouse).
NOTE: Estimates cover persons age 15 and older except for the United States, which includes persons age 16 and older.

Great Efficiency and Effort

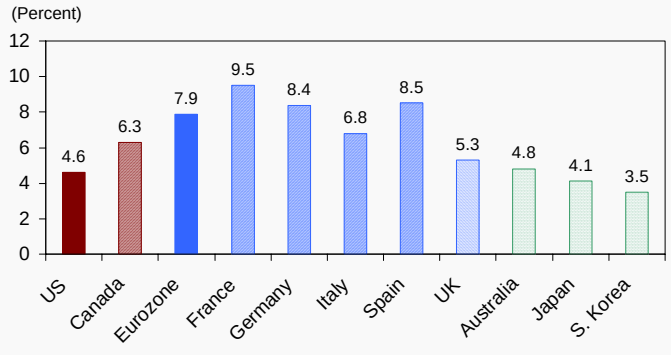
In addition to great efficiency (output per hour worked), U.S. workers also put in great effort in terms of the average annual hours worked. Indeed, what distinguishes the United States from other productivity leaders, like France, is the fact that the United States workforce is also a leader in work effort, that is, hours on the job. On average, U.S. workers clocked 1,713 hours in 2005 while workers in the euro area countries averaged 1,594 hours, practically 3 fewer weeks of full-time work. South Korea appeared to be in a league of its own. OECD estimates indicate that the average worker in South Korea put in 2,354 hours on the job in 2005 – over 45 hours per week.

Another perspective on work effort is provided by hours worked per capita. Unlike hours worked per worker, hours worked per capita is a single measure of the labor activity across the population—taking into account both the proportion of the population that is employed and the number of hours worked. In 2005, per capita hours worked totaled 865 hours, placing the United States in the same neighborhood as Australia, Canada, and Japan. (See Figure 3-5.) In Europe, hours were somewhat lower. Per capita hours came in at 801 in the United Kingdom. The euro zone average was 712 hours, or about 17 percent lower than in the United States.

High Labor Force Participation

While hours worked per capita provide a measure of work activity, the labor force participation rates

Figure 3-7. Unemployment rate in 2006, United States and selected countries



SOURCE: Standardized unemployment rate from the OECD (OECD.Stat data warehouse).

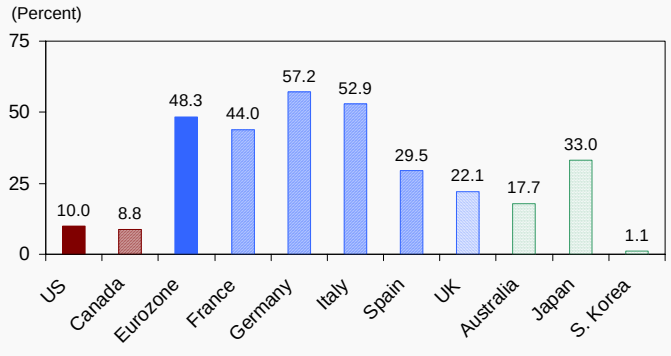
provide a measure of labor force attachment—specifically the proportion of the population that is working or actively looking for work. As seen in Figure 3-6, the United States and Canada were leaders in 2006, posting participation rates of 66.2 percent and 67.2 percent, respectively.

Labor force participation rates for Australia and the United Kingdom were a few percentage points lower, while the eurozone countries came in nearly 10 percentage points lower than the United States, at 56.4 percent. With rates of 60.4 percent and 61.9 percent, Japan and South Korea showed greater labor force attachment than the larger European economies but slightly less than the four Anglophone countries.

The U.S. population participates in the labor market actively and with great success relative to other nations. The United States leads in terms of labor market participation and in terms of its low unemployment rate. In 2006, the unemployment rate was 4.6 percent. (See Figure 3-7.) Japan and South Korea recorded lower rates; however, their labor force participation rates also were slightly lower.

The euro area experienced not only lower participation rates, but workers also were less successful in translating participation into work. The unemployment rate across the euro area averaged 7.9 percent in 2006. Joblessness in Germany topped 8 percent and in France the unemployment rate was 9.4 percent. While the 8.5 percent rate in Spain might seem high, it marks a substantial improvement from a decade earlier, when rates in the upper teens were the norm.

Figure 3-8. Incidence of long-term unemployment in 2006, United States and selected countries



SOURCE: OECD (OECD.Stat data warehouse).
NOTE: Long-term unemployment refers to unemployment spells lasting one year or longer.

A low unemployment rate, though laudable, may be little comfort to persons who are seeking work. In a truly vibrant labor market, low unemployment is coupled with low incidence of long-term unemployment. Europe and Japan differ starkly in their unemployment rates; however, both areas exhibit high degrees of long-term unemployment, defined as a period of unemployment lasting at least one year. (See

Figure 3-8.) Over half of unemployed workers in Germany and Italy were out of work for at least a year in 2006. The euro area average was close to half, at 48.3 percent. In Japan, one out of three unemployed persons had been looking for work for at least a year. In the United States, the ratio was just one out of ten. South Korea can boast of a ratio of approximately one in one hundred.

The varying definitions of "long-term" may be indicative of the relative strength of the U.S. and European labor markets. While the international convention is to define long-term spells as ones lasting at least one year, the U.S. criteria is just half that—27 weeks. In 2006, 17.6 percent of unemployed workers had been out of work for at least 27 weeks (not shown in the figure). This percentage is comparable to the 17.4 percent rate in 1996 and is down from a post-recession high of 22.1 percent in 2003. The comparable rates for many European countries were over three times higher, reaching 73.1 percent in Germany and 62.6 percent in France. Although Canadian unemployment was higher overall than in the United States, long-term unemployment in Canada, whether defined at 27 weeks or one year, was slightly lower than in the United States.

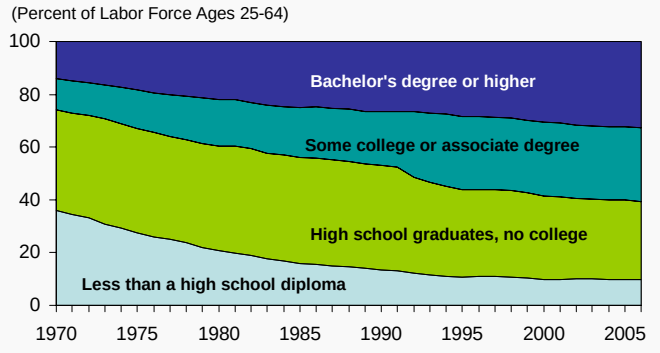
A Record of Economic Success

The successful record of the United States across a broad range of indicators and over an extended time period is remarkable for a mature industrial economy. The fact that the United States has achieved these results in the face of growing worldwide competition and other challenges, both natural and man-made, is a further testament to the robustness and resilience of an economic system based on free and open markets. And it is a testament to the energy, creativity, skills, flexibility, and competitiveness of American workers and employers.

4 A LABOR FORCE THAT LEARNS

Sixty-five years ago only about one in twenty Americans ages 25 or older was a college graduate. Many jobs required no more than basic literacy and physical skills largely learned through experience. The change in the educational attainment of the labor force since the 1940s has been dramatic. Figure 4-1 shows that by 1970, 14.1 percent of the labor force ages 25 to 64 (8.7 million persons) had completed four years of college.[27] In addition, 11.8 percent (7.3 million persons) had completed some college, but were short of completing a 4-year program. The group with some college includes those with a 2-year associate degree or post-secondary vocational certificate in addition to college dropouts who did not complete any degree program. Still, as recently as 1970, a high school diploma was sufficient for most jobs, and 38.1 percent of the labor force (23.5 million persons) had completed no education beyond high school (12th grade). In 1970, 36.1 percent of the labor force (22.3 million persons) had not completed high school.

Figure 4-1. Educational attainment of the labor force over time



SOURCE: Bureau of Labor Statistics, Current Population Survey.
NOTE: Data are from the March 1970-2006 Current Population Survey and are for persons age 25-64. Data beginning in 1992 are based on highest diploma or degree received; prior to this time, data were based on years of school completed.

RISING EDUCATIONAL ATTAINMENT

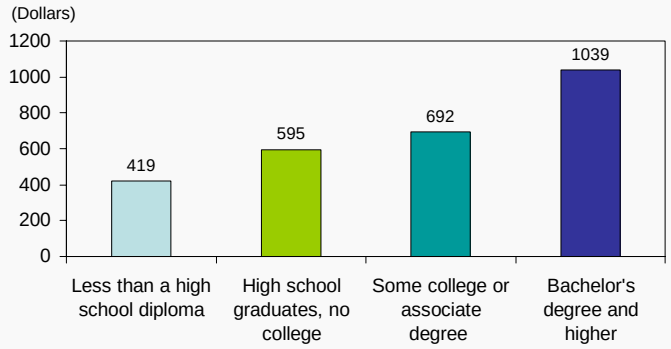
The proportion of persons ages 25 to 64 with some college (or an associate degree) more than doubled between 1970 and 2006 (from 11.8 percent to 28.0 percent). The share with a bachelor's degree and higher also more than doubled over the period (from 14.1 percent to 32.6 percent). In contrast, the share of the labor force with less than a high school diploma declined markedly.

In 2006, 32.6 percent (40.0 million) of labor force members age 25 to 64 had earned a bachelor's degree or higher, 28.0 percent (34.3 million) had undertaken some college but had not attained a baccalaureate degree, 29.6 percent (36.2 million) had attained only a high school diploma (or GED certificate), and 9.8 percent (12.1 million) had attained less than a complete high school education (no diploma or GED certificate).

The number of people ages 25 to 64 in the labor force with less than a complete high school education fell by 45.7 percent from 1970 to 2006. Over that period the number of persons with some post-secondary education (some college, associate degree, bachelor's degree or higher) increased from 16.0 million (25.9 percent of the ages 25 to 64 labor force) to 74.3 million (60.6 percent of the age 25 to 64 labor force).

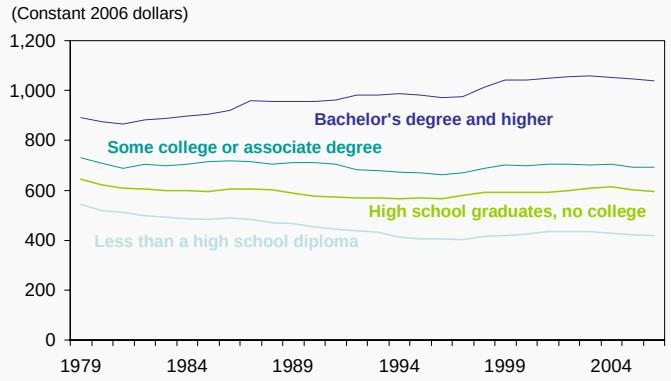
The relationship between educational attainment and wages is strong and positive. Figure 4-2 shows that among workers 25 years old and over, median weekly earnings of wage and salary workers who usually work full time are nearly two and a half times more for persons with at least a college degree

Figure 4-2. Median weekly earnings of full-time wage and salary workers age 25 and over, 2006



SOURCE: Bureau of Labor Statistics, Current Population Survey.

Figure 4-3. Trends in real median weekly earnings, by educational attainment



SOURCE: Bureau of Labor Statistics, Current Population Survey.
NOTE: Median weekly earnings of full-time wage and salary workers 25 years of age and over. Earnings data have been adjusted using the CPI-U-RS. Data beginning in 1992 are based on highest diploma or degree received; prior to 1992, data were based on years of school completed.

than for those who have not completed high school. The weekly difference of $620 in 2006 would amount to an annual difference of $32,240 if extended over a 52-week year.

The trend toward higher educational attainment represents more than changing opportunities and tastes for consuming education services. The changes in educational attainment are closely associated with the changes in the occupational and industrial structure of the labor market, especially the growth in the demand for workers to provide professional, technical and managerial services.

THE EDUCATION PREMIUM

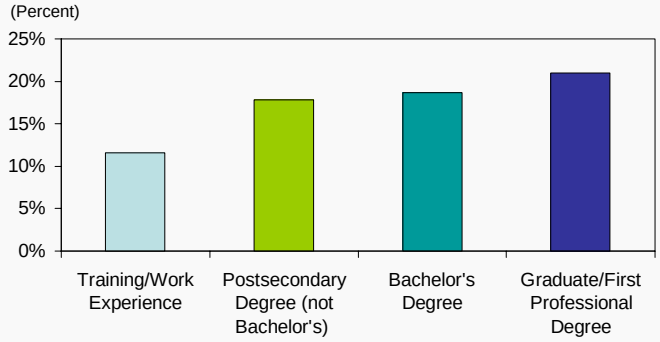
The growing demand for workers with greater educational attainment over the past three decades is a factor underlying the increase in the education premium over the period. The education premium is the difference in earnings between the lower and higher educated groups in the labor force. Figure 4-3 shows the increasing spread of earnings between the major education groups.

In 1979, the $347 difference (in 2006 inflation-adjusted dollars) in median weekly earnings of usual full-time workers between those with less than a high school diploma and those who had completed 4 or more years of college amounted to a 63.8 percent education premium – college completers enjoyed 1.6 times higher median weekly earnings than high school dropouts. By 2006, the education premium had risen to 148 percent: College graduates with a bachelor's or higher degree had median weekly earnings nearly 2.5 times greater than the typical high school dropout earned.

Only college graduates have experienced growth in real median weekly earnings since 1979. In contrast, high school dropouts have seen their real median weekly earnings decline by about 23 percent.

The earnings gains from higher educational attainment are also apparent in gender comparisons. In 2006, among wage and salary workers age 25 or older who usually work full time, both women and

Figure 4-4. Wage growth, by education or training groups, 2001-2006



SOURCE: Office of the Assistant Secretary of Policy tabulation of data from the BLS Occupational Employment Statistics and Employment Projections programs.
NOTE: Excludes 75 occupations for which 2001 and 2006 descriptions differed. "Postsecondary Degree" includes Associate's Degree and Postsecondary Vocational Award. "Graduate/First Professional Degree" includes Master's, Doctoral and First Professional Degree.

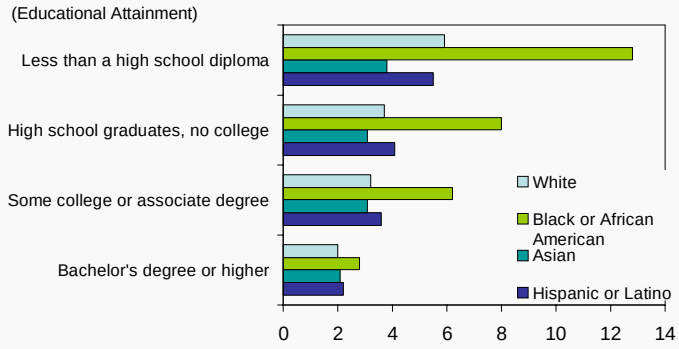
men who were college graduates earned more than two and a half times as much per week compared to their counterparts with less educational attainment than a high school diploma.

Women with college degrees (bachelor's degree or higher) reported median earnings of $905 per week, 2.5 times as much as women with less than a high school diploma ($358 per week), 1.8 times as much as women with a high school diploma and no college ($500 per week) and 1.5 times as much as women with some college but less than a bachelor's degree ($602 per week).

Men with college degrees (bachelor's degree or higher) reported median earnings of $1,205 per week, 2.6 times as much as men with less than a high school diploma ($469 per week), 1.8 times as much as men with a high school diploma and no college ($678 per week), and 1.5 times as much as men with some college but less than a bachelor's degree ($796 per week).[28]

Figure 4-4 illustrates the link between wage growth and the education or training that can serve as a pathway to employment. Between 2001 and 2006, wage growth was highest (21.0 percent) in jobs for which a post-baccalaureate degree was the most significant educational pathway to employment. Over the same time, wages grew 18.7 percent in jobs for which a bachelor's degree was the most significant educational pathway, and wages grew 17.8 percent in jobs for which an associate degree or vocational award was the most significant pathway. Wages grew 11.6 percent in jobs for which the most significant pathway to employment was on-the-job training or work experience but no formal post-secondary degree.

Figure 4-5. Unemployment rates, by education, race and ethnicity



SOURCE: Bureau of Labor Statistics, Current Population Survey, 2006 annual averages.
NOTE: Includes workers age 25 year and over.

EDUCATION AND UNEMPLOYMENT

Educational attainment is an important determinant of other labor market outcomes including unemployment rates and labor force participation rates. In 2006, the unemployment rate for college graduates (bachelor's degree or higher) age 25 and older averaged 2.0 percent. In comparison, persons age 25 or older without a high school diploma experienced 6.8 percent unemployment on average. The corresponding

unemployment rate for high school graduates with no college was 4.3 percent, and the unemployment rate for those with some college but less than a bachelor's degree was 3.6 percent.

Figure 4-5 shows that higher educational attainment is associated with lower unemployment rates regardless of race or ethnicity. For all races, lower rates of unemployment are correlated with higher levels of education. The unemployment rate, however, is particularly lower for African-American college graduates than African-American high school dropouts – 2.8 percent for college graduates versus 12.8 percent for those without a high school diploma (or GED certificate).

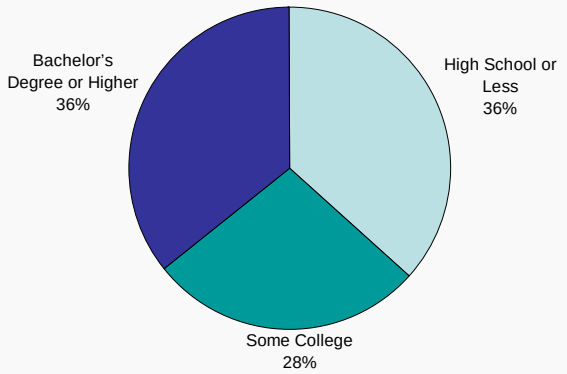
The relative cost of being a high school dropout has grown in terms of unemployment risk. The unemployment rate for high school dropouts spiked in the early 1980s, and while trending downward somewhat since then, it is still considerably higher than for other groups. The jobless rate for college graduates has been consistently lower and less subject to business cycle fluctuations than the unemployment rates associated with lower educational attainment. The gap in unemployment rates between those with a 4-year college degree and those without a high school diploma has increased from 3.3 percentage points in 1970 to 6.0 percentage points in 2006.

Even among younger workers with relatively little work experience, there is a link between unemployment and education. Among youth not enrolled in school at age 19, 11.8 percent of those who had dropped out of high school were unemployed, compared to unemployment rates of 6.1 percent for those who had graduated from high school and never enrolled in college, and 5.0 percent for those who had graduated from high school and enrolled in, but subsequently left, college.[29]

LABOR FORCE PARTICIPATION

Educational attainment is also associated with notable differences in labor force participation. For individuals age 25 and older, the labor participation rate in 2006 averaged 78.4 percent for those with advanced degrees (masters degree, first professional degree or doctoral degree), 77.7 percent for those whose highest degree was a bachelor's degree, 76.2 percent for persons with an associate (typically two-year) degree, 70.2 percent for those with some college but no degree, 63.1 percent for those with a high school diploma only, and 46.3 percent for those without a high school diploma.

Figure 4-6. Projected employment growth by expected educational attainment, 2004-14



SOURCE: Bureau of Labor Statistics, Employment Projections program, National Employment Matrix 2004-2014.

To some extent the differences in labor force participation reflect the fact that educational attainment is generally lower among older Americans, whose lower labor force participation is the result of retirement or disability. For example, in 2006 the 35.5 million Americans age 65 and older included 7.8 percent (2.8 million) with advanced degrees and 11.7 percent (4.2 million) with bachelor's degrees only, compared to 9.7 percent advanced degree holders and 18.3 percent bachelor's degree (only) holders for the total

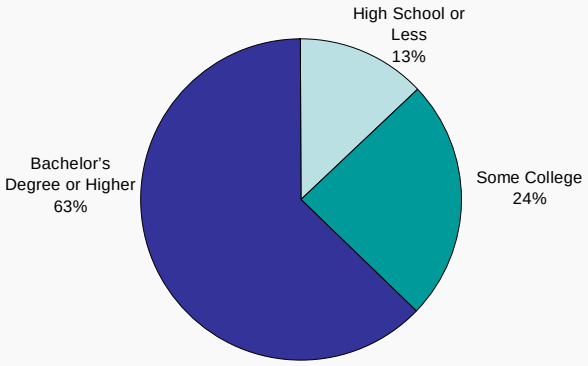
population age 25 and older. At the lower end of the educational attainment range, individuals without high school diplomas accounted for 24.8 percent of the age 65 and older population versus 14.5 percent of the overall population age 25 and older.

Still, even among younger workers, education affects labor force participation. Among youth not enrolled in school at age 19, the labor force participation rate was highest (83.1 percent) for those who had graduated from high school and enrolled in college but left. Likewise, those who had graduated from high school and never enrolled in college had a higher labor force participation rate (81.5 percent) than those who did not graduate from high school (68.7 percent).

EDUCATION AND JOBS PROJECTIONS

The demand for a highly educated workforce is expected to continue. BLS projections for 2004 through 2014 indicate that nearly two-thirds (63.4 percent) of the projected 18.9 million new jobs will most likely be filled by workers with some post-secondary education. (See Figure 4-6). While most of these job openings will be in occupations for which workers with higher educational attainment will be the most suited, there will also be many jobs available for those with less education.

Figure 4-7. Projected employment change in high-growth, high-wage jobs by expected educational attainment, 2004-14



SOURCE: Bureau of Labor Statistics, Employment Projections program, National Employment Matrix 2004-2014.

In addition to growth, the BLS projections estimate openings because of net replacement needs – replacement of workers who permanently leave occupations for retirement or other reasons. The beginning of retirement of the baby boomer generation over the next several years will contribute to replacement openings across occupations all along the spectrum of education requirements. Between 2004 and 2014, BLS projections show that the number of net replacement openings will total 34.3 million and total openings for both growth and net replacement needs will be 54.7 million. In general, occupations in the high-school-or-less educational requirements cluster will account for a greater share of replacement job openings than of growth job openings because many of those occupations have a high turnover, an aging incumbent workforce and relatively large replacement needs despite slower relative growth.

Within the projected job growth category, the projections for the high-growth, high-wage subgroup are particularly noteworthy. High-growth, high-wage jobs are occupations that are in the top half of the 2004 earnings distribution from the BLS Occupational Employment Statistics program (median annual earnings greater than $28,770) and are projected to experience higher-than-average job growth over the 2004-2014 horizon. Among the 18.9 million new jobs associated with projected growth by 2014, 8.7 million fall within the high-growth, high-wage group. Figure 4-7 shows that among those occupations both with high growth and with high wages, 86.9 percent of new jobs are expected to be filled by workers with at least some college education. Within the high-growth, high-

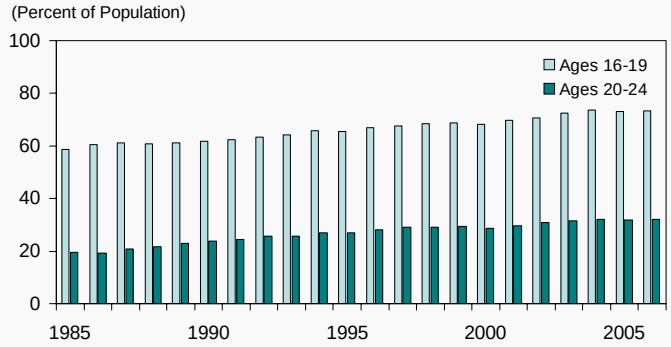
wage group, 5.5 million jobs (62.8 percent of the total) are expected to be filled by workers with at least a bachelor's degree and 2.1 million (24.2 percent) are expected to be filled by workers with some post-secondary education, such as a two-year community college academic program, a vocational certificate or specialized formal training.

Factors Driving Demand for Educated Workers

Technology has played a role to spur the demand for a more highly educated workforce. Many technological innovations require more educated workers to install, operate and maintain equipment. This is particularly true for information and communications technology which has led the dramatic rise in productivity over the past 20 years. Technological change has introduced new occupations that require new skills and education in new subjects, and it has changed the educational requirements and skill content of many traditional occupations.

Another factor contributing to the growing demand for educational attainment is the pace of change in both technology and in the competitive conditions of global markets. The faster pace of change in the modern economy means that both employers and employees must adapt to new conditions more often than in the past. To remain competitive, employers introduce new products and new processes to produce goods or services. Employees need new knowledge and skills to maintain current jobs or to find new ones.

Figure 4-8. Trends in school enrollment among younger people



SOURCE: Current Population Survey.
NOTE: Data are annual averages, not seasonally adjusted, for the Civilian Noninstitutional Population.

The latest longitudinal survey data shows that the average American worker born in the later years of the baby boom changed jobs 10.5 times between ages 18 and 40. For workers who started a new job between ages 36 and 40, a total of 36.4 percent reported that they changed jobs again within a year and 71.7 percent changed jobs again within five years.[30]

An Investment in Our Future

The commitment and investment in education that Americans have made to achieve higher levels of educational attainment reflect their realization of the present and future benefits of education for labor market success. In 2006, about 9 percent of the population age 15 and over engaged in educational activities on an average day.[31] The 103.1 million Americans ages 25 and older in March 2006 who had completed some post-secondary education comprised a valuable national asset of knowledge, skill, and experience. Of these, 18.6 million were advance degree holders, 35.2 million had a bachelor's degree, 16.8 million had completed two-year associate or vocational degree programs, and 32.6 million had some college education but no degree.

Furthermore, more young Americans are investing in education. As Figure 4-8 shows, school enrollments have increased steadily over time. In 1985, 58.7 percent of the population ages 16 to 19

was enrolled in school; by 2006 the proportion had jumped to 73.3 percent. Likewise, among the population ages 20 to 24, 19.6 percent was enrolled in school in 1985, compared to 32.2 percent in 2006.

Graduation rates are improving, and more youth are completing high school. The average freshman graduation rate, an estimate of the percentage of public high school students who graduate with a diploma within 4 years, was 74.7 in the 2004 - 2005 school year and has consistently increased from 71.7 percent in 2000-2001.[32]

Likewise, since 2001, the college enrollment rate for recent high school graduates has trended upward. Of the 2.5 million youth who graduated from high school between October 2005 and October 2006, 65.8 percent were in college in October 2006, and 92.3 percent of those were full-time students.[33]

The 21st century labor market seeks and rewards workers who can offer the educational foundation, technical skills and creative flexibility that employers need to compete and to adapt to changing needs successfully. Higher educational attainment contributes to a worker's ability to efficiently absorb new knowledge and to learn new skills. Workers who can quickly move up the learning curve of a new job have a competitive advantage for economic success.

5 AT WORK AND BEYOND

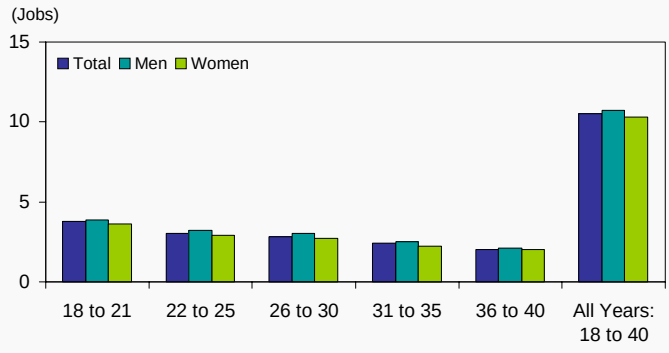
With millions of jobs changing hands each year, America's labor force is dynamic. Technological advances and continually changing competitive conditions have led to higher rates of job change over working lives. Although long-run rates of U.S. employment and unemployment vary only slightly over time, the American labor market is characterized by large flows of workers between jobs and in and out of the labor force each year.

Low unemployment and continuing growth in total jobs mean that workers who are dislocated by changing technology or competition are able to find new jobs relatively quickly. In 2006, more than two-thirds (67.6 percent) of unemployed workers had been unemployed for less than 15 weeks[34], and 28 percent of persons who were reported as unemployed during a given month were found to be employed when they were re-interviewed the next month.[35]

NUMBER OF JOBS AND EMPLOYMENT TENURE

The average American born in the later years of the baby boom era held 10.5 jobs from ages 18 to 40.[36] Figure 5-1 shows that nearly three-fifths of these jobs were held from ages 18 to 25. Still, baby boomers held 4 jobs on average from ages 26 to 40. As the chart indicates, baby boomers held an average of 3.8 jobs from ages 18 to 21, whereas they held 3.0 jobs from ages 22 to 25 and 2.0 jobs from ages 36 to 40. On average, male baby boomers held more jobs than did female baby boomers (10.7 jobs versus 10.3 jobs from age 18 to age 40).

Figure 5-1. Number of jobs held by a typical baby boomer between ages 18 and 40

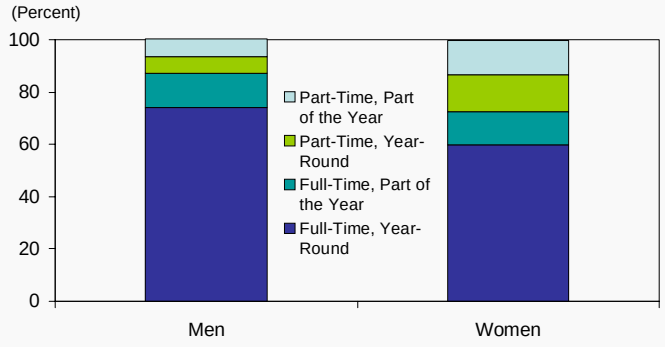


SOURCE: Bureau of Labor Statistics, National Longitudinal Survey of Youth 1979.

Frequent job changes mean that employment tenure for the average worker is relatively short. The median number of years that wage and salary workers had been with their current employer in January 2006 was 4.0 years.[37] Gender has a small impact on a worker's median tenure. The median tenures for men and women were 4.1 and 3.9 years, respectively. Older workers tend to have more years of tenure than do younger workers. Median tenure for employees ages 55 to 64 was 9.3 years in January 2006, compared to 7.3 years for employees aged 45 to 54 years, 4.9 years for employees aged 35 to 44 years, and 2.9 years for employees aged 25 to 34 years.

Because both men and women change jobs less frequently as they grow older, the percent of both men and women with 10 or more years of tenure generally increases with age. However, job tenure appears to be declining even as the workforce ages. Between 1996 and 2006, the percent of men age 25 and over with 10 years or more of tenure declined from 33.1 percent to 31.1 percent, and the

Figure 5-2. Work experience of the population, by gender, 2005



SOURCE: Bureau of Labor Statistics, Current Population Survey, Annual Social and Economic Supplement, 2006.

decline occurred for men in most age groups. For employed women age 25 and over, the proportion with 10 or more years of tenure was stable over the period.[38]

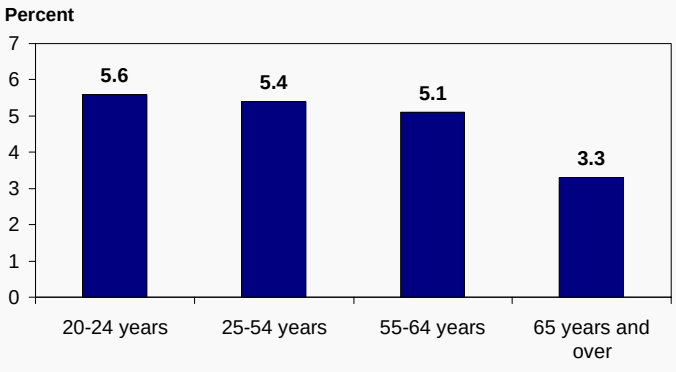
EMPLOYMENT SCHEDULES

Another manifestation of the U.S. labor market's dynamism is the flexibility and choice American workers have regarding work schedules, which allows for a variety of employment arrangements. About two-thirds of American workers worked full-time year-round in 2005, but a significant percentage worked full-time for only part of the year, part-time for the entire year, or part-time for only part of the year.[39] Of those Americans who work part-time, most do so for non-economic reasons, such as to make time to care for other household members or to pursue additional education. In 2006, 87.2 percent of workers who worked part-time stated that they did so for non-economic reasons.[40]

Figure 5-2 shows the percentage of Americans employed in each employment category during 2005, by gender. Of those persons who worked in 2005, men were more likely to work full-time than were women: 87.0 percent of men worked full-time in 2005 versus 72.7 percent of women. Most of this difference is attributable to individuals who worked full-time for the entire year; 74.2 percent of men worked full-time for the entire year, compared to just 59.9 percent of women. There was little or no difference in work schedules across races.

In 2006, according to data from the American Time Use Survey, full-time workers spent a daily average of 8.1 hours working, with full-time men working an average of 8.4 hours and full-time women working an average of 7.7 hours on the days they worked. Part-time workers spent an average of 5.3 daily hours working, with part-time working men averaging 5.1 hours and part-time working women averaging 5.4 hours on the days they worked.[41]

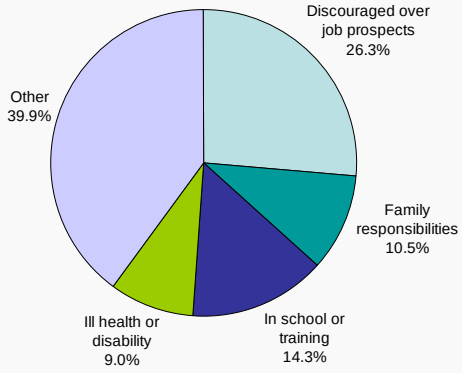
Figure 5-3. Percent of employed population that held multiple jobs by age, 2006



SOURCE: Bureau of Labor Statistics, Current Population Survey.

While most employed Americans hold only one job at a time, some Americans choose to hold multiple jobs simultaneously. Some 7.6 million Americans (5.2 percent of average monthly total employment) held more than one job at a time in 2006. Figure 5-3 shows the

Figure 5-4. Reasons why workers available to work did not look for jobs, 2006



SOURCE: Bureau of Labor Statistics, Current Population Survey.

proportion of employed persons in 2006 who were multiple jobholders, stratified by age group. It appears that the likelihood of a worker holding more than one job decreases with age. Multiple jobholding occurred most frequently among persons ages 20 to 24, whereas persons age 65 and over were the least likely to hold more than one job.

The rate of multiple jobholding tends to peak between ages 20 and 24 before decreasing over later years. About 5.6 percent of employed workers ages 20 to 24 worked multiple jobs in 2006, compared to 4.4 percent of workers ages 16 to 19, 5.4 percent of workers ages 25 to 54, 5.1 percent of workers ages 55 to 64, and 3.3 percent of workers age 65 years and over. Multiple jobholding was slightly less common among workers who were married (5.1 percent) than among workers who had never married (5.3 percent) or were widowed, divorced, or separated (5.6 percent). In 2006, multiple jobholders were also almost twice as likely to work on a weekend day as were single jobholders (59.0 percent versus 32.2 percent) and were more likely to work at home than were single jobholders (38.6 percent versus 18.7 percent).[42]

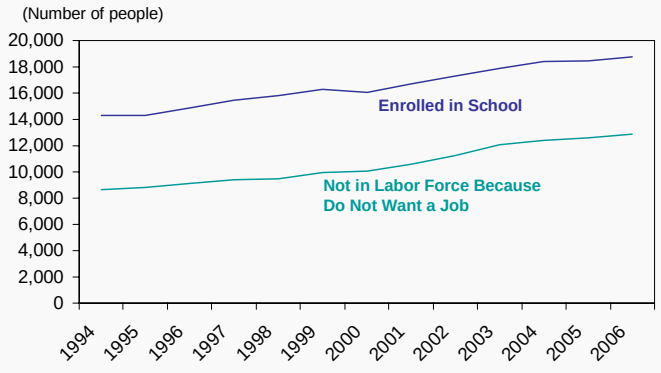
A smaller percentage of U.S. workers in 2006 held multiple jobs than 10 years ago. In 2006, 5.2 percent of Americans held multiple jobs on average during the year, compared to 6.2 percent of workers in 1996.[43] Most multiple jobholders worked in at least one job that was either part-time or had variable hours. Only 4.1 percent of workers with more than one job worked two full-time jobs.

In addition to and, perhaps, in conjunction with part-time work and multiple jobholding, non-standard work schedules allow workers to vary the time they begin and end work. In May 2004 (latest available data), more than one in four full-time workers (27.5 percent) had access to such flexible work schedules. Over half of those working an alternative shift (54.6 percent) did so because it was the nature of the job, while 11.5 percent simply preferred such a schedule and 8.2 percent did so to facilitate family or child care arrangements. Likewise, 21.0 percent of workers with night shift schedules chose that schedule as a matter of personal preference, and 15.9 percent did so to facilitate family or child care arrangements.[44]

MORE EDUCATION

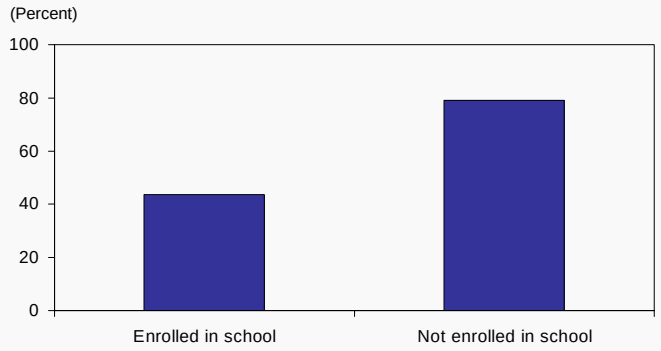
The flexibility of the U.S. labor market benefits Americans by allowing U.S. workers to choose careers and to find work that fit their educational plans and family structures. Each year, a significant number of Americans choose to enroll in school in order to obtain additional education at the expense of reduced current work and income. Figure 5-4 shows how participants responded to the Current Population Survey question regarding why they did not look for jobs in 2006 even though they were available to work. On average, 14.3 percent of those surveyed said that they did not look for work because they were either in school or undergoing training—more than the

Figure 5-5. Trends in school enrollment and not wanting a job among young persons



SOURCE: Bureau of Labor Statistics.
NOTE: Ages 16 to 24.

Figure 5-6. Labor force participation rates for young persons, by school enrollment status, 2006



SOURCE: Bureau of Labor Statistics, Current Population Survey.
NOTE: Ages 16 to 24.

percentage of respondents that listed family responsibilities or ill health and disability as their reasons for not working (10.5 percent and 9.0 percent, respectively).

Foregoing work for additional education is particularly common among younger persons. In 2006, 34.2 percent of persons ages 16 to 24 who did not look for a job but were available to work said that their enrollment in school or training deterred them from seeking employment. Figure 5-5 shows that the number of Americans ages 16 to 24 who were enrolled in school, as well as the number of those who were not in the labor force and did not want a job, increased steadily from 1994 to 2006.

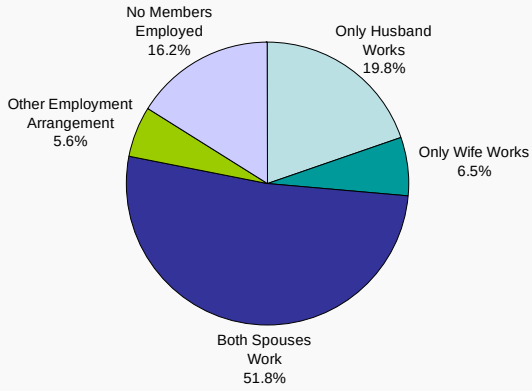
In recent years, the labor force participation rate of persons ages 16 to 24 has fallen from its most recent peak of 68.6 in 1989 to 60.6 percent in 2006. This decline was associated with an increase in the proportion of persons ages 16 to 24 who are enrolled in school. Labor force participation rates for students ages 16 to 24 have historically been much lower than rates for non-students. Recent research suggests that the labor force participation rates of both students and non-students have declined somewhat in recent years.[45] In 2006, the labor force participation rate for students ages 16 to 24 was 43.3 percent, compared to 81.8 percent for non-students. (See Figure 5-6.)

WORK AND FAMILY

American workers also benefit from a flexible and dynamic labor market by having options when it comes to balancing work, life, and family structure. Figure 5-7 shows the employment arrangements adopted in 2006 by married-couple families. Just over half of these families, (51.8 percent) had employment arrangements in which both spouses worked, while 19.8 percent chose an arrangement in which only the husband worked. Just 6.5 percent chose an arrangement in which only the wife worked and 5.6 percent of married-couple families chose alternative employment arrangements.[46]

Figure 5-8 shows the percent of all married couples (with or without children at home) in which only the wife worked from 1996 to 2006. In 1996, 5.3 percent of married couples had an employment arrangement in which only the wife worked, whereas 6.5 percent of married couples

Figure 5-7. Employment arrangements among married households, 2006



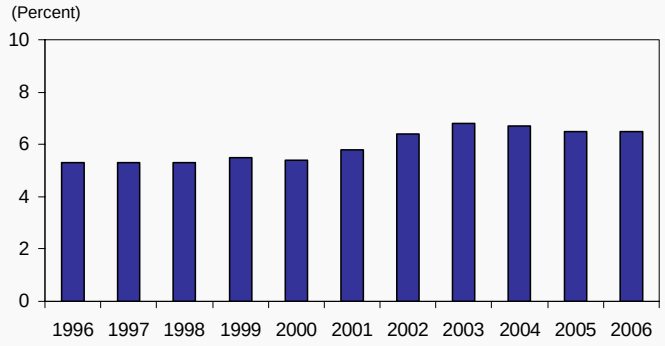
SOURCE: Bureau of Labor Statistics, Current Population Survey.

had such an arrangement in 2006. The percentage of married-couple families in which only the husband worked increased slightly over the same time period, rising from 19.0 percent in 1996 to 19.8 percent in 2006.

Work arrangements are different for married couples with children younger than age 18 in their households compared to married couples without children. In 2006, 90.5 percent of married-couple families living with their own minor children had at least one employed spouse, compared to 83.8 percent of all married couples (with or without children at home). Additionally, dual-parent employment occurred in 62.0 percent of married-couple families with children, whereas the rate for dual-earner employment was just 51.8 percent for all married couples.[47]

Within married-couple families with children, the likelihood of working depends on the ages of their children. In married-couple families living with their own children ages 6 to 17, both parents were employed 67.2 percent of the time in 2006, while mothers in particular were employed 72.8 percent of the time. These rates were significantly lower in married-couple families living with children under age 6, where dual-earner employment occurred just 55.6 percent of the time, and mothers were employed 59.5 percent of the time.

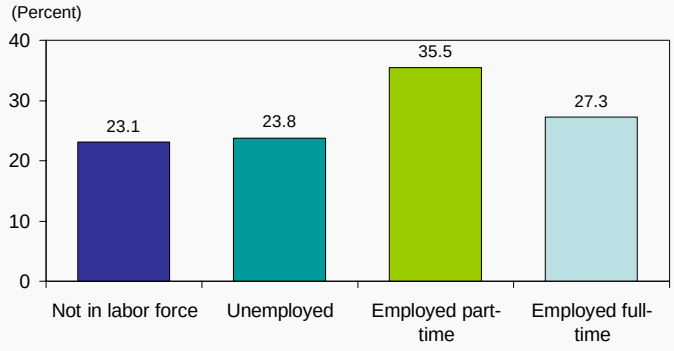
Figure 5-8. Percent of married couples in which only the wife works, 1996-2006



SOURCE: Bureau of Labor Statistics, Current Population Survey.

Data from the American Time Use Survey for 2006 showed that among employed women time spent working varied with the age of the children at home. Women with children under age 6 spent an average of 4.4 hours working per day, compared to 4.5 hours for women with children ages 6 to 17 and 5.0 hours for women with no children at home under age 18. In contrast, employed men with children under age 6 spent an average of 6.0 hours working, about the same as men with older children or no children at home under age 18.[48]

Figure 5-9. Volunteering rates by employment status, 2006



SOURCE: Bureau of Labor Statistics, Current Population Survey.

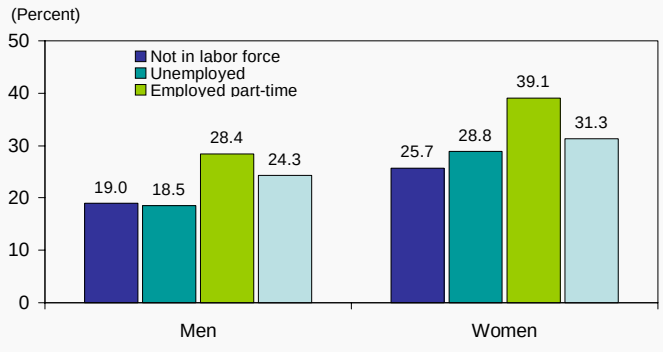
Because there are many different family structures, having choice over work arrangements allows families more flexibility in balancing home and family responsibilities. On an average day in 2006, 25.2 percent of the U.S. civilian population age 15 and over spent time each day caring for other household members, such as children or elders. Among individuals with such caretaking responsibilities, men spent 1.6 hours per day on average taking care of other household members, whereas women spent 2.4 hours per day on average.[49] Adults living in households with children under age 6 spent an average of 1.9 hours per day primarily providing childcare and an additional 5.6 hours providing secondary care to children while also engaged in leisure, household, or other activities.[50]

VOLUNTEERING

A significant percentage of workers choose to give back to their communities by volunteering. The latest available data show that 61.2 million Americans, or approximately 26.7 percent of the U.S. population, volunteered for an organization at least once between September 2005 and September 2006.[51] On a typical day in 2006, 6.7 percent of the population age 15 and over engaged in volunteer activities, spending on average 2.0 hours on such activities.[52]

Figure 5-9 shows the percentage of Americans who volunteered in 2006 according to employment status. 35.5 percent of workers employed part-time volunteered—more than any other employment category. Individuals who were not in the labor force were the least likely to volunteer (23.1 percent). The percentage of Americans who volunteer from each employment category has not changed appreciably since the Bureau of Labor Statistics first began collecting data on volunteering in 2002. About 30.1 percent of women volunteered last year versus 23.0 percent of men, and a larger percentage of women than men volunteered across all employment status categories. (See Figure 5-10.) Persons age 35 to 54 were the most likely to volunteer, while persons in

Figure 5-10. Proportion of men and women who volunteer, by employment status, 2006



SOURCE: Bureau of Labor Statistics, Current Population Survey.

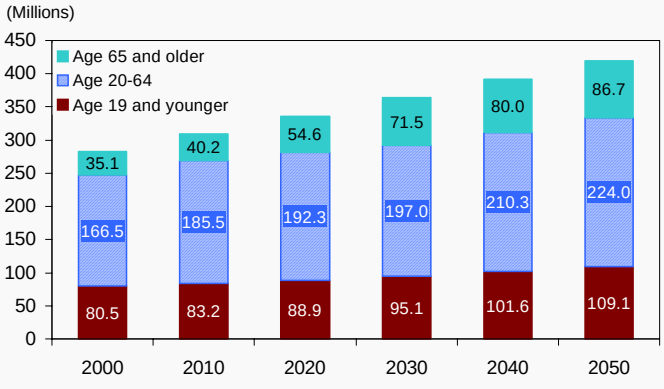
their early twenties were the least likely.

CHOICE AND FLEXIBILITY

The dynamism of the American workforce is driven in large part by the fluidity and flexibility of the U.S. labor market. Americans who want to work can usually find a job within a short period of time, and sometimes they even find and accept more than one job. Moreover, many working Americans are able to choose work schedules that allow them to meet family obligations outside the workplace and to incorporate hobbies and activities into their lives. Ultimately, such choice and flexibility benefits workers, increasing the likelihood that workers will enjoy fulfilling careers.

6 LABOR FORCE TRENDS

Figure 6-1. Age distribution of the U.S. population, 2000-2050



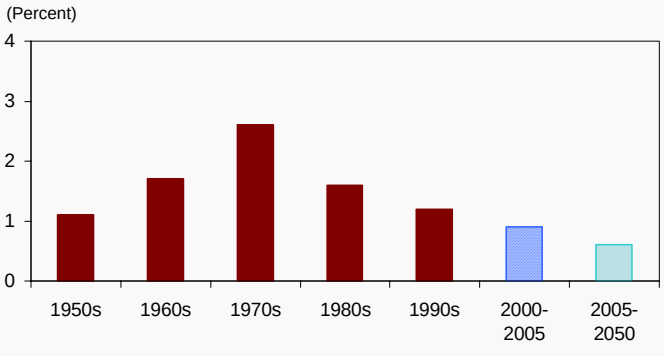
SOURCE: U.S. Census Bureau, 2004, "U.S. Interim Projections by Age, Sex, Race, and Hispanic Origin," http://www.census.gov/ipc/www/usinterimproj/ Internet Release Date: March 18, 2004.

A source of strength of the U.S. economy is the ability to recognize and embrace change: to transform challenges into opportunities. This chapter presents two key dynamics that will affect the shape of the U.S. labor force in the first half of the 21st century: an aging population and increasing racial and ethnic diversity. Both factors are expected to coincide with a pronounced slowing in labor force growth.[53] Another factor slowing labor force growth is the plateauing of women's labor force participation.

The resident population of the United States recently surpassed 300 million, and by 2050, the population will approach 420 million.[54] (See Figure 6-1.) During this period, the population of older Americans (age 65 and older) is expected to more than double compared to current levels to reach an estimated 86.7 million. By 2030, nearly one-fifth of the population will be 65 years or older. Growth in the population of younger Americans will be slower, as the population under 20 years of age will increase from current levels by roughly one-quarter to 109.1 million by 2050.

SLOWING LABOR FORCE GROWTH

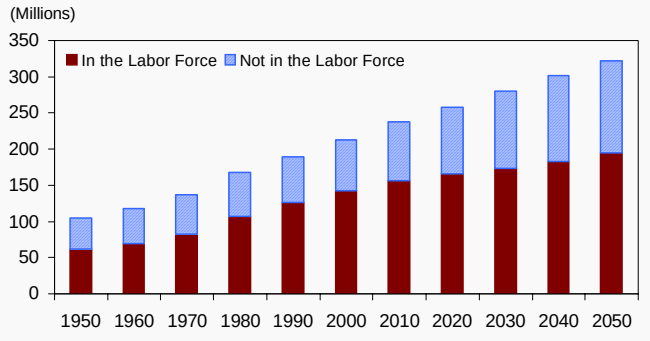
Figure 6-2. Annual rates of labor force growth, 1950-2050



SOURCE: Mitra Toossi, "A New Look at Long-term Labor Force Projections to 2050," *Monthly Labor Review*, November 2006, 19-39.

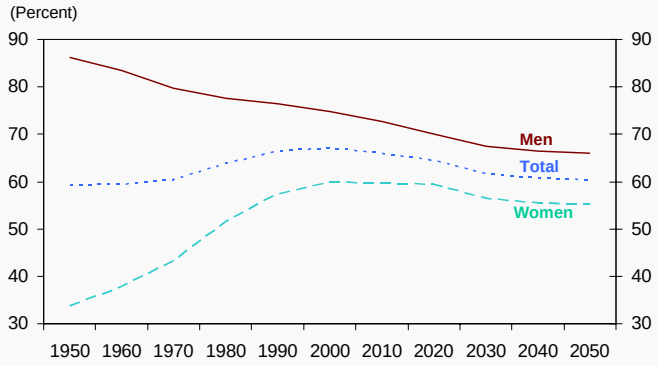
The relatively fast growth of the population above traditional retirement age combined with slower growth of younger cohorts are expected to be a severe constraint on labor force growth. This slowing will extend an already well-established trend reflecting the aging of the baby boomer generation. Growth peaked in the 1970s with the entry of the baby boomers into the labor force, when gains averaged 2.6 percent. (See Figure 6-2.) Growth dropped back below 2.0 percent during the following two decades and fell

Figure 6-3. Civilian noninstitutional population and labor force growth, 1950-2050



SOURCE: Mitra Toossi, "A New Look at Long-term Labor Force Projections to 2050," *Monthly Labor Review*, November 2006, 19-39.
NOTE: Includes ages 16 years and older.

Figure 6-4. Civilian labor force participation rates, 1950-2050



SOURCE: Mitra Toossi, "A New Look at Long-term Labor Force Projections to 2050," *Monthly Labor Review*, November 2006, 19-39.

further to 0.9 percent during the 2000-05 period. Between 2005 and 2050, annual labor force growth is projected to slow further, averaging 0.6 percent.

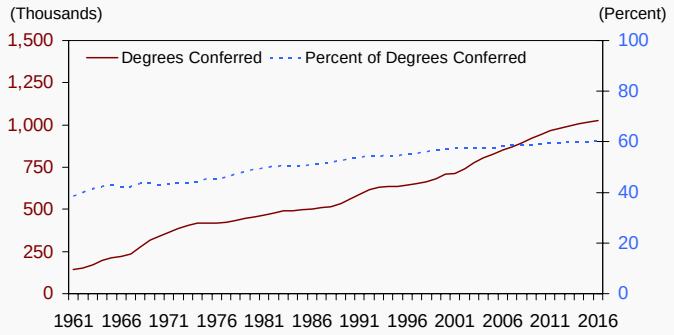
Slower labor force growth increases the importance of productivity growth to enable the economy to expand output, to support increasing proportions of older, retired consumers (and Social Security recipients), and to facilitate increased living standards. Innovation, capital investment, and investment in education and training create a foundation for future productivity growth.

As the baby boomer generation enters retirement age, a rising share of the population will be outside the labor force. By 2050, the labor force is projected to number 195 million, a 28.6 percent increase from 2005. In contrast, the number of persons not in the labor force will surge by 64.1 percent to 128 million. (See Figure 6-3.) As a result, the share of the civilian noninstitutional population age 16 and older that is in the labor force will decrease from 66.2 percent to 60.4 percent. It is worthwhile noting that a 60 percent participation rate is not without historical precedent. Labor force participation rates around this level and lower were the norm until the mid 1970s.

Gender Differences in Labor Force Trends

During most of the second half of the past century, the increased incorporation of women into the labor force boosted overall labor force participation at the same time that men's participation weakened. (See Figure 6-4.)

Figure 6-5. Bachelor's degrees conferred to women, 1961-2016



SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Completions Survey" (IPEDS-C: 91–99), and Fall 2000 through Fall 2004; and Degrees Conferred Model, 1975–76 through 2003–04.

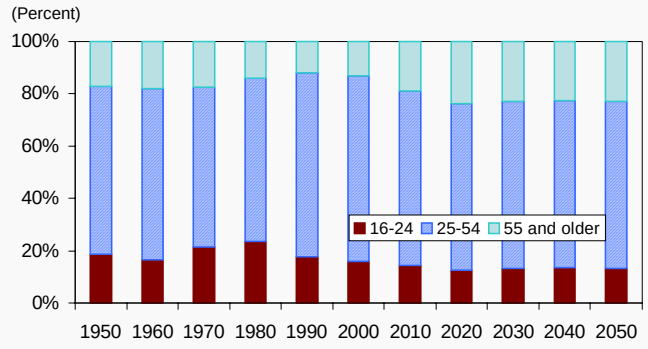
Overall labor force participation rose from 59.2 percent in 1950 to a peak of 67.1 percent from 1997 to 2000. While men's labor force participation slowly eroded from over 86 percent in the early 1950s to 73.5 percent in 2006, women's labor force participation rate increased from 33.9 percent in 1950 and peaked at 60.0 percent in 1999. Both genders are expected to see participation fall in the future, reflecting the rising share of the population of retirement age. By 2050, the labor force participation rates for men and women are projected to fall from 73.5 percent and 59.4 percent in 2006 to 66.0 percent and 55.1 percent, respectively.

Women's labor force participation has risen in step with women's increasing educational attainment. Yet, while participation has plateaued and is expected to remain flat, educational attainment will continue upward for at least the next decade. (See Figure 6-5.) In 1961, women earned less than 40.0 percent of the bachelor's degrees conferred, or about 140,000 degrees. By 1982, women started earning more than half of the bachelor's degrees conferred. In 2004, women earned over 800,000 bachelor's degrees, or 57.5 percent of all bachelor's degrees. Continuing this positive trend, women are expected to be awarded over 60 percent of all bachelor's degrees by 2016.

A More Mature Labor Force

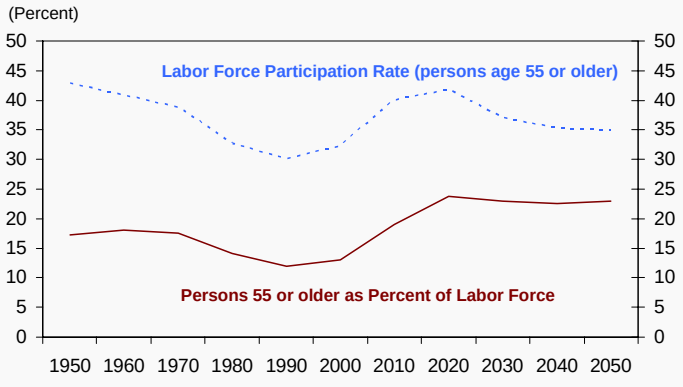
The median age of the population provides a barometer of the maturing of the U.S. labor force. This statistic tells us the age of the worker in the middle of the age distribution – that is, the point at which half the population is younger and the other half is older. The median age of the labor force was 40.8 years in 2006, having trended upward from 34.6 years in 1980 and 1981. Since 1950 the median age averaged 38.1 years, reflecting an upward trend from 38.6 years in 1950 to a peak of 40.6 years in 1962 before the entry of the baby boom generation began influencing the downward trend that ended in 1980. BLS projects the median age of the labor force to reach 42.0 years in 2020 before declining to 41.6 years in 2050.

Figure 6-6. Civilian labor force by age group, 1960-2050



SOURCE: Mitra Toossi, "A New Look at Long-term Labor Force Projections to 2050," *Monthly Labor Review*, November 2006, 19-39.

Figure 6-7. Older workers, age 55 and above, in the labor force, 1950-2050

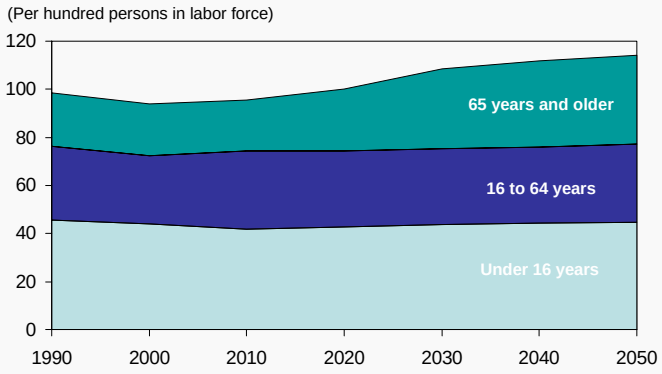


SOURCE: Bureau of Labor Statistics, Current Population Survey,1948-2005 annual averages. Projections: see Mitra Toossi, "A new look at long-term labor force projections to 2050" *Monthly Labor Review*, November 2006.

Another way of looking at the aging of the labor force is to look at each age group's share of the labor force. In 1970, prime age workers (ages 25 to 54) comprised 60.9 percent of the labor force. This age cohort's share of the labor force peaked at 72.3 percent in 1996 and abated to 68.4 percent by 2006. Their share is expected to continue its downward trend – falling to 63.6 percent by 2020 and remaining close to that share through 2050. (See Figure 6-6.) The labor force share of younger Americans (ages 16 to 24) has decreased from its peak of 24.5 percent in 1978 to 14.8 percent in 2006. The rising proportion of youth remaining in school explains much of this decline. Younger workers' share of the labor force is expected to decline further to 12.5 percent in 2020 before marginally rebounding to 13.3 percent in 2050.

While younger workers' participation has slipped in recent years, older workers' labor force participation has increased. After steadily declining for much of the second half of the 20th century, the labor participation rate of older Americans and their share of the labor force have been increasing since the mid 1990s. (See Figure 6-7.) With greater life expectancy and access to better health care than their predecessors, baby boomers will have higher labor participation rates than the previous generation. The labor participation rate of persons 55 years and older has increased from 29.4 percent in 1993 to 38.0 percent in 2006. Their participation rates are expected to peak at 41.9 percent around 2020 before edging back to 35.1 percent around 2050. This fall in the labor participation rate reflects the fact that most of the baby boomer population will be over 60 years old after 2020. However, older workers will still comprise a significant proportion of the labor force. Their share of the labor force will increase from 16.8 percent in 2006 to 23.8 percent around 2020 and slightly recede to 22.9 percent by 2050.

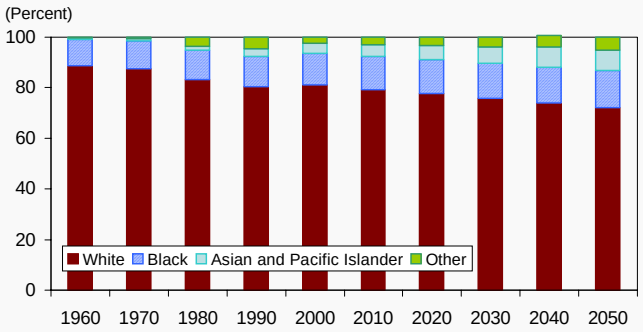
Figure 6-8. Economic dependency ratio, 1990-2050



SOURCE: Mitra Toosi, "A New Look at Long-term Labor Force Projections to 2050," *Monthly Labor Review*, November 2006, 19-39.
NOTE: The economic dependency ratio measures the number of persons not in the labor force (by age group) per hundred persons in the labor force.

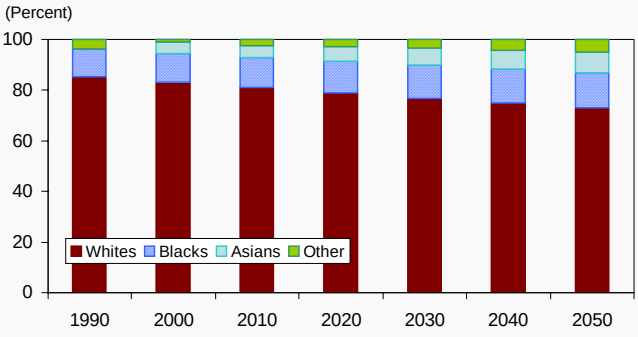
As the baby boomers enter their retirement years, future workers will carry the burden of supporting a relatively greater dependent population.[55] In 2000, 93.9 persons were not in the labor force for every 100 persons in the labor force. (See Figure 6-8.) The ratio will increase to 100.1 in 2020 and continue increasing to 114.0 in 2050. As the

Figure 6-9. Population distribution by race, 1960-2050



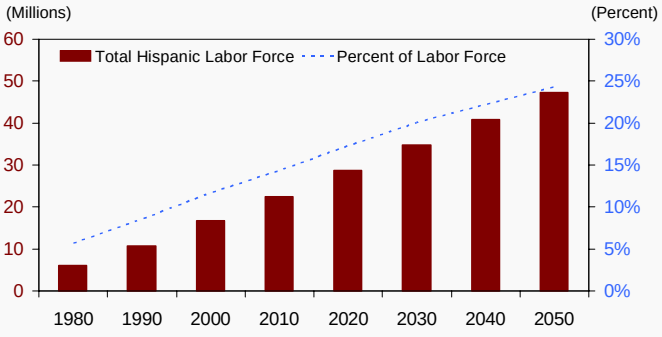
SOURCE: U.S. Census Bureau, "Historical Census Statistics on Population Totals By Race, 1790 to 1990, and By Hispanic Origin, 1970 to 1990," http://www.census.gov/population/www/documentation/twps0056.html Internet Release Date September 13, 2002 and "U.S. Interim Projections by Age, Sex, Race, and Hispanic Origin," http://www.census.gov/ipc/www/usinterimproj/ Internet Release Date: March 18, 2004.

Figure 6-10. Distribution of the labor force by race, 1990-2050



SOURCE: 1990, 2000: Bureau of Labor Statistics, Current Population Survey annual averages. Projections: Mitra Toossi, "A New Look at Long-term Labor Force Projections to 2050," *Monthly Labor Review*, November 2006, 19-39. Note that in 1990 the "other" category includes Asians.

Figure 6-11. Hispanic share of civilian labor force, 1990-2050



SOURCE: Mitra Toossi, "A New Look at Long-term Labor Force Projections to 2050," *Monthly Labor Review*, November 2006, 19-39.

percent of persons age 65 and older who are not in the labor force, increases from 21.6 in 2000 to 36.8 by 2050, the amount of people supporting those who do not work will tilt in the opposite direction.

Greater Racial and Ethnic Diversity

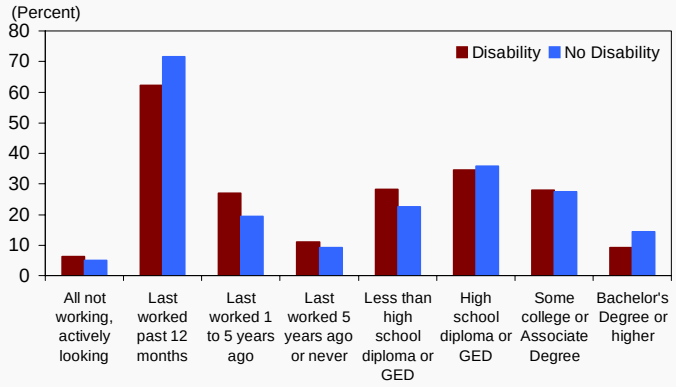
Many immigrants perceive the United States as a land of opportunity. Immigrants seeking freedom and opportunity have contributed to the increasing racial and ethnic diversity of the nation's population. (See Figure 6-9.)

In 1960, racial and ethnic minorities accounted for about 11.4 percent of the total population, or 20.5 million persons. The racial and ethnic minority share has steadily increased to 18.6 percent in 2006, or about 55.6 million persons. Asians, in particular, have seen a significant increase in their share, increasing from 0.5 percent in 1960 to nearly 4.4 percent in 2006. The African-American population has also seen a sizable increase in its share, increasing from 10.5 percent in 1960 to 13.4 percent in 2006. The American Indian and Alaska Native population, though only about 1.5 percent of the total population in 2006, has increased eight-fold from 0.5 million in 1960 to nearly 4.5 million in 2006. The share of persons of Hispanic ethnicity (who may be of any race) has increased dramatically from 6.4 percent of the population in 1980 to 14.8 percent in 2006.

In the coming decades, the labor force will follow population trends and become increasingly diverse. (See Figure 6-10.) The declining share of

the white labor force will parallel the declining share of the white population. In 1990, racial and ethnic minorities accounted for 14.6 percent of the labor force, with African-Americans and Asians accounting for 10.9 percent and 3.7 percent, respectively. In 2005, racial and ethnic minorities increased their share to 18.2 percent, with African-Americans and Asians increasing their share to 11.4 percent and 4.4 percent, respectively. By 2050, the proportion of racial and ethnic minorities in the labor force is projected to increase to 26.9 percent. The African-American and Asian labor force is expected to increase to 13.8 percent and 8.3 percent, respectively. Other races will also increase their share of the labor force from about 1 percent in 2000 to 4.9 percent in 2050. The Hispanic share of the labor force will increase from 13.3 percent in 2005 to 17.3 percent in 2020. By 2050, the Hispanic share will increase to 24.3 percent of the labor force. (See Figure 6-11.)

Figure 6-12. Persons not working but actively seeking work by disability status, 2005



SOURCE: U.S. Census Bureau, American Community Survey, 2005

PEOPLE WITH DISABILITIES, AN UNDERUTILIZED LABOR SOURCE

As the baby boomers enter retirement, it is likely that all sources of labor will be in higher demand, including people with disabilities. According to estimates from the Census Bureau's 2005 American Community Survey (ACS), 12.3 percent, or 22 million people, of working age (18 to 64 years old) have a disability.

About 38 percent of men and women with a disability are employed, compared with 76.9 percent of people who do not have a disability. (Data are limited to household population and exclude the population living in institutions, college dormitories, or other group quarters).

This picture is even more interesting when one looks at labor force activity. A comparison of Americans with and without disabilities who are not working but are actively looking for work is presented in Figure 6-12.

Among persons who had last worked one to five years ago, 27.0 percent of persons with a disability were actively seeking work, compared with 19.3 percent of persons without a disability. Among persons with less than a high school education, 28.2 percent of persons with

Table 6-1. Individuals (ages 18 to 64) that are not working but are actively looking for work, by age categories and disability status

	PERCENTAGE (%)	
	Disability	**No Disability**
Ages 18 to 24	19.7%	31.2%
Ages 25 to 34	19.1%	24.6%
Ages 35 to 44	22.8%	20.4%
Ages 45 to 54	24.7%	16.3%
Ages 55 to 64	13.6%	7.5%
TOTAL	100.0%	100.0%

Source: U.S. Census Bureau, American Community Survey, 2005.

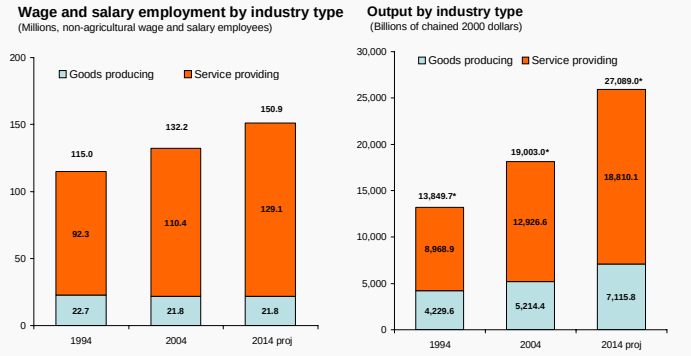
a disability were actively seeking work, compared with 22.5 percent of persons without a disability. Additionally, the ACS data revealed that the proportion of people age 35 and over who were not working but looking for work was greater among persons with disabilities than among persons without disabilities. (See table 6-1.) These potential workers from the population of persons with disabilities could prove to be a valuable resource if the labor market tightens in the future.

LOOKING TOWARD THE FUTURE

Which sectors of the economy will be the engines of future employment growth and what will be required of the American workforce to fill those jobs? These questions lie at the heart of anyone contemplating potential education and career paths.

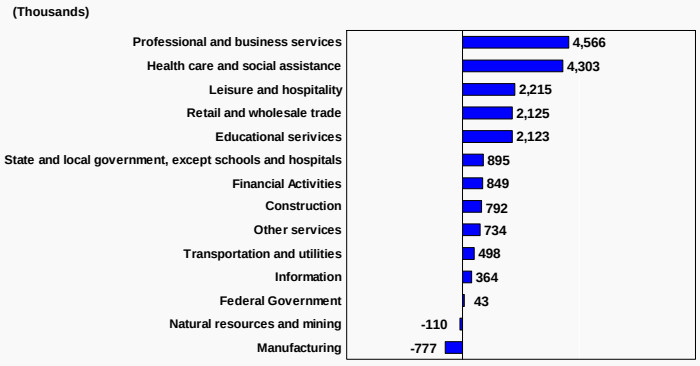
The answer to these questions has always rested on the dynamic and diverse nature of the U.S. economy. Telling this story and providing guideposts for future employment opportunities are the themes of technological innovation, the globalization of trade, and demographic change. Together they present both unique challenges and opportunities for the American workforce. Highlighting the dichotomy of challenge and opportunity is the fact that service-providing industries now dominate the landscape of the American workforce from both an employment and output perspective. Presently, more than three out of four jobs are attributed to service-providing industries. While the goods-producing side of the economy is expected to keep pace with its service-providing counterpart in terms of output growth, continued productivity gains and foreign competition will negate any prospect for this trend's reversal. (See Figure 6-13.)

Figure 6-13. Employment and output: goods-producing and service-providing sectors
1994, 2004 and projected 2014, non-agricultural industries.



SOURCE: Bureau of Labor Statistics, Employment Projections Program. See Jay M. Berman, "Industry output and employment projections to 2014," ***Monthly Labor Review***, Nov. 2005, pp 45-69.
Note: Output totals shown exclude agriculture, forestry, fishing, and hunting, "special industries," and residual.

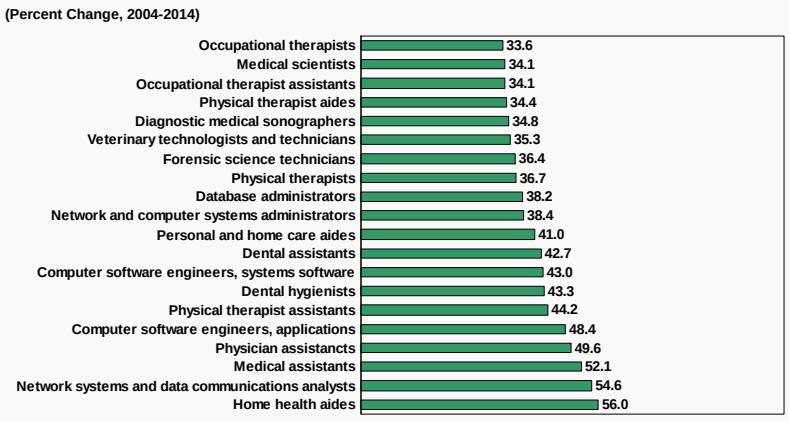
Figure 6-14. Projected employment change between 2004 and 2014, major industry sectors



SOURCE: Bureau of Labor Statistics, Employment Projections Program.

Industries that currently employ large numbers of people, such as retail trade, food services and drinking places, and construction, will continue to be important sources of employment, even

Figure 6-15. Projected 20 fastest growing occupations



SOURCE: Bureau of Labor Statistics, Employment Projections Program.

though their growth may be proportionately less than other sectors. Together these industries account for almost a quarter of total wage and salary employment. However, the industry sectors that are expected to exhibit the largest levels of growth and provide the most opportunities in the future are professional and business services and health care and social assistance. Together they are projected to add 8.9 million jobs or almost half of the total expected employment growth for the economy as a whole by 2014. (See Figure 6-14.)

The gradual aging of the population, discussed earlier in this chapter, coupled with advances in new technologies that increase life expectancies, will place the health care sector as a dominant source of future employment growth. Fourteen of the projected 20 fastest-growing occupations are health related, including twelve in health care and two in other occupation groups. Home health aides and medical and physician assistants are occupations that highlight this trend. (See Figure 6-15.) In terms of occupations with the largest growth prospects, registered nurses are expected to generate 703,000 new jobs from growth by 2014 – the second largest in the economy. An additional 501,000 job openings will result from the need to replace experienced registered nurses who leave the occupation permanently, for retirement or other reasons.

These trends suggest that the American workforce continues to be responsive to changing education and training requirements. A century ago most people learned job skills by experience on the job, while formal education requirements for work were few. Today, and increasingly in the future, a solid education foundation, including completion of post-secondary courses or degrees is needed to compete successfully in the job market.

Workforce changes come from many angles – whether in the form of globalization of trade or an evolving population composition. Tackling these hurdles is today's highly skilled, adaptive, and proud workforce. These hallmarks will serve the American workforce well as it meets the challenges that unfold in the future.

NOTES

[1] The Bureau of Labor Statistics publishes two distinct but complementary employment series. Nonfarm payroll employment is based on a survey of business establishments and total employment is based on a survey of households.

[2] The calculation is from the peak payroll employment level nearest to the NBER declared beginning of the recession to the employment nadir following the recession. For the 1981/82 recession, the peak was 91,594,000 in July 1981 and the nadir was 88,756,000 in December 1982, a decline of 3.098 percent. For the 1990 / 91 recession, the peak was 109,820,000 in June 1990 and the low point was 108, 233,000 in July 1991, a decline of 1.445 percent. For the 2001 recession the peak was 132,551,000 in February 2001 and the nadir was 129,797,000 in August 2003, a decline of 2.078 percent.

[3] For 2004 through 2006, net job growth was calculated as the December 12 month change in seasonally adjusted payroll employment totals. For the first six months of 2007, net job growth was calculated as the difference between the seasonally adjusted preliminary June 2007 total and the December 2006 total.

[4] When an alternative labor under-utilization rate is calculated to include discouraged and other marginally attached workers who are not in the labor force, the number in the included group is added to both the numerator and the denominator for the calculation.

[5] Hires include re-hires of laid off employees and transfers of employees to other establishments operated by the same employer.

[6] $12.455 trillion according to the BEA revised estimate published in July 2006.

[7] GDP growth rates reflect BEA benchmark revisions published in July 2006.

[8] To the extent that higher compensation costs for health care benefits may not have been reflected in higher quality or quantity of health care services received, higher cost of compensation for employers may not equate with higher value perceived by employees.

[9] Based on annual average for 2006 of quarterly estimates from the BLS National Compensation Survey's Employer Cost of Employee Compensation (ECEC) reports. Occupations in the graph are ranked according to 2006 annual average hourly compensation. ECEC data cover civilian workers employed by the private sector, state governments, and local governments. The construction estimate ($29.19) is a combination of construction and extraction occupations only for the first 3 quarters of 2006, but includes also farming, fishing and forestry occupations for the quarter ending December 2006. If farming, fishing, and forestry occupations were added for the other three quarters the estimate would be 5 cents lower, $29.14.

[10] Based on annual average of monthly employment levels for each occupational group estimated from the Current Population Survey (CPS). The CPS data cover all workers, including public and private wage and salary workers and the self-employed.

[11] In addition to the occupations shown in the chart, the Farming, fishing and forestry occupations group experienced an employment decline of 91,000. This group was not included in the chart because ECEC data to rank hourly compensation were not available.

[12] The capital assets included are computers, software, communications and other information processing equipment, other fixed business equipment, structures, inventories, rental residences, and land. Investments, depreciation, capital income, and estimated rental prices are estimated for each of these eight aggregates

[13] Labor compensation is defined as wages and salaries of employees plus employers' contributions for social insurance and private benefit plans. The value of all other fringe benefits also is included. Additionally, BLS estimates the wages, salaries, and supplemental payments of the self-employed.
[14] Capital compensation is defined as the sum of the portion of noncorporate income not attributed to labor, corporate profits, net interest, rental income, adjusted capital consumption allowance, inventory valuation adjustments, the portions of indirect taxes assumed to be associated with capital (notably motor vehicle and property taxes), and the sum of business transfers and government subsidies.
[15] These earnings data relate to production workers in natural resources and mining and manufacturing, construction workers in construction, and nonsupervisory workers in the service-providing industries. On average these workers account for about 82 percent of private nonfarm jobs.
[16] The Current Employment Statistic program has also added series on average weekly hours and gross monthly earnings of all private nonfarm employees.
[17] Both figures are not seasonally adjusted.
[18] *Occupational Projections and Training Data, 2006-07 Edition*, page 2.
[19] See "The educational attainment distribution of occupations: A note on methodology" in *Occupational Projections and Training Data, 2006-07 Edition*, page 6.
[20] Because only two occupations fell into the some college cluster, this cluster was folded into the some college or college category for this analysis.
[21] In Figure 2-9, the category shares for health insurance (7.7%) and other insurance (0.5%) but the published combined insurance category is 8.1%. The difference reflects the effects of rounding.
[22] The "eurozone" or "euro area" is the area encompassing those European Union member states in which the euro has been adopted as the single currency in which a single monetary policy is conducted under the responsibility of the Governing Council of the European Central Bank. Currently there are 13 member states: Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Slovenia, and Spain. Because Slovenia joined the euro area in January 2007, the eurozone estimates included in this chapter exclude this member state.
[23] July 2007 estimates from the CIA World Factbook, available online at www.cia.gov/library/publications/the-world-factbook.
[24] *A Chartbook of International Labor Comparisons* (available online at www.dol.gov/asp) and United Nations national accounts main aggregates database.
[25] GDP estimates are in current U.S. dollars adjusted using purchasing power parities.
[26] Comparisons of data based on levels of hours worked for a given year are not precise because of differences in data sources methods of estimation.
[27] Degree status is implied but not certain for 1970-91 data. Prior to 1992 the Current Population Survey questionnaire asked for years of school attended and whether the terminal year was completed. Beginning in 1992, the CPS questionnaire explicitly asks about receipt of a high school diploma, GED certificate, or college degree.
[28] Data are annual averages of quarterly median earnings wage and salary workers ages 25 or older who usually worked full-time.
[29] See the BLS publication "America's Youth at 19: School Enrollment, Training, and Employment Transitions Between Ages 18 and 19," USDL 07-0452, March 27, 2007. http://www.bls.gov/news.release/pdf/nlsyth.pdf

[30] See the BLS publication "Number of Jobs Held, Labor Market Activity, and Earnings Growth Among the Youngest Baby Boomers: Results from a Longitudinal Survey," USDL 06-1496, August 25, 2006. http://www.bls.gov/news.release/pdf/nlsoy.pdf

[31] See the BLS publication "American Time Use Survey—2006 Results," USDL 07-0930, June 28, 2007. http://www.bls.gov/news.release/pdf/atus.pdf

[32] U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education." Findings available at http://nces.ed.gov/pubs2007/2007352.pdf and http://nces.ed.gov/programs/coe/2007/section3/tableXLS.asp?tableID=701

[33] See the BLS publication "College Enrollment and Work Activity of 2006 High School Graduates" USDL 07-0604, April 26, 2007. http://www.bls.gov/news.release/pdf/hsgec.pdf

[34] BLS data measures the length of spells of unemployment in progress, not completed periods of unemployment.

[35] The percentage of persons re-employed is based on unpublished BLS gross flows data derived from comparisons of the same individuals in successive monthly CPS records. Data are 2006 annual average.

[36] See the BLS publication "Number of Jobs Held, Labor Market Activity, and Earnings Growth among the Youngest Baby Boomers: Results from a Longitudinal Survey," USDL 06-1496, August 25, 2006. http://www.bls.gov/news.release/pdf/nlsoy.pdf

[37] See the BLS publication "Employee Tenure in 2006," USDL 06-1563, September 8, 2006. http://www.bls.gov/news.release/pdf/tenure.pdf

[38] Employee Tenure in 2006, Table 2.

[39] BLS, "Work Experience of the Population in 2005," USDL 07-0199, Feb. 9, 2007.

[40] The proportion includes both persons who usually worked part-time and persons who usually worked full-time, but reported part-time hours during the survey week. For only those who usually worked part-time the percentage who reported non-economic reasons was 88.3 percent.

[41] See the BLS publication "American Time Use Survey—2006 Results," USDL 07-0930, June 28, 2007. http://www.bls.gov/news.release/pdf/atus.pdf

[42] American Time Use Survey—2006 Results.

[43] Bureau of Labor Statistics, Current Population Survey, 1996-2006.

[44] See the BLS publication "Workers on Flexible and Shift Schedule in May 2004," USDL 05-1198, July 1, 2005. http://www.bls.gov/news.release/pdf/flex.pdf

[45] See Mosisa, A. and Hipple, S., "Trends in labor force participation in the United States," *Monthly Labor Review*, October 2006, 35-57. http://www.bls.gov/opub/mlr/2006/10/art3full.pdf,

[46] Alternative employment combinations in married-couple families are cases in which neither the husband nor wife is employed, but other family members (*e.g.*, children over 16, grandparents, siblings of the husband or wife) are employed.

[47] See the BLS publication "Employment Characteristics of Families in 2006," USDL 07-0673, May 9, 2007. http://www.bls.gov/news.release/pdf/famee.pdf

[48] American Time Use Survey—2006 Results. Working time is averaged across all days, including work and non-work days.

[49] American Time Use Survey—2006 Results.

[50] A primary activity refers to an individual's main activity. Other activities done simultaneously are not included. Secondary childcare time is defined as time one has a child "in his or her care" while doing something else as a main activity.
[51] See the BLS publication "Volunteering in the United States, 2006," USDL 07-0019, January 10, 2007. http://www.bls.gov/news.release/pdf/volun.pdf
[52] American Time Use Survey—2006 Results.
[53] This chapter draws heavily on valuable research by Mitra Toossi of the Bureau of Labor Statistics published as "A new look at long-term labor force projections to 2050" in the *Monthly Labor Review*, November 2006.
[54] Census Bureau, Interim population projections, available online at www.census.gov/population/www/projections/popproj.html (last visited July 2007).
[55] BLS defines the economic dependency ratio as the number of persons in the total population (including children and the Armed Forces) that are not in the labor force per 100 of those who are in the labor force.