

CHAPTER 3

The American Labor Market

A SLUGGISH ECONOMY GENERALLY draws attention to short-run labor market conditions that affect the economic well-being of American workers and their families. Concern is naturally focused on the decline in job prospects and the increase in unemployment brought about by recession. Yet, longer run trends that underlie these shorter run events have profound importance as well. Although a temporary spell of unemployment disrupts a worker's earnings for weeks or months, the creation of job opportunities and the growth in real wages over a person's career determine the standard of living over his or her lifetime. Chapter 2 discussed the current cyclical situation. This chapter reviews the longer run developments.

Despite the temporary setbacks of several recessions, employment increased by 38 million, from 71 million in 1971 to 109 million in 1991. This 53-percent growth far surpassed that of most other major industrialized countries. Employment in Japan increased only half as fast; employment in France, Germany, and the United Kingdom grew at less than one-fifth the U.S. rate.

The U.S. economy not only provided employment for an extra 38 million workers, it also delivered improved opportunities in the labor market. The average wage level, adjusted for inflation, rose by 18 percent from 1971 to 1990 (the most recent year for which statistics are available).

To put this performance of the U.S. economy in expanding labor market opportunities in perspective, consider an extreme example of a rapid increase in the supply of workers. Imagine that suddenly tomorrow, with each 100 workers, 53 companions showed up at the factory, office, or farm. It is obvious that the economy would be hard pressed to employ those workers and that such an abrupt enlargement in the supply of workers would exert a strong downward pressure on wages.

In the course of the actual process of adjustment to the changing market, a gradual but significant shift toward high-skilled jobs has taken place. The evolutionary shift toward service sector employment and the restructuring within all industries in response to technological change has favored workers with more years of schooling. This trend is most evident in the real wage increase of

better educated and more experienced workers, despite the sizable increase in the supply of workers with these attributes.

Women have benefited from changes in the workplace. Since the late 1940s women have been entering the labor market in increasing numbers and now account for 46 percent of civilian employment. Women's job prospects have improved as they have attained more years of schooling and more work experience. As a result, their unemployment rates fell to the same levels as men's, they moved into traditionally male-dominated occupations, and their wages grew faster than men's wages.

Accompanying these long-term positive trends in the labor market were some troubling developments. Perhaps reflecting the magnitude of the task of absorbing such a large number of new workers, average real wages have grown, on average, less than 1 percent a year since 1973. Real wages of successive age cohorts of low-skilled workers—particularly young men with a high school education or less—have actually declined.

The slower rate of growth in average real wages is tied to the slower growth of labor productivity. Many factors have contributed to the productivity slowdown, in particular the reduced growth rate of capital per worker. Unless productivity increases at a faster rate, real wage growth will remain modest, and the rate of advance in living standards will fall below the robust pace that Americans enjoyed in the quarter century after World War II.

EMPLOYMENT GROWTH

Over the long-term, despite the temporary setbacks of several recessions, the U.S. economy has demonstrated great capacity to provide jobs to an increasing percentage of the population. Significant shifts in demand and supply accompanied this growth in jobs. Technology and product changes increased demand for more educated workers, while the strong demographic forces of the baby-boom generation and changing preferences of workers regarding work and schooling drove much of the change in supply.

CHANGES IN LABOR DEMAND

The steady increase in the demand for more educated and more skilled workers has been a dominant force in the U.S. labor market during the last two decades. The increase in the supply of college-educated men and women kept pace with demand throughout most of the 1970s. During the 1980s, though, demand outstripped the rising supply, as evidenced by the increasingly higher wage premium for college-educated workers.

Two structural changes account for most of the demand for more educated workers. First, changing preferences and demography, as

well as increased international trade, led to relative changes in the demand for different products and services. Second, and more importantly in recent years, changes in technology within industries favored people who could master complex technologies and learn new methods quickly.

Changes in Product Demand

Changes in product demand have been reflected in the expansion of industries that employ a higher-than-average proportion of college-educated workers and a contraction in industries that tend to hire a proportionally higher number of high-school-educated workers.

Contraction in the share of the Nation's output of mining, an industry in which the percentage of workers without college education is high, has diminished the demand for workers with less formal schooling. Manufacturing is another industrial sector that has traditionally employed less educated workers. Manufacturing employment has been declining as a share of total employment at least since World War II. In contrast with mining, however, the share of manufacturing in total U.S. output has been virtually constant. Thus, the decline in manufacturing employment does not portend the deindustrialization of the U.S. economy. It reflects rather the productivity gains that have been achieved in this industrial sector.

The most significant expansions in demand for college-educated workers have occurred in finance, various government sectors, and professional services. The health care sector, which employs a high proportion of college-educated workers, provides a striking example. The aging of the population, advances in medical technology, and a general increase in demand commensurate with rising incomes have increased the health care sector's share of output from 7 percent to 12 percent between 1970 and 1989. Its share in employment doubled from 4 percent to 8 percent.

Occupations in health care and similar sectors place a high value on cognitive and interpersonal skills. These skills are acquired primarily through formal education, and recent studies show that they are highly correlated with years of schooling. Therefore, as employment shifts to the service-producing sectors, demand for workers with more formal education increases.

Occupations with high concentrations of college-educated workers have typically grown faster than occupations with less educated workers. Managerial and professional specialty occupations, which are found primarily in the professional services sectors, have the highest average level of education of the major occupation groups. Sixty-one percent of the people holding these jobs had 4 or more years of college—more than twice the average for all occupations. Between 1983 and 1991, the number of these jobs grew nearly twice

as fast as total employment. In contrast, jobs in the occupational classification of operators, fabricators, and laborers, which are typically filled by workers with low educational attainment and located primarily in manufacturing, grew about half as fast as total employment.

Technological Change

Technological changes that have brought about internal restructuring within industries and firms have also increased the demand for workers with greater educational attainment, particularly in the 1980s. The most extensive restructuring in favor of more educated workers occurred in retail trade, government, and professional and financial services. Manufacturing, which 20 years ago had the least educated work force among industrial sectors, has hired increasing proportions of college-educated workers. In 1988, for example, 45 percent of all workers in high-skill manufacturing industries had a college education, up from 28 percent in 1968. Low-skill manufacturing firms have nearly doubled the percentage of such workers in their work forces, from 9 percent to 17 percent.

Computer technology has extensively changed the nature of the workplace and the operations of firms. In 1984, 8 percent of businesses reported using personal computers. By 1989 that figure had climbed to 36 percent. Proficiency in operating computers has become a requisite for an increasing number of jobs, from secretaries to production-line workers. This proficiency is linked to increased years of schooling; college-educated workers are twice as likely to use computers as are workers with only high school degrees.

Another development has been the shift away from material handling to information handling. Within manufacturing, the input of knowledge, rather than the input of material, accounts for an increasing share of the value added in the production process. The cost of the material content, such as the steel and plastic used in the manufacture of an automobile, for example, has steadily declined relative to the price of the automobile. Instead, the price increasingly incorporates the cost of knowledge embedded in features of the automobile and the production process: the car's advanced design, including the use of computer-aided engineering, the substitution of computer-controlled devices for mechanically controlled devices used in the operation of the vehicle, and the use of robotics in the assembly of the automobile. Consequently, the demand for people with the ability to work with and process knowledge and information, rather than with physical inputs, has increased.

CHANGES IN LABOR SUPPLY

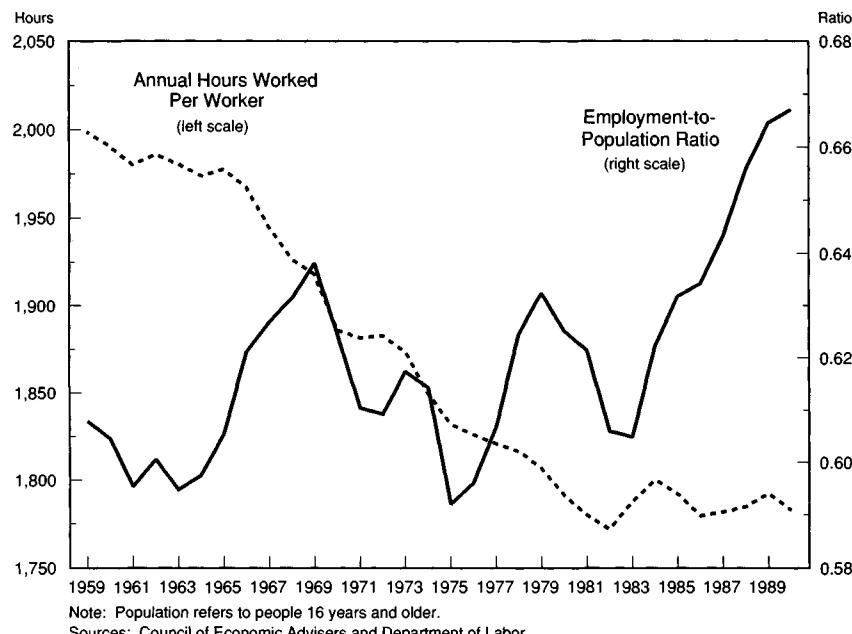
Changes in labor supply have been propelled by demographic changes, as the post-World War II baby-boom generation has

moved through the labor force, and by changes in people's choices regarding work and school. During the 1970s a large portion of the baby-boom generation began entering the labor force. By the 1980s, most of this generation had reached working age, and many had moved toward the midpoints of their careers. Consequently, the growth of the working-age population slowed considerably, and the labor force gradually aged and gained more work experience. At the same time, the percentage of the working-age population employed increased sharply.

Chart 3-1 shows this rising ratio of employment to working-age population during the 1980s. Also displayed is a decline in the average number of hours worked. Between 1965 and 1982, average annual hours worked fell by about 10 percent, from 1,977 hours to 1,772 hours. This trend occurred even though the length of the average work week of full-time employees remained constant at roughly 43 hours.

Chart 3-1 Employment-to-Population Ratio and Hours Worked per Worker

Since the early 1980s, the percentage of the working-age population employed has grown. Hours worked per worker fell from 1965 to 1982 but have remained roughly constant since.



Most of the decline in average hours worked is explained by an increase in part-time workers. The fraction of the labor force that worked part time rose from 18 percent in 1965 to 25 percent in 1982, and then declined to 21 percent by 1990. The majority of workers holding part-time, rather than full-time, jobs do so by choice. Many people choose this work option to maintain flexible

work schedules. Nonetheless, in recent years about 40 percent of part-time workers surveyed say they would prefer full-time jobs.

Women in the Work Force

The increasing participation of women in the work force accounts for the upward trend in the employment-to-working-age population ratio. Since the late 1940s, when about 31 percent of working-age women were employed, women have accounted for 60 percent of the increase in employment. In 1991, 54 percent of all working-age women and 70 percent of all working-age men were employed. The fraction of men in the labor market has been steady in recent years.

Women's increased presence in the work force is related to changes in social norms and behavior, which gained momentum during the 1960s and continued throughout the 1980s. Women found increasingly greater acceptance in jobs that were more career oriented and higher paying than the jobs they typically filled during the 1950s and 1960s. Even in the relatively short period between 1983 and 1989, for example, the proportion of working women holding traditionally male-dominated managerial and professional specialty jobs increased from 22 percent to 26 percent. Roughly the same percentage of working women now hold these jobs as do working men.

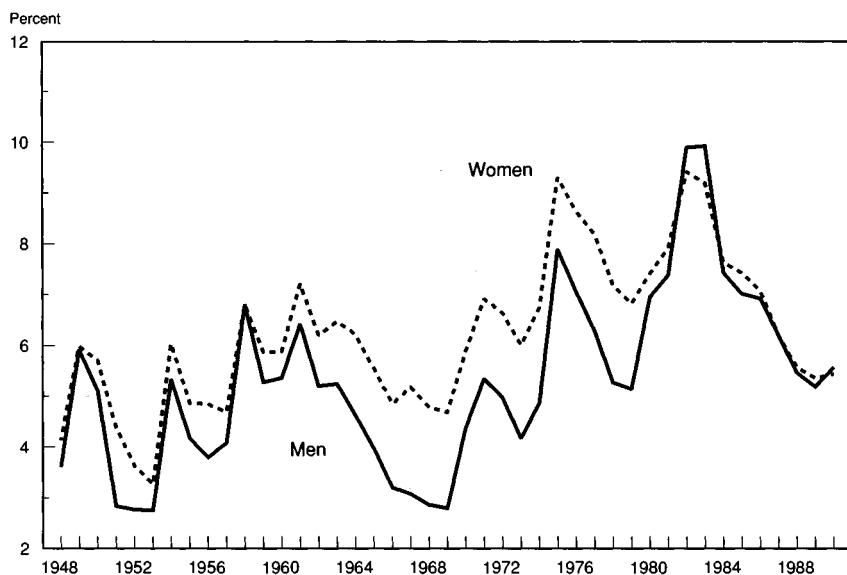
The increase in the number of working women is also associated with changes in American families. Women are marrying at an older age, divorce rates are up, and a greater percentage of married women are working outside the home. The proportion of families maintained by women increased from 11 percent in 1970 to about 17 percent in 1990.

As women's attachment to the labor force has increased and they have acquired more years of schooling, their labor market performance has increasingly resembled that of men's. One noticeable change in recent years has been the convergence of men's and women's unemployment rates. Throughout most of the post-World War II period, women had higher unemployment rates than men, as shown in Chart 3-2. In 1980, however, women's unemployment rates began to match those of men, and they have remained virtually the same since that time. As discussed in a subsequent section, women's wages have increased relative to men's during the last decade, even as the relative supply of working women has increased.

Married women have been steadily increasing their participation in the labor market since at least 1970, when data first became available. The proportion of married women in the paid work force rose from 39 percent in 1970 to 50 percent in 1980 and 58 percent in 1990. The increase in both the number and percentage of married women working was larger in the 1970s than in the 1980s. The

Chart 3-2 Unemployment Rates By Gender

After exceeding the unemployment rate of men for most of the post-World War II era, the unemployment rate of women has converged with that of men.



Source: Department of Labor.

common thread through this period is the sizable increase in real wages earned by wives in most income brackets. As the real wages available to them increased, the cost (in the form of wages forgone) of working on an unpaid basis in the home increased.

Diversity in Worker Characteristics

Like the U.S. population as a whole, the U.S. labor market is a melting pot of different races, nationalities, and ethnic groups. Categorizing the rich diversity of the work force into simple groups is very difficult, and possibly misleading, but it is useful to focus in particular on the progress of black, white, and Hispanic men and women. Each group has increased its participation in the labor market during the last several decades, but some groups have fared better than others, as market conditions and educational and employment opportunities have changed.

In 1990 blacks accounted for 11 percent of the civilian labor force, Hispanics accounted for 8 percent, and whites accounted for 86 percent. (These percentages add to more than 100, because the Census Bureau also identifies people of Hispanic origin by race.) Since 1980 the labor force shares of both blacks and Hispanics have increased, from 10 percent to 11 percent for blacks and from 6 percent to 8 percent for Hispanics.

In 1990, 64 percent of the white population was employed, compared with 56 percent of the black population and 62 percent of the Hispanic population. These rates were higher in 1990 than in 1980 for all these groups. Unemployment rates also varied, with whites experiencing the lowest rate at 6.3 percent, as of December 1991. The rate for Hispanics stood at 9.7 percent, and the rate for blacks was 12.7 percent. Although the rates have changed over the course of business cycles, the ordering has typically remained the same.

The flow of immigrants into the United States continues to add to the size and diversity of the labor force. More than 6 million people were admitted into the country in the 1980s, more than in any other decade since the early 1900s. Nearly a million immigrants from Mexico were admitted, and more than 2½ million from Asian countries, principally, Vietnam, China, India, Korea, and the Philippines. More than a third of the immigrants were the spouses or children of U.S. citizens or alien residents. Immigrants typically have had less schooling than the average U.S. citizen and thus have added disproportionately to the supply of less educated workers. Recent immigration laws have favored admitting a greater number of highly skilled people into the country.

Although the entry of immigrants raises the supply of labor, particularly that of lower skilled workers, studies provide no conclusive evidence of whether and by how much immigration has affected employment or earnings of other U.S. workers. One recent careful study concluded that immigration had a negligible effect on the employment status of less-skilled native workers and reduced their wage rates by only a fraction of 1 percent. Moreover, numerous studies suggest that the long-run benefits of immigration greatly exceed any short-run costs. The unskilled jobs taken by immigrants in years past have often complemented the skilled jobs typically filled by the native-born population, increasing employment and income for the population as a whole.

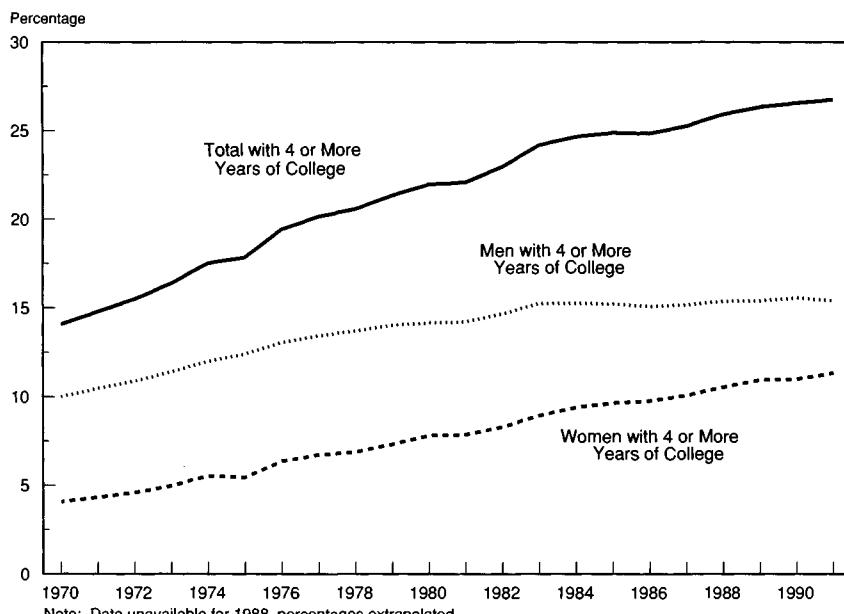
Educational Attainment

The labor force has become more educated over the last 20 years. Chart 3-3 shows that the proportion of workers in the labor force with 4 or more years of college has more than doubled since 1970. That means that the number of workers with college education has grown by more than 18 million since 1970. The growth in educational attainment for women has exceeded that of men. The proportion of women who have completed 4 or more years of college grew from 4 percent in 1970 to 11 percent in 1991, while the proportion of college-educated men increased from 10 percent to 15 percent. The rate of increase for men slowed during the latter half of the 1980s, while the rate for women grew at about the same pace throughout the entire period. Although a greater proportion of

male workers have college educations than female workers, the difference fell by more than half from 1980 to 1990.

Chart 3-3 Percentage of Civilian Labor Force With 4 or More Years of College

The educational attainment of both men and women in the labor force has increased over the last two decades.



Note: Data unavailable for 1988, percentages extrapolated.

Sources: Council of Economic Advisers and Department of Labor.

The proportion of black workers who had completed 4 or more years of college rose from 11 percent in 1980 to 16 percent in 1989. The proportion of white workers with college educations increased from 23 percent to 27 percent. Educational attainment of Hispanic workers has also risen. The proportion of Hispanic workers who had completed high school increased from 33 percent in 1970 to 51 percent in 1989. The proportion having completed 4 or more years of college climbed from 5 percent to 10 percent during the same period. These proportions are lower than for blacks or whites: In 1989, 65 percent of black workers and 78 percent of white workers had completed 4 years of high school.

SUMMARY

- Employment grew during the last two decades at rates that far surpassed those of other major industrialized countries.
- The proportion of whites, blacks, and Hispanics working in the paid labor force increased during the last decade.
- Employment increasingly favored workers with high levels of skills. The work force, in general, became more educated, as

the percentage of black, white, and Hispanic workers who had completed college increased.

- Women have entered the work force at a faster rate than men as a result of changing social norms and improving job prospects. Through greater educational attainment and work experience, women made considerable gains, both in absolute terms and relative to men.

PRODUCTIVITY TRENDS

The key to each worker's well-being and the Nation's prosperity is productivity growth. An increase in the Nation's standard of living, commonly measured as output per person, depends upon three factors: a greater percentage of the population employed, an increase in average hours worked, and greater labor productivity—output per hour worked. The historical trend in the United States has been toward a rising rate of participation in the labor market and lower hours per worker. Labor productivity has also grown historically, although its low rate of advance in the last two decades is a matter of great concern.

Long-term advances in labor productivity and employment have provided the United States with the highest standard of living in the world. Based on the commonly used measure of gross domestic product (GDP), the U.S. economy produced, on average, \$45,918 worth of goods and services per worker in 1990, or \$22,056 per capita. GDP per person in the United States was 25 percent above Japan and 35 percent above Germany. Another way to measure the relative prosperity of U.S. workers is to compare their purchasing power—the amount of goods and services that workers can purchase per hour worked. American workers have greater purchasing power than workers in most other major industrialized countries, although the leadership gap has narrowed.

The variation in hours worked per worker and in the fraction of the labor force in paid employment is limited. *Therefore, long-run advances in living standards depend upon continuing improvements in productivity.* Even a modest annual growth rate in productivity, compounded over a long time, can make a very large difference. Growth of 2 percent maintained over 50 years would generate an increase in annual output per worker from the current level of \$45,918 to \$123,592 in today's dollars. A seemingly small increase in growth rates, similarly maintained over years, can have large consequences. A growth rate of 2.5 percent, instead of 2 percent, would raise output per worker to almost \$160,000 after 50 years.

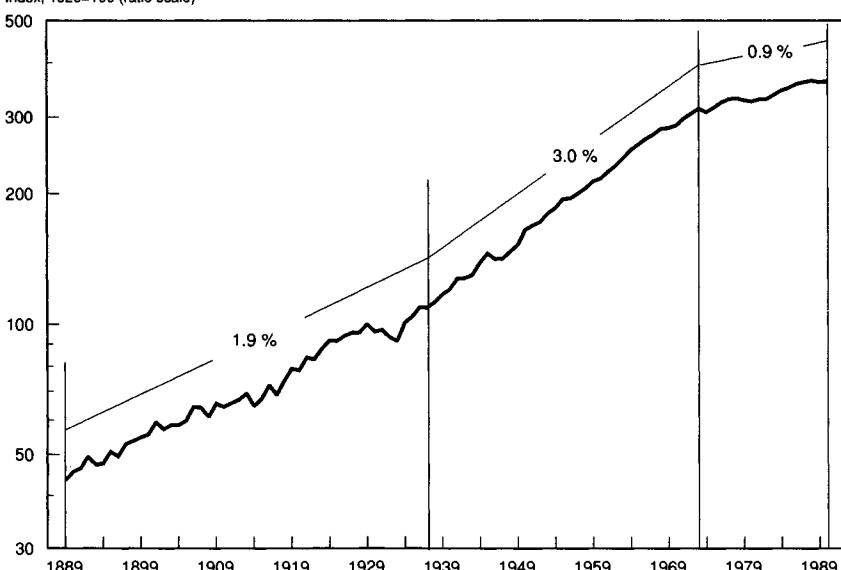
THE HISTORICAL RECORD OF PRODUCTIVITY GROWTH

Chart 3-4 pieces together a century-long path of average U.S. labor productivity in the private business sector. The vertical axis of this graph uses a "ratio scale," which means that equal vertical distances correspond to equal *percentage* changes in labor productivity. The slope of the line, therefore, corresponds to the percentage growth rate of productivity; a constant upward slope implies a constant annual percentage rate of growth of productivity.

Chart 3-4 Historical Growth in Labor Productivity

Labor productivity has increased steadily over the past century. Productivity growth has slowed in recent years.

Index, 1929=100 (ratio scale)



Note: Labor productivity is private business sector GDP per hour. Percentages are average annual rates of change for periods indicated.

Sources: Council of Economic Advisers, Department of Labor, and National Bureau of Economic Research.

The long-term upward trend in labor productivity is clearly visible. Other, more subtle patterns are also seen: the downturn associated with the depression of the 1930s, the upward spurt in measured productivity during World War II, and the downturn of the postwar recession. Laying a ruler on the graph, though, one is tempted to see three historical epochs: from 1889 to 1937, when productivity growth averaged 1.9 percent a year; from 1937 to 1973, when productivity grew 3.0 percent a year; and the period since 1973, when productivity growth averaged 0.9 percent a year.

A qualitatively similar picture to this one characterizes the record for most other industrialized countries as well—long-term growth, with middle-level growth before the 1930s Depression, rela-

tively high growth coming out of the Depression and World War II, and relatively low growth starting in the early 1970s. This suggests that factors common to all countries, rather than factors specific to any one country, underlie these trends.

Looking at labor productivity over the last century, some economists contend that the slowdown in recent years should not necessarily be viewed as an historical aberration. Rather, the high growth rates from the late 1930s to the early 1970s may well be the exception, not only for the United States, but for all countries. Proponents of this view attribute the historically high average growth rate between 1937 and 1973 to a backlog of ideas and technology that went unused and investment projects that were postponed during the depression and World War II. In addition, new wartime technologies were developed that were eventually adopted for peacetime use. When the war ended, many products incorporating these new technologies were developed and produced. Pent-up consumer demand and the rebuilding of the economies of Europe and Japan also created a tremendous demand for investment in new factories and equipment. According to this view, as the surge in new investment slowed and the backlog of new ideas was depleted, growth rates in these countries slowed.

CAUSES OF THE SLOWDOWN IN PRODUCTIVITY GROWTH

Although many factors have contributed to the recent slowdown in productivity growth, most researchers look to three broad classes of explanations: a reduced rate of capital accumulation, a change in the rate of technological advance, and a reduced rate of improvement in the skill levels of the labor force. Government policies can have important effects on these determinants and hence on productivity growth.

Capital Accumulation

The notion of capital represents an attempt to capture the productive facilities with which an economy is equipped. These facilities are of a great variety—examples range from the storage tanks and pumps at the local gas station to a highly sophisticated complex for manufacturing microprocessing chips for personal computers. In a private enterprise economy, most capital is put in place by people who bear the risk of success or failure of the investments.

Growth in capital per worker is, over long periods of time, closely associated with productivity growth. From 1959 to 1973, for example, capital per worker grew by 2.4 percent a year in the private business sector, while productivity in that sector grew by 2.8 percent. From 1973 to 1989, capital per worker grew at 0.8 percent annually and annual productivity growth was 0.9 percent.

According to generally accepted economic analysis, a higher level of capital per worker should support a higher level of output per worker. A rough rule of thumb is that a 1-percentage-point higher level of capital per worker should lead to between a quarter and a third of a percentage point higher level of productivity.

Such a static view of capital may well underestimate the effect of the process of increasing the amount of capital per worker. The new investment required for such "capital deepening" is often the method for introducing new technology that contributes to the productivity of existing facilities. New investment may also foster learning by doing; in putting new equipment in place, companies discover new ways of doing things that make their further investments more productive.

These hypotheses are consistent with studies that find a high correlation between investment rates and rates of productivity growth in different countries. Among major industrialized countries, the United States had the lowest investment rate and the lowest rate of productivity growth in recent decades. According to a recent OECD survey, U.S. gross investment as a fraction of gross national product averaged 19 percent in 1971-80, and 18 percent in 1981-89; the corresponding figure for Japan was 29 percent. Between 1950 and 1979, the United States had the lowest rate of growth of capital per worker among the "group of seven" industrial countries (the others being Canada, France, Germany, Italy, Japan, and the United Kingdom). In 1979 the U.S. capital stock was estimated to be 73 percent older than Japan's.

A major suspect in the slowdown of U.S. productivity growth is thus to be found not in the labor markets but in the capital markets. To raise the rate of productivity growth, the national rate of investment should be increased. The Administration has stressed the need to encourage investment through numerous avenues of policy, including measures to reduce the tax bias against saving and investment. Capital formation is also a principal reason the Administration insists on maintaining budgetary discipline. Expanded government borrowing diverts saving from private investment that leads to higher productivity growth.

Innovation

The pace of innovation, or technological change, is also an important determinant of productivity growth. No number of barns or buggies could support today's standard of living. New methods of production, new products, new modes of organization, and new possibilities for communication have been essential to increased growth and have been forthcoming in remarkable degree. The rate of technological advance is difficult to measure quantitatively, other than by reference to productivity change that cannot be ex-

plained by measurable changes in inputs such as physical capital and labor.

Innovation requires the commitment of resources to development of new products and processes and to institutional change (for example, the intricately coordinated overnight delivery systems that have become part of everyday business life in the United States). Government can help make the most of opportunities to innovate in a wide variety of ways, from supporting basic scientific research to ensuring that tax laws do not discourage innovation.

Government has a particular role in encouraging innovation in areas where private investors find it difficult to capture the full benefits of new knowledge. The patent protection afforded an invention permits an inventor to require payments from users and hence to capture some of the benefits. But the innovation may convey an idea to another inventor, who is thereby able to create further benefits, an effect not captured by the original patent. For this reason, the Administration has favored tax policies that encourage innovation broadly. It has also proposed increased government support for basic and applied civilian research that has widespread benefits exceeding costs and from which the returns are not fully appropriable by the private firms that might undertake the research.

Labor Force Quality

Improvement in the "quality" of the labor force, that is, in the productive abilities of individual workers, is the third major contributor to advances in productivity. The term "human capital" refers to the stock of knowledge and skills possessed by workers and is sometimes used to express the analogy with the stock of facilities discussed above. Economists generally agree that the stock of human capital is an immensely important source of an economy's productive power.

All else being equal, higher levels of schooling in the population would be expected to lead to higher levels of output per worker. Productive skills are not perfectly correlated with years of classroom education, however. The quality and relevance of instruction are significant factors. Moreover, one of the concerns in recent years is how well the educational system prepares students for the demands of the workplace. The Administration has made improvements in the Nation's educational system a high priority, as described in the last section of this chapter.

SUMMARY

- Advances in labor productivity and employment have provided the United States with the highest standard of living in the world.

- In the United States, as in many other industrialized countries, labor productivity growth during the last 20 years has slowed.
- A slowdown in the rate of capital accumulation is one of several factors contributing to the slower productivity advance.

REAL WAGE GROWTH

Workers' earnings are closely linked to their productivity: In a competitive market economy, a worker will tend to be paid an amount equal to the contribution he or she makes to the value of the employer's output. For the economy as a whole, therefore, real wage growth is related to the growth of productivity. For individual workers, real wages differ according to worker characteristics and are affected by shifts in overall supply of and demand for these characteristics.

AGGREGATE REAL WAGE GROWTH

Various statistical measures of payments to workers are available, all of which track productivity trends closely. A comprehensive measure would include wages and fringe benefits and cover all workers in the economy. One of the measures that comes closest to meeting these criteria is compiled by the Bureau of Labor Statistics and includes payroll employees and the self-employed. Aggregate real hourly compensation is derived by dividing total compensation by hours worked by all employed people and adjusting for inflation using an improved version of the consumer price index, CPI-U-X1 (Chapter 7).

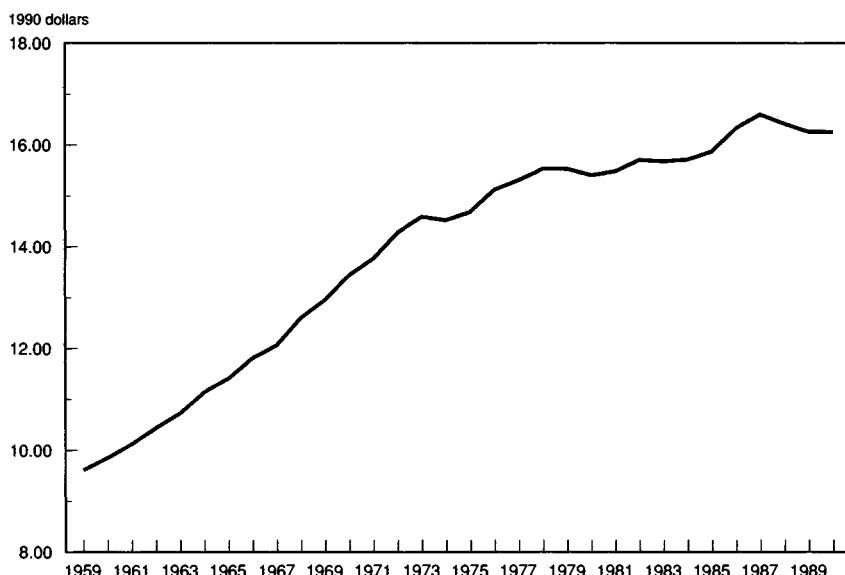
Chart 3-5 shows that although the year-to-year changes are sometimes small or negative, long-term wage growth has been significant. The average real hourly compensation of workers in the U.S. economy has increased 69 percent since 1959 and 11 percent since 1973. The slowdown in real wage growth since 1973 primarily reflects the sharp reduction in productivity growth, which collapsed between 1973 and 1981, and rebounded only modestly between 1981 and 1990.

The relationship between labor productivity and aggregate real hourly compensation in the private business sector is seen by comparing their growth rates over time. From 1959 to 1973, labor productivity grew at an average annual rate of 2.8 percent, while real hourly compensation grew 2.9 percent. After 1973 labor productivity grew at an annual average rate of 0.9 percent, while real hourly compensation grew at 0.7 percent. Similar patterns occurred in U.S. manufacturing.

Most other major industrialized countries displayed similar relationships. In Japan's manufacturing sector, for example, productiv-

Chart 3-5 Real Hourly Compensation, 1959-1990

Total compensation per hour has increased since 1959. Its rate of growth has slowed since 1973.



Note: Compensation deflated by CPI-U-X1.

Source: Council of Economic Advisers and Department of Labor.

ity grew at an average annual rate of 10.6 percent and real hourly compensation grew by 8.2 percent a year from 1959 to 1973. After 1973 annual productivity growth averaged 4.4 percent and real hourly compensation growth averaged 2.1 percent.

Changes in the attributes—particularly educational attainment and experience—of the work force have a significant effect on the change in aggregate wage measures. To demonstrate the effect of an increase in both schooling and experience (approximated by age) on real earnings growth, consider what would have happened to the average level of real earnings if the composition of the work force had remained the same in 1990 as it was in 1975. If year-round, full-time workers had maintained the same gender, age, and schooling structure in 1990 as in 1975, and the gender-, age- and educational-specific earnings levels were those prevailing in 1990, average real earnings would have been 8 percent lower than they actually were. Thus, changes in the composition of the work force can have a sizable effect on the growth of average real wages over time.

WORKER CHARACTERISTICS AND WAGE LEVELS

While aggregate real wage measures reveal the progress of the nation's work force as a whole, they do not identify the progress of any one group of workers, and they do not show how successive age cohorts of workers have fared. An age cohort refers to all workers born in the same period.

Earnings Growth Over a Worker's Career

The typical relationship between real earnings and age is that earnings rise steeply during the first part of a worker's career, level off in the middle years, and decline in the last years before retirement. Earnings generally increase faster in the earlier stages of a person's career—in part because training is usually concentrated in the first few years of a person's career, and, consequently, skills and knowledge accumulate at a faster rate for younger workers.

The average pattern of earnings growth over a person's career can be approximated by following workers of the same cohort over time. Consider, for example, the group of men who in 1980 were between the ages of 25 and 34, who had completed 4 years of college, and who worked full time year round. To see how their earnings changed in 10 years, one looks at the group of workers in 1990 with the same characteristics, except that they are 35 to 44 years old.

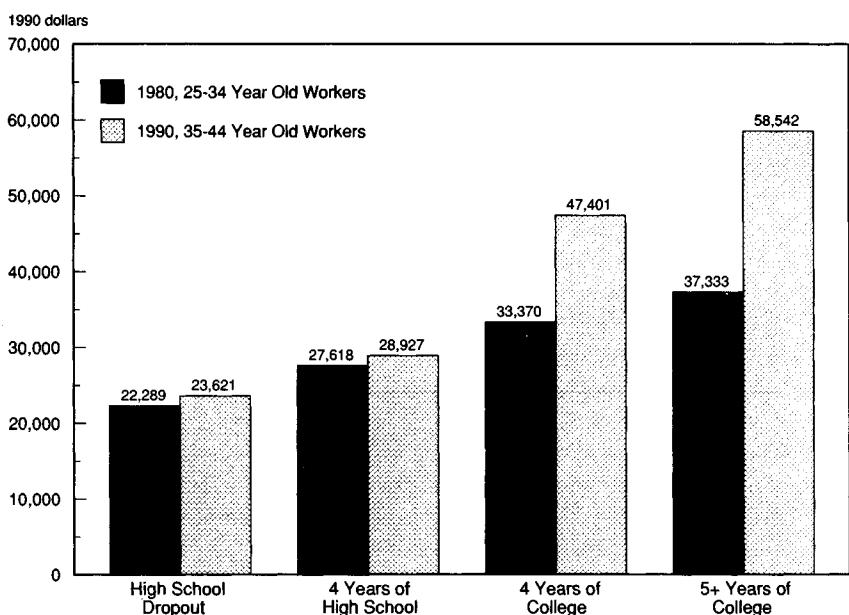
As shown in Chart 3-6, average annual real earnings of these men increased 42 percent, from \$33,370 in 1980 to \$47,401 in 1990. These numbers refer only to earnings and thus omit other forms of compensation. Including only year-round, full-time workers implicitly adjusts for much of the variation in the number of hours worked between these groups or within groups over time.

These real wage increases not only reflect the long expansion of the 1980s, but also the generally rapid increase in wages that workers typically obtain during the early years of their careers. The same relatively large increase is observed for college-educated men who were 25 to 34 years old in 1975. Average real earnings for this cohort of men were 36 percent higher in 1985 than in 1975.

As expected from the typical age-earnings profile, real earnings growth was slower for older men than for younger men. Average real earnings grew 11 percent between 1980 and 1990 for the group of men with 4 years of college aged 35 to 44 in 1980. Men in these age groups typically have at least 10 years more experience than workers who have embarked on their careers around the age of 25. *Thus, even though general economic conditions were the same for all workers, real earnings growth for the various age cohorts differed because they were moving through different stages of their lifetime careers.*

Chart 3-6 Earnings Growth Early in Male Workers' Careers

Average real earnings for male workers grew between 1980 and 1990. Earnings growth was larger for those with higher educational attainment.



Note: Data based on year-round, full-time workers. Dollar values deflated by CPI-U-X1.

Sources: Council of Economic Advisers and Department of Commerce.

Studies indicate that the proportionate rise in earnings in the first 20–25 years of workers' careers is similar for all education groups. The actual earnings growth of a particular group of workers results from the combined effect of more work experience, more training, developments in the labor market, and capital formation. The demand shift favoring more highly educated workers is evident in relatively higher wage growth from 1980 to 1990 for workers with more years of schooling (Chart 3-6). The chart also shows that the cohort of young men with low levels of education achieved low real earnings growth between 1980 and 1990. For less educated workers, developments in the labor market counterbalanced the wage-increasing effect of experience, resulting in a more modest rise in earnings.

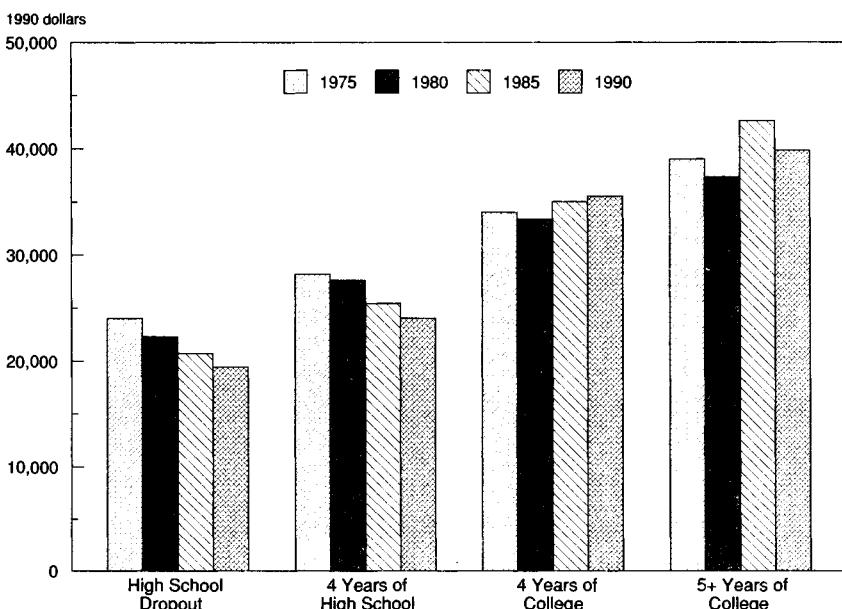
Young and middle-aged women with each level of educational attainment achieved even more marked relative increases, although women's average annual earnings were lower than men's. As was the case for men, increased earnings were most marked for the highly educated women.

Earnings Growth from One Cohort to the Next

Chart 3-7 shows how the experience of successive cohorts has varied. *Growth in average earnings by successive age cohorts of young men has varied by educational attainment.* The chart shows a general, but uneven, rise from 1975 to 1990 in average earnings of successive cohorts of men with at least 4 years of college. The chart also shows a deterioration of average earnings of successive cohorts of less educated young men. For older men the pattern is less pronounced.

Chart 3-7 **Earnings of Cohorts of Young Men, 1975-1990**

Average real earnings for 25-34 year old men grew only for workers with higher educational attainment.



Note: Data based on year-round, full-time workers. Dollar values deflated by CPI-U-X1.

Sources: Council of Economic Advisers and Department of Commerce.

A similar pattern holds for successive cohorts of women, in all age categories. Average earnings levels rise little or decline for the less educated. Average earnings levels rise for the more educated.

The common element for all cohort-education groups is the general increase in productivity. The relatively better wage growth experienced by the more highly educated groups is consistent with the previously discussed shift in demand for high-skill jobs.

SUMMARY

- Aggregate real wages have grown by 69 percent since 1959 and by about 11 percent since 1973. Slower labor productivity

growth during the last two decades slowed the growth in average real wages.

- Tracking workers within specific age cohorts over time reveals that most cohorts of young and middle-aged workers, men and women at all education levels, experienced increases in average real wages during the 1980s.
- The increase in average wages achieved in the early years of their careers was higher for workers with greater years of schooling.
- The average real wage of successive age cohorts of better educated men and women generally increased between 1975 and 1990, while wages of less educated workers declined.

WAGE DISPERSION AND MARKET FORCES

The shifting pattern of earnings growth for workers with different attributes has been one of the notable labor market developments in recent decades. Studies have shown that, for workers as a whole, the result has been some tendency toward equality in wage levels in the lower half of the earnings distribution, and a widening of the spread of earnings in the upper half of the distribution. When the earnings of men are considered separately, a tendency to greater dispersion is observed for the entire distribution. A growing spread between the earnings of those with college degrees and those with high-school or lesser levels of education is particularly noticeable. Even within groups of workers with similar years of schooling and experience, however, the wage dispersion increased, suggesting an increasing role of differences in work skills not attributable to the broad measures of years of experience or schooling.

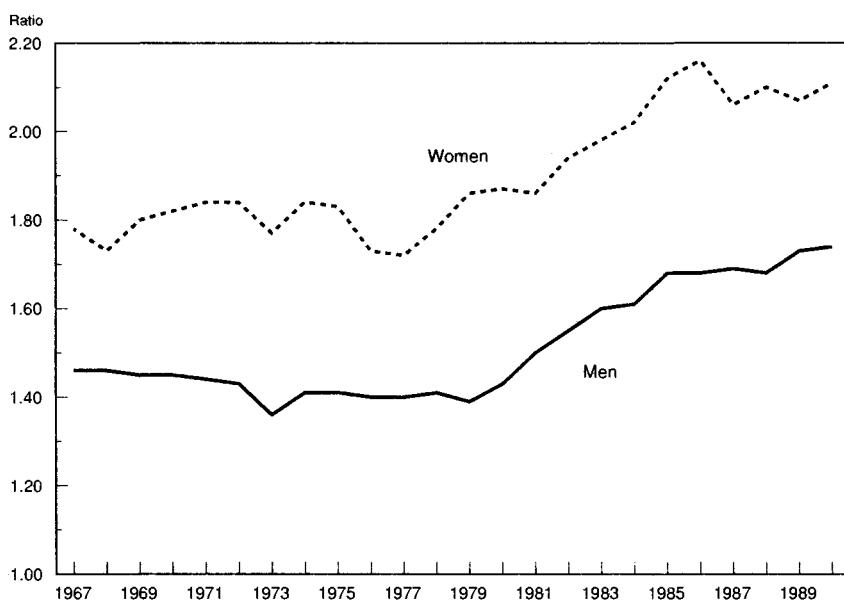
WAGE PREMIUMS FOR EDUCATION

Educational attainment is one of the primary characteristics that distinguishes high-income from low-income workers. The wage gap between workers with a college education and those with only a high school education began to widen at about the same time that the general increase in wage dispersion began during the late 1970s. As shown in Chart 3-8, the income (which consists predominately of labor earnings) of men with 4 years of college rose after 1979 relative to the income of men with only 4 years of high school. Before then, the income premium for college-educated workers actually had declined slightly. The income premium for women, based on the same differences in schooling, has followed the same trend since 1979 and is noticeably higher than for men.

The earnings premium for college-educated workers over the last two decades is consistent with a steadily increasing demand in the

Chart 3-8 Ratio of Median Incomes of College- to High-School-Educated Workers

The premium for an advanced education has increased for both men and women since 1979.



Note: Ratio of median income of people who have completed 4 or more years of college to median income of people who have completed 4 years of high school.

Source: Department of Commerce.

market for their skills. The proportion of the labor force with college educations increased from 14 percent to 22 percent between 1970 and 1980. As shown in Chart 3-8, the college premium was nearly constant this period. By 1990 the proportion of the labor force with college education had risen to 27 percent. The college premium rose significantly in the 1980s.

The current wage premium paid to college-educated workers should serve as an incentive for high school students to go to college. A recent study indicated that young people base decisions about college enrollment in part on their expectations of higher future earnings. This study also suggested that the increased wage gap between college and high school graduates has induced a significant number of students to enter or continue with college.

WAGES OF WOMEN

After remaining constant for most of the 1960s and 1970s, the difference between women's and men's earnings narrowed during the 1980s. Between 1980 and 1990, the median earnings for year-round, full-time female workers rose from 60 percent to 72 percent of the corresponding figure for men. The increase is particularly notable in light of the increased supply of female workers. In-

creased education was an important factor in the narrowing of the wage differential. The female-to-male earnings ratio for college-educated workers is higher than that of high-school-educated workers. In 1990 the ratio was 84 percent for college-educated workers between the ages of 25–34, compared with a ratio of 73 percent for high-school-educated workers.

Increase in labor force experience was also a key factor in narrowing the wage gap. Over their careers, many women enter and leave employment as they assume family or other responsibilities. As a result, women have tended to acquire fewer years of experience than men over a fixed period of time. In recent years, however, women have spent longer sustained periods employed and have accumulated more training and job experience. *This increased experience has paid off as women have entered traditionally male-dominated, higher-paying occupations in increasing numbers.* Consequently, the income growth over women's careers during the 1980s appears to be much closer to that of men in the same cohort than was true for earlier cohorts of workers.

This trend can be seen by examining the change over time in the ratio of male worker income to female worker income for different cohorts of workers. Table 3-1 shows that the income ratio fell over 10 years for workers who were between the ages of 25 and 34 in 1970. The ratio for workers in this age cohort was 65 percent in 1970 and 56 percent in 1980—when the group was 10 years older. That means that women did not maintain their earnings position relative to men as they grew older.

TABLE 3-1.—*Ratio of Women's Income to Men's Income (Percent)*

Age Groups	Year		
	1970	1980	1990
25–34	65	69
35–44		56	69

Note.— Data are median annual income of year-round, full-time workers.

Source: Department of Commerce.

The age cohort that was between the ages of 25 and 34 in 1980 started out with an income ratio (69 percent) that was slightly higher than the rate for the previous cohort in 1970 (65 percent). But unlike the earlier cohort, the ratio stayed the same (69 percent) in 1990. Thus, women's age-earnings paths were comparable to men's during the 1980s.

WAGES OF BLACK WORKERS

In 1990 the median annual earnings of black men 25 years or older working year round, full time were 72 percent of the median annual

earnings of comparable white workers. For women 25 years or older working year round, full time, the ratio was 91 percent. A recent study has shown that these ratios have remained relatively constant through the 1980s. From 1963 to 1980, the earnings of black male and black female workers rose relative to comparable white workers.

The black-white wage differential is affected by several factors. One factor is the relative reduction in employment in industries that have traditionally employed a proportionately higher number of black workers receiving relatively high wages. Another factor has been the diminished employment opportunities in some central cities and regions of the country with a high concentration of the black population. Furthermore, the shift in demand to high-skill jobs disproportionately affected blacks, whose educational attainment, while improving, still lags behind that of whites.

Many studies document that discrimination in the labor market also contributes to wage and employment differentials. The Administration strongly opposes discrimination.

SUMMARY

- Median income of college-educated workers, both men and women, rose relative to high-school-educated workers in the 1980s.
- As women gained greater work experience and more schooling and made inroads into traditionally higher paying, male-dominated occupations, the difference in wages between men and women narrowed during the last decade.
- The difference in wages between white and black workers stayed roughly the same during the 1980s. While educational attainment improved for both black and white workers, there was still an educational gap, which contributed to the earnings differential.

UNEMPLOYMENT

Workers voluntarily leaving their jobs to find other jobs or people entering or reentering the labor force sometimes experience spells of unemployment. Involuntary unemployment occurs when a worker is laid off or dismissed. During the last business cycle, the proportion of the unemployed who lost their jobs involuntarily fluctuated between 45 and 60 percent, depending upon economic conditions. During the latter half of 1991, for example, when the economy was sluggish, about half of the unemployed had involuntarily lost their jobs.

For statistical purposes, everyone over 16 years of age who is either employed, actively searching for employment, or awaiting recall from a lay-off is considered part of the labor force. Estimates

of the number of people in each of these categories are obtained by surveying a random sample of the population each month. Those interviewed are asked whether they worked in the week prior to the survey, and if not, whether they were on layoff or were searching for work. The unemployment rate is defined as the number of people in the labor force who are not working divided by the number of people in the labor force.

Analysts sometimes extend the category of the unemployed to include "discouraged workers." Discouraged workers are those people who say they want a job but have stopped looking because they do not think they can find one. Because such people are not actively searching for employment, they are not technically defined as being in the labor force and therefore are not included in the standard unemployment measure. In the fourth quarter of 1991, just over 1 million people were counted as discouraged workers, about one-eighth the number of people who were officially recorded as unemployed.

Manufacturing employment is very sensitive to swings in aggregate demand. Mass production techniques, standardized products, and the durable nature of most goods produced in the manufacturing sector permit companies to stockpile items to ensure a ready supply for customers. At times, manufacturing companies respond to rising inventories by cutting back production. The usual practice is for companies to reduce their employment for short periods of time until inventories are drawn down to the desired level.

Service jobs, on the other hand, are more oriented toward performing tasks on demand. By their nature, services cannot be stored. They usually are performed at the time the customer requests assistance. Although people may postpone some services when the economy softens, service sector employment does not exhibit the wide swings that characterize the manufacturing sector. Service workers are less likely than manufacturing workers to become unemployed during an economic downturn.

To speak of "economic downturn" may give a misleading impression of the nature of much unemployment. Although many workers can reasonably expect to be recalled when general business conditions improve, many others are permanently laid off and their jobs abolished. Such dislocations can occur in good times as well as bad, and they may affect entire regions. A commonly cited example is the historical movement of the shoe and textile industries from New England to the South. These industrial shifts can affect skilled as well as unskilled workers. Nor are the changes necessarily wholly unexpected. Present projections of Federal Government defense expenditure imply substantial job dislocation over the coming years for many highly trained engineers and others em-

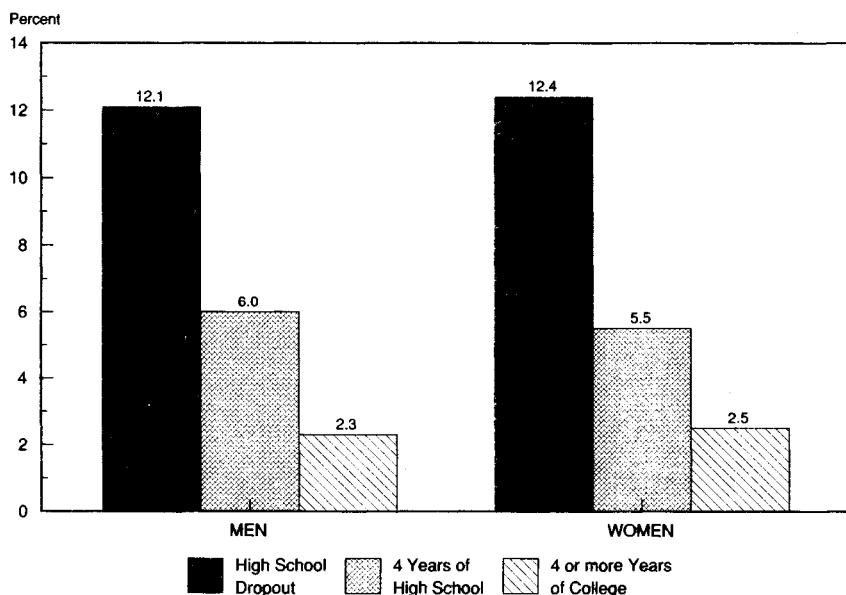
ployed in the defense industries, as well as for those entering the civilian labor force from the armed services.

Dislocated workers face special problems, particularly if they have been employed in a job that has involved developing knowledge and skills specific to a particular employer. Their reemployment may require moving to another geographical location and acquiring new training. As discussed in a later section, government programs can play a role in facilitating such transitions.

Workers with more classroom education often possess knowledge that is more general and can be applied to a variety of jobs, and thus they may find it easier to switch employers. The significantly lower unemployment rate for people with college education is consistent with this point (Chart 3-9). The unemployment rate for college graduates is typically one-quarter the rate for people with less than a high school degree.

Chart 3-9 Unemployment Rate By Educational Attainment, 1990

Unemployment rates are lower among people with higher levels of education.



Source: Department of Labor.

The 1990-91 slump hit white-collar, highly educated workers harder than past downturns had. Particularly affected were workers in the financial and retail sectors. In contrast, during the 1980-82 recessionary period, employment in these sectors, as well as in the service industries, continued to climb, despite a substantial fall in the economy-wide number of jobs. Unemployment rose among white-collar workers in 1990-91, but lower skilled production work-

ers suffered not only higher unemployment rates, but also larger increases in unemployment. Educational attainment and job security still go together.

UNEMPLOYMENT INSURANCE

Since 1935 States have administered an unemployment insurance (UI) program that provides financial assistance for workers who have lost their jobs through no fault of their own. Virtually all workers who receive wages or salaries are included in the program. The UI system is financed by Federal and State taxes placed on employers based on the size of their payroll. Each State also establishes its own tax base that funds regular unemployment insurance benefits, as well as 50 percent of extended benefits (described in the next section). The magnitude of the State tax varies across States and across firms. The Federal tax funds the administration of the UI program, the other half of the permanent extended benefits programs, and a loan account.

Most States base the amount of weekly benefit on a formula that compensates the unemployed worker for some percentage of his or her full-time weekly wage. Benefit levels vary among States but average roughly 35 percent of the unemployed worker's earnings. Eligibility criteria also differ across States. In general, a worker must have lost the job through no fault of his or her own, have sufficient job tenure, and be free from disqualification for any of a variety of reasons spelled out by State law. A worker can continue to receive benefits for a specified time period as long as he or she is looking for a job, is available and able to work, and has not refused to accept a "suitable" job. Unwillingness to accept available suitable work can lead to disqualification from benefits for a specified period of time, determined by each State's codes.

The financing structure of the unemployment insurance program levies higher tax rates on companies with histories of sizable layoffs. This tax system, known as experience rating, places much of the cost of the system on those firms (and indirectly on their employees through lower wages, their customers through higher prices, and their suppliers through reduced demand). Every State institutes a maximum and minimum rate that can be levied on a firm. The ceiling may prevent a firm with a history of extensive layoffs from being taxed the full cost of the benefits to its laid-off employees. In that case, the firm is subsidized by other firms whose relatively low layoff experience warrants a tax rate below the minimum allowed by law. Studies have shown that this arrangement provides firms in volatile industries with an incentive to hire more workers than they otherwise would, while expecting each worker to spend more time on temporary layoff because their UI benefits are subsidized by firms in more stable sectors.

EXTENDED BENEFIT PROGRAMS

The UI program provides benefits to eligible workers for up to 26 weeks in most States, which is usually sufficient time for the majority of unemployed workers to find new jobs. Median duration of unemployment has typically been between 5 and 8 weeks since 1968, when records began to be kept. Even during the depths of the 1980-82 recessionary period, the median duration never rose above 13 weeks. In December 1991 it stood at 8 weeks. Some people, of course, have much more difficulty finding reemployment than others. During economic slowdowns or recessions, more jobs are eliminated than created, making jobs harder to find. Immediately following the 1981-82 recession, 25 percent of the unemployed had been without work for more than 27 weeks. In December 1991, 17 percent of the unemployed had been without work for more than 27 weeks.

Workers who do not find jobs within the regular 26-week benefit period are currently covered by two extended benefits programs. A permanent program, established in 1970, provides up to 13 additional weeks of benefits to those workers in States that have particularly high unemployment rates. Workers are eligible for extended benefits under the permanent program if their State's insured unemployment rate is higher than a statutorily specified level. The insured unemployment rate is different from the commonly publicized total unemployment rate and is almost always lower (Box 3-1). Few States qualified for extended benefits under the permanent program in 1991, even though labor market conditions worsened in most of them. An emergency unemployment compensation program was enacted in the fall of 1991, which provided additional benefits to many of those who had exhausted regular UI benefits during the recession but had not found work.

Extended benefits are designed to assist people financially during particularly arduous times. Economists have observed, however, that extending benefits also tends to delay reemployment. Estimates from recent studies, which examined the job search experience during the 1980-82 recessionary period, suggest that an additional week of extended benefits will increase the expected duration of the unemployment spell up to half a week. Evidence also shows that extending benefits reduces the likelihood that workers will make a switch to industries other than the one in which they were previously employed.

Further evidence of the effects of extended benefits comes from those countries with relatively high unemployment experience. The United States has the shortest period of benefits and one of the lowest long-term unemployment rates, defined as the percentage of people who remain jobless for more than 12 months. Belgium has both the longest period of extended benefits and the highest long-

Box 3-1.—Total and Insured Unemployment Rates

Recent discussion regarding extended unemployment benefits has drawn attention to the difference between two measures of a State's unemployment conditions: the total unemployment rate and the insured unemployment rate. The total rate, the standard measure of unemployment, is defined as the total number of unemployed divided by the total labor force. The insured rate is defined as the number of people who are receiving unemployment insurance (UI) divided by the number of workers covered by the program.

Until the fall of 1991, the sole criterion for a State qualifying for extended benefits was the level of the State's insured rate. The emergency unemployment compensation program enacted in November 1991 uses either the insured rate, adjusted for those who have exhausted regular UI benefits, or the total rate to determine which States are eligible for various periods of extended benefits.

More than 90 percent of those employed are covered by UI. Excluded from covered employment are primarily the self-employed and some agricultural and household workers. Insured unemployment tends to be around 40 percent of total unemployment. Most of the disparity between the two rates stems from those who are not eligible for UI benefits but are considered unemployed: new entrants into the labor force, reentrants, those who quit voluntarily, and those who have exhausted regular UI benefits. A secondary source of difference is those who are unemployed and eligible to draw UI benefits but do not apply to do so. As a result, the insured rate and the total rate may give two different pictures of the economic conditions in a State. In August 1991, for example, Michigan's insured rate was 3.2 percent, while its total unemployment rate stood at 8.7 percent. West Virginia's total rate of 10.5 percent was the highest in the nation, but its insured rate was only 3.3 percent.

term unemployment rate among the major industrial countries—its rate is nearly eight times that of the United States. The correlation between long-term unemployment rates and long benefit periods holds when comparing many other countries.

Extending unemployment insurance benefits can be a critical addition to the Nation's social safety net. Ways should be sought, however, to mitigate any associated disincentives to either accept employment or take advantage of reemployment services. These serv-

ices include job training, job search assistance, and relocation assistance.

Some economists have proposed that training be linked directly to the UI program. Another option to get people back to work, currently being tested and developed in two states, offers UI recipients the opportunity to receive their benefit entitlement in a lump-sum payment as seed capital after they have started their own businesses. The program also provides training and assigns a business development counselor to each participant. This program puts people back to work and creates businesses at a time the economy needs such a stimulus. Although these projects have not been under way long enough to measure their success, experience with similar programs in Europe shows that they can provide the opportunity for some unemployed to become self-employed.

SUMMARY

- The unemployment insurance program provides financial assistance for workers who have lost their jobs through no fault of their own.
- The Emergency Unemployment Compensation program was enacted in November 1991 to extend benefits to those workers who have exhausted their regular UI benefits.

ENHANCING WORKER SKILLS

The wage gap between high-skilled and low-skilled workers has been growing. Low-skilled workers are more likely to work only part time and are more frequently unemployed. Workers at every level must possess skills that match the challenges of new technologies and more complex work environments. Even skilled workers must be prepared to move into other jobs as changing market conditions favor some industries at the expense of others.

How best to train people to meet the changing needs of the workplace is not easily resolved. Some firms provide extensive training, but most formal teaching of basic cognitive skills is left to institutions outside the workplace. Formal education can provide people with a stock of skills applicable to many different jobs. The increasing divergence in wages among people with various levels of educational attainment and the greater job security that comes with more schooling conveys a clear signal to America's youth that employers value education.

Greater involvement of the private sector, both employers and employees, in the educational system would help students transfer their skills and knowledge from school to the workplace. Businesses have the most immediate knowledge concerning the skills that people need to be productive workers. Cooperation between busi-

nesses and schools would help close the gap between the education schools provide and the skills businesses need in their employees.

Demand often outstrips supply for high-skilled workers. Even during the present sluggish state of the economy, manufacturers have reported shortages in skilled positions, such as technicians and technical professionals. One response to persistent shortages and high wages of skilled workers is to structure the workplace to accommodate the low-skill worker, for example, by developing routine procedures or using computers to simplify calculations workers might have to make. Such arrangements provide useful employment to presently low-skilled workers. To raise those workers' long-term prospects more significantly, their skills must be enhanced through education and training.

Defining jobs narrowly and making each job relatively easy to learn served the U.S. economy well when mass production was so prevalent and successful. In that system, a small group of technical and sales specialists did the thinking and planning, while the workers followed orders and carried out routine tasks quickly and efficiently. Today's workplace is increasingly one in which workers at all levels share responsibilities for day-to-day decisions. Work becomes technically more complex, and more cognitive skills and interpersonal skills are required.

Retraining displaced workers poses particularly difficult problems. Many of these workers have considerable work experience; returning to the classroom and taking several years to complete a course of training is difficult at that stage in their careers. The present institutional structure of the educational system, in which most substantive training is performed away from the job, precludes such workers from pursuing this route. The current Economic Dislocation and Worker Adjustment Assistance program, enacted in 1988, is more successful than previous job-training programs for displaced workers precisely because it is more flexible and geared to early intervention.

Another major Federal program designed to improve the economic well-being of workers is the job opportunities and basic skills training program (JOBS). Under the JOBS program, families receiving assistance from the aid to families with dependent children program can also obtain education, training, and employment needed to help them avoid long-term welfare dependency.

The Administration has recently announced a major program, Job Training 2000, to reform the Nation's job-training and vocational education system so that workers are better prepared for the future demands of the global marketplace. These initiatives target three groups: new labor force entrants who need basic education and job training, people who currently rely on public assistance, and displaced workers who seek jobs and placement assistance. The

reform proposal simplifies and better coordinates more than 60 existing Federal programs and services, encourages greater and more effective private sector involvement in training and placement programs, and creates a flexible training system that provides the skills needed in local labor markets (Box 3-2).

Box 3-2.— Job Training 2000

The Job Training 2000 reform program uses market-based approaches to improve the Federal job-training system. The initiative consists of three major elements: reforming vocational training, facilitating the transition from welfare to work, and improving the transition from school to work. The nucleus of the vocational training program is the more than 600 business-led private industry councils established by the Congress in the late 1970s to provide ties between business and publicly supported job-training programs.

Under the new program, the councils would run skills centers, which would function as the primary points of entry into federally funded job-training and vocational education programs. These centers would provide skills assessment and testing, referral services, labor market information, job-training placement assistance, and counseling programs. The councils would also administer training vouchers and incentive grants to help ensure that vocational schools and training centers are offering the most relevant skills to students.

Job Training 2000 calls for private sector welfare-to-work demonstration projects that allow States to use private and nonprofit firms to provide basic training and job placement for welfare recipients. These firms would function in a manner similar to a temporary employment agency but would not receive full payment for their services until after the worker has been permanently placed and held a job for some period of time.

The reform proposal also establishes a youth apprenticeship program in which students in the 11th and 12th grades may choose a structured combination of academic instruction, classroom training, paid on-the-job training and work experience, and mentoring. Successful apprentices would receive a high school diploma or associate degree, a certificate attesting to their skill competencies and qualifications, and employment.

The effort to ensure that America's future workers have the skills they need must begin even before formal schooling. The Administration has recently proposed increased funding for the Head Start program, which helps prepare preschool children from low-

income families for elementary school. The main responsibility for schooling resides with the States and localities, where the funds and decisions about education originate and where the solutions are best found. The Administration's *America 2000*, discussed in last year's *Report*, lays out a long-range educational reform strategy for the Nation. Its goals have already been adopted by more than half the States and put in place in more than 1,000 communities across the country.

The Administration encourages communities to adopt programs that will allow parents and students the greatest latitude in choosing the school and curriculum that best meets their needs and preferences. Opening the educational system to choice will stimulate institutions to seek innovative ways to educate the workers of tomorrow.

SUMMARY

- The changing nature of the workplace has put greater demands on the U.S. educational system. Skills that were once sufficient to command high wages are no longer adequate, as occupational restructuring within U.S. industries favors high-skill workers.
- The Administration's Job Training 2000 initiative to reform job training and vocational education is designed to encourage greater and more effective involvement of business in training a highly skilled work force.
- The Administration's education reform initiative, *America 2000*, strives to provide every American with the basic skills necessary to be a productive worker.

CONCLUSION

Over the past two decades, despite the temporary setback of several recessions, the U.S. labor market has been flexible, dynamic, and resilient enough to provide nearly 40 million additional jobs, a percentage increase far surpassing that of most other major industrialized countries. Over the same period, average real wages rose 18 percent.

Although the earning power of workers in this country has improved over the last two decades, it has done so at a slower pace than during the first 25 years after World War II. The primary reason for the slower wage growth has been the slower growth of productivity. While many factors contributed to the slower growth of productivity, and hence real wages, a major factor has been the slower growth in capital per worker. This reflects developments in both capital and labor markets.

Ample evidence supports the view that investment in technology development and in the skills and knowledge of workers also raises productivity growth. In recent years, the worker characteristic most conducive to higher earnings has been higher levels of education. The Administration is committed to the goal of increased economic well-being for all Americans. The fundamental key is raising the earning power of American workers. This in turn will require greater capital formation, enhanced technology, and more and better job training and education. While much of this is the responsibility of the private sector and of State and local governments, the Federal Government has an important role to play as well.

The Administration's entire domestic policy agenda should be understood as addressing the objective of economic progress. Initiatives designed to modernize the financial system, ensure energy security, improve the civil justice system, and reduce the scourge of crime and drugs, each in its own way, will contribute to the future earning power of American workers. More directly, the Administration has taken the lead in developing a school reform strategy that will improve the quality of education and an improved job training program that will give millions of American workers the skills necessary for success in the labor market. A variety of fiscal and other initiatives designed to increase private investment and saving, spur entrepreneurship and innovation, and expand federal investment in technology development and infrastructure will ensure that American workers are equipped with the best possible capital to enhance their productivity.