

# Overview of the 2008–2018 Projections

Job openings result from the relationship between the population, labor force, and demand for goods and services. The population restricts the size of the labor force, which consists of working individuals and those looking for work. The size and productivity of the labor force limits the quantity of goods and services that can be produced. In addition, changes in the demand for goods and services influence which industries expand or contract. Industries respond by hiring the workers necessary to produce goods and provide services. However, improvements to technology and productivity, changes in which occupations perform certain tasks, and changes to the supply of workers all affect which occupations will be employed by those industries. Examining past and present changes to these relationships in order to project future shifts is the foundation of the Employment Projections Program. This chapter presents highlights of population, labor force, and occupational and industry employment projections for 2008–2018. Sources of additional information about the projections appear on the preceding page.

## Population

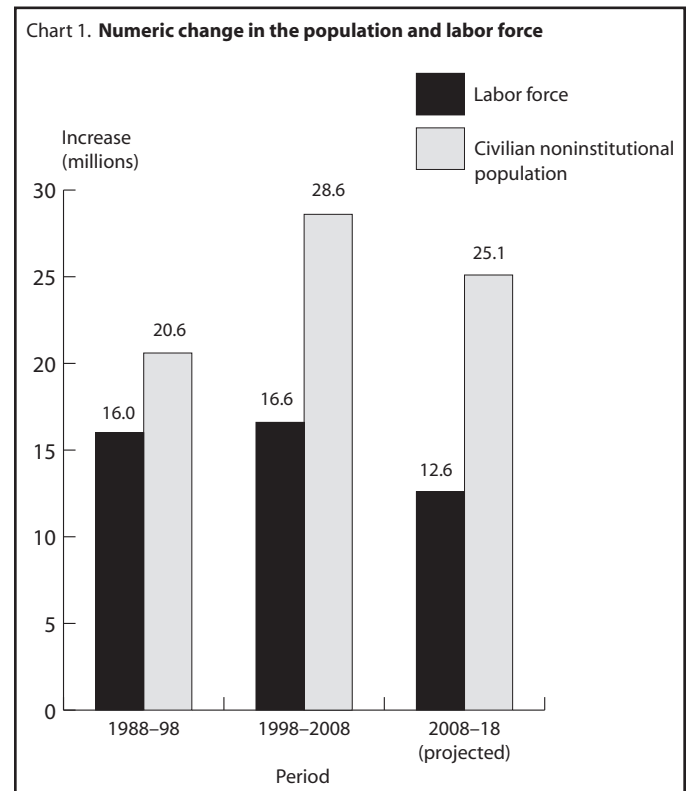
Shifts in the size and composition of the population can create a number of changes to the U.S. economy. Most importantly, population trends produce corresponding changes in the size and composition of the labor force. The U.S. civilian noninstitutional population, including individuals aged 16 and older, is expected to increase by 25.1 million from 2008 to 2018 (chart 1). The projected 2008–18 growth rate of 10.7 percent is less than the 11.2-percent growth rate for the 1988–98 period and the 13.9-percent rate for the 1998–2008 period. As in the past few decades, population growth will vary by age group, race, and ethnicity.

As the baby boomers continue to age, the 55 and older age group is projected to increase by 29.7 percent, more than any other age group. Meanwhile, the 45 to 54 age group is expected to decrease by 4.4 percent, reflecting the slower birth rate following the baby-boom generation. The 35 to 44 age group is anticipated to experience little change, with a growth rate of 0.2 percent, while the population aged 16 to 24 will grow 3.4 percent over the projection period. Minorities and immigrants are expected to constitute a larger share of the U.S. population in 2018. The numbers of Asians and people of Hispanic origin are projected to continue to grow much faster than other racial and ethnic groups.

## Labor force

Population is the single most important factor in determining the size and composition of the labor force. The civilian labor force is projected to reach 166.9 million by 2018, which is an increase of 8.2 percent.

The U.S. workforce is expected to become more diverse by 2018. Among racial groups, Whites are expected to make up a decreasing share of the labor force, while Blacks, Asians, and



all other groups will increase their share (chart 2). Among ethnic groups, persons of Hispanic origin are projected to increase their share of the labor force from 14.3 percent to 17.6 percent, reflecting 33.1 percent growth.

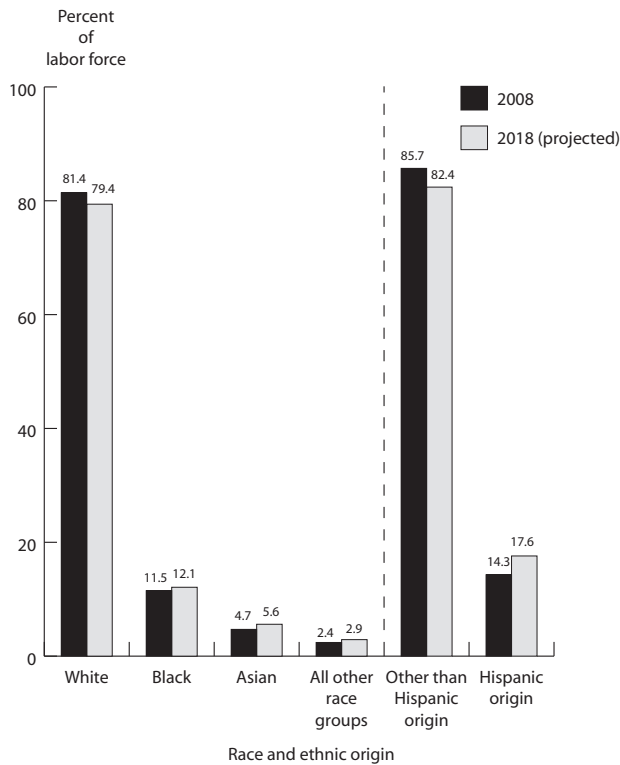
The number of women in the labor force will grow at a slightly faster rate than the number of men. The male labor force is projected to grow by 7.5 percent from 2008 to 2018, compared with 9.0 percent for the female labor force.

The share of the youth labor force, workers aged 16 to 24, is expected to decrease from 14.3 percent in 2008 to 12.7 percent by 2018. The primary working-age group, those between 25 and 54 years old, is projected to decline from 67.7 percent of the labor force in 2008 to 63.5 percent by 2018. Workers aged 55 years and older, by contrast, are anticipated to leap from 18.1 percent to 23.9 percent of the labor force during the same period (chart 3).

## Employment

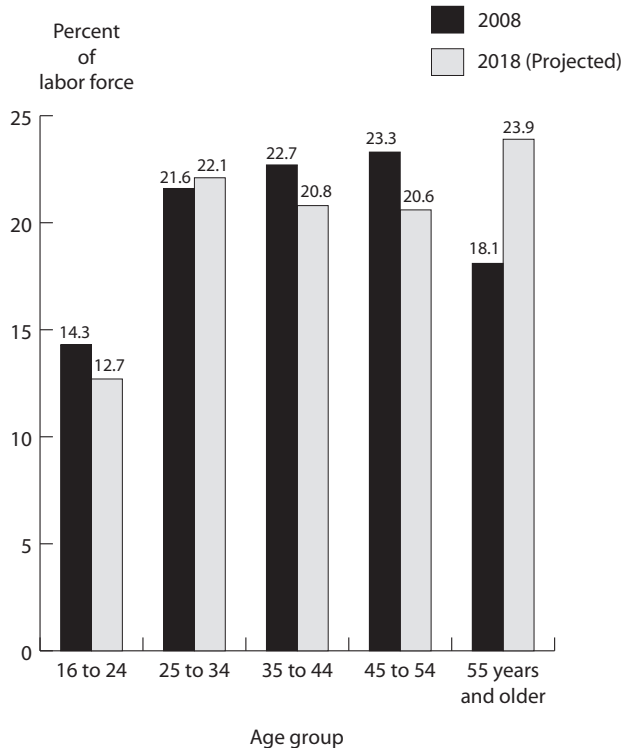
Total employment is expected to increase by 10 percent from 2008 to 2018. However, the 15.3 million jobs expected to be added by 2018 will not be evenly distributed across major industry and occupational groups. Changes in consumer demand, improvements in technology, and many other factors will contribute to the continually changing employment structure of the U.S. economy.

Chart 2. Percent of labor force, by race and ethnic origin



NOTE: The four race groups add to the total labor force. The two ethnic origin groups also add to the total labor force. Hispanics may be of any race.

Chart 3. Percent of labor force, by age group



The next two sections examine projected employment change within industries and occupations. The industry perspective is discussed in terms of wage and salary employment. The exception is employment in agriculture, which includes the self-employed and unpaid family workers in addition to wage and salary workers. The occupational profile is viewed in terms of total employment—including wage and salary, self-employed, and unpaid family workers.

### Employment change by industry

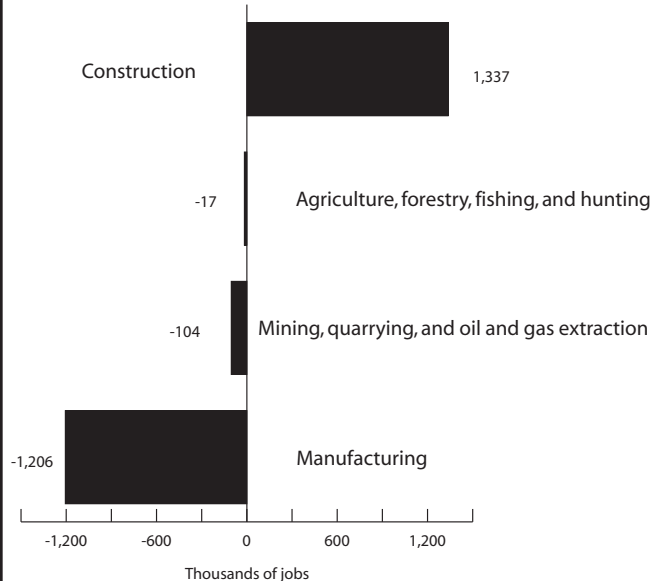
**Goods-producing industries.** Employment in goods-producing industries has declined since the 1990s. Although overall employment is expected to change little, projected growth among goods-producing industries varies considerably (chart 4).

**Mining, quarrying, and oil and gas extraction.** Employment in mining, quarrying, and oil and gas extraction is expected to decrease by 14 percent by 2018. Employment in support activities for mining will be responsible for most of the job loss in this industry with a decline of 23 percent. Other mining industries, such as nonmetallic mineral mining and quarrying and coal mining, are expected to see little or no change or a small increase in employment. Employment stagnation in these industries is attributable mainly to strict environmental regulations and technology gains that boost worker productivity.

**Construction.** Employment in construction is expected to rise 19 percent. Demand for commercial construction and an increase in road, bridge, and tunnel construction will account for the bulk of job growth.

**Manufacturing.** Overall employment in this sector will decline by 9 percent as productivity gains, automation, and international competition adversely affect employment in most manufacturing industries. Employment in household appliance manufacturing is expected to decline by 24 percent over the decade. Similarly, employment in machinery manufacturing, apparel manufacturing, and computer and electronic product

Chart 4. Numeric change in wage and salary employment in goods-producing industries, 2008–18 (projected)



manufacturing will decline as well. However, employment in a few manufacturing industries will increase. For example, employment in pharmaceutical and medicine manufacturing is expected to grow by 6 percent by 2018; however, this increase is expected to add only 17,600 new jobs.

**Agriculture, forestry, fishing, and hunting.** Overall employment in agriculture, forestry, fishing, and hunting is expected to decrease by 1 percent. Employment is projected to continue to decline because of rising costs of production, increasing consolidation, and more imports of food and lumber. Within this sector, the only industry that is expected to add jobs is support activities for agriculture and forestry, which includes farm labor contractors and farm management services. This industry is anticipated to grow by 13 percent, but this corresponds to an increase of only 13,800 new jobs.

**Service-providing industries.** The shift in the U.S. economy away from goods-producing in favor of service-providing is expected to continue. Service-providing industries are anticipated to generate approximately 14.5 million new wage and salary jobs. As with goods-producing industries, growth among service-providing industries will vary (chart 5).

**Utilities.** Employment in utilities is projected to decrease by 11 percent through 2018. Despite increased output, employment in electric power generation, transmission, and distribution and in natural gas distribution is expected to decline because of improved technology that will increase worker productivity. However, employment in the water, sewage, and other systems industry is anticipated to increase 13 percent by 2018. As the population continues to grow, more water treatment facilities are being built. Further, changing Federal and State Government water quality regulations may require more workers to ensure that water is safe to drink and to release into the environment.

**Wholesale trade.** The number of workers in wholesale trade is expected to increase by 4 percent, adding about 255,900 jobs. The consolidation of wholesale trade firms into fewer and larger companies will contribute to slower-than-average employment growth in the industry.

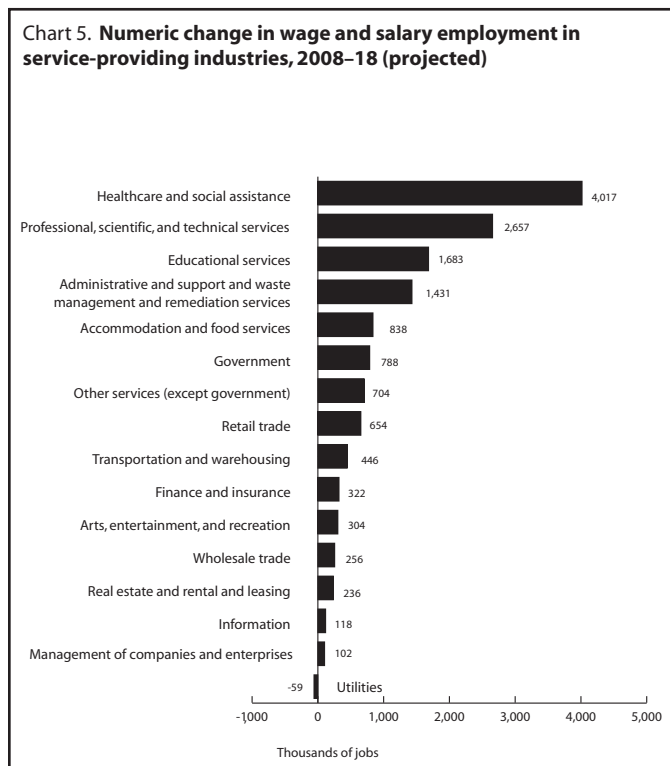
**Retail trade.** Employment in retail trade is expected to increase by 4 percent. Despite slower-than-average growth, this industry is projected to add about 654,000 new jobs over the 2008–18 period. Slower job growth reflects both continued consolidation and slower growth in personal consumption than in the previous decade.

**Transportation and warehousing.** Employment in transportation and warehousing is expected to increase by 10 percent, adding about 445,500 jobs to the industry total. Truck transportation is anticipated to grow by 10 percent, and the warehousing and storage sector is projected to grow by 12 percent. Demand for truck transportation and warehousing services will expand as many manufacturers concentrate on their core competencies and contract out their product transportation and storage functions.

**Information.** Employment in the information sector is expected to increase by 4 percent, adding 118,100 jobs by 2018. The sector contains fast-growing computer-related industries. The data-processing, hosting, and related services industry, which is expected to grow by 53 percent, includes establishments that provide Web and application hosting and streaming services. Internet publishing and broadcasting is expected to grow rapidly as it gains market share from newspapers and other more traditional media. Software publishing is projected to grow by 30 percent as organizations of all types continue to adopt the newest software products.

The information sector also includes the telecommunications industry, whose employment is projected to decline 9 percent. Despite an increase in demand for telecommunications services, more reliable networks along with consolidation among organizations will lead to productivity gains, reducing the need for workers. In addition, employment in the publishing industry is expected to decline by 5 percent, which is the result of increased efficiency in production, declining newspaper revenues, and a trend towards using more freelance workers.

**Finance and insurance.** The finance and insurance industry is expected to increase by 5 percent from 2008 to 2018. Employment in the securities, commodity contracts, and other financial investments and related activities industry is projected to expand 12 percent by 2018, which reflects the number of baby boomers in their peak savings years, the growth of tax-favorable retirement plans, and the globalization of securities markets. Employment in the credit intermediation and related activities industry, which includes banks, will grow by about 5 percent, adding 42 percent of all new jobs within the finance and insurance sector. Employment in the insurance carriers and related activities industry is expected to grow by 3 percent, translating into 67,600 new jobs by 2018. The number of jobs in the agencies, brokerages, and other insurance-related activities industry is expected to grow by 14 percent. Growth will stem from both the needs of an increasing population and new insurance products on the market.



**Real estate and rental and leasing.** The real estate and rental and leasing industry is expected to grow by 11 percent through 2018. Growth will be due, in part, to increased demand for housing as the population expands. The fastest growing industry in the real estate and rental and leasing services sector will be lessors of nonfinancial intangible assets (except copyrighted works), increasing by 34 percent over the projection period.

**Professional, scientific, and technical services.** Employment in professional, scientific, and technical services is projected to grow by 34 percent, adding about 2.7 million new jobs by 2018. Employment in computer systems design and related services is expected to increase by 45 percent, accounting for nearly one-fourth of all new jobs in this industry sector. Employment growth will be driven by growing demand for the design and integration of sophisticated networks and Internet and intranet sites. Employment in management, scientific, and technical consulting services is anticipated to expand at a staggering 83 percent, making up about 31 percent of job growth in this sector. Demand for these services will be spurred by businesses' continued need for advice on planning and logistics, the implementation of new technologies, and compliance with workplace safety, environmental, and employment regulations.

**Management of companies and enterprises.** Management of companies and enterprises is projected to grow relatively slowly, by 5 percent, as companies focus on reorganization to increase efficiency.

**Administrative and support and waste management and remediation services.** Employment in this sector is expected to grow by 18 percent by 2018. The largest growth will occur in employment services, an industry that is anticipated to account for 42 percent of all new jobs in the administrative and support and waste management and remediation services sector. The employment services industry ranks fifth among industries with the most new employment opportunities in the Nation over the 2008–18 period and is expected to grow faster than the average for all industries. Projected growth stems from the strong need for seasonal and temporary workers and for specialized human resources services.

**Educational services.** Employment in public and private educational services is anticipated to grow by 12 percent, adding about 1.7 million new jobs through 2018. Rising student enrollments at all levels of education will create demand for educational services.

**Healthcare and social assistance.** About 26 percent of all new jobs created in the U.S. economy will be in the health-care and social assistance industry. This industry—which includes public and private hospitals, nursing and residential care facilities, and individual and family services—is expected to grow by 24 percent, or 4 million new jobs. Employment growth will be driven by an aging population and longer life expectancies.

**Arts, entertainment, and recreation.** The arts, entertainment, and recreation industry is expected to grow by 15 percent by 2018. Most of the growth will be in the amusement, gambling, and recreation sector. Job growth will stem from public participation in arts, entertainment, and recreation activities—reflecting increasing incomes, leisure time, and awareness of the health benefits of physical fitness.

**Accommodation and food services.** Employment in accommodation and food services is expected to grow by 7 percent, adding about 838,200 new jobs through 2018. Job growth will be concentrated in food services and drinking places, reflecting an increase in the population and the convenience of many new food establishments.

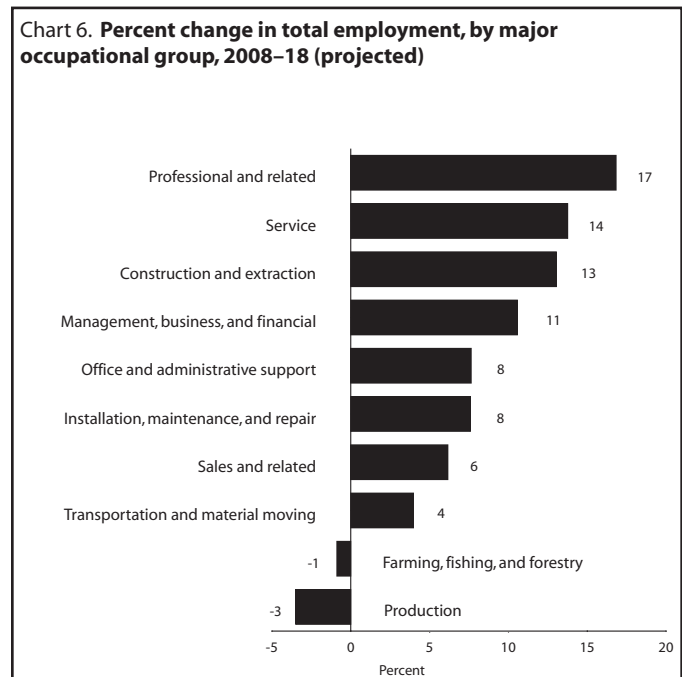
**Other services (except government and private households).** Employment is expected to grow by 13 percent in other services. Personal care services comprise the fastest growing industry in this sector, at 32 percent. This industry includes barbers, salons, and spas, which have experienced growing demand as individuals increasingly are seeking to improve their personal appearance.

**Government.** Between 2008 and 2018, government employment, excluding employment in public education and hospitals, is expected to increase by 7 percent. Growth in government employment will be fueled by expanding demand for public safety services and assistance provided to the elderly, but dampened by budgetary constraints and the outsourcing of government jobs to the private sector. State and local governments, excluding education and hospitals, are anticipated to grow by 8 percent as a result of the continued shift of responsibilities from the Federal Government to State and local governments. Federal Government employment, including the Postal Service, is expected to increase by 3 percent.

### Employment change by occupation

Industry growth or decline will affect demand for occupations. However, job growth is projected to vary among major occupational groups (chart 6).

**Management, business, and financial occupations.** Workers in management, business, and financial occupations plan and direct the activities of business, government, and other organizations. Their employment is expected to increase by 11 percent by 2018. These workers will be needed to help organizations navigate the increasingly complex and competitive business





environment. A large portion of these jobs will arise in the management, scientific, and technical consulting industry sector. A substantial number, in addition, are expected in several other large or rapidly growing industries, including government, healthcare and social assistance, finance and insurance, and construction.

Employment in management occupations is projected to grow slowly over the projection period, increasing by 5 percent, an addition of 454,300 new jobs. Growth is being affected by declines in several occupations, including farmers and ranchers. Employment of farmers and ranchers is projected to decline as the agricultural industry produces more output with fewer workers.

Employment in business and financial operations occupations is projected to grow by 18 percent, resulting in 1.2 million new jobs. Increasing financial regulations and the need for greater accountability will drive demand for accountants and auditors, adding roughly 279,400 jobs to this occupation from 2008 to 2018. Further, an increasingly competitive business environment will grow demand for management analysts, an occupation that is expected to add 178,300 jobs. Together, these two occupations are anticipated to account for 38 percent of new business and financial operations jobs.

**Professional and related occupations.** This occupational group, which includes a wide variety of skilled professions, is expected to be the fastest growing major occupational group, at 17 percent, and is projected to add the most new jobs—about 5.2 million.

Employment among healthcare practitioners and technical occupations, a subgroup of the professional and related category, is expected to increase by 21 percent. This growth, resulting in a projected 1.6 million new jobs, will be driven by increasing demand for healthcare services. As the number of older people continues to grow, and as new developments allow for the treatment of more medical conditions, more healthcare professionals will be needed.

Education, training, and library occupations are anticipated to add more than 1.3 million jobs, representing a growth rate of more than 14 percent. As the U.S. population increases, and as a larger share of adults seeks educational services, demand for these workers will increase.

Computer and mathematical science occupations are projected to add almost 785,700 new jobs from 2008 to 2018. As a group, these occupations are expected to grow more than twice as fast as the average for all occupations in the economy. Demand for workers in computer and mathematical occupations will be driven by the continuing need for businesses, government agencies, and other organizations to adopt and utilize the latest technologies.

Employment in community and social services occupations is projected to increase by 16 percent, growing by roughly 448,400 jobs. As health insurance providers increasingly cover mental and behavioral health treatment, and as a growing number of elderly individuals seek social services, demand for these workers will increase.

Employment in arts, design, entertainment, sports, and media occupations is expected to grow by 12 percent from 2008 to 2018, resulting in almost 332,600 new jobs. Growth will be

spread broadly across different occupations within the group. Media and communications occupations will add a substantial number of jobs, led by rapid growth among public relations specialists, who will be needed in greater numbers as firms place a greater emphasis on managing their public image. Employment among entertainers and performers and those in sports and related occupations also will increase, partly as a result of increasing demand for coaches and scouts. Furthermore, art and design occupations will see substantial growth, with demand increasing for graphic and interior designers. As more advertising is conducted over the Internet, a medium that generally includes many graphics, and as businesses and households increasingly seek professional design services, a greater number of these workers will be needed.

Employment in life, physical, and social science occupations is projected to increase by nearly 277,200 jobs over the 2008–18 projection period. This increase represents a growth rate of 19 percent, almost twice the average for all occupations across the economy. About 116,700 of these jobs are expected to be created among social science and related occupations, led by strong growth among market and survey researchers, as businesses increase their marketing efforts in order to remain competitive and as public policy firms and government agencies utilize more public opinion research. Employment in life science occupations, in addition, will increase rapidly as developments from biotechnology research continue to be used to create new medical technologies, treatments, and pharmaceuticals.

Architecture and engineering occupations are projected to add roughly 270,600 jobs, representing a growth rate of 10 percent. Much of this growth will occur among engineering occupations, especially civil engineers. As greater emphasis is placed on improving the Nation's infrastructure, these specialists will be needed to design, implement, or upgrade municipal transportation, water supply, and pollution control systems.

Legal occupations will add the fewest new jobs among all professional and related subgroups, increasing by about 188,400. However, with a growth rate of 15 percent, this group will grow faster than the average for all occupations in the economy. Of the new jobs created, lawyers will account for 98,500 while paralegals and legal assistants will account for 74,100. Paralegals and legal assistants are expected to grow by 28 percent as legal establishments begin to expand the role of these workers and assign them more tasks once performed by lawyers.

**Service occupations.** The duties of service workers range from fighting fires to cooking meals. Employment in service occupations is projected to increase by 4.1 million, or 14 percent, which is both the second-largest numerical gain and the second-largest growth rate among the major occupational groups.

Among service occupation subgroups, the largest number of new jobs will occur in healthcare support occupations. With more than 1.1 million new jobs, employment in this subgroup is expected to increase by 29 percent. Much of the growth will be the result of increased demand for healthcare services as the expanding elderly population requires more care.

Employment in personal care and service occupations is anticipated to grow by 20 percent over the projection period, adding more than 1 million jobs. As consumers become more concerned with health, beauty, and fitness, the number of cos-

metic and health spas will increase, causing an increase in demand for workers in this group. However, the personal care and service group contains a wide variety of occupations, and two of them—personal and home care aides, and child care workers—will account for most of this group’s new jobs. Personal and home care aides will experience increased demand as a growing number of elderly individuals require assistance with daily tasks. Child care workers, in addition, will add jobs as formal preschool programs, which employ child care workers alongside preschool teachers, become more prevalent.

Employment in food preparation and serving and related occupations is projected to increase by roughly 1 million jobs from 2008 to 2018, representing a growth rate of 9 percent. Growth will stem from time-conscious consumers patronizing fast-food establishments and full-service restaurants.

Employment in building and grounds cleaning and maintenance occupations is expected to grow by almost 483,900 jobs over the projection period, representing a growth rate of 8 percent. As businesses place a larger emphasis on grounds aesthetics, and as households increasingly rely on contract workers to maintain their yards, grounds maintenance workers will see rapid growth. In addition, more building cleaning workers will be needed to maintain an increasing number of residential and commercial structures.

Protective service occupations are expected to gain the fewest new jobs among all service subgroups: about 400,100, or 12-percent growth. These workers protect businesses and other organizations from crime and vandalism. In addition, there will be increased demand for law enforcement officers to support the growing U.S. population.

**Sales and related occupations.** Sales and related workers solicit goods and services for businesses and consumers. Sales and related occupations are expected to add 980,400 new jobs by 2018, growing by 6 percent. As organizations offer a wider array of products and devote an increasing share of their resources to customer service, many new retail salesworkers will be needed. Job growth in this group will be spread across a wide variety of industries, but almost half will occur in retail sales establishments.

**Office and administrative support occupations.** Office and administrative support workers perform the day-to-day activities of the office, such as preparing and filing documents, dealing with the public, and distributing information. Employment in these occupations is expected to grow by 8 percent, adding 1.8 million new jobs by 2018. Customer service representatives are anticipated to add the most new jobs, 399,500, as businesses put an increased emphasis on building customer relationships. Other office and administrative support occupations will experience declines as advanced technology improves productivity, decreasing the number of workers necessary to perform some duties.

**Farming, fishing, and forestry occupations.** Farming, fishing, and forestry workers cultivate plants, breed and raise livestock, and catch animals. These occupations are projected to decline by about 1 percent, losing 9,100 jobs, by 2018. Productivity increases in agriculture will lead to declining employment among agricultural workers, offsetting small gains among forest, conservation, and logging workers.

**Construction and extraction occupations.** Construction and extraction workers build new residential and commercial buildings and also work in mines, quarries, and oil and gas fields. Employment of these workers is expected to grow 13 percent, adding about 1 million new jobs. Construction trades and related workers will account for about 808,400 of these jobs. Growth will result from increased construction of homes, office buildings, and infrastructure projects. Declines in extraction occupations will reflect overall employment stagnation in the mining and oil and gas extraction industries.

**Installation, maintenance, and repair occupations.** Workers in installation, maintenance, and repair occupations install new equipment and maintain and repair older equipment. These occupations are projected to add 440,200 jobs by 2018, growing by 8 percent. More than 1 in 3 new jobs in this group will occur in the construction industry, because these workers are integral to the development of buildings, communication structures, transportation systems, and other types of infrastructure. As construction on these types of projects increases over the projection period, installation, maintenance and repair workers will be needed in greater numbers.

**Production occupations.** Production workers are employed mainly in manufacturing, where they assemble goods and operate plants. Production occupations are expected to decline by 3 percent, losing 349,200 jobs by 2018. As productivity improvements reduce the need for workers, and as a growing number of these jobs are offshored, demand for production workers will decline. Some jobs will be created in production occupations, mostly in food processing and woodworking.

**Transportation and material moving occupations.** Transportation and material moving workers transport people and materials by land, sea, or air. Employment of these workers is anticipated to increase by 4 percent, accounting for 391,100 new jobs. As the economy grows over the projection period, and the demand for goods increases, truck drivers will be needed to transport those goods to businesses, consumers, and other entities. In addition, a substantial number of jobs will arise among bus drivers, as well as taxi drivers and chauffeurs, as a growing number of people utilize public transportation.

### Employment change by detailed occupation

Occupational growth can be considered in two ways: by the rate of growth and by the number of new jobs created by growth. Some occupations both have a fast growth rate and create a large number of new jobs. However, an occupation that employs few workers may experience rapid growth, although the resulting number of new jobs may be small. For example, a small occupation that employs just 1,000 workers and is projected to grow 50 percent over a 10-year period will add only 500 jobs. By contrast, a large occupation that employs 1.5 million workers may experience only 10 percent growth, but will add 150,000 jobs. As a result, in order to get a complete picture of employment growth, both measures must be considered.

**Occupations with the fastest growth.** Of the 20 fastest growing occupations in the economy (table 1), half are related to healthcare. Healthcare is experiencing rapid growth, due in large part to the aging of the baby-boom generation, which will require more medical care. In addition, some healthcare occupations will be in greater demand for other reasons. As health-

**Table 1. Occupations with the fastest growth**

Occupations	Percent change	Number of new jobs (in thousands)	Wages (May 2008 median)	Education/training category
Biomedical engineers.....	72	11.6	\$77,400	Bachelor's degree
Network systems and data communications analysts.....	53	155.8	71,100	Bachelor's degree
Home health aides.....	50	460.9	20,460	Short-term on-the-job training
Personal and home care aides.....	46	375.8	19,180	Short-term on-the-job training
Financial examiners.....	41	11.1	70,930	Bachelor's degree
Medical scientists, except epidemiologists.....	40	44.2	72,590	Doctoral degree
Physician assistants.....	39	29.2	81,230	Master's degree
Skin care specialists.....	38	14.7	28,730	Postsecondary vocational award
Biochemists and biophysicists.....	37	8.7	82,840	Doctoral degree
Athletic trainers.....	37	6.0	39,640	Bachelor's degree
Physical therapist aides.....	36	16.7	23,760	Short-term on-the-job training
Dental hygienists.....	36	62.9	66,570	Associate degree
Veterinary technologists and technicians.....	36	28.5	28,900	Associate degree
Dental assistants.....	36	105.6	32,380	Moderate-term on-the-job training
Computer software engineers, applications.....	34	175.1	85,430	Bachelor's degree
Medical assistants.....	34	163.9	28,300	Moderate-term on-the-job training
Physical therapist assistants.....	33	21.2	46,140	Associate degree
Veterinarians.....	33	19.7	79,050	First professional degree
Self-enrichment education teachers.....	32	81.3	35,720	Work experience in a related occupation
Compliance officers, except agriculture, construction, health and safety, and transportation.....	31	80.8	48,890	Long-term on-the-job training

care costs continue to rise, work is increasingly being delegated to lower paid workers in order to cut costs. For example, tasks that were previously performed by doctors, nurses, dentists, or other healthcare professionals increasingly are being performed by physician assistants, medical assistants, dental hygienists, and physical therapist aides. In addition, patients increasingly are seeking home care as an alternative to costly stays in hospitals or residential care facilities, causing a significant increase in demand for home health aides. Although not classified as healthcare workers, personal and home care aides are being affected by this demand for home care as well.

Two of the fastest growing detailed occupations are in the computer specialist occupational group. Network systems and data communications analysts are projected to be the second-fastest-growing occupation in the economy. Demand for these workers will increase as organizations continue to upgrade their information technology capacity and incorporate the newest technologies. The growing reliance on wireless networks will result in a need for more network systems and data communications analysts as well. Computer applications software engineers also are expected to grow rapidly from 2008 to 2018. Expanding Internet technologies have spurred demand for these workers, who can develop Internet, intranet, and Web applications.

Developments from biotechnology research will continue to be used to create new medical technologies, treatments, and pharmaceuticals. As a result, demand for medical scientists and for biochemists and biophysicists will increase. However,

although employment of biochemists and biophysicists is projected to grow rapidly, this corresponds to only 8,700 new jobs over the projection period. Increased medical research and demand for new medical technologies also will affect biomedical engineers. The aging of the population and a growing focus on health issues will drive demand for better medical devices and equipment designed by these workers. In fact, biomedical engineers are projected to be the fastest growing occupation in the economy. However, because of its small size, the occupation is projected to add only about 11,600 jobs.

Increasing financial regulations will spur employment growth both of financial examiners and of compliance officers, except agriculture, construction, health and safety, and transportation.

Self-enrichment teachers and skin care specialists will experience growth as consumers become more concerned with self-improvement. Self-enrichment teachers are growing rapidly as more individuals seek additional training to make themselves more appealing to prospective employers. Skin care specialists will experience growth as consumers increasingly care about their personal appearance.

Of the 20 fastest growing occupations, 12 are in the associate degree or higher category. Of the remaining 8, 6 are in an on-the-job training category, 1 is in the work experience in a related occupation category, and 1 is in the postsecondary vocational degree category. Eleven of these occupations earn at least \$10,000 more than the National annual median wage,

**Table 2. Occupations with the largest numerical growth**

Occupations	Number of new jobs (in thousands)	Percent change	Wages (May 2008 median)	Education/training category
Registered nurses .....	581.5	22	\$62,450	Associate degree
Home health aides.....	460.9	50	20,460	Short-term on-the-job training
Customer service representatives.....	399.5	18	29,860	Moderate-term on-the-job training
Combined food preparation and serving workers, including fast food .....	394.3	15	16,430	Short-term on-the-job training
Personal and home care aides .....	375.8	46	19,180	Short-term on-the-job training
Retail salespersons.....	374.7	8	20,510	Short-term on-the-job training
Office clerks, general .....	358.7	12	25,320	Short-term on-the-job training
Accountants and auditors.....	279.4	22	59,430	Bachelor's degree
Nursing aides, orderlies, and attendants .....	276.0	19	23,850	Postsecondary vocational award
Postsecondary teachers .....	256.9	15	58,830	Doctoral degree
Construction laborers.....	255.9	20	28,520	Moderate-term on-the-job training
Elementary school teachers, except special education.....	244.2	16	49,330	Bachelor's degree
Truck drivers, heavy and tractor-trailer.....	232.9	13	37,270	Short-term on-the-job training
Landscaping and groundskeeping workers .....	217.1	18	23,150	Short-term on-the-job training
Bookkeeping, accounting, and auditing clerks .....	212.4	10	32,510	Moderate-term on-the-job training
Executive secretaries and administrative assistants .....	204.4	13	40,030	Work experience in a related occupation
Management analysts.....	178.3	24	73,570	Bachelor's or higher degree, plus work experience
Computer software engineers, applications .....	175.1	34	85,430	Bachelor's degree
Receptionists and information clerks.....	172.9	15	24,550	Short-term on-the-job training
Carpenters .....	165.4	13	38,940	Long-term on-the-job training

which was \$32,390 as of May 2008. In fact, 9 of the occupations earned at least twice the National median in May 2008.

**Occupations with the largest numerical growth.** The 20 occupations listed in table 2 are projected to account for more than one-third of all new jobs—5.8 million combined—over the 2008–18 period. The occupations with the largest numerical increases cover a wider range of occupational categories than do those occupations with the fastest growth rates. Health occupations will account for some of these increases in employment, as will occupations in education, sales, and food service. Office and administrative support services occupations are expected to grow by 1.3 million jobs, accounting for about one-fifth of the job growth among the 20 occupations with the largest growth. Many of the occupations listed in the table are very large and will create more new jobs than occupations with high growth rates. Only 3 out of the 20 fastest growing occupations—home health aides, personal and home care aides, and computer software application engineers—also are projected to be among the 20 occupations with the largest numerical increases in employment.

The education or training categories and wages of the occupations with the largest numbers of new jobs are significantly

different than those of the fastest growing occupations. Twelve of these occupations are in an on-the-job training category, and just 7 are in a category that indicates any postsecondary education. Ten of the 20 occupations with the largest numbers of new jobs earned less than the National median wage in May 2008.

**Occupations with the fastest decline.** Declining occupational employment stems from falling industry employment, technological advances, changes in business practices, and other factors. For example, technological developments and the continued movement of textile production abroad are expected to contribute to a decline of 71,500 sewing machine operators over the projection period (table 3). Fifteen of the 20 occupations with the largest numerical decreases are either production occupations or office and administrative support occupations, both of which are adversely affected by increasing plant and factory automation or the implementation of office technology, reducing the need for workers in those occupations. The difference between the office and administrative support occupations that are expected to experience the largest declines and those which are expected to see the largest increases is the extent to which job functions can be easily automated or performed by



**Table 3. Occupations with the fastest decline**

Occupation	Percent change	Number of jobs lost (in thousands)	Wages (May 2008 median)	Education/training category
Textile bleaching and dyeing machine operators and tenders.....	-45	-7.2	\$23,680	Moderate-term on-the-job training
Textile winding, twisting, and drawing out machine setters, operators, and tenders .....	-41	-14.2	23,970	Moderate-term on-the-job training
Textile knitting and weaving machine setters, operators, and tenders.....	-39	-11.5	25,400	Long-term on-the-job training
Shoe machine operators and tenders.....	-35	-1.7	25,090	Moderate-term on-the-job training
Extruding and forming machine setters, operators, and tenders, synthetic and glass fibers .....	-34	-4.8	31,160	Moderate-term on-the-job training
Sewing machine operators .....	-34	-71.5	19,870	Moderate-term on-the-job training
Semiconductor processors .....	-32	-10.0	32,230	Postsecondary vocational award
Textile cutting machine setters, operators, and tenders .....	-31	-6.0	22,620	Moderate-term on-the-job training
Postal Service mail sorters, processors, and processing machine operators.....	-30	-54.5	50,020	Short-term on-the-job training
Fabric menders, except garment .....	-30	-0.3	28,470	Moderate-term on-the-job training
Wellhead pumpers.....	-28	-5.3	37,860	Moderate-term on-the-job training
Fabric and apparel patternmakers .....	-27	-2.2	37,760	Long-term on-the-job training
Drilling and boring machine tool setters, operators, and tenders, metal and plastic .....	-27	-8.9	30,850	Moderate-term on-the-job training
Lathe and turning machine tool setters, operators, and tenders, metal and plastic .....	-27	-14.9	32,940	Moderate-term on-the-job training
Order clerks.....	-26	-64.2	27,990	Short-term on-the-job training
Coil winders, tapers, and finishers .....	-25	-5.6	27,730	Short-term on-the-job training
Photographic processing machine operators.....	-24	-12.5	20,360	Short-term on-the-job training
File clerks.....	-23	-49.6	23,800	Short-term on-the-job training
Derrick operators, oil and gas .....	-23	-5.8	41,920	Moderate-term on-the-job training
Desktop publishers.....	-23	-5.9	36,600	Postsecondary vocational award

other workers. For instance, the duties of executive secretaries and administrative assistants involve a great deal of personal interaction that cannot be automated, whereas the duties of file clerks—adding, locating, and removing business records—can be automated or performed by other workers.

Only 2 of the occupations with the fastest percent decline are in a category that indicates workers have any postsecondary education, while the rest are in an on-the-job training category. Eleven of these occupations earned less than \$30,000 in May 2008, below the National median wage of \$32,390.

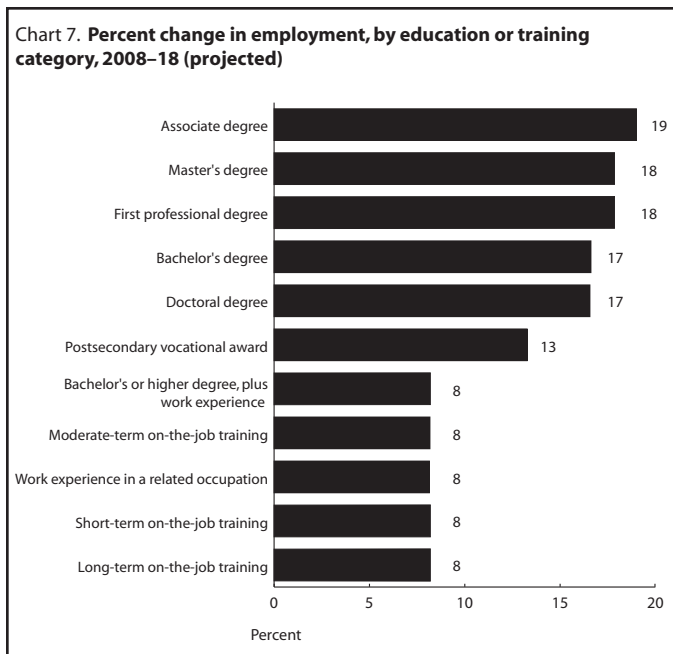
### Employment change by education and training category

In general, occupations in a category with some postsecondary education are expected to experience higher rates of growth than those in an on-the-job training category. Occupations in the associate degree category are projected to grow

the fastest, at about 19 percent. In addition, occupations in the master's and first professional degree categories are anticipated to grow by about 18 percent each, and occupations in the bachelor's and doctoral degree categories are expected to grow by about 17 percent each. However, occupations in the on-the-job training categories are expected to grow by 8 percent each (chart 7).

### Total job openings

Job openings stem from both employment growth and replacement needs (chart 8). Replacement needs arise as workers leave occupations. Some transfer to other occupations, while others retire, return to school, or quit to assume household responsibilities. Replacement needs are projected to account for 67 percent of the approximately 50.9 million job openings between 2008 and 2018. Thus, even occupations that are projected to experi-

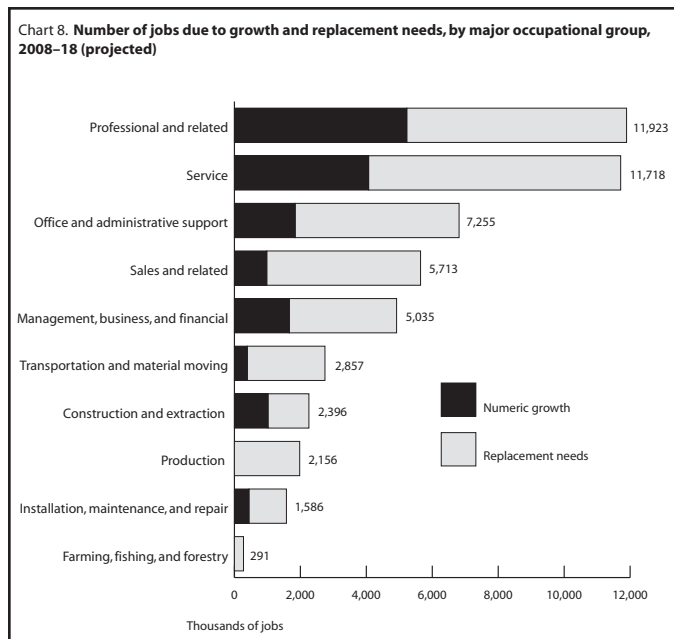


ence slower-than-average growth or to decline in employment still may offer many job openings.

Professional and related occupations are projected to have the largest number of total job openings, 11.9 million, and 56 percent of those will be due to replacement needs. Replacement needs generally are greatest in the largest occupations and in those with relatively low pay or limited training requirements. As a result, service occupations are projected to have the greatest number of job openings due to replacements, about 7.6 million.

Office automation will significantly affect many individual office and administrative support occupations. Although these occupations are projected to grow about as fast as average, some are projected to decline rapidly. Office and administrative support occupations are expected to create 7.3 million total job openings from 2008 to 2018, ranking third behind professional and related occupations and service occupations.

Farming, fishing, and forestry occupations and production occupations should offer job opportunities despite overall declines



in employment. These occupations will lose 9,100 and 349,200 jobs, respectively, but are expected to provide more than 2.4 million total job openings. Job openings will be due solely to the replacement needs of a workforce characterized by high levels of retirement and job turnover.

The analysis underlying BLS employment projections uses currently available information to focus on long-term structural changes in the economy. The 2008–18 projections assume a full-employment economy in 2018. The impact of the recent recession, which began in December of 2007, on long-term structural changes in the economy will not be fully known until some point during or after the recovery. Because the 2008 starting point is a recession year, the projected growth to an assumed full-employment economy in 2018 will generally be stronger than if the starting point were not a recession year.

## Classification of occupations by most significant source of education or training

### Postsecondary awards

*First professional degree.* Completion of the degree usually requires at least 3 years of full-time academic study beyond a bachelor's degree. Examples are lawyers; and physicians and surgeons.

*Doctoral degree.* Completion of a Ph.D. or other doctoral degree usually requires at least 3 years of full-time academic study beyond a bachelor's degree. Examples are postsecondary teachers; and medical scientists, except epidemiologists.

*Master's degree.* Completion of the degree usually requires 1 or 2 years of full-time academic study beyond a bachelor's degree. Examples are educational, vocational, and school counselors; and clergy.

*Bachelor's or higher degree, plus work experience.* Most occupations in this category are management occupations. All require experience in a related nonmanagement position for which a bachelor's or higher degree is usually required. Examples are general and operations managers; and judges, magistrate judges, and magistrates.

*Bachelor's degree.* Completion of the degree generally requires at least 4 years, but not more than 5 years, of full-time academic study. Examples are accountants and auditors; and elementary school teachers, except special education.

*Associate degree.* Completion of the degree usually requires at least 2 years of full-time academic study. Examples are paralegals and legal assistants; and medical records and health information technicians.

*Postsecondary vocational award.* Some programs last only a few weeks, others more than a year. Programs lead to a certificate or other award, but not a degree. Examples are nursing aides, orderlies, and attendants; and hairdressers, hairstylists, and cosmetologists.

### Work-related training

*Work experience in a related occupation.* Most of the occupations in this category are first-line supervisors or

managers of service, sales and related, production, or other occupations; or are management occupations.

*Long-term on-the-job training.* Occupations in this category generally require more than 12 months of on-the-job training or combined work experience and formal classroom instruction for workers to develop the skills necessary to be fully qualified in the occupation. These occupations include formal and informal apprenticeships that may last up to 5 years. Long-term on-the-job training also includes intensive occupation-specific, employer-sponsored programs that workers must complete. Among such programs are those conducted by fire and police academies and by schools for air traffic controllers and flight attendants. In other occupations—insurance sales and securities sales, for example—trainees take formal courses, often provided on the jobsite, to prepare for the required licensing exams. Individuals undergoing training generally are considered to be employed in the occupation. Also included in this category is the development of a natural ability—such as that possessed by musicians, athletes, actors, and other entertainers—that must be cultivated over several years, frequently in a non-work setting.

*Moderate-term on-the-job training.* In this category of occupations, the skills needed to be fully qualified in the occupation can be acquired during 1 to 12 months of combined on-the-job experience and informal training. Examples are truckdrivers, heavy and tractor-trailer; and secretaries, except legal, medical, and executive.

*Short-term on-the-job training.* In occupations in this category, the skills needed to be fully qualified in the occupation can be acquired during a short demonstration of job duties or during 1 month or less of on-the-job experience or instruction. Examples of these occupations are retail salespersons; and waiters and waitresses.

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# Sources of Career Information

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This section identifies some major sources of information on careers. These sources are meant to be used in addition to those listed at the end of each *Handbook* statement, and they may provide additional information.

**How to best use this information.** The sources mentioned in this section offer different types of information. For example, people you know may provide very specific information because they have knowledge of you, your abilities and interests, and your qualifications. Other sources, such as those found in the State Sources below, provide information on occupations in each State. Gathering information from a wide range of sources is the best way to determine what occupations may be appropriate for you, and in what geographic regions these occupations are found. The sources of information discussed in this section are not exhaustive, and other sources could prove equally valuable in your career search.

## Career information

Like any major decision, selecting a career involves a lot of fact finding. Fortunately, some of the best informational resources are easily accessible. You should assess career guidance materials carefully. Information that seems out of date or glamorizes an occupation—overstates its earnings or exaggerates the demand for workers, for example—should be evaluated with skepticism. Gathering as much information as possible will help you make a more informed decision.

**People you know.** One of the best resources can be your friends and family. They may answer some questions about a particular occupation or put you in touch with someone who has some experience in the field. This personal networking can be invaluable in evaluating an occupation or an employer. These people will be able to tell you about their specific duties and training, as well as what they did or did not like about a job. People who have worked in an occupation locally also may be able to give you a recommendation and get you in touch with specific employers.

**Employers.** This is the primary source of information on specific jobs. Employers may post lists of job openings and application requirements, including the exact training and experience required, starting wages and benefits, and advancement opportunities and career paths.

**Informational interviews.** People already working in a particular field often are willing to speak with people interested in joining their field. An informational interview will allow you to get good information from experts in a specific career without the pressure of a job interview. These interviews allow you to determine how a certain career may appeal to you while helping you build a network of personal contacts.

**Professional societies, trade groups, and labor unions.** These groups have information on an occupation or various related occupations with which they are associated or which they ac-

tively represent. This information may cover training requirements, earnings, and listings of local employers. These groups may train members or potential members themselves, or they may be able to put you in contact with organizations or individuals who perform such training.

Each occupational statement in the *Handbook* concludes with a “Sources of Additional Information” section, which lists organizations that may be contacted for more information. Another valuable source for finding organizations associated with occupations is the *Encyclopedia of Associations*, an annual publication that lists trade associations, professional societies, labor unions, and other organizations.

**Guidance and career counselors.** Counselors can help you make choices about which careers might suit you best. They can help you establish what occupations suit your skills by testing your aptitude for various types of work and determining your strengths and interests. Counselors can help you evaluate your options and search for a job in your field or help you select a new field altogether. They can also help you determine which educational or training institutions best fit your goals, and then assist you in finding ways to finance them. Some counselors offer other services such as interview coaching, résumé building, and help in filling out various forms. Counselors in secondary schools and postsecondary institutions may arrange guest speakers, field trips, or job fairs.

You can find guidance and career counselors at many common institutions, including:

- High school guidance offices
- College career planning and placement offices
- Placement offices in private vocational or technical schools and institutions
- Vocational rehabilitation agencies
- Counseling services offered by community organizations
- Private counseling agencies and private practices
- State employment service offices

When using a private counselor, check to see that the counselor is experienced. One way to do so is to ask people who have used their services in the past. The National Board of Certified Counselors and Affiliates is an institution which accredits career counselors. To verify the credentials of a career counselor and to find a career counselor in your area, contact:

- National Board for Certified Counselor and Affiliates, 3 Terrace Way, Suite D, Greensboro, NC 27403-3660. Internet: <http://www.nbcc.org/directory/FindCounselors.aspx>

**Postsecondary institutions.** Colleges, universities, and other postsecondary institutions typically put a lot of effort into helping place their graduates in good jobs, because the success of their graduates may indicate the quality of their institution and may affect the institution’s ability to attract new students. Postsecondary institutions commonly have career centers with libraries of information on different careers, listings of related jobs, and alumni contacts in various professions. Career cen-



ters frequently employ career counselors who generally provide their services only to their students and alumni. Career centers can help you build your résumé, find internships and co-ops—which can lead to full-time positions—and tailor your course selection or program to make you a more attractive job applicant.

**Local libraries.** Libraries can be an invaluable source of information. Since most areas have libraries, they can be a convenient place to look for information. Also, many libraries provide access to the Internet and email.

Libraries may have information on job openings, locally and nationally; potential contacts within occupations or industries; colleges and financial aid; vocational training; individual businesses or careers; and writing résumés. Libraries frequently have subscriptions to various trade magazines that can provide information on occupations and industries. Your local library also may have video materials. These sources often have references to organizations that can provide additional information about training and employment opportunities.

If you need help getting started or finding a resource, ask your librarian for assistance.

**Internet resources.** A wide variety of career information is easily accessible on the Internet. Many online resources include job listings, résumé posting services, and information on job fairs, training, and local wages. Many of the resources listed elsewhere in this section have Internet sites that include valuable information on potential careers. No single source contains all information on an occupation, field, or employer; therefore you will likely need to use a variety of sources.

When using Internet resources, be sure that the organization is a credible, established source of information on the particular occupation. Individual companies may include job listings on their Web sites, and may include information about required credentials, wages and benefits, and the job's location. Contact information, such as whom to call or where to send a résumé, is usually included.

Some sources exist primarily as a Web service. These services often have information on specific jobs, and can greatly aid in the job hunting process. Some commercial sites offer these services, as do Federal, State, and some local governments. *Career OneStop*, a joint program by the Department of Labor and the States as well as local agencies, provides these services free of charge.

**Online Sources from the Department of Labor.** A major portion of the U.S. Department of Labor's Labor Market Information System is the *Career OneStop* site. This site includes links to the following:

- *State job banks* allow you to search over a million job openings listed with State employment agencies.
- *America's Career InfoNet* provides data on employment growth and wages by occupation; the knowledge, skills, and abilities required by an occupation; and links to employers.
- *America's Service Locator* is a comprehensive database of career centers and information on unemployment benefits, job training, youth programs, seminars, educational opportunities, and disabled or older worker programs.

*Career OneStop*, along with the National Toll-Free Jobs Helpline (877-USA-JOBS) and the local One-Stop Career Centers in each State, combine to provide a wide range of workforce assistance and resources:

- Career OneStop. Internet: <http://www.careeronestop.org>

Use the O\*NET numbers at the start of each *Handbook* statement to find more information on specific occupations:

- O\*NET Online. Internet: <http://www.onetcenter.org>

Provided in collaboration with the U.S. Department of Education, *Career Voyages* has information on certain high-demand occupations:

- Career Voyages. Internet: <http://www.careervoyages.gov>

The Department of Labor's Bureau of Labor Statistics publishes a wide range of labor market information, from regional wages for specific occupations to statistics on National, State, and area employment.

- Bureau of Labor Statistics. Internet: <http://www.bls.gov>

While the *Handbook* discusses careers from an occupational perspective, a companion publication—*Career Guide to Industries*—discusses careers from an industry perspective. The *Career Guide* is also available at your local career center and library:

- *Career Guide to Industries*. Internet: <http://www.bls.gov/oco/cg>

For information on occupational wages:

- Wage Data. Internet: <http://www.bls.gov/bls/blswage.htm>

For information on training, workers' rights, and job listings:

- Employment and Training Administration.  
Internet: <http://www.doleta.gov/jobseekers>

**Organizations for specific groups.** Some organizations provide information designed to help specific groups of people. Consult directories in your library's reference center or a career guidance office for information on additional organizations associated with specific groups.

#### Disabled workers:

Information on employment opportunities, transportation, and other considerations for people with a wide variety of disabilities is available from:

- National Organization on Disability, 888 Sixteenth St. NW., Suite 800, Washington, DC 20006. Telephone: (202) 293-5960. TTY: (202) 293-5968. Internet: <http://www.nod.org/economic>

For information on making accommodations in the work place for people with disabilities:

- Job Accommodation Network (JAN), P.O. Box 6080, Morgantown, WV 26506. Internet: <http://www.jan.wvu.edu>

A comprehensive Federal Web site of disability-related resources is accessible at:

- <http://www.disability.gov>

### Blind workers:

Information on the free national reference and referral service for the blind can be obtained by contacting:

- National Federation of the Blind, Job Opportunities for the Blind (JOB), 1800 Johnson St., Baltimore, MD 21230. Telephone: (410) 659-9314. Internet: <http://www.nfb.org>

### Older workers:

- National Council on the Aging, 1901 L St. NW., 4th Floor., Washington, DC 20036. Telephone: (202) 479-1200. Internet: <http://www.ncoa.org>
- National Caucus and Center on Black Aged, Inc., Senior Employment Programs, 1220 L St. NW., Suite 800, Washington, DC 20005. Telephone: (202) 637-8400. Fax: (202) 347-0895. Internet: <http://www.ncba-aged.org>

### Veterans:

Contact the nearest regional office of the U.S. Department of Labor's Veterans Employment and Training Service or:

- Credentialing Opportunities Online (COOL), which explains how military personnel can meet civilian certification and license requirements related to their Military Occupational Specialty (MOS). Internet: <http://www.cool.army.mil>

### Women:

- Department of Labor, Women's Bureau, 200 Constitution Ave. NW., Washington, DC 20210. Telephone: (800) 827-5335. Internet: <http://www.dol.gov/wb>

Federal laws, executive orders, and selected Federal grant programs bar discrimination in employment based on race, color, religion, sex, national origin, age, and handicap. Information on how to file a charge of discrimination is available from U.S. Equal Employment Opportunity Commission offices around the country. Their addresses and telephone numbers are listed in telephone directories under U.S. Government, EEOC. Telephone: (800) 669-4000. TTY: (800) 669-6820. Internet: <http://www.eeoc.gov>

**Office of Personnel Management.** Information on obtaining civilian positions within the Federal Government is available from the U.S. Office of Personnel Management through USA-Jobs, the Federal Government's official employment information system. This resource for locating and applying for job opportunities can be accessed through the Internet or through an interactive voice response telephone system at (703) 724-1850 or TDD (978) 461-8404.

- USA Jobs: <http://www.usajobs.opm.gov>

**Military.** The military employs and has information on hundreds of occupations. Information is available on tuition assistance programs, which provide money for school and educational debt repayments. Information on military service can be provided by your local recruiting office. Also see the *Handbook* statement on Job Opportunities in the Armed Forces. You can find more information on careers in the military at:

- Today's Military. Internet: <http://www.todaysmilitary.com>

**State Sources.** Most States have career information delivery systems (CIDS), which may be found in secondary and post-secondary institutions, as well as libraries, job training sites, vocational-technical schools, and employment offices. A wide range of information is provided, from employment opportunities to unemployment insurance claims.

Whereas the *Handbook* provides information for occupations on a national level, each State has detailed information on occupations and labor markets within their respective jurisdictions. State occupational projections are available at:

- <http://www.projectionscentral.com>

### Alabama

Labor Market Information Division, Alabama Department of Industrial Relations, 649 Monroe St., Room 422, Montgomery, AL 36131. Telephone: (334) 242-8859. Internet: <http://dir.alabama.gov>

### Alaska

Research and Analysis Section, Department of Labor and Workforce Development, P.O. Box 25501, Juneau, AK 99802-5501. Telephone: (907) 465-4500. Internet: <http://almis.labor.state.ak.us>

### Arizona

Arizona Department of Economic Security, P.O. Box 6123 SC 733A, Phoenix, AZ 85005-6123. Telephone: (602) 542-5984. Internet: <https://www.azdes.gov>

### Arkansas

Labor Market Information, Department of Workforce Services, #2 Capital Mall, Little Rock, AR 72201. Telephone: (501) 682-3198. Internet: <http://www.discoverarkansas.net>

### California

State of California Employment Development Department, Labor Market Information Division, P.O. Box 826880, Sacramento, CA 94280-0001. Telephone: (916) 262-2162. Internet: <http://www.labormarketinfo.edd.ca.gov>

### Colorado

Labor Market Information, Colorado Department of Labor and Employment, 633 17th St., Suite 600, Denver, CO 80202-3660. Telephone: (303) 318-8850. Internet: <http://lmigateway.coworkforce.com>

### Connecticut

Office of Research, Connecticut Department of Labor, 200 Folly Brook Blvd., Wethersfield, CT 06109-1114. Telephone: (860) 263-6275. Internet: <http://www.ctdol.state.ct.us/lmi>

### Delaware

Office of Occupational and Labor Market Information, Department of Labor, 19 West Lea Blvd., Wilmington, DE 19802. Telephone: (302) 761-8069. Internet: <http://www.delawareworks.com/ooolmi/>

**District of Columbia**

DC Department of Employment Services, 64 New York Ave. NE., Suite 3000, Washington, D.C. 20002. Telephone: (202) 724-7000. Internet: <http://www.does.dc.gov/does>

**Florida**

Labor Market Statistics, Agency for Workforce Innovation, 107 E. Madison St., MSC 110 - Caldwell Building, Tallahassee, FL 32399-4111. Telephone: (850) 245-7105. Internet: <http://www.labormarketinfo.com>

**Georgia**

Workforce Information and Analysis, Room 300, Department of Labor, 223 Courtland St., CWC Building, Atlanta, GA 30303. Telephone: (404) 232-3875. Internet: [http://www.dol.state.ga.us/em/get\\_labor\\_market\\_information.htm](http://www.dol.state.ga.us/em/get_labor_market_information.htm)

**Guam**

Guam Department of Labor, 504 D St., Tiyán, Guam 96910. Telephone: (671) 475-0101. Internet: <http://guamdol.net>

**Hawaii**

Research and Statistics Office, Department of Labor and Industrial Relations, 830 Punchbowl St., Room 304, Honolulu, HI 96813. Telephone: (808) 586-9013. Internet: <http://www.hiwi.org>

**Idaho**

Research and Analysis Bureau, Department of Commerce and Labor, 317 West Main St., Boise, ID 83735-0670. Telephone: (208) 332-3570. Internet: <http://lmi.idaho.gov>

**Illinois**

Illinois Department of Employment Security, Economic Information and Analysis Division, 33 S. State St., 9th Floor, Chicago, IL 60603. Telephone: (312) 793-6521. Internet: <http://lmi.ides.state.il.us>

**Indiana**

Research and Analysis—Indiana Workforce Development, Indiana Government Center South, 10 North Senate Ave., Indianapolis, IN 46204. Telephone: (800) 891-6499. Internet: <http://www.in.gov/dwd>

**Iowa**

Policy and Information Division, Iowa Workforce Development, 1000 East Grand Ave., Des Moines, IA 50319-0209. Telephone: (515) 281-5387. Internet: <http://www.iowaworkforce.org/lmi>

**Kansas**

Kansas Department of Labor, Labor Market Information Services, 401 SW Topeka Blvd., Topeka, KS 66603-3182. Telephone: (785) 296-5000. Internet: <http://laborstats.dol.ks.gov>

**Kentucky**

Research and Statistics Branch, Office of Employment and Training, 275 East Main St., Frankfort, KY 40621. Telephone: (502) 564-7976. Internet: <http://www.workforcekentucky.ky.gov>

**Louisiana**

Research and Statistics Division, Department of Labor, 1001 North 23rd St., Baton Rouge, LA 70802-3338. Telephone: (225) 342-3111. Internet: <http://www.laworks.net>

**Maine**

Labor Market Information Services Division, Maine Department of Labor, 45 Commerce Dr., State House Station 118, Augusta, ME 04330. Telephone: (207) 623-7900. Internet: <http://maine.gov/labor/lmis>

**Maryland**

Maryland Department of Labor Licensing and Regulation, Office of Labor Market Analysis and Information, 1100 N. Eutaw, Baltimore, MD 21201. Telephone: (410) 767-2250. Internet: <http://www.dllr.state.md.us/lmi/index.shtml>

**Massachusetts**

Executive Office of Labor and Workforce Development, Division of Career Services, 19 Staniford St., Boston, MA 02114. Telephone: (617) 626-5300. Internet: <http://www.detma.org/LMI/dataprogram.htm>

**Michigan**

Bureau of Labor Market Information and Strategic Initiatives, Department of Labor and Economic Growth, 3032 West Grand Blvd., Suite 9-100, Detroit, MI 48202. Telephone: (313) 456-3100. Internet: <http://www.milmi.org>

**Minnesota**

Department of Employment and Economic Development, Labor Market Information Office, 1st National Bank Building, 332 Minnesota St., Suite E200, St. Paul, MN 55101-1351. Telephone: (888) 234-1114. Internet: <http://www.deed.state.mn.us/lmi>

**Mississippi**

Labor Market Information Division, Mississippi Department of Employment Security, 1235 Echelon Pkwy., P.O. Box 1699, Jackson, MS 39215. Telephone: (601) 321-6000. Internet: <http://mdes.ms.gov>

**Missouri**

Missouri Economic Research and Information Center, P.O. Box 3150, Jefferson City, MO 65102-3150. Telephone: (866) 225-8113. Internet: <http://www.missourieconomy.org>

**Montana**

Research and Analysis Bureau, P.O. Box 1728, Helena, MT 59624. Telephone: (800) 541-3904. Internet: <http://www.ourfactsyourfuture.org>

**Nebraska**

Nebraska Workforce Development—Labor Market Information, Nebraska Department of Labor, 550 South 16th St., P.O. Box 94600, Lincoln, NE 68509. Telephone: (402) 471-2600. Internet: [www.dol.nebraska.gov/nwd/center.cfm?PRICAT=3&SUBCAT=4Z0](http://www.dol.nebraska.gov/nwd/center.cfm?PRICAT=3&SUBCAT=4Z0)

**Nevada**

Research and Analysis, Department of Employment Training and Rehabilitation, 500 East Third St., Carson City, NV 89713. Telephone: (775) 684-0450. Internet: <http://www.nevadaworkforce.com>

**New Hampshire**

Economic and Labor Market Information Bureau, New Hampshire Employment Security, 32 South Main St., Concord, NH 03301-4857. Telephone: (603) 228-4124. Internet: <http://www.nh.gov/nhes/elmi>

**New Jersey**

Division of Labor Market and Demographic Research, Department of Labor and Workforce Development, P.O. Box 388, Trenton, NJ 08625-0388. Telephone: (609) 984-2593. Internet: <http://www.wnjp.in.net>

**New Mexico**

New Mexico Department of Labor, Economic Research and Analysis, 401 Broadway NE., Albuquerque, NM 87102. Telephone: (505) 222-4683. Internet: <http://www.dws.state.nm.us/dws-lmi.html>

**New York**

Research and Statistics, New York State Department of Labor, W. Averell Harriman State Office Campus, Building 12, Albany, NY 12240. Telephone: (518) 457-9000. Internet: <http://www.labor.state.ny.us>

**North Carolina**

Labor Market Information Division, Employment Security Commission, 700 Wade Ave., Raleigh, NC 27605. Telephone: (919) 733-2936. Internet: <http://www.ncesc.com>

**North Dakota**

Labor Market Information Manager, Job Service North Dakota, 1000 East Divide Ave., Bismarck, ND 58506. Telephone: (800) 732-9787. Internet: <http://www.ndworkforceintelligence.com>

**Ohio**

Bureau of Labor Market Information, Ohio Department of Job and Family Services, 420 East 5th Ave., Columbus, OH 43219. Telephone: (614) 752-9494. Internet: <http://ohiolmi.com>

**Oklahoma**

Labor Market Information, Oklahoma Employment Security Commission, P.O. Box 52003., Oklahoma City, OK 73152. Telephone: (405) 557-7172. Internet: [http://www.ok.gov/oesc\\_web/Services/Find\\_Labor\\_Market\\_Statistics/index.html](http://www.ok.gov/oesc_web/Services/Find_Labor_Market_Statistics/index.html)

### **Oregon**

Oregon Employment Department, Research Division, 875 Union St. NE., Salem, OR 97311. Telephone: (503) 947-1200. Internet: <http://www.qualityinfo.org/olmisj/OlmisZine>

### **Pennsylvania**

Center for Workforce Information & Analysis, Pennsylvania Department of Labor and Industry, 220 Labor and Industry Building, Seventh and Forster Sts., Harrisburg, PA 17121. Telephone: (877) 493-3282. Internet: <http://www.paworkstats.state.pa.us>

### **Puerto Rico**

Department of Work and Human Resources, Ave. Muñoz Rivera 505, Hato Rey, PR 00918. Telephone: (787) 754-5353. Internet: <http://www.dtrh.gobierno.pr>

### **Rhode Island**

Labor Market Information, Rhode Island Department of Labor and Training, 1511 Pontiac Ave., Cranston, RI 02920. Telephone: (401) 462-8740. Internet: <http://www.dlt.ri.gov/lmi>

### **South Carolina**

Labor Market Information Department, South Carolina Employment Security Commission, 631 Hampton St., Columbia, SC 29202. Telephone: (803) 737-2660. Internet: <http://www.sces.org/lmi/index.asp>

### **South Dakota**

Labor Market Information Center, Department of Labor, P.O. Box 4730, Aberdeen, SD 57402-4730. Telephone: (605) 626-2314. Internet: <http://dol.sd.gov/lmic>

### **Tennessee**

Research and Statistics Division, Department of Labor and Workforce Development, 220 French Landing Dr., Nashville, TN 37245. Telephone: (615) 741-1729. Internet: <http://www.state.tn.us/labor-wfd/lmi.htm>

### **Texas**

Labor Market Information, Texas Workforce Commission, 9001 North IH-35, Suite 103A, Austin, TX 75753. Telephone: (866) 938-4444. Internet: <http://www.tracer2.com>

### **Utah**

Director of Workforce Information, Utah Department of Workforce Services, P.O. Box 45249, Salt Lake City, UT 84145-0249. Telephone: (801) 526-9675. Internet: <http://jobs.utah.gov/opencms/wi>

### **Vermont**

Economic and Labor Market Information, Vermont Department of Labor, P.O. Box 488, Montpelier, VT 05601-0488. Telephone: (802) 828-4000. Internet: <http://www.vtlni.info>

### **Virgin Islands**

Bureau of Labor Statistics, Department of Labor, 53A & 54AB Kronprindsens Gade, St Thomas, VI 00803-2608. Telephone: (340) 776-3700. Internet: <http://www.vidol.gov>

### **Virginia**

Virginia Employment Commission, P.O. Box 1358, Richmond, VA 23218-1358. Telephone: (800) 828-1140. Internet: <http://www.vec.virginia.gov/vecportal/index.cfm>

### **Washington**

Labor Market and Economic Analysis, Washington Employment Security Department, P.O. Box 9046, Olympia, WA 98507-9046. Telephone: (360) 438-4833. Internet: <http://www.workforceexplorer.com>

### **West Virginia**

Workforce West Virginia, Research, Information and Analysis Division, 112 California Ave., Charleston, WV 25303-0112. Telephone: (304) 558-2660. Internet: <http://workforcewv.org/lmi>

### **Wisconsin**

Bureau of Workforce Information, Department of Workforce Development, P.O. Box 7944, Madison, WI 53707-7944. Telephone: (608) 266-7034. Internet: <http://worknet.wisconsin.gov/worknet>

### **Wyoming**

Research and Planning, Wyoming Department of Employment, 246 S. Center St., Casper, WY 82602. Telephone: (307) 473-3807. Internet: <http://doe.state.wy.us/lmi>



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# Sources of Education, Training, and Financial Aid

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Education can present opportunities for those looking to start a new career or change specialty within their current occupation. This section outlines some major sources of education and training required to enter many occupations, as well as some ways to finance that education or training.

For information on the specific training and educational requirements for a particular occupation, and what training is typically provided by an employer, consult the “Training, Other Qualifications, and Advancement” section of the appropriate *Handbook* statement.

## Sources of Education and Training

**Four-year colleges and universities.** These institutions provide detailed information on theory and practice for a wide variety of subjects. Colleges and universities can provide students with the knowledge and background necessary to be successful in many fields. They also can help to place students in cooperative education programs (often called “co-ops”) or internships. Co-ops and internships are short-term jobs with firms related to a student’s field of study that lead to college credit. In co-ops and internships, students learn the specifics of a job while making valuable contacts that can lead to a permanent position.

For more information on colleges and universities, go to your local library, consult your high school guidance counselor, or contact individual colleges. Also check with your State’s higher education agency. A list of these agencies is available on the Internet: <http://www.ed.gov/erod>.

**Junior and community colleges.** Junior and community colleges offer a variety of programs that lead to associate degrees and training certificates. Community colleges tend to be less expensive than 4-year colleges and universities. They usually are more willing to accommodate part-time students than colleges and universities, and their programs are more tailored to the needs of local employers. Many community colleges have an open admissions policy, and they often offer weekend and night classes.

Community colleges often form partnerships with local businesses that allow students to gain job-specific training. Many students may not be able to enroll in a college or university because of their academic record, limited finances, or distance from such an institution, so they attend junior or community colleges to earn credits that can be applied toward a degree at a 4-year college. Junior and community colleges also are noted for their extensive role in continuing and adult education.

For more information on junior and community colleges, go to your local library, consult your high school guidance counselor, or contact individual schools. Also check with your State’s higher education agency. A list of these agencies is available on the Internet: <http://www.ed.gov/erod>.

**Online colleges and universities.** Online colleges and universities cover most of the same material as their traditional

classroom counterparts, but they offer classes over the Internet. Offering classes on the Internet provides a great deal of flexibility to students, allowing many who work, travel frequently, or lack the ability or means to attend a traditional university to earn a degree from an accredited institution.

A prospective student should talk to a guidance counselor or advisor before deciding to enroll in an online college or university. Additionally, the prospective student should check the college or university’s accreditation with the U.S. Department of Education. This can be done online at: <http://ope.ed.gov/accreditation>.

**Vocational and trade schools.** These institutions train people in specific trades. They offer courses designed to provide hands-on experience. Vocational and trade schools tend to concentrate on trades, services, and other types of skilled work.

Vocational and trade schools frequently engage students in real-world projects, allowing them to apply field methods while learning theory in classrooms. Graduates of vocational and trade schools have an advantage over informally trained or self-trained jobseekers because graduates have an independent organization certifying that they have the knowledge, skills, and abilities necessary to perform the duties of a particular occupation. These schools also help students to acquire any license or other credentials needed to enter the job market.

For more information on vocational and trade schools, go to your local library, consult your high school guidance counselor, or contact individual schools. Also check with your State’s director of vocational-technical education. A list of State directors of vocational-technical education is available on the Internet: <http://www.ed.gov/erod>.

**Apprenticeships.** An apprenticeship provides work experience as well as education and training for people entering certain occupations. Apprenticeships are offered by sponsors, who employ and train the apprentice. The apprentice follows a training course under close supervision and receives some formal education to learn the theory related to the job.

Apprenticeships, which generally last between 1 and 4 years, are a way for inexperienced people to become skilled workers. Some apprenticeships allow the apprentice to earn an associate degree. An *Apprenticeship Completion Certificate* is granted to those completing programs. This certificate is administered by federally approved State agencies.

For more information on apprenticeships and for assistance finding a program, go to the Office of Apprenticeship Training, Employer, and Labor Services on the Internet: [http://www.doleta.gov/atels\\_bat](http://www.doleta.gov/atels_bat).

**Professional societies, trade associations, and labor unions.** These groups are made up of people with common interests, usually in related occupations or industries. The groups frequently

are able to provide training, access to training through their affiliates, or information on acceptable sources of training for their field. If licensing or certification is required, they also may be able to assist you in meeting those requirements.

For a listing of professional societies, trade associations, and labor unions related to an occupation, check the “Sources of Additional Information” section at the end of that occupational statement in the *Handbook*.

**Employers.** Many employers provide on-the-job training, which can range from spending a few minutes watching another employee demonstrate a task to participating in formal training programs that may last for several months. In some jobs, employees may continually undergo training to stay up to date with new developments and technologies or to add new skills.

**Military.** The United States Armed Forces trains and employs people in more than 4,100 different occupations. For more information, see the *Handbook* statement on “Job Opportunities in The Armed Forces.” For detailed answers to specific questions, contact your local recruiting office. Valuable resources also are available on the Internet: <http://www.todaymilitary.com>.

### Sources of Financial Aid

Many people fund their education or training through financial aid or tuition assistance programs. Federal student aid comes in three forms: grants, work-study programs, and loans. All Federal student aid applicants must first fill out a Free Application for Federal Student Aid (FAFSA), which provides a Student Aid Report (SAR) and eligibility rating. Forms must be submitted to desired institutions of study, which determine the amount of aid you will receive.

For information on applying for Federal financial aid, visit the FAFSA Internet site: <http://www.fafsa.ed.gov>.

A U.S. Department of Education publication describing Federal financial aid programs, called *Funding Education Beyond High School: The Guide to Federal Student Aid*, is available at [http://www.studentaid.ed.gov/students/publications/student\\_guide/index.html](http://www.studentaid.ed.gov/students/publications/student_guide/index.html).

Information on Federal programs is available from <http://www.studentaid.ed.gov> and [www.students.gov](http://www.students.gov).

Information on State programs is available from your State’s higher education agency. A list of these agencies is available at <http://www.ed.gov/erod>.

**Grants.** A grant is money that is given to students or the institution they are attending to pay for the student’s education or training and any associated expenses. Grants are usually given on the basis of financial need. Grants are considered gifts and are not paid back. Federal grants are almost exclusively for undergraduate students. They include Pell Grants, which can be worth up to \$5,350 annually. The maximum amount given out can change each year, however. Federal Supplemental Educational Opportunity Grants (FSEOG) can be worth up to \$4,000 annually. Priority for FSEOG awards is given to those who have also received the Pell Grant and have exceptional financial need.

Additional information on grants is available on the Internet: <http://www.studentaid.ed.gov>. Information also is available from your State Higher Education agency. A list of these agencies is available at <http://www.ed.gov/erod>.

**Federal Work-Study program.** The Federal Work-Study program is offered at most institutions and consists of Federal sponsorship of a student who works part time at the institution he or she is attending. The money a student earns through this program goes directly toward the cost of attending the institution. There are no set minimum or maximum amounts for this type of aid, although, on average, a student can expect to earn about \$2,000 per school year.

For additional information on work-study opportunities offered, check with individual institutions. General information on the Federal Work-Study program is available at <http://studentaid.ed.gov/PORTALSWebApp/students/english/campusaid.jsp>.

**Scholarships.** A scholarship is a sum of money donated to a student to help pay for his or her education or training and any associated costs. Scholarships can range from small amounts up to the full cost of schooling. They are based on financial need, academic merit, athletic ability, or a wide variety of other criteria set by the organizations that provide the scholarships. Frequently, students must meet minimum academic requirements to be considered for a scholarship. Other qualifying requirements—such as intended major field of study, heritage, or group membership—may be added by the organization providing the scholarship.

Scholarships are provided by a wide variety of institutions, including educational institutions, State and local governments, private associations, social groups, and individuals. There are no federally awarded scholarships based on academic merit. Most large scholarships are awarded to students by the institution they plan to attend. Students who have received State scholarships and plan to attend a school in another State should check with their State to see if the scholarship can be transferred.

Information on scholarships is typically available from high school guidance counselors and local libraries. Additional scholarship information is available from State higher education agencies. A list of these agencies is available at <http://www.ed.gov/erod>. The College Board has information on available scholarships at <http://www.collegeboard.com/pay>.

**Student loans.** Many institutions, both public and private, provide low-interest loans to students and their parents or guardians. The Federal Government also provides several types of student loans based on the applicant’s level of financial need. The amount of money a student can receive in loans varies by the distributing institution and depends on whether the student is claimed by a parent or guardian as a dependent. Since the process of applying for a loan may take several months, it is a good idea to start applying for Federal student loans well in advance.

The available Federal loan programs can accommodate prospective undergraduate, graduate, vocational, and disabled students. Federal loans can be distributed through the school that the student is attending, from the Federal Government

directly, or from a third-party private lender or bank. Perkins loans are distributed through the school the student is attending. Loans coming from the Federal Government directly from the William D. Ford Federal Direct Loan Program are dispersed by the Department of Education. Third-party loans through a private lender or bank are from the Federal Family Education Loan (FFEL) program. For all federally funded loans, payments are made to the institution that originally dispersed the funds.

For those with financial need, Federal Perkins loans and both Direct and FFEL-subsidized Stafford loans are available. Perkins loans have no minimum amount; they are capped at \$5,500 per year for undergraduates. Students should visit the Department of Education's Web site (<http://www.studentaid.ed.gov/PORTALSWebApp/students/english/fafsa.jsp>) to learn about the current level of aid available because it will vary by year and a student's status (married, single, dependent, or independent). Subsidized Stafford loans vary in size and can increase as a student completes more years of undergraduate, graduate, or professional education. Interest rates for both loans will be gradually decreasing until 2012. Information on specific interest rates is available through the school's financial aid officer or the Department of Education's Web site. Individuals who receive Perkins loans are not responsible for starting to repay the loan until they have been out of school for 9 months. Those with subsidized Stafford loans must begin payments within 6 to 9 months of leaving school but are not charged monthly interest while in school.

For those who do not demonstrate financial need, Direct and FFEL-unsubsidized Stafford Loans and Federal Parent Loans for Students (PLUS) are available. Unsubsidized Stafford loans vary in value and are capped at the cost of attendance. With Federal unsubsidized Stafford Loans, interest payments start

almost immediately and can be paid monthly or accrued until the completion of studies. The latter option results in a larger total loan cost but may be more convenient for some students. With PLUS loans, the parent must pay interest and principal payments while the student is enrolled in school and must continue payments after completion. Check with your lender for available repayment schedules. Students usually have 10 years to repay Perkins loans and from 10 to 30 years for unsubsidized Stafford loans.

Subsidized and unsubsidized Stafford loans are only available to students who are enrolled in an academic program at least half time. As with any loan, be sure to investigate different lenders, and understand what your loan contract requires of you before agreeing to any loan. Check with established financial institutions to compare the terms of available private student loans. Comparisons of the various types of loans are available on the Internet: [http://www.studentaid.ed.gov/students/publications/student\\_guide/index.html](http://www.studentaid.ed.gov/students/publications/student_guide/index.html). The College Board has information on available loans at <http://www.collegeboard.com/pay>.

***Employer tuition support programs.*** Some employers offer tuition assistance programs as part of their employee benefits package. The terms of these programs depend on the firm and can vary by the type and amount of training subsidized, as well as by eligibility requirements. Consult your human resources department for information on tuition support programs offered by your employer.

***Military tuition support programs.*** The United States Armed Forces offer various tuition assistance and loan repayment programs for military personnel. See the *Handbook* statement on "Job Opportunities in the Armed Forces" for more information, or go to <http://www.todaymilitary.com/benefits/tuition-support>.

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# Finding and Applying for Jobs and Evaluating Offers

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Finding—and getting—the job you want can be a challenging process, but knowing more about job search methods and application techniques can increase your chances of success. And knowing how to judge the job offers you receive makes it more likely that you will end up with the best possible job.

## Where to learn about job openings

Personal contacts  
School career planning and placement offices  
Employers  
Classified ads  
—National and local newspapers  
—Professional journals  
—Trade magazines  
Internet resources  
Professional associations  
Labor unions  
State employment service offices  
Federal Government  
Community agencies  
Private employment agencies and career consultants  
Internships

## Job search methods

Finding a job can take months of time and effort. But you can speed the process by using many methods to find job openings. Data from the Bureau of Labor Statistics suggest that people who use many job search methods find jobs faster than people who use only one or two.

In the box above, some sources of job openings are listed. Those sources are described more fully below.

**Personal contacts.** Many jobs are never advertised. People get them by talking to friends, family, neighbors, acquaintances, teachers, former coworkers, and others who know of an opening. Be sure to tell people that you are looking for a job because the people you know may be some of the most effective resources for your search. To develop new contacts, join student, community, or professional organizations.

**School career planning and placement offices.** High school and college placement services help their students and alumni find jobs. Some invite recruiters to use their facilities for interviews or career fairs. They also may have lists of open jobs. Most also offer career counseling, career testing, and job search advice. Some have career resource libraries; host workshops on job search strategy, resume writing, letter writing, and effective interviewing; critique drafts of resumes; conduct mock interviews; and sponsor job fairs.

**Employers.** Directly contacting employers is one of the most successful means of job hunting. Through library and Internet research, develop a list of potential employers in your desired career field. Then call these employers and check their Web sites for job openings. Web sites and business directories can tell you how to apply for a position or whom to contact. Even if no open positions are posted, do not hesitate to contact the employer: You never know when a job might become available. Consider asking for an informational interview with people working in the career you want to learn more about. Ask them how they got started, what they like and dislike about the work, what type of qualifications are necessary for the job, and what type of personality succeeds in that position. In addition to giving you career information, they may be able to put you in contact with other employers who may be hiring, and they can keep you in mind if a position opens up.

**Classified ads.** The “Help Wanted” ads in newspapers and the Internet list numerous jobs, and many people find work by responding to these ads. But when using classified ads, keep the following in mind:

- Follow all leads to find a job; do not rely solely on the classifieds.
- Answer ads promptly, because openings may be filled quickly, even before the ad stops appearing in the paper.
- Read the ads every day, particularly the Sunday edition, which usually includes the most listings.
- Keep a record of all ads to which you have responded, including the specific skills, educational background, and personal qualifications required for the position. You may want to follow up on your initial inquiry.

**Internet resources.** The Internet includes many job hunting Web sites with job listings. Some job boards provide National listings of all kinds; others are local. Some relate to a specific type of work; others are general. To find good prospects, begin with an Internet search using keywords related to the job you want. Also look for the Web sites of related professional associations.

Also consider checking Internet forums, also called message boards. These are online discussion groups where anyone may post and read messages. Use forums specific to your profession or to career-related topics to post questions or messages and to read about the job searches or career experiences of other people. Although these message boards may seem helpful, carefully evaluate all advice before acting; it can be difficult to determine the reliability of information posted on message boards.

In online job databases, remember that job listings may be posted by field or discipline, so begin your search using keywords. Many Web sites allow job seekers to post their resumes online for free.



**Professional associations.** Many professions have associations that offer employment information, including career planning, educational programs, job listings, and job placement. Information can be obtained directly from most professional associations through the Internet, by telephone, or by mail. Associations usually require that you be a member to use these services.

**Labor unions.** Labor unions provide various employment services to members and potential members, including apprenticeship programs that teach a specific trade or skill. Contact the appropriate labor union or State apprenticeship council for more information.

**State employment service offices.** The State employment service, sometimes called the Job Service, operates in coordination with the U.S. Department of Labor's Employment and Training Administration. Local offices, found nationwide, help job seekers to find jobs and help employers to find qualified workers at no cost to either. To find the office nearest you, look in the State government telephone listings under "Job Service" or "Employment."

**Job matching and referral.** At the State employment service office, an interviewer will determine if you are "job ready" or if you need help from counseling and testing services to assess your occupational aptitudes and interests and to help you choose and prepare for a career. After you are job ready, you may examine available job listings and select openings that interest you. A staff member can then describe the job openings in detail and arrange for interviews with prospective employers.

**Services for special groups.** By law, veterans are entitled to priority job placement at State employment service centers. If you are a veteran, a veterans' employment representative can inform you of available assistance and help you to deal with problems.

State employment service offices also refer people to opportunities available under the Workforce Investment Act (WIA) of 1998. Educational and career services and referrals are provided to employers and job seekers, including adults, dislocated workers, and youth. These programs help to prepare people to participate in the State's workforce, increase their employment and earnings potential, improve their educational and occupational skills, and reduce their dependency on welfare.

**Federal Government.** Information on obtaining a position with the Federal Government is available from the U.S. Office of Personnel Management (OPM) through USAJOBS, the Federal Government's official employment information system. This resource for locating and applying for job opportunities can be accessed through the Internet at <http://www.usajobs.gov> or through an interactive voice response telephone system at (703) 724-1850, (866) 204-2858, or TDD (978) 461-8404. These numbers are not all toll free, and telephone charges may result.

**Community agencies.** Many nonprofit organizations, including religious institutions and vocational rehabilitation agencies, offer counseling, career development, and job placement services, generally targeted to a particular group, such as women, youths, minorities, ex-offenders, or older workers.

**Private employment agencies and career consultants.** Private agencies can save you time and they will contact employers who otherwise might be difficult to locate. Such agencies may be called

recruiters, head hunters, or employment placement agencies. These agencies may charge for their services. Most operate on a commission basis, charging a percentage of the first-year salary paid to a successful applicant. You or the hiring company will pay the fee. Find out the exact cost and who is responsible for paying associated fees before using the service. When determining if the service is worth the cost, consider any guarantees that the agency offers.

**Internships.** Many people find jobs with business and organizations with whom they have interned or volunteered. Look for internships and volunteer opportunities on job boards, school career centers, and company and association Web sites, but also check community service organizations and volunteer opportunity databases. Some internships and long-term volunteer positions come with stipends and all provide experience and the chance to meet employers and other good networking contacts.

### Applying for a job

After you have found some jobs that interest you, the next step is to apply for them. Many potential employers require complete resumes or application forms and cover letters. Later, you will probably need to go on interviews to meet with employers face to face.

**Resumes and application forms.** Resumes and application forms give employers written evidence of your qualifications and skills. The goal of these documents is to prove—as clearly and directly as possible—how your qualifications match the job's requirements. Do this by highlighting the experience, accomplishments, education, and skills that most closely fit the job you want.

**Gathering information.** Resumes and application forms both include the same information. As a first step, gather the following facts:

- Contact information, including your name, mailing address, e-mail address (if you have one you check often), and telephone number.
- Type of work or specific job you are seeking or a qualifications summary, which describes your best skills and experience in just a few lines.
- Education, including school name and its city and State, months and years of attendance, highest grade completed or diploma or degree awarded, and major subject or subjects studied. Also consider listing courses and awards that might be relevant to the position. Include a grade point average if you think it would help in getting the job.
- Experience, paid and volunteer. For each job, include the job title, name and location of employer, and dates of employment. Briefly describe your job duties and major accomplishments. In a resume, use phrases instead of sentences to describe your work; write, for example, "Supervised 10 children" instead of writing "I supervised 10 children."
- Special skills. You might list computer skills, proficiency in foreign languages, achievements, or membership in organizations in a separate section.
- References. Be ready to provide references if requested. Good references could be former employers, coworkers, or teachers or anyone else who can describe your abilities and job-related traits. You will be asked to provide contact information for the people you choose.

Throughout the application or resume, focus on accomplishments that relate most closely to the job you want. You can even use the job announcement as a guide, using some of the same words and phrases to describe your work and education.

Look for concrete examples that show your skills. When describing your work experience, for instance, you might say that you increased sales by 10 percent, finished a task in half the usual time, or received three letters of appreciation from customers.

**Choosing a format.** After gathering the information you want to present, the next step is to put it in the proper format. In an application form, the format is set. Just fill in the blanks. But make sure you fill it out completely and follow all instructions. Do not omit any requested information. Consider making a copy of the form before filling it out, in case you make a mistake and have to start over. If possible, have someone else look over the form before submitting it.

In a resume, there are several acceptable ways of organizing the information you want to include. It is common to place the most important information first. One format is to list the applicant's past jobs in reverse chronological order, describing the most recent employment first and working backward. But some applicants use a functional format, organizing their work experience under headings that describe their major skills. They then include a brief work history section that lists only job titles, employers, and dates of employment. Still other applicants choose a format that combines these two approaches in some way. Choose the style that best showcases your skills and experience. Examples of resume formats can be found on the Web sites of career centers, job boards, and State employment services.

Whatever format you choose, keep your resume short. Many experts recommend that new workers use a one-page resume. Avoid long blocks of text and italicized material. Consider using bullets to highlight duties or key accomplishments.

Before submitting your resume, make sure that it is easy to read. Are the headings clear and consistently formatted with bold or some other style of type? Is the type face large enough? Much like application forms, it is useful to ask someone to proofread your resume for spelling and other errors. In addition, use your computer's spell checker.

Keep in mind that some employers scan resumes into databases, which they then search for specific keywords or phrases. The keywords are usually nouns referring to experience, education, personal characteristics, or industry buzz words. Identify keywords by reading the job description and qualifications in the job ad; use these same words in your resume. For example, if the job description includes customer service tasks, use the words "customer service" on your resume. Scanners sometimes misread paper resumes, which could mean some of your keywords don't get into the database. So, if you know that your resume will be scanned, and you have the option, e-mail an electronic version. If you must submit a paper resume, make it scannable by using a simple font and avoiding underlines, italics, and graphics. It is also a good idea to send a traditionally formatted resume along with your scannable resume, with a note on each marking its purpose.

**Cover letters.** When sending a resume, most people include a cover letter to introduce themselves to the prospective employer.

Most cover letters are no more than three short paragraphs. Your cover letter should capture the employer's attention, follow a business letter format, and usually should include the following information:

- Name and address of the specific person to whom the letter is addressed.
- Reason for your interest in the company or position.
- Your main qualifications for the position.
- Request for an interview.
- Your home and work telephone numbers.

If you send a scannable resume, you should also include a scannable cover letter, which avoids graphics, fancy fonts, italics, and underlines.

As with your resume, it may be helpful to look for examples and common formats of cover letters on the Internet or in books at your local library or bookstore, but do not copy letters directly from other sources.

**Interviewing.** An interview gives you the opportunity to showcase your qualifications to an employer, so it pays to be well prepared. The accompanying box provides some helpful hints.

### Job interview tips

#### Preparation:

- Learn about the organization.
- Have a specific job or jobs in mind.
- Review your qualifications for the job.
- Be ready to briefly describe your experience, showing how it relates to the job.
- Be ready to answer broad questions, such as "Why should I hire you?" "Why do you want this job?" "What are your strengths and weaknesses?"
- Practice an interview with a friend or relative.

#### Personal appearance:

- Be well groomed.
- Dress appropriately.
- Do not chew gum or smoke.

#### The interview:

- Be early.
- Learn the name of your interviewer and greet him or her with a firm handshake.
- Use good manners with everyone you meet.
- Relax and answer each question concisely.
- Use proper English—avoid slang.
- Be cooperative and enthusiastic.
- Use body language to show interest—use eye contact and don't slouch.
- Ask questions about the position and the organization, but avoid questions whose answers can easily be found on the company Web site.
- Also avoid asking questions about salary and benefits unless a job offer is made.
- Thank the interviewer when you leave and shake hands.
- Send a short thank you note following the interview.

**Information to bring to an interview:**

- Social Security card.
- Government-issued identification (driver's license).
- Resume or application. Although not all employers require a resume, you should be able to furnish the interviewer information about your education, training, and previous employment.
- References. Employers typically require three references. Get permission before using anyone as a reference. Make sure that they will give you a good reference. Try to avoid using relatives as references.
- Transcripts. Employers may require an official copy of transcripts to verify grades, coursework, dates of attendance, and highest grade completed or degree awarded.

**Evaluating a job offer**

Once you receive a job offer, you must decide if you want the job. Fortunately, most organizations will give you a few days to accept or reject an offer.

There are many issues to consider when assessing a job offer. Will the organization be a good place to work? Will the job be interesting? Are there opportunities for advancement? Is the salary fair? Does the employer offer good benefits? Now is the time to ask the potential employer about these issues—and to do some checking on your own.

**The organization.** Background information on an organization can help you to decide whether it is a good place for you to work. Factors to consider include the organization's business or activity, financial condition, age, size, and location.

You generally can get background information on an organization, particularly a large organization, on its Web site or by telephoning its public relations office. A public company's annual report to the stockholders tells about its corporate philosophy, history, products or services, goals, and financial status. Most government agencies can furnish reports that describe their programs and missions. Press releases, company newsletters or magazines, and recruitment brochures also can be useful. Ask the organization for any other items that might interest a prospective employee. If possible, speak to current or former employees of the organization.

Background information on the organization may be available at your public or school library. If you cannot get an annual report, check the library for reference directories that may provide basic facts about the company, such as earnings, products and services, and number of employees. Some directories widely available in libraries either in print or as online databases include:

- *Dun & Bradstreet's Million Dollar Directory*
- *Standard and Poor's Register of Corporations*
- *Mergent's Industry Review* (formerly *Moody's Industrial Manual*)
- *Thomas Register of American Manufacturers*
- *Ward's Business Directory*

Stories about an organization in magazines and newspapers can tell a great deal about its successes, failures, and plans for

the future. You can identify articles on a company by looking under its name in periodical or computerized indexes in libraries, or by using one of the Internet's search engines. However, it probably will not be useful to look back more than 2 or 3 years.

The library also may have government publications that present projections of growth for the industry in which the organization is classified. Long-term projections of employment and output for detailed industries, covering the entire U.S. economy, are developed by the Bureau of Labor Statistics and revised every 2 years. (See the *Career Guide to Industries*, online at <http://www.bls.gov/oco/cg>.) Trade magazines also may include articles on the trends for specific industries.

Career centers at colleges and universities often have information on employers that is not available in libraries. Ask a career center representative how to find out about a particular organization.

During your research consider the following questions:

**Does the organization's business or activity match your own interests and beliefs?**

It is easier to apply yourself to the work if you are enthusiastic about what the organization does.

**How will the size of the organization affect you?**

Large firms generally offer a greater variety of training programs and career paths, more managerial levels for advancement, and better employee benefits than do small firms. Large employers also may have more advanced technologies. However, many jobs in large firms tend to be highly specialized.

Jobs in small firms may offer broader authority and responsibility, a closer working relationship with top management, and a chance to clearly see your contribution to the success of the organization.

**Should you work for a relatively new organization or one that is well established?**

New businesses have a high failure rate, but for many people, the excitement of helping to create a company and the potential for sharing in its success more than offset the risk of job loss. However, it may be just as exciting and rewarding to work for a young firm that already has a foothold on success.

**The job.** Even if everything else about the job is attractive, you will be unhappy if you dislike the day-to-day work. Determining in advance whether you will like the work may be difficult. However, the more you find out about the job before accepting or rejecting the offer, the more likely you are to make the right choice. Consider the following questions:

**Where is the job located?**

If the job is in another section of the country, you need to consider the cost of living, the availability of housing and transportation, and the quality of educational and recreational facilities in that section of the country. Even if the job location is in your area, you should consider the time and expense of commuting.

**Does the work match your interests and make good use of your skills?**

The duties and responsibilities of the job should be explained in enough detail to answer this question.



### **How important is the job to the company or organization?**

An explanation of where you fit in the organization and how you are supposed to contribute to its overall goals should give you an idea of the job's importance.

### **What will the hours be?**

Most jobs involve regular hours—for example, 40 hours a week, during the day, Monday through Friday. Other jobs require night, weekend, or holiday work. In addition, some jobs routinely require overtime to meet deadlines or sales or production goals, or to better serve customers. Consider the effect that the work hours will have on your personal life.

### **How long do most people who enter this job stay with the company?**

High turnover can mean dissatisfaction with the nature of the work or something else about the job.

**Opportunities offered by employers.** A good job offers you opportunities to learn new skills, increase your earnings, and rise to positions of greater authority, responsibility, and prestige. A lack of opportunities can dampen interest in the work and result in frustration and boredom.

Some companies develop training plans for their employees. What valuable new skills does the company plan to teach you?

The employer should give you some idea of promotion possibilities within the organization. What is the next step on the career ladder? If you have to wait for a job to become vacant before you can be promoted, how long does this usually take? When opportunities for advancement do arise, will you compete with applicants from outside the company? Can you apply for jobs for which you qualify elsewhere within the organization, or is mobility within the firm limited?

**Salaries and benefits.** When an employer makes a job offer, information about earnings and benefits are usually included. You will want to research to determine if the offer is fair. If you choose to negotiate for higher pay and better benefits, objective research will help you strengthen your case.

You may have to go to several sources for information. One of the best places to start is the information from the Bureau of Labor Statistics. Data on earnings by detailed occupation from the Occupational Employment Statistics (OES) Survey are available from:

► Bureau of Labor Statistics, Office of Occupational Statistics and Employment Projections, 2 Massachusetts Ave. NE., Room 2135, Washington, DC 20212-0001. Telephone: (202) 691-6569. Internet: <http://www.bls.gov/OES>.

Data from the Bureau's National Compensation Survey are available from:

► Bureau of Labor Statistics, Office of Compensation Levels and Trends, 2 Massachusetts Ave. NE., Room 4175, Washington, DC 20212-0001. Telephone: (202) 691-6199. Internet: <http://www.bls.gov/eci>.

You should also look for additional information, specifically tailored to your job offer and circumstances. Try to find family, friends, or acquaintances who recently were hired in similar jobs. Ask your teachers and the staff in placement offices about starting pay for graduates with your qualifications. Help-wanted ads in newspapers sometimes give salary ranges for similar positions. Check the library or your school's career center for salary surveys such as those conducted by the National Association of Colleges and Employers or various professional associations.

If you are considering the salary and benefits for a job in another geographic area, make allowances for differences in the cost of living, which may be significantly higher in a large metropolitan area than in a smaller city, town, or rural area.

You also should learn the organization's policy regarding overtime. Depending on the job, you may or may not be exempt from laws requiring the employer to compensate you for overtime. Find out how many hours you will be expected to work each week and whether you receive overtime pay or compensatory time off for working more than the specified number of hours in a week.

Also take into account that the starting salary is just that—the start. Your salary should be reviewed on a regular basis; many organizations do it every year. How much can you expect to earn after 1, 2, or 3 or more years? An employer may be unable to be specific about the amount of pay if it includes commissions and bonuses.

Benefits also can add a lot to your base pay, but they vary widely. Find out exactly what the benefit package includes and how much of the cost you must bear.

### **For more information**

To learn more about finding and applying for jobs, visit your local library and career center. You can find career centers that are part of the U.S. Department of Labor One-Stop Career system by calling toll free (877) 348-0502 or visiting their Web site at <http://www.careeronestop.org>.

The *Occupational Outlook Quarterly*, a career magazine published by the Bureau of Labor Statistics, is one of the resources available at many libraries and career centers. The magazine includes many articles about finding, applying for, and choosing jobs. See, for example:

- "Career myths and how to debunk them," online at <http://www.bls.gov/opub/ooq/2005/fall/art01.pdf>.
- "Getting back to work: Returning to the labor force after an absence," online at <http://www.bls.gov/opub/ooq/2004/winter/art03.pdf>.
- "Job search in the age of the Internet: Six job seekers in search of employers," online at <http://www.bls.gov/opub/ooq/2003/summer/art01.pdf>.
- "Internships: Previewing a profession," online at <http://www.bls.gov/opub/ooq/2006/summer/art02.pdf>.
- "Resumes, applications, and cover letters," online at <http://www.bls.gov/opub/ooq/2009/summer/art03.pdf>.