

Management, Business, and Financial Occupations



Reprinted from the
Occupational Outlook Handbook, 2004-05 Edition

U.S. Department of Labor
Bureau of Labor Statistics



Occupations Included in this Reprint

Accountants and auditors
Administrative services managers
Advertising, marketing, promotions,
public relations, and sales managers
Budget analysts
Claims adjusters, appraisers,
examiners, and investigators
Computer and information systems managers
Construction managers
Cost estimators
Education administrators
Engineering and natural sciences managers
Farmers, ranchers, and agricultural managers
Financial analysts and personal financial advisors
Financial managers
Food service managers
Funeral directors
Human resources, training, and labor
relations managers and specialists
Industrial production managers
Insurance underwriters
Loan counselors and officers
Lodging managers
Management analysts
Medical and health services managers
Property, real estate, and community
association managers
Purchasing managers, buyers,
and purchasing agents
Tax examiners, collectors, and revenue agents
Top executives

Accountants and Auditors

(0*NET 13-2011.01, 13-2011.02)

Significant Points

- Most jobs require at least a bachelor's degree in accounting or a related field.
- Overall job opportunities should be favorable, although jobseekers who obtain professional recognition through certification or licensure, a master's degree, proficiency in accounting and auditing computer software, or specialized expertise will have an advantage.
- An increase in the number of businesses, changing financial laws and regulations, and increased scrutiny of company finances will drive growth of accountants and auditors.

Nature of the Work

Accountants and auditors help to ensure that the Nation's firms are run efficiently, its public records kept accurately, and its taxes paid properly and on time. They perform these vital functions by offering an increasingly wide array of business and accounting services to their clients. These services include public, management, and government accounting, as well as internal auditing. Beyond the fundamental tasks of the occupation—preparing, analyzing, and verifying financial documents in order to provide information to clients—many accountants now are required to possess a wide range of knowledge and skills. Accountants and auditors are broadening the services they offer to include budget analysis, financial and investment planning, information technology consulting, and limited legal services.

Specific job duties vary widely among the four major fields of accounting: *public, management, government, and internal.*

Public accountants perform a broad range of accounting, auditing, tax, and consulting activities for their clients, who may be corporations, governments, nonprofit organizations, or individuals. For example, some public accountants concentrate on tax matters, such as advising companies of the tax advantages and disadvantages of certain business decisions and preparing individual income tax returns. Others offer advice in areas such as compensation or employee healthcare benefits, the design of accounting and data-processing systems, and the selection of controls to safeguard assets. Still others audit clients' financial statements and report to investors and authorities that the statements have been correctly prepared and reported. Public accountants, many of whom are Certified Public Accountants (CPAs), generally have their own businesses or work for public accounting firms.

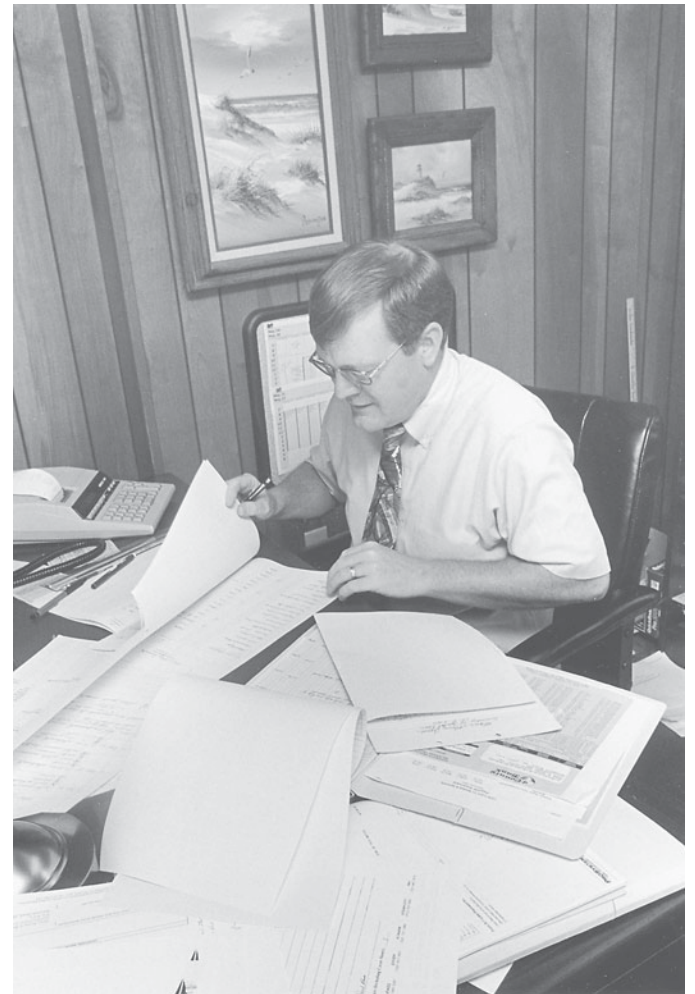
Some public accountants specialize in forensic accounting—investigating and interpreting white collar crimes such as securities fraud and embezzlement, bankruptcies and contract disputes, and other complex and possibly criminal financial transactions, such as money laundering by organized criminals. Forensic accountants combine their knowledge of accounting and finance with law and investigative techniques in order to determine if illegal activity is going on. Many forensic accountants work closely with law enforcement personnel and lawyers during investigations and often appear as expert witnesses during trials.

In response to the recent accounting scandals, new Federal legislation restricts the nonauditing services that public accountants can provide to clients. If an accounting firm audits a client's finan-

cial statements, that same firm cannot provide advice in the areas of human resources, technology, investment banking, or legal matters, although accountants may still advise on tax issues, such as establishing a tax shelter. Accountants may still advise other clients in these areas, or may provide advice within their own firm.

Management accountants—also called cost, managerial, industrial, corporate, or private accountants—record and analyze the financial information of the companies for which they work. Other responsibilities include budgeting, performance evaluation, cost management, and asset management. Usually, management accountants are part of executive teams involved in strategic planning or new-product development. They analyze and interpret the financial information that corporate executives need to make sound business decisions. They also prepare financial reports for nonmanagement groups, including stockholders, creditors, regulatory agencies, and tax authorities. Within accounting departments, they may work in various areas, including financial analysis, planning and budgeting, and cost accounting.

Government accountants and auditors work in the public sector, maintaining and examining the records of government agencies and auditing private businesses and individuals whose activities are subject to government regulations or taxation. Accountants employed by Federal, State, and local governments guarantee that revenues are received and expenditures are made in accordance with laws and regulations. Those who are employed by the Federal Government may work as Internal Revenue Service agents or in financial



Accountants and auditors carefully analyze financial data and prepare financial reports and tax returns for clients.

management, financial institution examination, or budget analysis and administration.

Internal auditors verify the accuracy of their organization's internal records and check for mismanagement, waste, or fraud. Internal auditing is an increasingly important area of accounting and auditing. Internal auditors examine and evaluate their firms' financial and information systems, management procedures, and internal controls to ensure that records are accurate and controls are adequate to protect against fraud and waste. They also review company operations—evaluating their efficiency, effectiveness, and compliance with corporate policies and procedures, laws, and government regulations. There are many types of highly specialized auditors, such as electronic data-processing, environmental, engineering, legal, insurance premium, bank, and healthcare auditors. As computer systems make information timelier, internal auditors help managers to base their decisions on actual data, rather than personal observation. Internal auditors also may recommend controls for their organization's computer system to ensure the reliability of the system and the integrity of the data.

Computers are rapidly changing the nature of the work for most accountants and auditors. With the aid of special software packages, accountants summarize transactions in standard formats for financial records and organize data in special formats for financial analysis. These accounting packages greatly reduce the amount of tedious manual work associated with data management and recordkeeping. Computers enable accountants and auditors to be more mobile and to use their clients' computer systems to extract information from databases and the Internet. As a result, a growing number of accountants and auditors with extensive computer skills specialize in correcting problems with software or in developing software to meet unique data management and analytical needs. Accountants also are beginning to perform more technical duties, such as implementing, controlling, and auditing systems and networks, and developing technology plans and budgets.

Increasingly, accountants also are assuming the role of a personal financial advisor. They not only provide clients with accounting and tax help, but also help them develop personal budgets, manage assets and investments, plan for retirement, and recognize and reduce exposure to risks. This role is a response to client demands for a single trustworthy individual or firm to meet all of their financial needs. However, accountants are restricted from providing these services to clients whose financial statements they also prepare. (See financial analysts and personal financial advisors elsewhere in the *Handbook*.)

Working Conditions

Most accountants and auditors work in a typical office setting. Self-employed accountants may be able to do part of their work at home. Accountants and auditors employed by public accounting firms and government agencies may travel frequently to perform audits at branches of their firm, clients' places of business, or government facilities.

Most accountants and auditors generally work a standard 40-hour week, but many work longer hours, particularly if they are self-employed and have numerous clients. Tax specialists often work long hours during the tax season.

Employment

Accountants and auditors held about 1.1 million jobs in 2002. They worked throughout private industry and government, but 1 out of 5 wage and salary accountants worked for accounting, tax preparation, bookkeeping, and payroll services firms. Approximately 1 out of 10 accountants or auditors were self-employed.

Many accountants and auditors are unlicensed management accountants, internal auditors, or government accountants and auditors; however, a large number are licensed Certified Public Accountants. Most accountants and auditors work in urban areas, where public accounting firms and central or regional offices of businesses are concentrated.

Some individuals with backgrounds in accounting and auditing are full-time college and university faculty; others teach part time while working as self-employed accountants or employed as accountants for private industry or government. (Elsewhere in the *Handbook* see teachers—postsecondary.)

Training, Other Qualifications, and Advancement

Most accountant and auditor positions require at least a bachelor's degree in accounting or a related field. Beginning accounting and auditing positions in the Federal Government, for example, usually require 4 years of college (including 24 semester hours in accounting or auditing) or an equivalent combination of education and experience. Some employers prefer applicants with a master's degree in accounting, or with a master's degree in business administration with a concentration in accounting.

Previous experience in accounting or auditing can help an applicant get a job. Many colleges offer students an opportunity to gain experience through summer or part-time internship programs conducted by public accounting or business firms. In addition, practical knowledge of computers and their applications in accounting and internal auditing is a great asset for jobseekers in the accounting field.

Professional recognition through certification or licensure provides a distinct advantage in the job market. CPAs are licensed by a State Board of Accountancy. The vast majority of States require CPA candidates to be college graduates, but a few States substitute a number of years of public accounting experience for a college degree. As of early 2003, based on recommendations made by the American Institute of Certified Public Accountants (AICPA), 42 States and the District of Columbia required CPA candidates to complete 150 semester hours of college coursework—an additional 30 hours beyond the usual 4-year bachelor's degree. Another five States—Arizona, Minnesota, New Mexico, New York, and Virginia—have adopted similar legislation that will become effective between 2004 and 2009. Colorado, Delaware, New Hampshire, and Vermont are the only States that do not require 150 semester hours. Many schools have altered their curricula accordingly with most programs offering masters degrees as part of the 150 hours, and prospective accounting majors should carefully research accounting curricula and the requirements of any States in which they hope to become licensed.

All States use the four-part Uniform CPA Examination prepared by the AICPA. The 2-day CPA examination is rigorous, and only about one-quarter of those who take it each year passes every part they attempt. Candidates are not required to pass all four parts at once, but most States require candidates to pass at least two parts for partial credit and to complete all four sections within a certain period. Most States also require applicants for a CPA certificate to have some accounting experience. In May 2004, the CPA exam will become computerized and offered quarterly at various testing centers throughout the United States.

The AICPA also offers members with valid CPA certificates the option to receive the Accredited in Business Valuation (ABV), Certified Information Technology Professional (CITP), or Personal Financial Specialist (PFS) designations. The addition of these designations to the CPA distinguishes those accountants with a certain level of expertise in the nontraditional areas in which accountants

are practicing more frequently. The ABV designation requires a written exam, as well as completion of a minimum of 10 business valuation projects that demonstrate a candidate's experience and competence. The CITP requires payment of a fee, a written statement of intent, and the achievement of a set number of points awarded for business experience and education. Those who do not meet the required number of points may substitute a written exam. Candidates for the PFS designation also must achieve a certain level of points, based on experience and education, and must pass a written exam and submit references.

Nearly all States require CPAs and other public accountants to complete a certain number of hours of continuing professional education before their licenses can be renewed. The professional associations representing accountants sponsor numerous courses, seminars, group study programs, and other forms of continuing education.

Accountants and auditors also can seek to obtain other forms of credentials from professional societies on a voluntary basis. Voluntary certification can attest to professional competence in a specialized field of accounting and auditing. It also can certify that a recognized level of professional competence has been achieved by accountants and auditors who have acquired some skills on the job, without the formal education or public accounting work experience needed to meet the rigorous standards required to take the CPA examination.

The Institute of Management Accountants (IMA) confers the Certified Management Accountant (CMA) designation upon applicants who complete a bachelor's degree or attain a minimum score on specified graduate school entrance exams. Applicants, who must have worked at least 2 years in management accounting, also must pass a four-part examination, agree to meet continuing education requirements, and comply with standards of professional conduct. The CMA program is administered by the Institute of Certified Management Accountants, an affiliate of the IMA.

Graduates from accredited colleges and universities who have worked for 2 years as internal auditors and have passed a four-part examination may earn the Certified Internal Auditor (CIA) designation from the Institute of Internal Auditors (IIA). The IIA recently implemented three new specialty designations—Certification in Control Self—Assessment (CCSA), Certified Government Auditing Professional (CGAP), and Certified Financial Services Auditor (CFSA). Requirements are similar to those of the CIA. The Information Systems Audit and Control Association confers the Certified Information Systems Auditor (CISA) designation upon candidates who pass an examination and have 5 years of experience in auditing information systems. Auditing or data-processing experience and a college education may be substituted for up to 2 years of work experience in this program. For instance, an internal auditor might be a CPA, CIA, and CISA.

The Accreditation Council for Accountancy and Taxation, a satellite organization of the National Society of Public Accountants, confers three designations—Accredited Business Accountant (ABA), Accredited Tax Advisor (ATA), and Accredited Tax Preparer (ATP)—on accountants specializing in tax preparation for small- and medium-sized businesses. Candidates for the ABA must pass an exam, while candidates for the ATA and ATP must complete the required coursework and pass an exam. Often, a practitioner will hold multiple licenses and designations.

The Association of Government Accountants grants the Certified Government Financial Manager (CGFM) designation for accountants, auditors, and other government financial personnel at the Federal, State, and local levels. Candidates must have a minimum of a bachelor's degree, 24 hours of study in financial manage-

ment, and 2 years' experience in government, and must pass a series of three exams. The exams cover topics in governmental environment; governmental accounting, financial reporting, and budgeting; and financial management and control.

Persons planning a career in accounting should have an aptitude for mathematics and be able to analyze, compare, and interpret facts and figures quickly. They must be able to clearly communicate both written and verbally the results of their work to clients and managers. Accountants and auditors must be good at working with people, as well as with business systems and computers. At a minimum, accountants should be familiar with basic accounting software packages. Because financial decisions are made based on their statements and services, accountants and auditors should have high standards of integrity.

Capable accountants and auditors may advance rapidly; those having inadequate academic preparation may be assigned routine jobs and find promotion difficult. Many graduates of junior colleges and business and correspondence schools, as well as bookkeepers and accounting clerks who meet the education and experience requirements set by their employers, can obtain junior accounting positions and advance to positions with more responsibilities by demonstrating their accounting skills on the job.

Beginning public accountants usually start by assisting with work for several clients. They may advance to positions with more responsibility in 1 or 2 years, and to senior positions within another few years. Those who excel may become supervisors, managers, or partners; open their own public accounting firm; or transfer to executive positions in management accounting or internal auditing in private firms.

Management accountants often start as cost accountants, junior internal auditors, or trainees for other accounting positions. As they rise through the organization, they may advance to accounting manager, chief cost accountant, budget director, or manager of internal auditing. Some become controllers, treasurers, financial vice presidents, chief financial officers, or corporation presidents. Many senior corporation executives have a background in accounting, internal auditing, or finance.

In general, public accountants, management accountants, and internal auditors have much occupational mobility. Practitioners often shift into management accounting or internal auditing from public accounting, or between internal auditing and management accounting. However, it is less common for accountants and auditors to move from either management accounting or internal auditing into public accounting.

Job Outlook

Employment of accountants and auditors is expected to grow about as fast as the average for all occupations through the year 2012. An increase in the number of businesses, changing financial laws and regulations, and increased scrutiny of company finances will drive growth. In addition to openings resulting from growth, the need to replace accountants and auditors who retire or transfer to other occupations will produce numerous job openings in this large occupation.

As the economy grows, the number of business establishments will increase, requiring more accountants and auditors to set up books, prepare taxes, and provide management advice. As these businesses grow, the volume and complexity of information developed by accountants and auditors regarding costs, expenditures, and taxes will increase as well. Increased need for accountants and auditors will arise from changes in legislation related to taxes, financial reporting standards, business investments, mergers, and other financial matters. The growth of international business also has led

to more demand for accounting expertise and services related to international trade and accounting rules, as well as to international mergers and acquisitions. These trends should create more jobs for accountants and auditors.

As a result of the recent accounting scandals, Federal legislation was enacted to increase penalties, and make company executives personally responsible for falsely reporting financial information. These changes should lead to increased scrutiny of company finances and accounting procedures, and should create opportunities for accountants and auditors, particularly Certified Public Accountants, to more thoroughly audit financial records. In order to ensure finances comply with the law before public accountants conduct audits, management accountants and internal auditors will increasingly be needed to discover and eliminate fraud. And, in an effort to make government agencies more efficient and accountable, demand for government accountants should increase.

Increased awareness of financial crimes such as embezzlement, bribery, and securities fraud will also increase the demand for forensic accountants to detect illegal financial activity by individuals, companies, and organized crime rings. Computer technology has made these crimes easier to commit, and it is on the rise. But, development of new computer software and electronic surveillance technology has also made tracking down financial criminals easier, thus increasing the ease and likelihood that forensic accountants will discover their crimes. As success rates of investigations grow, demand will also grow for forensic accountants.

The changing role of accountants and auditors also will spur job growth, although this growth will be limited as a result of financial scandals. In response to demand, some accountants were offering more financial management and consulting services as they assumed a greater advisory role and developed more sophisticated accounting systems. Since Federal legislation now prohibits accountants from providing nontraditional services to clients whose books they audit, opportunities for accountants to do non-audit work could be limited. However, accountants will still be able to advise on other financial matters for clients that are not publicly traded companies, and for nonaudit clients, but growth in these areas will be slower than in the past. Also, due to the increasing popularity of tax preparation firms and computer software, accountants will shift away from tax preparation. As computer programs continue to simplify some accounting-related tasks, clerical staff will increasingly handle many routine calculations.

Overall, job opportunities for accountants and auditors should be favorable. After most States instituted the 150-hour rule for CPAs, enrollment in accounting programs declined; however, enrollment is slowly beginning to grow again as more students are attracted to the profession because of the attention from the accounting scandals. Those who pursue a CPA should have excellent job prospects. However, many accounting graduates are instead pursuing other certifications such as the CMA and CIA, so competition could be greater in management accounting and internal auditing than in public accounting. Regardless of specialty, accountants and auditors who have earned professional recognition through certification or licensure should have the best job prospects. Applicants with a master's degree in accounting, or a master's degree in business administration with a concentration in accounting, also will have an advantage. In the aftermath of the accounting scandals, professional certification is even more important in order to ensure that accountants' credentials and ethics are sound.

Proficiency in accounting and auditing computer software, or expertise in specialized areas such as international business, spe-

cific industries, or current legislation, may be helpful in landing certain accounting and auditing jobs. In addition, employers increasingly seek applicants with strong interpersonal and communication skills. Because many accountants work on teams with others from different backgrounds, they must be able to communicate accounting and financial information clearly and concisely. Regardless of one's qualifications, however, competition will remain keen for the most prestigious jobs in major accounting and business firms.

Earnings

In 2002, the median wage and salary annual earnings of accountants and auditors were \$47,000. The middle half of the occupation earned between \$37,210 and \$61,630. The top 10 percent of accountants and auditors earned more than \$82,730, and the bottom 10 percent earned less than \$30,320. In 2002, median annual earnings in the industries employing the largest numbers of accountants and auditors were:

Federal Government	\$51,070
Accounting, tax preparation, bookkeeping, and payroll services	49,520
Management of companies and enterprises	49,110
Local government	44,690
State government	42,680

According to a salary survey conducted by the National Association of Colleges and Employers, bachelor's degree candidates in accounting received starting offers averaging \$40,647 a year in 2003; master's degree candidates in accounting were initially offered \$42,241.

According to a 2003 salary survey conducted by Robert Half International, a staffing services firm specializing in accounting and finance, accountants and auditors with up to 1 year of experience earned between \$29,500 and \$40,500. Those with 1 to 3 years of experience earned between \$34,000 and \$49,500. Senior accountants and auditors earned between \$41,000 and \$61,500; managers earned between \$47,500 and \$78,750; and directors of accounting and auditing earned between \$66,750 and \$197,500 a year. The variation in salaries reflects differences in size of firm, location, level of education, and professional credentials.

In the Federal Government, the starting annual salary for junior accountants and auditors was \$23,442 in 2003. Candidates who had a superior academic record might start at \$29,037, while applicants with a master's degree or 2 years of professional experience usually began at \$35,519. Beginning salaries were slightly higher in selected areas where the prevailing local pay level was higher. Accountants employed by the Federal Government in nonsupervisory, supervisory, and managerial positions averaged \$69,370 a year in 2003; auditors averaged \$73,247.

Related Occupations

Accountants and auditors design internal control systems and analyze financial data. Others for whom training in accounting is valuable include budget analysts; cost estimators; loan officers; financial analysts and personal financial advisors; tax examiners, collectors, and revenue agents; bill and account collectors; and bookkeeping, accounting, and auditing clerks. Recently, accountants have assumed the role of management analysts and are involved in the design, implementation, and maintenance of accounting software systems. Others who perform similar work include computer programmers, computer software engineers, and computer support specialists and systems administrators.

Sources of Additional Information

Information on accredited accounting programs can be obtained from:

► AACSB International—Association to Advance Collegiate Schools of Business, 600 Emerson Rd., Suite 300, St. Louis, MO 63141. Internet: <http://www.aacsb.edu/accreditation/AccreditedMembers.asp>

Information about careers in certified public accounting and CPA standards and examinations may be obtained from:

► American Institute of Certified Public Accountants, 1211 Avenue of the Americas, New York, NY 10036. Internet: <http://www.aicpa.org>

Information on CPA licensure requirements by State may be obtained from:

► National Association of State Boards of Accountancy, 150 Fourth Ave. North, Suite 700, Nashville, TN 37219-2417. Internet: <http://www.nasba.org>

Information on careers in management accounting and the CMA designation may be obtained from:

► Institute of Management Accountants, 10 Paragon Dr., Montvale, NJ 07645-1760. Internet: <http://www.imanet.org>

Information on the Accredited in Accountancy, Accredited Business Accountant, Accredited Tax Advisor, or Accredited Tax Preparer designations may be obtained from:

► Accreditation Council for Accountancy and Taxation, 1010 North Fairfax St., Alexandria, VA 22314. Internet: <http://www.acatcredentials.org>

Information on careers in internal auditing and the CIA designation may be obtained from:

► The Institute of Internal Auditors, 247 Maitland Ave., Altamonte Springs, FL 32701-4201. Internet: <http://www.theiia.org>

Information on careers in information systems auditing and the CISA designation may be obtained from:

► Information Systems Audit and Control Association, 3701 Algonquin Rd., Suite 1010, Rolling Meadows, IL 60008. Internet: <http://www.isaca.org>

Information on careers in government accounting and the CGFM designation may be obtained from:

► Association of Government Accountants, 2208 Mount Vernon Ave., Alexandria, VA 22301. Internet: <http://www.agacgfm.org>

Information on obtaining an accounting or auditing position with the Federal Government is available from the U.S. Office of Personnel Management (OPM) through a telephone-based system. Consult your telephone directory under U.S. Government for a local number or call (703) 724-1850; Federal Relay Service: (800) 877-8339. The first number is not tollfree, and charges may result. Information also is available from the OPM Internet site: <http://www.usajobs.opm.gov>.

Administrative Services Managers

(0*NET 11-3011.00)

Significant Points

- Administrative services managers work in private industry and government and have a wide range of responsibilities, experience, earnings, and education.
- Applicants face keen competition due to the substantial supply of competent, experienced workers seeking managerial jobs.

Nature of the Work

Administrative services managers perform a broad range of duties in virtually every sector of the economy. They coordinate and direct support services to organizations as diverse as insurance companies, computer manufacturers, and government offices. These workers manage the many services that allow organizations to operate efficiently, such as secretarial and reception, administration, payroll, conference planning and travel, information and data processing, mail, materials scheduling and distribution, printing and reproduction, records management, telecommunications management, security, parking, and personal property procurement, supply, and disposal.

Specific duties for these managers vary by degree of responsibility and authority. First-line administrative services managers directly supervise a staff that performs various support services. Mid-level managers, on the other hand, develop departmental plans, set goals and deadlines, implement procedures to improve productivity and customer service, and define the responsibilities of supervisory-level managers. Some mid-level administrative services managers oversee first-line supervisors from various departments, including the clerical staff. Mid-level managers also may be involved in the hiring and dismissal of employees, but they generally have no role in the formulation of personnel policy. Some of these managers advance to upper level positions, such as vice president of administrative services, which are discussed in the *Handbook* statement on top executives.

In small organizations, a single administrative services manager may oversee all support services. In larger ones, however, first-line administrative services managers often report to mid-level managers who, in turn, report to owners or top-level managers. As the size of the firm increases, administrative services managers are more likely to specialize in specific support activities. For example, some administrative services managers work primarily as office managers, contract administrators, or unclaimed property officers. In many cases, the duties of these administrative services managers are similar to those of other managers and supervisors, some of which are discussed in other *Handbook* statements.

Because of the range of administrative services required by organizations, the nature of these managerial jobs also varies significantly. Administrative services managers who work as contract administrators, for instance, oversee the preparation, analysis, negotiation, and review of contracts related to the purchase or sale of equipment, materials, supplies, products, or services. In addition, some administrative services managers acquire, distribute, and

store supplies, while others dispose of surplus property or oversee the disposal of unclaimed property.

Administrative services managers who work as facility managers plan, design, and manage buildings and grounds in addition to people. They are responsible for coordinating the physical workplace with the people and work of an organization. This task requires integrating the principles of business administration, architecture, and behavioral and engineering science. Although the specific tasks assigned to facility managers vary substantially depending on the organization, the duties fall into several categories, relating to operations and maintenance, real estate, project planning and management, communication, finance, quality assessment, facility function, technology integration, and management of human and environmental factors. Tasks within these broad categories may include space and workplace planning, budgeting, purchase and sale of real estate, lease management, renovations, or architectural planning and design. Facility managers may suggest and oversee renovation projects for a variety of reasons, ranging from improving efficiency to ensuring that facilities meet government regulations and environmental, health, and security standards. Additionally, facility managers continually monitor the facility to ensure that it remains safe, secure, and well-maintained. Often, the facility manager is responsible for directing staff, including maintenance, grounds, and custodial workers.

Working Conditions

Administrative services managers generally work in comfortable offices. Managers involved in contract administration and personal property procurement, use, and disposal may travel between their home office, branch offices, vendors' offices, and property sales sites. Also, facility managers who are responsible for the design of workspaces may spend time at construction sites and may travel between different facilities while monitoring the work of maintenance, grounds, and custodial staffs. However, new technology has



Administrative services managers coordinate and direct support services that allow organizations to operate efficiently.

increased the number of managers who telecommute from home or other offices, and teleconferencing has reduced the need for travel.

Most administrative services managers work a standard 40-hour week. However, uncompensated overtime frequently is required to resolve problems and meet deadlines. Facility managers often are “on call” to address a variety of problems that can arise in a facility during nonwork hours.

Employment

Administrative services managers held about 321,000 jobs in 2002. About 9 out of 10 worked in service-providing industries, including Federal, State, and local government, health services, financial services, professional, scientific, and technical services, and education. Most of the remaining workers worked in manufacturing industries.

Training, Other Qualifications, and Advancement

Educational requirements for these managers vary widely, depending on the size and complexity of the organization. In small organizations, experience may be the only requirement needed to enter a position as office manager. When an opening in administrative services management occurs, the office manager may be promoted to the position based on past performance. In large organizations, however, administrative services managers normally are hired from outside and each position has formal education and experience requirements. Some administrative services managers have advanced degrees.

Specific requirements vary by job responsibility. For first-line administrative services managers of secretarial, mailroom, and related support activities, many employers prefer an associate degree in business or management, although a high school diploma may suffice when combined with appropriate experience. For managers of audiovisual, graphics, and other technical activities, postsecondary technical school training is preferred. Managers of highly complex services, such as contract administration, generally need at least a bachelor's degree in business, human resources, or finance. Regardless of major, the curriculum should include courses in office technology, accounting, business mathematics, computer applications, human resources, and business law. Most facility managers have an undergraduate or graduate degree in engineering, architecture, construction management, business administration, or facility management. Many have a background in real estate, construction, or interior design, in addition to managerial experience.

Whatever the manager's educational background, it must be accompanied by related work experience reflecting demonstrated ability. For this reason, many administrative services managers have advanced through the ranks of their organization, acquiring work experience in various administrative positions before assuming first-line supervisory duties. All managers who oversee departmental supervisors should be familiar with office procedures and equipment. Managers of personal property acquisition and disposal need experience in purchasing and sales, and knowledge of a variety of supplies, machinery, and equipment. Managers concerned with supply, inventory, and distribution should be experienced in receiving, warehousing, packaging, shipping, transportation, and related operations. Contract administrators may have worked as contract specialists, cost analysts, or procurement specialists. Managers of unclaimed property often have experience in insurance claims analysis and records management.

Persons interested in becoming administrative services managers should have good communication skills and be able to establish

effective working relationships with many different people, ranging from managers, supervisors, and professionals, to clerks and blue-collar workers. They should be analytical, detail-oriented, flexible, and decisive. They must also be able to coordinate several activities at once, quickly analyze and resolve specific problems, and cope with deadlines.

Most administrative services managers in small organizations advance by moving to other management positions or to a larger organization. Advancement is easier in large firms that employ several levels of administrative services managers. Attainment of the Certified Administrative Manager (CAM) designation offered by the Institute of Certified Professional Managers, through work experience and successful completion of examinations, can increase a manager's advancement potential. In addition, a master's degree in business administration or related field enhances a first-level manager's opportunities to advance to a mid-level management position, such as director of administrative services, and eventually to a top-level management position, such as executive vice president for administrative services. Those with enough money and experience can establish their own management consulting firm. Advancement of facility managers is based on the practices and size of individual companies. Some facility managers transfer from other departments within the organization or work their way up from technical positions. Others advance through a progression of facility management positions that offer additional responsibilities. Completion of the competency-based professional certification program offered by the International Facility Management Association can give prospective candidates an advantage. In order to qualify for this Certified Facility Manager (CFM) designation, applicants must meet certain educational and experience requirements.

Job Outlook

Employment of administrative services managers is projected to grow about as fast as the average for all occupations through 2012. Like persons seeking other managerial positions, applicants face keen competition because there are more competent, experienced workers seeking jobs than there are positions available. However, demand should be strong for facility managers because businesses increasingly are realizing the importance of maintaining, securing, and efficiently operating their facilities, which are very large investments for most organizations. Administrative services managers employed in management services and management consulting also should be in demand, as public and private organizations continue to streamline and, in some cases, contract out administrative services functions in an effort to cut costs.

At the same time, continuing corporate restructuring and increasing utilization of office technology should result in a flatter organizational structure with fewer levels of management, reducing the need for some middle management positions. This should adversely affect administrative services managers who oversee first-line managers. Because many administrative services managers have a wide range of responsibilities, however, the effects of these changes on employment should be less severe than for other middle managers who specialize in only certain functions. In addition to new administrative services management jobs created over the 2002-12 projection period, many job openings will stem from the need to replace workers who transfer to other jobs, retire, or stop working for other reasons.

Earnings

Earnings of administrative services managers vary greatly depending on the employer, the specialty, and the geographic area. In general, however, median annual earnings of administrative services managers in 2002 were \$52,500. The middle 50 percent earned between \$36,190 and \$74,590. The lowest 10 percent earned less than \$26,120, and the highest 10 percent earned more than \$99,870. Median annual earnings in the industries employing the largest numbers of these managers in 2002 are shown below:

Management of companies and enterprises	\$66,700
Elementary and secondary schools	59,220
Colleges, universities, and professional schools	56,960
State government	55,710
Local government	51,570

In the Federal Government, contract specialists in nonsupervisory, supervisory, and managerial positions earned an average of \$66,309 a year in 2003. Corresponding averages were \$63,509 for facilities operations, \$62,552 for industrial property managers, \$58,880 for property disposal specialists, \$62,751 for administrative officers, and \$52,824 for support services administrators.

Related Occupations

Administrative services managers direct and coordinate support services and oversee the purchase, use, and disposal of personal property. Occupations with similar functions include office and administrative support worker supervisors and managers; cost estimators; property, real estate, and community association managers; purchasing managers, buyers, and purchasing agents; and top executives.

Sources of Additional Information

For information about careers and education and degree programs in facility management, as well as the Certified Facility Manager designation, contact:

► International Facility Management Association, 1 East Greenway Plaza, Suite 1100, Houston, TX 77046-0194. Internet: <http://www.ifma.org>

General information regarding facility management and a list of facility management education and degree programs may be obtained from:

► Association of Higher Education Facilities Officers, 1643 Prince St., Alexandria, VA 22314-2818. Internet: <http://www.appa.org>

For information about the Certified Manager or Certified Administrative Manager designations, contact:

► Institute of Certified Professional Managers, James Madison University, College of Business, Harrisonburg, VA 22807. Internet: <http://cob.jmu.edu/icpm>

Advertising, Marketing, Promotions, Public Relations, and Sales Managers

(0*NET 11-2011.00, 11-2021.00, 11-2022.00, 11-2031.00)

Significant Points

- Keen competition for jobs is expected.
- College graduates with related experience, a high level of creativity, and strong communication skills should have the best job opportunities.
- High earnings, substantial travel, and long hours, including evenings and weekends, are common.

Nature of the Work

The objective of any firm is to market and sell its products or services profitably. In small firms, the owner or chief executive officer might assume all advertising, promotions, marketing, sales, and public relations responsibilities. In large firms, which may offer numerous products and services nationally or even worldwide, an executive vice president directs overall advertising, promotions, marketing, sales, and public relations policies. (Executive vice presidents are included in the *Handbook* statement on top executives.) Advertising, marketing, promotions, public relations, and sales managers coordinate the market research, marketing strategy, sales, advertising, promotion, pricing, product development, and public relations activities.

Managers oversee advertising and promotion staffs, which usually are small, except in the largest firms. In a small firm, managers may serve as a liaison between the firm and the advertising or promotion agency to which many advertising or promotional functions are contracted out. In larger firms, advertising managers oversee in-house account, creative, and media services departments. The *account executive* manages the account services department, assesses the need for advertising, and, in advertising agencies, maintains the accounts of clients. The creative services department develops the subject matter and presentation of advertising. The *creative director* oversees the copy chief, art director, and associated staff. The *media director* oversees planning groups that select the communication media—for example, radio, television, newspapers, magazines, Internet, or outdoor signs—to disseminate the advertising.

Promotions managers supervise staffs of promotion specialists. They direct promotion programs that combine advertising with purchase incentives to increase sales. In an effort to establish closer contact with purchasers—dealers, distributors, or consumers—promotion programs may involve direct mail, telemarketing, television or radio advertising, catalogs, exhibits, inserts in newspapers, Internet advertisements or Web sites, instore displays or product endorsements, and special events. Purchase incentives may include discounts, samples, gifts, rebates, coupons, sweepstakes, and contests.

Marketing managers develop the firm's detailed marketing strategy. With the help of subordinates, including *product development managers* and *market research managers*, they determine the demand for products and services offered by the firm and its competitors. In addition, they identify potential markets—for example, business firms, wholesalers, retailers, government, or the general public. Marketing managers develop pricing strategy with an eye towards maximizing the firm's share of the market and its profits while ensuring that the firm's customers are satisfied. In collaboration with sales, product development, and other managers, they monitor trends that indicate the need for new products and services

and oversee product development. Marketing managers work with advertising and promotion managers to promote the firm's products and services and to attract potential users.

Public relations managers supervise public relations specialists. (See the *Handbook* statement on public relations specialists.) These managers direct publicity programs to a targeted public. They often specialize in a specific area, such as crisis management—or in a specific industry, such as healthcare. They use every available communication medium in their effort to maintain the support of the specific group upon whom their organization's success depends, such as consumers, stockholders, or the general public. For example, public relations managers may clarify or justify the firm's point of view on health or environmental issues to community or special interest groups.

Public relations managers also evaluate advertising and promotion programs for compatibility with public relations efforts and serve as the eyes and ears of top management. They observe social, economic, and political trends that might ultimately affect the firm and make recommendations to enhance the firm's image based on those trends.

Public relations managers may confer with labor relations managers to produce internal company communications—such as newsletters about employee-management relations—and with financial managers to produce company reports. They assist company executives in drafting speeches, arranging interviews, and maintaining other forms of public contact; oversee company archives; and respond to information requests. In addition, some handle special events such as sponsorship of races, parties introducing new products, or other activities the firm supports in order to gain public attention through the press without advertising directly.

Sales managers direct the firm's sales program. They assign sales territories, set goals, and establish training programs for the sales representatives. (See the *Handbook* statement on sales representatives, wholesale and manufacturing.) Managers advise the sales representatives on ways to improve their sales performance. In large, multiproduct firms, they oversee regional and local sales managers and their staffs. Sales managers maintain contact with dealers and distributors. They analyze sales statistics gathered by their staffs to determine sales potential and inventory requirements and monitor the preferences of customers. Such information is vital to develop products and maximize profits.



Advertising, marketing, promotions, public relations, and sales managers coordinate market research, marketing strategy, sales, advertising, promotion, pricing, product development, and public relations activities.

Working Conditions

Advertising, marketing, promotions, public relations, and sales managers work in offices close to those of top managers. Long hours, including evenings and weekends are common. About 44 percent of advertising, marketing, and public relations managers worked more than 40 hours a week in 2002. Working under pressure is unavoidable when schedules change and problems arise, but deadlines and goals must still be met.

Substantial travel may be involved. For example, attendance at meetings sponsored by associations or industries often is mandatory. Sales managers travel to national, regional, and local offices and to various dealers and distributors. Advertising and promotions managers may travel to meet with clients or representatives of communications media. At times, public relations managers travel to meet with special interest groups or government officials. Job transfers between headquarters and regional offices are common, particularly among sales managers.

Employment

Advertising, marketing, promotions, public relations, and sales managers held about 700,000 jobs in 2002. The following tabulation shows the distribution of jobs by occupational specialty:

Sales managers	343,000
Marketing managers	203,000
Advertising and promotions managers	85,000
Public relations managers	69,000

These managers were found in virtually every industry. Sales managers held almost half of the jobs; most were employed in manufacturing, wholesale and retail trade, and finance and insurance industries. Marketing managers held more one-fourth of the jobs; manufacturing, and professional, scientific, and technical services industries employed more than one-third of marketing managers. More than one-third of advertising and promotions managers worked in professional, scientific, and technical services, and information industries, including advertising and related services, and publishing industries. Most public relations managers were employed in services industries, such as other services (except government), professional, scientific, and technical services, finance and insurance, health care and social assistance services, and educational services.

Training, Advancement, and Other Qualifications

A wide range of educational backgrounds is suitable for entry into advertising, marketing, promotions, public relations, and sales managerial jobs, but many employers prefer those with experience in related occupations plus a broad liberal arts background. A bachelor's degree in sociology, psychology, literature, journalism, or philosophy, among other subjects, is acceptable. However, requirements vary, depending upon the particular job.

For marketing, sales, and promotions management positions, some employers prefer a bachelor's or master's degree in business administration with an emphasis on marketing. Courses in business law, economics, accounting, finance, mathematics, and statistics are advantageous. In highly technical industries, such as computer and electronics manufacturing, a bachelor's degree in engineering or science, combined with a master's degree in business administration, is preferred.

For advertising management positions, some employers prefer a bachelor's degree in advertising or journalism. A course of study should include marketing, consumer behavior, market research, sales, communication methods and technology, and visual arts—for example, art history and photography.

For public relations management positions, some employers prefer a bachelor's or master's degree in public relations or journalism. The applicant's curriculum should include courses in advertising, business administration, public affairs, public speaking, political science, and creative and technical writing.

For all these specialties, courses in management and completion of an internship while in school are highly recommended. Familiarity with word processing and database applications also is important for many positions. Computer skills are vital because marketing, product promotion, and advertising on the Internet are increasingly common. The ability to communicate in a foreign language may open up employment opportunities in many rapidly growing areas around the country, especially in cities with large Spanish-speaking populations.

Most advertising, marketing, promotions, public relations, and sales management positions are filled by promoting experienced staff or related professional personnel. For example, many managers are former sales representatives, purchasing agents, buyers, or product, advertising, promotions, or public relations specialists. In small firms, where the number of positions is limited, advancement to a management position usually comes slowly. In large firms, promotion may occur more quickly.

Although experience, ability, and leadership are emphasized for promotion, advancement can be accelerated by participation in management training programs conducted by many large firms. Many firms also provide their employees with continuing education opportunities, either in-house or at local colleges and universities, and encourage employee participation in seminars and conferences, often provided by professional societies. In collaboration with colleges and universities, numerous marketing and related associations sponsor national or local management training programs. Course subjects include brand and product management, international marketing, sales management evaluation, telemarketing and direct sales, interactive marketing, promotion, marketing communication, market research, organizational communication, and data processing systems procedures and management. Many firms pay all or part of the cost for those who successfully complete courses.

Some associations offer certification programs for these managers. Certification—a sign of competence and achievement in this field—is particularly important in a competitive job market. While relatively few advertising, marketing, promotions, public relations, and sales managers currently are certified, the number of managers who seek certification is expected to grow. For example, Sales and Marketing Executives International offers a management certification program based on education and job performance. The Public Relations Society of America offers a certification program for public relations practitioners based on years of experience and performance on an examination.

Persons interested in becoming advertising, marketing, promotions, public relations, and sales managers should be mature, creative, highly motivated, resistant to stress, flexible, and decisive. The ability to communicate persuasively, both orally and in writing, with other managers, staff, and the public is vital. These managers also need tact, good judgment, and exceptional ability to establish and maintain effective personal relationships with supervisory and professional staff members and client firms.

Because of the importance and high visibility of their jobs, advertising, marketing, promotions, public relations, and sales managers often are prime candidates for advancement to the highest ranks. Well-trained, experienced, successful managers may be promoted to higher positions in their own, or other, firms. Some become top executives. Managers with extensive experience and sufficient capital may open their own businesses.

Job Outlook

Advertising, marketing, promotions, public relations, and sales manager jobs are highly coveted and will be sought by other managers or highly experienced professionals, resulting in keen competition. College graduates with related experience, a high level of creativity, and strong communication skills should have the best job opportunities. Employers will particularly seek those who have the computer skills to conduct advertising, marketing, promotions, public relations, and sales activities on the Internet.

Employment of advertising, marketing, promotions, public relations, and sales managers is expected to increase faster than the average for all occupations through 2012, spurred by intense domestic and global competition in products and services offered to consumers. However, projected employment growth varies by industry. For example, employment is projected to grow much faster than average in scientific, professional, and related services such as computer systems design and related services and advertising and related services, as businesses increasingly hire contractors for these services instead of additional full-time staff. On the other hand, little or no change in employment is expected in many manufacturing industries.

Earnings

Median annual earnings in 2002 were \$57,130 for advertising and promotions managers, \$78,250 for marketing managers, \$75,040 for sales managers, and \$60,640 for public relations managers. Earnings ranged from less than \$30,310 for the lowest 10 percent of advertising and promotions managers, to more than \$145,600 for the highest 10 percent of marketing and sales managers.

Median annual earnings advertising and promotions managers in 2002 in the advertising and related services industry were \$72,630.

Median annual earnings in the industries employing the largest numbers of marketing managers in 2002 were as follows:

Computer systems design and related services	\$96,440
Management of companies and enterprises	90,750
Depository credit intermediation	65,960

Median annual earnings in the industries employing the largest numbers of sales managers in 2002 were as follows:

Computer systems design and related services	\$102,520
Automobile dealers	91,350
Management of companies and enterprises	87,800
Insurance carriers	80,540
Traveler accommodation	44,560

Median annual earnings of public relations managers in 2002 in colleges, universities, and professional schools were \$55,510.

According to a National Association of Colleges and Employers survey, starting salaries for marketing majors graduating in 2003 averaged \$34,038; starting salaries for advertising majors averaged \$29,495.

Salary levels vary substantially, depending upon the level of managerial responsibility, length of service, education, firm size, location, and industry. For example, manufacturing firms usually pay these managers higher salaries than do nonmanufacturing firms. For sales managers, the size of their sales territory is another important determinant of salary. Many managers earn bonuses equal to 10 percent or more of their salaries.

Related Occupations

Advertising, marketing, promotions, public relations, and sales managers direct the sale of products and services offered by their

firms and the communication of information about their firms' activities. Other workers involved with advertising, marketing, promotions, public relations, and sales include actors, producers, and directors; artists and related workers; demonstrators, product promoters, and models; market and survey researchers; public relations specialists; sales representatives, wholesale and manufacturing; and writers and editors.

Sources of Additional Information

For information about careers in advertising management, contact:
► American Association of Advertising Agencies, 405 Lexington Ave., New York, NY 10174-1801. Internet: <http://www.aaaa.org>

Information about careers and professional certification in public relations management is available from:

► Public Relations Society of America, 33 Irving Place, New York, NY 10003-2376. Internet: <http://www.prsa.org>

Budget Analysts

(0*NET 13-2031.00)

Significant Points

- Almost half of all budget analysts work in Federal, State, and local governments.
- While a bachelor's degree generally is the minimum educational requirement, many employers prefer or require a master's degree.
- Competition for jobs is expected.

Nature of the Work

Deciding how to efficiently distribute limited financial resources is an important challenge in all organizations. In most large and complex organizations, this task would be nearly impossible without budget analysts. These workers play the primary role in the development, analysis, and execution of budgets, which are used to allocate current resources and estimate future financial requirements. Without effective budget analysis and feedback about budgetary problems, many private and public organizations could become bankrupt.

Budget analysts can be found in private industry, nonprofit organizations, and the public sector. In private sector firms, a budget analyst examines, analyzes, and seeks new ways to improve efficiency and increase profits. Although analysts working in nonprofit and governmental organizations usually are not concerned with profits, they still try to find the most efficient distribution of funds and other resources among various departments and programs.

Budget analysts have many responsibilities in these organizations, but their primary task is providing advice and technical assistance in the preparation of annual budgets. At the beginning of each budget cycle, managers and department heads submit proposed operational and financial plans to budget analysts for review. These plans outline prospective programs, including proposed funding increases and new initiatives, estimated costs and expenses, and capital expenditures needed to finance these programs.

Analysts examine the budget estimates or proposals for completeness, accuracy, and conformance with established procedures, regulations, and organizational objectives. Sometimes, they employ cost-benefit analysis to review financial requests, assess program tradeoffs, and explore alternative funding methods. They also examine past and current budgets and research economic and financial developments that affect the organization's spending. This process enables analysts to evaluate proposals in terms of the organization's priorities and financial resources.

After this initial review process, budget analysts consolidate the individual departmental budgets into operating and capital budget summaries. These summaries contain comments and statements that support or argue against funding requests. Budget summaries then are submitted to senior management or, as is often the case in local and State governments, to appointed or elected officials. Budget analysts then help the chief operating officer, agency head, or other top managers analyze the proposed plan and devise possible alternatives if the projected results are unsatisfactory. The final decision to approve the budget, however, usually is made by the organization head in a private firm or by elected officials, such as the State legislative body, in government.

Throughout the remainder of the year, analysts periodically monitor the budget by reviewing reports and accounting records to determine if allocated funds have been spent as specified. If deviations appear between the approved budget and actual performance,

budget analysts may write a report providing reasons for the variations, along with recommendations for new or revised budget procedures. In order to avoid or alleviate deficits, they may recommend program cuts or reallocation of excess funds. They also inform program managers and others within their organization of the status and availability of funds in different budget accounts. Before any changes are made to an existing program or a new one is implemented, a budget analyst assesses the program's efficiency and effectiveness. Analysts also may be involved in long-range planning activities such as projecting future budget needs.

The amount of data and information that budget analysts are able to analyze has greatly increased through the use of computerized financial software programs. The analysts also make extensive use of spreadsheet, database, and word processing software.

Budget analysts have seen their role broadened as limited funding has led to downsizing and restructuring throughout private industry and government. Not only do they develop guidelines and policies governing the formulation and maintenance of the budget, but they also measure organizational performance, assess the effects of various programs and policies on the budget, and help to draft budget-related legislation. In addition, budget analysts sometimes conduct training sessions for company or government agency personnel regarding new budget procedures.

Working Conditions

Budget analysts usually work in a comfortable office setting. Long hours are common among these workers, especially during the initial development and midyear and final reviews of budgets. The pressure of deadlines and tight work schedules during these periods can be stressful, and analysts usually are required to work more than the routine 40 hours a week.

Budget analysts spend the majority of their time working independently, compiling and analyzing data, and preparing budget proposals. Nevertheless, their schedule sometimes is interrupted by special budget requests, meetings, and training sessions. Some budget analysts travel to obtain budget details and explanations of various programs from coworkers, or to personally observe funding allocation.

Employment

Budget analysts held 62,000 jobs throughout private industry and government in 2002. Federal, State, and local governments are major employers, accounting for 46 percent of budget analyst jobs. About



Almost half of all budget analysts work in Federal, State, and local governments.

1 in 5 worked for the Federal government. Many other budget analysts worked in manufacturing, financial services, or management services. Other major employers include schools and hospitals.

Training, Other Qualifications, and Advancement

Private firms and government agencies generally require candidates for budget analyst positions to have at least a bachelor's degree, but many prefer or require a master's degree. Within the Federal Government, a bachelor's degree in any field is sufficient for an entry-level budget analyst position, but, again, those with master's degrees are preferred. State and local governments have varying requirements, but a bachelor's degree in one of many areas—accounting, finance, business or public administration, economics, political science, statistics, or a social science such as sociology—may qualify one for entry into the occupation. Many States, especially larger, more urban States, require a master's degree. Sometimes, a degree in a field closely related to that of the employing industry or organization, such as engineering, may be preferred. Some firms prefer candidates with a degree in business because business courses emphasize quantitative and analytical skills. Many government employers prefer candidates with strong analytic and policy analysis backgrounds that may be obtained through such majors as political science, economics, public administration, or public finance. Occasionally, budget-related or finance-related work experience can be substituted for formal education.

Because developing a budget involves manipulating numbers and requires strong analytical skills, courses in statistics or accounting are helpful, regardless of the prospective budget analyst's major field of study. Financial analysis is automated in almost every organization and, therefore, familiarity with word processing and the financial software packages used in budget analysis often is required. Software packages commonly used by budget analysts include electronic spreadsheet, database, and graphics software. Employers usually prefer job candidates who already possess these computer skills.

In addition to analytical and computer skills, those seeking a career as a budget analyst must be able to work under strict time constraints. Strong oral and written communication skills are essential for analysts because they must prepare, present, and defend budget proposals to decision makers.

Entry-level budget analysts may receive some formal training when they begin their jobs, but most employers feel that the best training is obtained by working through one complete budget cycle. During the cycle, which typically is 1 year, analysts become familiar with the various steps involved in the budgeting process. The Federal Government, on the other hand, offers extensive on-the-job and classroom training for entry-level trainees. In addition to on-the-job training, budget analysts are encouraged to participate in the various classes offered throughout their careers.

Some government budget analysts employed at the Federal, State, or local level may earn the Certified Government Financial Manager (CGFM) designation granted by the Association of Government Accountants. Other government financial officers also may earn this designation. Candidates must have a minimum of a bachelor's degree, 24 hours of study in financial management, and 2 years of experience in government, and must pass a series of three exams. The exams cover topics on the organization and structure of government; governmental accounting, financial reporting and budgeting; and financial management and control.

Budget analysts start their careers with limited responsibilities. In the Federal Government, for example, beginning budget analysts compare projected costs with prior expenditures, consolidate and enter data prepared by others, and assist higher grade analysts

by doing research. As analysts progress in their careers, they begin to develop and formulate budget estimates and justification statements, perform indepth analyses of budget requests, write statements supporting funding requests, advise program managers and others on the status and availability of funds for different budget activities, and present and defend budget proposals to senior managers.

Beginning analysts usually work under close supervision. Capable entry-level analysts can be promoted into intermediate-level positions within 1 to 2 years, and then into senior positions within a few more years. Progressing to a higher level means added budgetary responsibility and can lead to a supervisory role. Because of the importance and high visibility of their jobs, senior budget analysts are prime candidates for promotion to management positions in various parts of the organization.

Job Outlook

Competition for budget analyst jobs is expected over the 2002-12 projection period. Candidates with a master's degree should have the best job opportunities. Familiarity with computer financial software packages also should enhance a jobseeker's employment prospects.

Employment of budget analysts is expected to grow about as fast as the average for all occupations through 2012. Employment growth will be driven by the continuing demand for sound financial analysis in both public and private sector organizations. In addition to employment growth, many job openings will result from the need to replace experienced budget analysts who transfer to other occupations or leave the labor force.

The expanding use of computer applications in budget analysis increases worker productivity by enabling analysts to process more data in less time. However, because budget analysts now have much more data available to them, their jobs are becoming more complicated. In addition, as businesses and other organizations become more complex and specialized, budget planning and financial control will demand greater attention. These factors should offset any adverse effects of computer applications on employment of budget analysts.

In coming years, all types of organizations will continue to rely heavily on budget analysts to examine, analyze, and develop budgets. Because of the importance of financial analysis performed by budget analysts, employment of these workers has remained relatively unaffected by downsizing in the Nation's workplaces. In addition, because financial and budget reports must be completed during both periods of economic growth and slowdowns, budget analysts usually are less subject to layoffs than are many other workers during economic downturns.

Earnings

Salaries of budget analysts vary widely by experience, education, and employer. Median annual earnings of budget analysts in 2002 were \$52,480. The middle 50 percent earned between \$42,000 and \$66,180. The lowest 10 percent earned less than \$34,580, and the highest 10 percent earned more than \$82,720.

According to a 2002 survey conducted by Robert Half International—a staffing services firm specializing in accounting and finance—starting salaries of financial, budget, treasury, and cost analysts in small companies ranged from \$29,750 to \$36,250. In large companies, starting salaries ranged from \$33,500 to \$41,250.

In the Federal Government, budget analysts usually started as trainees earning \$23,442 or \$29,037 a year in 2003. Candidates with a master's degree might begin at \$35,519. Beginning salaries were slightly higher in selected areas where the prevailing local

pay level was higher. The average annual salary in 2003 for budget analysts employed by the Federal Government in nonsupervisory, supervisory, and managerial positions was \$62,400.

Related Occupations

Budget analysts review, analyze, and interpret financial data; make recommendations for the future; and assist in the implementation of new ideas and financial strategies. Other workers who have similar duties include accountants and auditors, cost estimators, economists, financial analysts and personal financial advisors, financial managers, loan counselors and officers, and management analysts.

Sources of Additional Information

Information about career opportunities as a budget analyst may be available from your State or local employment service.

Information on careers in government financial management and the CGFM designation may be obtained from:

► Association of Government Accountants, 2208 Mount Vernon Ave., Alexandria, VA 22301. Internet: <http://www.agacgfm.org>

Information on careers in budget analysis at the State government level may be obtained from:

► National Association of State Budget Officers, Hall of the States Building, Suite 642, 444 North Capitol St. NW., Washington, DC 20001. Internet: <http://www.nasbo.org>

Information on obtaining a budget analyst position with the Federal Government is available from the U.S. Office of Personnel Management (OPM) through a telephone-based system. Consult your telephone directory under U.S. Government for a local number or call (703) 724-1850; Federal Relay Service: (800) 877-8339. The first number is not tollfree, and charges may result. Information also is available from the OPM Internet site: <http://www.usajobs.opm.gov>.

Claims Adjusters, Appraisers, Examiners, and Investigators

(0*NET 13-1031.01, 13-1031.02, 13-1032.00)

Significant Points

- Adjusters and examiners investigate insurance claims, negotiate settlements, and authorize payments; investigators deal with claims where there is a question of liability and where fraud or criminal activity is suspected.
- Most employers prefer to hire college graduates.
- Competition will be keen for jobs as investigators, because this occupation attracts many qualified people.

Nature of the Work

Individuals and businesses purchase insurance policies to protect against monetary losses. In the event of a loss, policyholders submit claims, or requests for payment, as compensation for their loss. Adjusters, examiners, and investigators work primarily for property and casualty insurance companies, for whom they handle a wide variety of claims for property damage, liability, and bodily injury. Their main role is to investigate the claims, negotiate settlements, and authorize payments to claimants, but they must always be mindful not to violate the claimant's rights under Federal and State privacy laws. They must determine whether the customer's insurance policy covers the loss and how much of the loss should be paid to the claimant. Although many adjusters, appraisers, examiners, and investigators have overlapping functions and may even perform the same job, the insurance industry generally assigns specific roles to each of these claims workers.

Adjusters plan and schedule the work required to process a claim that would follow, for example, an automobile accident or damage to one's home caused by a storm. They investigate claims by interviewing the claimant and witnesses, consulting police and hospital records, and inspecting property damage to determine the extent of the company's liability. Adjusters may also consult with other professionals, such as accountants, architects, construction workers, engineers, lawyers, and physicians, who can offer a more expert evaluation of a claim. The information gathered, including photographs and written or taped statements, is set down in a report that is then used to evaluate a claim. When the policyholder's claim is legitimate, the claims adjuster negotiates with the claimant and settles the claim. When claims are contested, adjusters will work with attorneys and expert witnesses to defend the insurer's position.

Many companies centralize the claims-adjusting operation in a claims center, where the cost of repair is determined and a check is issued immediately. More complex cases, usually involving bodily injury, are referred to senior adjusters. Some adjusters work with multiple types of insurance; however, most specialize in homeowner claims, business losses, automotive damage, or workers' compensation.

Claimants can opt not to rely on the services of their insurance company's adjuster and may instead choose to hire a public adjuster. Public adjusters assist clients in preparing and presenting claims to insurance companies and try to negotiate a fair settlement. They perform the same services as adjusters who work directly for companies; however, they work in the best interests of the client, rather than the insurance company.

Claims examiners within property and casualty insurance firms may have duties similar to those of an adjuster, but often their pri-

mary job is to review the claims submitted to ensure that proper guidelines have been followed. They may assist adjusters with complex and complicated claims or when a disaster suddenly greatly increases the volume of claims. Most claims examiners work for life or health insurance companies. In health insurance companies, examiners review health-related claims to see whether costs are reasonable based on the diagnosis. The examiners are provided with guides that supply information on the average period of disability, the expected treatments, and the average hospital stay, for patients with the various ailments for which a claim may be submitted. Examiners check claim applications for completeness and accuracy, interview medical specialists, and consult policy files to verify the information reported in a claim. Examiners will then either authorize the appropriate payment or refer the claim to an investigator for a more thorough review. Claims examiners usually specialize in group or individual insurance plans and in hospital, dental, or prescription drug claims.

In life insurance, claims examiners review the causes of death, particularly in the case of an accident, because most life insurance policies pay additional benefits if a death is accidental. Claims examiners also may review new applications for life insurance to make sure that applicants have no serious illnesses that would make them a high risk to insure and thus disqualify them from obtaining insurance.

Another occupation that plays an important role in the accurate settlement of claims is that of the *appraiser*, whose role is to assess the cost or value of an insured item. The majority of appraisers employed by insurance companies and independent adjusting firms are *auto damage appraisers*. These appraisers inspect damaged vehicles after an accident and estimate the cost of repairs. This information is then relayed to the adjuster, who incorporates the appraisal into the settlement. Auto damage appraisers are valued by insurance companies because they can provide an unbiased judgment of repair costs. Otherwise, the companies would have to rely on auto mechanics' estimates, which might be unreasonably high.

Many claims adjusters and auto damage appraisers are equipped with laptop computers from which they can download the necessary forms and files from insurance company databases. Many adjusters and appraisers use digital cameras, which allow photographs of the damage to be sent to the company via the Internet. Many also input information about the damage directly into their computers, where software programs produce estimates of damage on standard



Claims adjusters, appraisers, examiners, and investigators gather facts related to insurance claims.

forms. These new technologies allow for faster and more efficient processing of claims.

When adjusters or examiners suspect fraud, they refer the claim to an investigator. *Insurance investigators* in an insurance company's Special Investigative Unit handle claims in which a company suspects fraudulent or criminal activity, such as arson cases, false workers' disability claims, staged accidents, or unnecessary medical treatments. The severity of insurance fraud cases can vary greatly, from claimants simply overstating the damage to a vehicle to complicated fraud rings responsible for many claimants supported by dishonest doctors, lawyers, and even insurance personnel.

Investigators usually start with a database search to obtain background information on claimants and witnesses. Investigators can access certain personal information and identify Social Security numbers, aliases, driver's license numbers, addresses, phone numbers, criminal records, and past claims histories to establish whether a claimant has ever attempted insurance fraud. Then, investigators may visit claimants and witnesses to obtain a recorded statement, take photographs, and inspect facilities, such as a doctor's office, to determine whether they have a proper license. Investigators often consult with legal counsel and can be expert witnesses in court cases.

Often, investigators also perform surveillance work. For example, in a case involving fraudulent workers' compensation claims, an investigator may covertly observe the claimant for several days or even weeks. If the investigator observes the subject performing an activity that is ruled out by injuries stated in a workers' compensation claim, the investigator would take video or still photographs to document the activity and report it to the insurance company.

Working Conditions

Working environments of claims adjusters, appraisers, examiners, and investigators vary greatly. Most claims examiners employed by life and health insurance companies work a standard 5-day, 40-hour week in a typical office environment. Many claims adjusters and auto damage appraisers, however, often work outside the office, inspecting damaged buildings and automobiles. Adjusters who inspect damaged buildings must be wary of potential hazards such as collapsed roofs and floors, as well as weakened structures.

In general, adjusters are able to arrange their work schedules to accommodate evening and weekend appointments with clients. This accommodation sometimes results in adjusters working irregular schedules or more than 40 hours a week, especially when there are a lot of claims. Some report to the office every morning to get their assignments, while others simply call in from home and spend their days traveling to claim sites. New technology, such as laptop computers and cellular telephones, is making telecommuting easier for claims adjusters and auto damage appraisers. Many adjusters work inside their office only a few hours a week, while others conduct their business entirely out of their home and automobile. Occasionally, experienced adjusters must be away from home for days—for example, when they travel to the scene of a disaster such as a tornado, hurricane, or flood—to work with local adjusters and government officials. Adjusters often are called to work in the event of such emergencies and may have to work 50 or 60 hours a week until all claims are resolved.

Insurance investigators often work irregular hours because of the need to conduct surveillance and contact people who are not available during normal working hours. Early morning, evening, and weekend work is common. Some days, investigators will spend all day in the office doing database searches, making telephone calls, and writing reports. Other times, they may be away performing surveillance activities or interviewing witnesses. Some of the work

can involve confrontation with claimants and others involved in a case, so the job can be stressful and dangerous.

Employment

Adjusters, appraisers, examiners, and investigators held about 241,000 jobs in 2002. Of these, more than 14,000 were jobs held by auto damage insurance appraisers. Insurance carriers employed nearly 60 percent of claims adjusters, appraisers, examiners, and investigators; more than 20 percent were employed by insurance agencies and brokerages, and private claims adjusting companies. Around 2 percent of adjusters, appraisers, examiners, and investigators were self-employed.

Training, Other Qualifications, and Advancement

Training and entry requirements vary widely for claims adjusters, appraisers, examiners, and investigators. Although many in these occupations do not have a college degree, most companies prefer to hire college graduates. No specific college major is recommended, but a variety of backgrounds can be an asset. A claims adjuster, for example, who has a business or an accounting background might specialize in claims of financial loss due to strikes, equipment breakdowns, or damage to merchandise. College training in architecture or engineering is helpful in adjusting industrial claims, such as those involving damage from fires or other accidents. Some claims adjusters and examiners apply expertise acquired through specialized professional training to adjust claims. A legal background can be beneficial to someone handling workers' compensation and product liability cases. A medical background is useful for those examiners working on medical and life insurance claims.

Because they often work closely with claimants, witnesses, and other insurance professionals, claims adjusters and examiners must be able to communicate effectively with others. Knowledge of computer applications also is extremely important. In addition, a valid driver's license and a good driving record are required for workers for whom travel is an important aspect of their job. Some companies require applicants to pass a series of written aptitude tests designed to measure communication, analytical, and general mathematical skills.

Licensing requirements for these workers vary by State. Some States have very few requirements, while others require the completion of prelicensing education or a satisfactory score on a licensing exam. Completion of the requirements to earn a voluntary professional designation may in some cases be substituted for the exam requirement. In some States, claims adjusters employed by insurance companies can work under the company license and need not become licensed themselves. Separate or additional requirements may apply for public adjusters. For example, some States require public adjusters to file a surety bond.

Continuing education (CE) in claims is very important for claims adjusters, appraisers, examiners, and investigators because new Federal and State laws and court decisions frequently affect how claims are handled or who is covered by insurance policies. Also, examiners working on life and health claims must be familiar with new medical procedures and prescription drugs. Some States that require licensing also require a certain number of CE credits per year in order to renew the license. These credits can be obtained from a number of sources. Many companies offer training sessions to inform their employees of industry changes. Many schools and associations give courses and seminars on various topics having to do with claims. Correspondence courses via the Internet are making long-distance learning possible. Workers also can earn CE credits by writing articles for claims publications or by giving lectures and presentations. In addition, many adjusters and examiners choose to

earn professional certifications and designations for independent recognition of their professional expertise. Although requirements for these designations vary, many entail at least 5 to 10 years' experience in the claims field and passing examinations; in addition, a certain number of CE credits must be earned each year to retain the designation.

For auto damage appraiser jobs, insurance companies and independent adjusting firms typically prefer to hire persons with experience as an estimator or manager of an auto-body repair shop. An appraiser must know how to repair vehicles in order to identify and estimate damage, and technical skills are essential. While auto damage appraisers do not require a college education, most companies prefer to hire persons with formal training. Many vocational colleges offer 2-year programs in auto-body repair on how to estimate and repair damaged vehicles. Some States require auto damage appraisers to be licensed, and certification also may be required or preferred. Basic computer skills are an important qualification for many auto damage appraiser positions. As with adjusters and examiners, continuing education is important because of the continual introduction of new car models and repair techniques.

Most insurance companies prefer to hire former law enforcement officers or private investigators as insurance investigators. Many experienced claims adjusters or examiners also become investigators. Licensing requirements vary among States. Most employers look for individuals with ingenuity who are persistent and assertive. Investigators should not be afraid of confrontation, should communicate well, and should be able to think on their feet. Good interviewing and interrogation skills also are important and usually are acquired in earlier careers in law enforcement.

Beginning claims adjusters, appraisers, examiners, and investigators work on small claims under the supervision of an experienced worker. As they learn more about claims investigation and settlement, they are assigned larger, more complex claims. Trainees are promoted as they demonstrate competence in handling assignments and progress in their coursework. Employees who demonstrate competence in claims work or administrative skills may be promoted to more responsible managerial or administrative jobs. Similarly, claims investigators may rise to supervisor or manager of the investigations department. Once they achieve a certain level of expertise, many choose to start their own independent adjusting or auto damage appraising firms.

Job Outlook

Employment of claims adjusters, appraisers, examiners, and investigators is expected to grow about as fast as the average for all occupations over the 2002-12 period. Opportunities will be best for those with a college degree. Numerous job openings also will result from the need to replace workers who transfer to other occupations or leave the labor force.

Many insurance carriers are downsizing their claims staff in an effort to contain costs. Larger companies are relying more on customer service representatives in call centers to handle the recording of the necessary details of the claim, allowing adjusters to spend more of their time investigating claims. New technology also is reducing the amount of time it takes for an adjuster to complete a claim, thereby increasing the number of claims that one adjuster can handle. However, as long as more insurance policies are being sold to accommodate a growing population, there will be a need for adjusters, appraisers, examiners, and investigators. Further, as the elderly population increases, there will be a greater need for healthcare, resulting in more claims.

Despite recent gains in productivity resulting from technological advances, these jobs are not easily automated. Adjusters still

are needed to contact policyholders, inspect damaged property, and consult with experts. Although the number of claims in litigation and the number and complexity of insurance fraud cases are expected to increase over the next decade, demand for insurance investigators is not expected to grow significantly, because technology such as the Internet, which reduces the amount of time it takes to perform background checks, will allow investigators to handle more cases. Competition for investigator jobs will remain keen because the occupation attracts many qualified people, including retirees from law enforcement and military careers, as well as experienced claims adjusters and examiners who choose to get their investigator license.

As with claims adjusters, examiners, and investigators, employment of auto damage appraisers should grow about as fast as the average for all occupations. Insurance companies and agents continue to sell growing numbers of auto insurance policies, leading to more claims being filed that require the attention of an auto damage appraiser. The work of this occupation is not easily automated, because most appraisals require an on-site inspection. However, employment growth will be limited by industry downsizing and the implementation of new technology that is making auto damage appraisers more efficient. In addition, some insurance companies are opening their own repair facilities, which may reduce the need for auto damage appraisers.

Earnings

Earnings of claims adjusters, examiners, and investigators vary significantly. Median annual earnings were \$43,020 in 2002. The middle 50 percent earned between \$ 33,120 and \$ 56,170. The lowest 10 percent earned less than \$ 26,680, and the highest 10 percent earned more than \$ 71,350.

Many claims adjusters, especially those who work for insurance companies, receive additional bonuses or benefits as part of their job. Adjusters often are furnished a laptop computer, a cellular telephone, and a company car or are reimbursed for the use of their own vehicle for business purposes.

Median annual earnings of auto damage insurance appraisers were \$42,630 in 2002. The middle 50 percent earned between \$34,570 and \$52,360. The lowest 10 percent earned less than \$27,410, and the highest 10 percent earned more than \$60,470.

Related Occupations

Property-casualty insurance adjusters and life and health insurance examiners must determine the validity of a claim and negotiate a settlement. They also are responsible for determining how much to reimburse the client. Occupations similar to those of claims adjusters, appraisers, examiners, and investigators include cost estimators; bill and account collectors; medical records and health information technicians; billing and posting clerks; and credit authorizers, checkers, and clerks, as well as bookkeeping, accounting, and auditing clerks.

In determining the validity of a claim, insurance adjusters must inspect the damage in order to assess the magnitude of the loss. Workers who perform similar duties include fire inspectors and investigators and construction and building inspectors.

To ensure that company practices and procedures are followed, property and casualty examiners review insurance claims to which a claims adjuster has already proposed a settlement. Others in occupations that review documents for accuracy and compliance with a given set of rules and regulations are tax examiners and revenue agents, as well as accountants and auditors.

Insurance investigators detect and investigate fraudulent claims and criminal activity. Their work is similar to that of private detectives and investigators.

Like automotive body and related repairers and automotive service technicians and mechanics, auto damage appraisers must be familiar with the structure and functions of various automobiles and their parts.

Sources of Additional Information

General information about a career as a claims adjuster, an appraiser, an examiner, or an investigator is available from the home offices of many life, health, and property and casualty insurance companies.

Information about licensing requirements for claims adjusters may be obtained from the department of insurance in each State.

For information about professional designation and training programs, contact:

- ▶ Insurance Institute of America, 720 Providence Rd., P.O. Box 3016, Malvern, PA 19355-0716. Internet: <http://www.aicpcu.org>
- ▶ The American College, 270 South Bryn Mawr Ave., Bryn Mawr, PA 19010-2196. Internet: <http://www.amercoll.edu>
- ▶ International Claim Association, 1255 23rd St., NW., Washington, DC 20037. Internet: <http://www.claim.org>

Information on careers in auto damage appraising can be obtained from

- ▶ Independent Automotive Damage Appraisers Association, P.O. Box 12291 Columbus, GA 31917-2291. Internet: <http://www.iada.org>

Computer and Information Systems Managers

(0*NET 11-3021.00)

Significant Points

- Projected job growth stems primarily from rapid growth among computer-related occupations.
- Employers prefer managers with formal education and advanced technical knowledge acquired through computer-related work experience.
- Job opportunities should be best for applicants with a master's degree in business administration or management information systems with technology as a core component.

Nature of the Work

The need for organizations to incorporate existing and future technologies in order to remain competitive has become a more pressing issue over the last several years. As electronic commerce becomes more common, how and when companies use technology are critical issues. Computer and information systems managers play a vital role in the technological direction of their organizations. They do everything from constructing the business plan to overseeing network security to directing Internet operations.

Computer and information systems managers plan, coordinate, and direct research and design the computer-related activities of firms. They help determine both technical and business goals in consultation with top management, and make detailed plans for the accomplishment of these goals. For example, working with their staff, they may develop the overall concepts of a new product or service, or may identify how an organization's computing capabilities can effectively aid project management.

Computer and information systems managers direct the work of systems analysts, computer programmers, support specialists, and other computer-related workers. These managers plan and coordinate activities such as installation and upgrading of hardware and software, programming and systems design, development of computer networks, and implementation of Internet and intranet sites. They are increasingly involved with the upkeep and maintenance and security of networks. They analyze the computer and information needs of their organization, from an operational and strategic perspective, and determine immediate and long-range personnel and equipment requirements. They assign and review the work of their subordinates, and stay abreast of the latest technology in order to assure the organization does not lag behind competitors.

The duties of computer and information systems managers vary with their specific titles. *Chief technology officers*, for example, evaluate the newest and most innovative technologies and determine how these can help their organization. The chief technology officer, who often reports to the organization's chief information officer, manages and plans technical standards and tends to the daily information technology issues of the firm. (Chief information officers are covered in a separate *Handbook* statement on top executives.) Because of the rapid pace of technological change, chief technology officers must constantly be on the lookout for developments that could benefit their organization. They are responsible for demonstrating to a company how information technology can be used as a competitive tool that not only cuts costs, but also increases revenue and maintains or increases competitive advantage.

Management information systems (MIS) directors manage information systems and computing resources for their entire organization. They may also work under the chief information officer and plan and direct the work of subordinate information technology employees. These managers oversee a variety of user services such as an organization's help desk, which employees can call with questions or problems. MIS directors also may make hardware and software upgrade recommendations based on their experience with an organization's technology. Helping to assure the availability, continuity, and security of data and information technology services are key responsibilities for these workers.

Project managers develop requirements, budgets, and schedules for their firm's information technology projects. They coordinate such projects from development through implementation, working with internal and external clients, vendors, consultants, and computer specialists. These managers are increasingly involved in projects that upgrade the information security of an organization.

LAN/WAN (Local Area Network/Wide Area Network) managers provide a variety of services, from design to administration, of an organization's local area network, which connects staff within an organization. These managers direct the network, and its related computing environment, including hardware, systems software, applications software, and all other computer-related configurations.

Computer and information system managers need strong communication skills. They coordinate the activities of their unit with



Computer and information systems managers supervise information systems and computing resources for their entire organization.

those of other units or organizations. They confer with top executives; financial, production, marketing, and other managers; and contractors and equipment and materials suppliers.

Working Conditions

Computer and information systems managers spend most of their time in an office. Most work at least 40 hours a week and may have to work evenings and weekends to meet deadlines or solve unexpected problems. Some computer and information systems managers may experience considerable pressure in meeting technical goals within short timeframes or tight budgets. As networks continue to expand and more work is done remotely, computer and information system managers have to communicate with and oversee offsite employees using modems, laptops, e-mail, and the Internet.

Like other workers who sit continuously in front of a keyboard, computer and information system managers are susceptible to eye-strain, back discomfort, and hand and wrist problems such as carpal tunnel syndrome.

Employment

Computer and information systems managers held about 284,000 jobs in 2002. About 2 in 5 works in service-providing industries, mainly in computer systems design and related services. This industry provides services related to the commercial use of computers on a contract basis, including custom computer programming services; computer systems integration design services; computer facilities management services, including computer systems or data-processing facilities support services for clients; and other computer-related services, such as disaster recovery services and software installation. Other large employers include insurance and financial services firms, government agencies, and manufacturers.

Training, Other Qualifications, and Advancement

Strong technical knowledge is essential for computer and information systems managers, who must understand and guide the work of their subordinates, yet also explain the work in nontechnical terms to senior management and potential customers. Therefore, these management positions usually require work experience and formal education similar to that of other computer occupations.

Many computer and information systems managers have experience as systems analysts; others may have experience as computer support specialists, programmers, or other information technology professionals. A bachelor's degree usually is required for management positions, although employers often prefer a graduate degree, especially a master's degree in business administration (MBA) with technology as a core component. This degree differs from a traditional MBA in that there is a heavy emphasis on information technology in addition to the standard business curriculum. This is becoming important because more computer and information systems managers are making important technology decisions as well as business decisions for their organizations. Some universities specialize in offering degrees in management information systems, which blend technical core subjects with business, accounting, and communications courses. A few computer and information systems managers may have only an associate degree if they have sufficient experience and were able to learn additional skills on the job. To aid their professional advancement, though, many managers with an associate degree eventually earn a bachelor's or master's degree while working.

Computer and information systems managers need a broad range of skills. In addition to technical skills, employers also seek managers with strong business skills. Employers want managers who have experience with the specific software or technology to be used

on the job, as well as a background in either consulting or business management. The expansion of electronic commerce has elevated the importance of business insight, because many managers are called upon to make important business decisions. Managers need a keen understanding of people, management processes, and customers' needs.

Computer and information systems managers must possess strong interpersonal, communication, and leadership skills because they are required to interact not only with their staff, but also with other people inside and outside their organization. They also must possess team skills to work on group projects and other collaborative efforts. Computer and information systems managers increasingly interact with persons outside their organization, reflecting their emerging role as vital parts of their firm's executive team.

Computer and information systems managers may advance to progressively higher leadership positions in their field. Some may become managers in non-technical areas such as marketing, human resources, or sales. In high technology firms, managers in non-technical areas often must possess the same specialized knowledge as do managers in technical areas.

Job Outlook

Employment of computer and information systems managers is expected to grow much faster than the average for all occupations through the year 2012. Technological advancements will boost the employment of computer-related workers; as a result, the demand for managers to direct these workers also will increase. In addition, job openings will result from the need to replace managers who retire or move into other occupations. Opportunities for obtaining a management position will be best for workers possessing an MBA with technology as a core component, or a management information systems degree, advanced technical knowledge, and strong communication and administrative skills.

Despite the recent downturn in the economy, especially in technology-related sectors, the outlook for computer and information systems managers remains strong. In order to remain competitive, firms will continue to install sophisticated computer networks and set up more complex Internet and intranet sites. Keeping a computer network running smoothly is essential to almost every organization. Firms will be more willing to hire managers who can accomplish that.

The security of computer networks will continue to increase in importance as more business is conducted over the Internet. The security of the Nation's entire electronic infrastructure has come under renewed focus in light of recent threats. Organizations need to understand how their systems are vulnerable and how to protect their infrastructure and Internet sites from hackers, viruses, and other acts of cyber-terrorism. The emergence of "cyber-security" as a key issue facing most organizations should lead to strong growth for computer managers. Firms will increasingly hire cyber-security experts to fill key leadership roles in their information technology departments, because the integrity of their computing environment is of the utmost concern. As a result, there will be a high demand for managers proficient in computer security issues.

Due to the explosive growth of electronic commerce and the capacity of the Internet to create new relationships with customers, the role of computer and information systems managers will continue to evolve in the future. Persons in these jobs will continue to become more vital to their companies. The expansion of the wireless Internet will spur the need for computer and information systems managers with both business savvy and technical proficiency.

Opportunities for those who wish to become computer and information systems managers should be closely related to the growth

of the occupations they supervise and the industries in which they are found. (See the statements on computer programmers; computer software engineers; computer support specialists and systems administrators; and computer systems analysts, database administrators, and computer scientists elsewhere in the *Handbook*.)

Earnings

Earnings for computer and information systems managers vary by specialty and level of responsibility. Median annual earnings of these managers in 2002 were \$85,240. The middle 50 percent earned between \$64,150 and \$109,950. The lowest 10 percent earned less than \$47,440, and the highest 10 percent earned more than \$140,440. Median annual earnings in the industries employing the largest numbers of computer and information systems managers in 2002 were:

Computer systems design and related services	\$94,240
Management of companies and enterprises	91,710
Insurance carriers	89,920
Depository credit intermediation	75,160
Colleges, universities, and professional schools	68,100

According to Robert Half International, average starting salaries in 2003 for high-level information technology managers ranged from \$82,750 to \$151,500. According to a 2003 survey by the National Association of Colleges and Employers, starting salary offers for those with an MBA, a technical undergraduate degree, and 1 year or less of experience averaged \$54,643; for those with a master's degree in management information systems/business data processing, the starting salary averaged \$43,750.

In addition, computer and information systems managers, especially those at higher levels, often receive more employment-related benefits—such as expense accounts, stock option plans, and bonuses—than do non-managerial workers in their organizations.

Related Occupations

The work of computer and information systems managers is closely related to that of computer programmers; computer software engineers; computer systems analysts, database administrators, and computer scientists; and computer support specialists and systems administrators. Computer and information systems managers also have some high-level responsibilities similar to those of top executives.

Sources of Additional Information

For information about a career as a computer and information systems manager, contact the sources of additional information for the various computer occupations discussed elsewhere in the *Handbook*.

Construction Managers

(0*NET 11-9021.00)

Significant Points

- Construction managers must be available—often 24 hours a day—to deal with delays, bad weather, or emergencies at the jobsite.
- Employers prefer individuals who combine construction industry work experience with a bachelor's degree in construction science, construction management, or civil engineering.
- Good employment opportunities are expected; however, employment can be sensitive to the short-term nature of many construction projects and to cyclical fluctuations in construction activity.

Nature of the Work

Construction managers plan and coordinate construction projects. They may have job titles such as constructor, construction superintendent, general superintendent, project engineer, project manager, general construction manager, or executive construction manager. Construction managers may be owners or salaried employees of a construction management or contracting firm, or may work under contract or as a salaried employee of the owner, developer, contractor, or management firm overseeing the construction project. They may plan and direct a whole project or just a part of a project. The *Handbook* uses the term “construction manager” to describe salaried or self-employed managers who oversee construction supervisors and workers.

In contrast with the *Handbook* definition, “construction manager” is defined more narrowly within the construction industry to denote a management firm, or an individual employed by such a firm, involved in managerial oversight of a construction project. Under this definition, construction managers usually represent the owner or developer along with other workers throughout the project. Although they usually play no direct role in the actual construction of a structure, they typically schedule and coordinate all design and construction processes, including the selection, hiring, and oversight of specialty trade contractors.

Managers who work in the construction industry, such as general managers, project engineers, and others, increasingly are called *constructors*. Constructors manage, coordinate, and supervise the construction process from the conceptual development stage through final construction on a timely and economical basis. Given designs for buildings, roads, bridges, or other projects, constructors oversee the organization, scheduling, and implementation of the project to execute those designs. They are responsible for coordinating and managing people, materials, and equipment; budgets, schedules, and contracts; and safety of employees and the general public.

On large projects, several different management systems may be used. In the general contractor system, the owner hires a general contractor to manage all activities. Working for the general contractor, construction managers oversee the completion of all construction in accordance with the engineer's and architect's drawings and specifications and prevailing building codes. They arrange for trade contractors to perform specialized craftwork or other specified construction work. On small projects, such as remodeling a home, a self-employed construction manager or skilled trades worker who directs and oversees employees often is referred to as the con-

struction “contractor.” In the construction management system, the owner hires a firm to oversee all aspects of the project. The management firm will then hire a general contractor to run the construction process and oversee construction of the structure. The major difference from the general contractor system is that the hired management firm, rather than the owner, works with the individual construction manager. In the design-build system, the owners, architects, general contractors, and major subcontractors are brought together to cooperatively plan and design the project. The design-build group may be from an individual firm or a conglomeration of separate entities. The construction manager participates during the design process and may be in charge of the construction project once the design is agreed upon.

Large construction projects, such as an office building or industrial complex, are too complicated for one person to manage. These projects are divided into many segments: Site preparation, including land clearing and earth moving; sewage systems; landscaping and road construction; building construction, including excavation and laying of foundations, as well as erection of structural framework, floors, walls, and roofs; and building systems, including fire-protection, electrical, plumbing, air-conditioning, and heating. Construction managers may be in charge of one or more of these activities. Construction managers often work with engineers, architects, and others who are involved in the construction process.

Construction managers evaluate and determine appropriate construction methods and the most cost-effective plan and schedule. They divide all required construction site activities into logical steps, budgeting the time required to meet established deadlines. This may require sophisticated estimating and scheduling techniques and use of computers with specialized software. (See the statement on cost estimators elsewhere in the *Handbook*.) They oversee the selection of trade contractors to complete specific pieces of the project—which could include everything from structural metalworking and plumbing to painting and carpet installation. Construction managers determine the labor requirements and, in some cases, supervise or monitor the hiring and dismissal of workers. They oversee the performance of all trade contractors and are responsible for ensuring that all work is completed on schedule.

Construction managers direct and monitor the progress of construction activities, sometimes through construction supervisors or other construction managers. They oversee the delivery and use of materials, tools, and equipment; and the quality of construction,



Construction managers are responsible for coordinating and managing people, materials, and equipment; budgets, schedules, and contracts; and the safety of employees and the general public.

worker productivity, and safety. They are responsible for obtaining all necessary permits and licenses and, depending upon the contractual arrangements, direct or monitor compliance with building and safety codes and other regulations. They may have several subordinates, such as assistant managers or superintendents, field engineers, or crew supervisors, reporting to them.

Construction managers regularly review engineering and architectural drawings and specifications to monitor progress and ensure compliance with plans and schedules. They track and control construction costs against the project budget to avoid cost overruns. Based upon direct observation and reports by subordinate supervisors, managers may prepare daily reports of progress and requirements for labor, material, machinery, and equipment at the construction site. They meet regularly with owners, other constructors, trade contractors, vendors, architects, engineers, and others to monitor and coordinate all phases of the construction project.

Working Conditions

Construction managers work out of a main office from which the overall construction project is monitored, or out of a field office at the construction site. Advances in telecommunications and Internet access allow construction managers to be onsite without being out of contact of the office. Management decisions regarding daily construction activities generally are made at the jobsite. Managers usually travel when the construction site is in another State or when they are responsible for activities at two or more sites. Management of overseas construction projects usually entails temporary residence in another country.

Construction managers may be “on call”—often 24 hours a day—to deal with delays, bad weather, or emergencies at the site. Most work more than a standard 40-hour week because construction may proceed around-the-clock. They may have to work this type of schedule for days, even weeks, to meet special project deadlines, especially if there are delays.

Although the work usually is not considered inherently dangerous, construction managers must be careful while performing on-site services.

Employment

Construction managers held 389,000 jobs in 2002. Almost half were self-employed. Most of the rest were employed in the construction industry, 15 percent by specialty trade contractors—for example, plumbing, heating and air-conditioning, and electrical contractors—and 21 percent by general building contractors. Architectural, engineering and related services firms, as well as local governments, employed others.

Training, Other Qualifications, and Advancement

Persons interested in becoming a construction manager need a solid background in building science, business, and management, as well as related work experience within the construction industry. They need to understand contracts, plans, and specifications, and to be knowledgeable about construction methods, materials, and regulations. Familiarity with computers and software programs for job costing, online collaboration, scheduling, and estimating also is important.

Traditionally, persons advance to construction management positions after having substantial experience as construction craftworkers—carpenters, masons, plumbers, or electricians, for example—or after having worked as construction supervisors or as owners of independent specialty contracting firms overseeing workers in one or more construction trades. However, employ-

ers—particularly large construction firms—increasingly prefer individuals who combine industry work experience with a bachelor’s degree in construction science, construction management, or civil engineering. Practical industry experience also is very important, whether it is acquired through internships, cooperative education programs, or work experience in the industry.

Construction managers should be flexible and work effectively in a fast-paced environment. They should be decisive and work well under pressure, particularly when faced with unexpected occurrences or delays. The ability to coordinate several major activities at once, while analyzing and resolving specific problems, is essential, as is an understanding of engineering, architectural, and other construction drawings. Good oral and written communication skills also are important, as are leadership skills. Managers must be able to establish a good working relationship with many different people, including owners, other managers, designers, supervisors, and craftworkers.

Advancement opportunities for construction managers vary depending upon an individual’s performance and the size and type of company for which they work. Within large firms, managers may eventually become top-level managers or executives. Highly experienced individuals may become independent consultants; some serve as expert witnesses in court or as arbitrators in disputes. Those with the required capital may establish their own construction management services, specialty contracting, or general contracting firm.

Many colleges and universities offer 4-year degree programs in construction management, construction science, and construction engineering. These programs include courses in project control and development, site planning, design, construction methods, construction materials, value analysis, cost estimating, scheduling, contract administration, accounting, business and financial management, safety, building codes and standards, inspection procedures, engineering and architectural sciences, mathematics, statistics, and information technology. Graduates from 4-year degree programs usually are hired as assistants to project managers, field engineers, schedulers, or cost estimators. An increasing number of graduates in related fields—engineering or architecture, for example—also enter construction management, often after acquiring substantial experience on construction projects or after completing graduate studies in construction management or building science.

Several colleges and universities offer a master’s degree program in construction management or construction science. Master’s degree recipients, especially those with work experience in construction, typically become construction managers in very large construction or construction management companies. Often, individuals who hold a bachelor’s degree in an unrelated field seek a master’s degree in order to work in the construction industry. Some construction managers obtain a master’s degree in business administration or finance to further their career prospects. Doctoral degree recipients usually become college professors or conduct research.

Many individuals also attend training and educational programs sponsored by industry associations, often in collaboration with postsecondary institutions. A number of 2-year colleges throughout the country offer construction management or construction technology programs.

There is a growing movement towards certification of construction managers to ensure that a construction manager has a certain body of knowledge, abilities, and experience. Both the American Institute of Constructors (AIC) and the Construction Management Association of America (CMAA) have established voluntary certification programs for construction managers. Requirements com-

bine written examinations with verification of education and professional experience. AIC awards the Associate Constructor (AC) and Certified Professional Constructor (CPC) designations to candidates who meet its requirements and pass appropriate construction examinations. CMAA awards the Certified Construction Manager (CCM) designation to practitioners who meet its requirements through work performed in a construction management firm and by passing a technical examination. Applicants for the CMAA certification also must complete a self-study course that covers a broad range of topics central to construction management, including the professional role of a construction manager, legal issues, and allocation of risk. Although certification is not required to work in the construction industry, voluntary certification can be valuable because it provides evidence of competence and experience.

Job Outlook

Good employment opportunities for construction managers are expected through 2012 because the number of job openings should be sufficient to accommodate the number of qualified managers seeking to enter the occupation. Because the construction industry often is seen as having dirty, strenuous, and hazardous working conditions, even for managers, many potential managers choose other types of careers.

Employment of construction managers is projected to increase about as fast as the average for all occupations through 2012, as the level and complexity of construction activity continues to grow. Prospects in construction management, architectural and engineering services, and construction contracting firms should be best for persons who have a bachelor's or higher degree in construction science, construction management, or civil engineering, as well as practical experience working in construction. Employers prefer applicants with previous construction work experience who can combine a strong background in building technology with proven supervisory or managerial skills. In addition to those arising from job growth, many openings should result annually from the need to replace workers who transfer to other occupations or leave the labor force.

The increasing complexity of construction projects should boost demand for management-level personnel within the construction industry, as sophisticated technology and the proliferation of laws setting standards for buildings and construction materials, worker safety, energy efficiency, and environmental protection have further complicated the construction process. Advances in building materials and construction methods; the need to replace much of the Nation's infrastructure; and the growing number of multipurpose buildings, electronically operated "smart" buildings, and energy-efficient structures will further add to the demand for more construction managers. However, employment of construction managers can be sensitive to the short-term nature of many projects and to cyclical fluctuations in construction activity.

Earnings

Earnings of salaried construction managers and self-employed independent construction contractors vary depending upon the size and nature of the construction project, its geographic location, and economic conditions. In addition to typical benefits, many salaried construction managers receive benefits such as bonuses and use of company motor vehicles.

Median annual earnings of construction managers in 2002 were \$63,500. The middle 50 percent earned between \$48,720 and \$84,080. The lowest 10 percent earned less than \$38,130, and the highest 10 percent earned more than \$112,810. Median annual earn-

ings in the industries employing the largest numbers of construction managers in 2002 were:

Nonresidential building construction	\$66,280
Foundation, structure, and building exterior contractors	60,020
Building finishing contractors	59,950
Residential building construction	59,900
Other specialty trade contractors	58,860

According to a 2003 salary survey by the National Association of Colleges and Employers, candidates with a bachelor's degree in construction science/management received job offers averaging \$42,229 a year.

Related Occupations

Construction managers participate in the conceptual development of a construction project and oversee its organization, scheduling, and implementation. Other workers who perform similar functions include architects, except landscape and naval; civil engineers; cost estimators; landscape architects; and engineering and natural sciences managers.

Sources of Information

For information about constructor certification, contact:

► American Institute of Constructors, 466 94th Ave. North, St. Petersburg, FL 33702. Internet: <http://www.constructorcertification.org> or <http://www.aicnet.org>

For information about construction management and construction manager certification, contact:

► Construction Management Association of America, 7918 Jones Branch Dr., Suite 540, McLean, VA 22102-3307. Internet: <http://www.cmaanet.org>

Information on accredited construction science and management educational programs and accreditation requirements is available from:

► American Council for Construction Education, 1300 Hudson Lane, Suite 3, Monroe, LA 71201. Internet: <http://www.acce-hq.org>

Cost Estimators

(0*NET 13-1051.00)

Significant Points

- Over half work in the construction industry and another 20 percent are employed in manufacturing industries.
- Growth of the construction industry will be the driving force behind the demand for cost estimators.
- In construction and manufacturing, job prospects should be best for those with industry work experience and a bachelor's degree in a related field.

Nature of the Work

Accurately forecasting the cost of future projects is vital to the survival of any business. Cost estimators develop the cost information that business owners or managers need to make a bid for a contract or to determine if a proposed new product will be profitable. They also determine which endeavors are making a profit.

Regardless of the industry in which they work, estimators compile and analyze data on all of the factors that can influence costs—such as materials, labor, location, and special machinery requirements, including computer hardware and software. Job duties vary widely depending on the type and size of the project.

The methods of and motivations for estimating costs can differ greatly by industry. On a construction project, for example, the estimating process begins with the decision to submit a bid. After reviewing various preliminary drawings and specifications, the estimator visits the site of the proposed project. The estimator needs to gather information on access to the site and availability of electricity, water, and other services, as well as on surface topography and drainage. The information developed during the site visit usually is recorded in a signed report that is included in the final project estimate.

After the site visit is completed, the estimator determines the quantity of materials and labor the firm will need to furnish. This process, called the quantity survey or “takeoff,” involves completing standard estimating forms, filling in dimensions, number of units, and other information. A cost estimator working for a general contractor, for example, will estimate the costs of all items the contractor must provide. Although subcontractors will estimate their costs as part of their own bidding process, the general contractor's cost estimator often analyzes bids made by subcontractors as well. Also during the takeoff process, the estimator must make decisions concerning equipment needs, sequence of operations, crew size, and physical constraints at the site. Allowances for the waste of materials, inclement weather, shipping delays, and other factors that may increase costs also must be incorporated in the estimate.

On completion of the quantity surveys, the estimator prepares a cost summary for the entire project, including the costs of labor, equipment, materials, subcontracts, overhead, taxes, insurance, markup, and any other costs that may affect the project. The chief estimator then prepares the bid proposal for submission to the owner.

Construction cost estimators also may be employed by the project's architect or owner to estimate costs or to track actual costs relative to bid specifications as the project develops. In large construction companies employing more than one estimator, it is common practice for estimators to specialize. For example, one may estimate only electrical work and another may concentrate on excavation, concrete, and forms.

In manufacturing and other firms, cost estimators usually are assigned to the engineering, cost, or pricing departments. The estimators' goal in manufacturing is to accurately estimate the costs associated with making products. The job may begin when management requests an estimate of the costs associated with a major redesign of an existing product or the development of a new product or production process. When estimating the cost of developing a new product, for example, the estimator works with engineers, first reviewing blueprints or conceptual drawings to determine the machining operations, tools, gauges, and materials that would be required for the job. The estimator then prepares a parts list and determines whether it is more efficient to produce or to purchase the parts. To do this, the estimator must initiate inquiries for price information from potential suppliers. The next step is to determine the cost of manufacturing each component of the product. Some high-technology products require a tremendous amount of computer programming during the design phase. The cost of software development is one of the fastest growing and most difficult activities to estimate. Some cost estimators now specialize in estimating only computer software development and related costs.

The cost estimator then prepares time-phase charts and learning curves. Time-phase charts indicate the time required for tool design and fabrication, tool “debugging”—finding and correcting all problems—manufacturing of parts, assembly, and testing. Learning curves graphically represent the rate at which performance im-



Cost estimators develop and analyze data on factors that influence costs in order to determine whether a proposed new product or contract will be profitable.

proves with practice. These curves are commonly called “cost reduction” curves because many problems—such as engineering changes, rework, parts shortages, and lack of operator skills—diminish as the number of parts produced increases, resulting in lower unit costs.

Using all of this information, the estimator then calculates the standard labor hours necessary to produce a predetermined number of units. Standard labor hours are then converted to dollar values, to which are added factors for waste, overhead, and profit to yield the unit cost in dollars. The estimator then compares the cost of purchasing parts with the firm’s cost of manufacturing them to determine which is cheaper.

Computers play an integral role in cost estimation because estimating often involves complex mathematical calculations and requires advanced mathematical techniques. For example, to undertake a parametric analysis (a process used to estimate project costs on a per unit basis, subject to the specific requirements of a project), cost estimators use a computer database containing information on costs and conditions of many other similar projects. Although computers cannot be used for the entire estimating process, they can relieve estimators of much of the drudgery associated with routine, repetitive, and time-consuming calculations. Computers also are used to produce all of the necessary documentation with the help of word-processing and spreadsheet software, leaving estimators more time to study and analyze projects.

Operations research, production control, cost, and price analysts who work for government agencies may do significant amounts of cost estimating in the course of their regular duties. In addition, the duties of construction managers also may include estimating costs. (For more information, see the statements on operations research analysts and construction managers elsewhere in the *Handbook*.)

Working Conditions

Although estimators spend most of their time in an office, construction estimators must make visits to project worksites that can be dusty, dirty, and occasionally hazardous. Likewise, estimators in manufacturing must spend time on the factory floor where it also can be noisy and dirty. In some industries, frequent travel between a firm’s headquarters and its subsidiaries or subcontractors may be required.

Although estimators normally work a 40-hour week, overtime is common. Cost estimators often work under pressure and stress, especially when facing bid deadlines. Inaccurate estimating can cause a firm to lose out on a bid or to lose money on a job that was not accurately estimated.

Employment

Cost estimators held about 188,000 jobs in 2002. About 53 percent were in the construction industry, and another 20 percent were in manufacturing industries. The remainder worked in a wide range of other industries.

Cost estimators work throughout the country, usually in or near major industrial, commercial, and government centers, and in cities and suburban areas undergoing rapid change or development.

Training, Other Qualifications, and Advancement

Job entry requirements for cost estimators vary by industry. In the construction industry, employers increasingly prefer individuals with a degree in building construction, construction management, construction science, engineering, or architecture. However, most con-

struction estimators also have considerable construction experience, gained through work in the industry, internships, or cooperative education programs. Applicants with a thorough knowledge of construction materials, costs, and procedures in areas ranging from heavy construction to electrical work, plumbing systems, or masonry work have a competitive edge.

In manufacturing industries, employers prefer to hire individuals with a degree in engineering, physical science, operations research, mathematics, or statistics; or in accounting, finance, business, economics, or a related subject. In most industries, great emphasis is placed on experience involving quantitative techniques.

Cost estimators should have an aptitude for mathematics, be able to quickly analyze, compare, and interpret detailed and sometimes poorly defined information, and be able to make sound and accurate judgments based on this knowledge. Assertiveness and self-confidence in presenting and supporting their conclusions are important, as are strong communications and interpersonal skills, because estimators may work as part of a project team alongside managers, owners, engineers, and design professionals. Cost estimators also need knowledge of computers, including word-processing and spreadsheet packages. In some instances, familiarity with special estimation software or programming skills also may be required.

Regardless of their background, estimators receive much training on the job because every company has its own way of handling estimates. Working with an experienced estimator, they become familiar with each step in the process. Those with no experience reading construction specifications or blueprints first learn that aspect of the work. They then may accompany an experienced estimator to the construction site or shop floor, where they observe the work being done, take measurements, or perform other routine tasks. As they become more knowledgeable, estimators learn how to tabulate quantities and dimensions from drawings and how to select the appropriate material prices.

For most estimators, advancement takes the form of higher pay and prestige. Some move into management positions, such as project manager for a construction firm or manager of the industrial engineering department for a manufacturer. Others may go into business for themselves as consultants, providing estimating services for a fee to government or to construction or manufacturing firms.

Many colleges and universities include cost estimating as part of bachelor’s and associate degree curriculums in civil engineering, industrial engineering, and construction management or construction engineering technology. In addition, cost estimating is a significant part of many master’s degree programs in construction science or construction management. Organizations representing cost estimators, such as the Association for the Advancement of Cost Engineering (AACE International) and the Society of Cost Estimating and Analysis (SCEA), also sponsor educational and professional development programs. These programs help students, estimators-in-training, and experienced estimators stay abreast of changes affecting the profession. Specialized courses and programs in cost estimating techniques and procedures also are offered by many technical schools, community colleges, and universities.

Voluntary certification can be valuable to cost estimators because it provides professional recognition of the estimator’s competence and experience. In some instances, individual employers may even require professional certification for employment. Both AACE International and SCEA administer certification programs. To become certified, estimators usually must have between 2 and 8 years of estimating experience and must pass an examination. In

addition, certification requirements may include publication of at least one article or paper in the field.

Job Outlook

Overall employment of cost estimators is expected to grow about as fast as the average for all occupations through the year 2012. In addition to openings created by growth, some job openings will arise from the need to replace workers who transfer to other occupations or leave the labor force. In construction and manufacturing—the primary employers of cost estimators—job prospects should be best for those with industry work experience and a bachelor’s degree in a related field.

Growth of the construction industry, in which 53 percent of all cost estimators are employed, will be the driving force behind the demand for these workers. Construction and repair of highways, streets, and bridges, as well as construction of more subway systems, airports, water and sewage systems, and electric power plants and transmission lines, will stimulate demand for many more cost estimators. The increasing population and its changing demographics that will boost the demand for residential construction and remodeling also will spur demand for cost estimators. As the population ages, the demand for nursing and extended care facilities will increase. School construction and repair also will add to the demand for cost estimators. Job prospects in construction should be best for cost estimators with a degree in construction management or construction science, engineering, or architecture, and who have practical experience in various phases of construction or in a specialty craft area.

Employment of cost estimators in manufacturing will also grow, but not as fast as in construction as firms continue to use their services to identify and control operating costs. Experienced estimators with degrees in engineering, science, mathematics, business administration, or economics should have the best job prospects in manufacturing.

Earnings

Salaries of cost estimators vary widely by experience, education, size of firm, and industry. Median annual earnings of cost estimators in 2002 were \$47,550. The middle 50 percent earned between \$36,440 and \$62,040. The lowest 10 percent earned less than \$28,670, and the highest 10 percent earned more than \$79,240. Median annual earnings in the industries employing the largest numbers of cost estimators in 2002 were:

Nonresidential building construction	\$53,820
Building equipment contractors	50,240
Foundation, structure, and building exterior contractors	47,630
Residential building construction	47,180
Building finishing contractors	45,630

College graduates with degrees in fields that provide a strong background in cost estimating, such as engineering or construction management, could start at a higher level. According to a 2003 salary survey by the National Association of Colleges and Employers, bachelor’s degree candidates with degrees in construction science/management received job offers averaging \$42,229 a year.

Related Occupations

Other workers who quantitatively analyze information include accountants and auditors; budget analysts; claims adjusters, appraisers, examiners, and investigators; economists; financial analysts and personal financial advisors; insurance underwriters; loan counselors and officers; market and survey researchers; and operations research analysts. In addition, the duties of industrial production

managers and construction managers also may involve analyzing costs.

Sources of Additional Information

Information about career opportunities, certification, educational programs, and cost estimating techniques may be obtained from:

- Association for the Advancement of Cost Engineering (AACE International), 209 Prairie Ave., Suite 100, Morgantown, WV 26501. Internet: <http://www.aacei.org>
- Society of Cost Estimating and Analysis, 101 S. Whiting St., Suite 201, Alexandria, VA 22304. Internet: <http://www.sceaonline.net>

Education Administrators

(0*NET 11-9031.00, 11-9032.00, 11-9033.00, 11-9039.99)

Significant Points

- Many jobs require a master's or doctoral degree and experience in a related occupation, such as a teacher or admissions counselor.
- Strong interpersonal and communication skills are essential because much of an administrator's job involves working and collaborating with others.
- Job outlook is expected to be excellent because a large proportion of education administrators are expected to retire over the next 10 years.

Nature of the Work

Smooth operation of an educational institution requires competent administrators. *Education administrators* provide instructional leadership as well as manage the day-to-day activities in schools, pre-schools, daycare centers, and colleges and universities. They also direct the educational programs of businesses, correctional institutions, museums, and job training and community service organizations. (College presidents and school superintendents are covered in the *Handbook* statement on general managers and top executives.) Education administrators set educational standards and goals and establish the policies and procedures to carry them out. They also supervise managers, support staff, teachers, counselors, librarians, coaches, and others. They develop academic programs; monitor students' educational progress; train and motivate teachers and other staff; manage guidance and other student services; administer recordkeeping; prepare budgets; handle relations with parents, prospective and current students, employers, and the community; and perform many other duties. In an organization such as a small daycare center, one administrator may handle all these functions. In universities or large school systems, responsibilities are divided among many administrators, each with a specific function.

Those who manage elementary, middle, and secondary schools are called *principals*. They set the academic tone and hire, evaluate, and help improve the skills of teachers and other staff. Principals confer with staff to advise, explain, or answer procedural questions. They visit classrooms, observe teaching methods, review instructional objectives, and examine learning materials. They actively work with teachers to develop and maintain high curriculum standards, develop mission statements, and set performance goals and objectives. Principals must use clear, objective guidelines for teacher appraisals, because pay often is based on performance ratings.

Principals also meet and interact with other administrators, students, parents, and representatives of community organizations. Decisionmaking authority has increasingly shifted from school district central offices to individual schools. Thus, parents, teachers, and other members of the community play an important role in setting school policies and goals. Principals must pay attention to the concerns of these groups when making administrative decisions.

Principals prepare budgets and reports on various subjects, including finances and attendance, and oversee the requisition and allocation of supplies. As school budgets become tighter, many principals have become more involved in public relations and fundraising to secure financial support for their schools from local businesses and the community.

Principals must take an active role to ensure that students meet national, State, and local academic standards. Many principals develop school/business partnerships and school-to-work transition programs for students. Increasingly, principals must be sensitive to the needs of the rising number of non-English speaking and culturally diverse students. Growing enrollments, which are leading to overcrowding at many existing schools, also are a cause for concern. When addressing problems of inadequate resources, administrators serve as advocates for the building of new schools or the repair of existing ones. During summer months, principals are responsible for planning for the upcoming year, overseeing summer school, participating in workshops for teachers and administrators, supervising building repairs and improvements, and working to be sure the school has adequate staff for the school year.

Schools continue to be involved with students' emotional welfare as well as their academic achievement. As a result, principals face responsibilities outside the academic realm. For example, in response to the growing numbers of dual-income and single-parent families and teenage parents, schools have established before- and after-school childcare programs or family resource centers, which also may offer parenting classes and social service referrals. With the help of community organizations, some principals have established programs to combat increases in crime, drug and alcohol abuse, and sexually transmitted diseases among students.

Assistant principals aid the principal in the overall administration of the school. Some assistant principals hold this position for several years to prepare for advancement to principal jobs; others are career assistant principals. They are primarily responsible for scheduling student classes, ordering textbooks and supplies, and coordinating transportation, custodial, cafeteria, and other support services. They usually handle student discipline and attendance problems, social and recreational programs, and health and safety matters. They also may counsel students on personal, educational, or vocational matters. With the advent of site-based management, assistant principals are playing a greater role in ensuring the academic success of students by helping to develop new curriculums, evaluating teachers, and dealing with school-community relations—responsibilities previously assumed solely by the principal. The number of assistant principals that a school employs may vary, depending on the number of students.

In preschools and childcare centers, education administrators are the director or supervisor of the school or center. Their job is similar to that of other school administrators in that they oversee daily



Strong interpersonal and communication skills are essential for education administrators.

activities and operation of the schools, hire and develop staff, and make sure that the school meets required regulations.

Administrators in school district central offices oversee public schools under their jurisdiction. This group includes those who direct subject-area programs such as English, music, vocational education, special education, and mathematics. They supervise instructional coordinators and curriculum specialists, and work with them to evaluate curriculums and teaching techniques and improve them. (Instructional coordinators are covered elsewhere in the *Handbook*.) Administrators also may oversee career counseling programs and testing that measures students' abilities and helps to place them in appropriate classes. Others may also direct programs such as school psychology, athletics, curriculum and instruction, and professional development. With site-based management, administrators have transferred primary responsibility for many of these programs to the principals, assistant principals, teachers, instructional coordinators, and other staff in the schools.

In colleges and universities, *academic deans*, *deans of faculty*, *provosts*, and *university deans* assist presidents, make faculty appointments, develop budgets, and establish academic policies and programs. They also direct and coordinate the activities of deans of individual colleges and chairpersons of academic departments. Fundraising also is becoming an essential part of their job.

College or university department heads or chairpersons are in charge of departments that specialize in particular fields of study, such as English, biological science, or mathematics. In addition to teaching, they coordinate schedules of classes and teaching assignments; propose budgets; recruit, interview, and hire applicants for teaching positions; evaluate faculty members; encourage faculty development; serve on committees; and perform other administrative duties. In overseeing their departments, chairpersons must consider and balance the concerns of faculty, administrators, and students.

Higher education administrators also direct and coordinate the provision of student services. *Vice presidents of student affairs or student life*, *deans of students*, and *directors of student services* may direct and coordinate admissions, foreign student services, health and counseling services, career services, financial aid, and housing and residential life, as well as social, recreational, and related programs. In small colleges, they may counsel students. In larger colleges and universities, separate administrators may handle each of these services. *Registrars* are custodians of students' records. They register students, record grades, prepare student transcripts, evaluate academic records, assess and collect tuition and fees, plan and implement commencement, oversee the preparation of college catalogs and schedules of classes, and analyze enrollment and demographic statistics. *Directors of admissions* manage the process of recruiting, evaluating, and admitting students, and work closely with *financial aid directors*, who oversee scholarship, fellowship, and loan programs. Registrars and admissions officers at most institutions need computer skills because they use electronic student information systems. For example, for those whose institutions present information—such as college catalogs and schedules—on the Internet, knowledge of online resources, imaging, and other computer skills is important. *Athletic directors* plan and direct intramural and intercollegiate athletic activities, seeing to publicity for athletic events, preparation of budgets, and supervision of coaches. Other increasingly important administrators direct fundraising, public relations, distance learning, and technology.

Working Conditions

Education administrators hold leadership positions with significant responsibility. Most find working with students extremely reward-

ing, but as the responsibilities of administrators have increased in recent years, so has the stress. Coordinating and interacting with faculty, parents, students, community members, business leaders, and State and local policymakers can be fast-paced and stimulating, but also stressful and demanding. Principals and assistant principals, whose varied duties include discipline, may find working with difficult students challenging. The pressures associated with education administrator jobs have multiplied in recent years, as workers in these positions are increasingly being held accountable for ensuring that their schools meet recently imposed State and Federal guidelines for student performance and teacher qualifications, and as they must cope with the additional challenges presented by current budget shortfalls.

Many education administrators work more than 40 hours a week, often including school activities at night and on weekends. Most administrators work 11 or 12 months out of the year. Some jobs include travel.

Employment

Education administrators held about 427,000 jobs in 2002. About 2 in 10 worked for private education institutions, and 6 in 10 worked for State and local governments, mainly in schools, colleges and universities, and departments of education. Less than 5 percent were self-employed. The rest worked in child daycare centers, religious organizations, job training centers, and businesses and other organizations that provided training for their employees.

Training, Other Qualifications, and Advancement

Most education administrators begin their careers in related occupations, and prepare for a job in education administration by completing a master's or doctoral degree. Because of the diversity of duties and levels of responsibility, their educational backgrounds and experience vary considerably. Principals, assistant principals, central office administrators, academic deans, and preschool directors usually have held teaching positions before moving into administration. Some teachers move directly into principal positions; others first become assistant principals, or gain experience in other central office administrative jobs at either the school or district level in positions such as department head, curriculum specialist, or subject matter advisor. In some cases, administrators move up from related staff jobs such as recruiter, guidance counselor, librarian, residence hall director, or financial aid or admissions counselor.

To be considered for education administrator positions, workers must first prove themselves in their current jobs. In evaluating candidates, supervisors look for leadership, determination, confidence, innovativeness, and motivation. The ability to make sound decisions and to organize and coordinate work efficiently is essential. Because much of an administrator's job involves interacting with others—such as students, parents, teachers, and the community—a person in such a position must have strong interpersonal skills and be an effective communicator and motivator. Knowledge of leadership principles and practices, gained through work experience and formal education, is important. A familiarity with computer technology is a necessity for principals, who are required to gather information and coordinate technical resources for their students, teachers, and classrooms.

In most public schools, principals, assistant principals, and school administrators in central offices need a master's degree in education administration or educational supervision. Some principals and central office administrators have a doctorate or specialized degree in education administration. In private schools, which are not subject to State licensure requirements, some principals and assistant

principals hold only a bachelor's degree; however, the majority have a master's or doctoral degree. Most States require principals to be licensed as school administrators. License requirements vary by State. National standards for school leaders, including principals and supervisors, have been developed by the Interstate School Leaders Licensure Consortium. Many States use these national standards as guidelines to assess beginning principals for licensure. Increasingly, on-the-job training, often with a mentor, is required for new school leaders. Some States require administrators to take continuing education courses to keep their license, thus ensuring that administrators have the most up-to-date skills. The number and types of courses required to maintain licensure vary by State.

Educational requirements for administrators of preschools and childcare centers vary depending on the setting of the program and the State of employment. Administrators who oversee school-based preschool programs are often required to have at least a bachelor's degree. Child care directors are generally not required to have a degree; however, most States require a credential such as the Child Development Associate credential (CDA) sponsored by the Council for Professional Recognition or other credential specifically designed for administrators. The National Child Care Association, offers a National Administration Credential, which some recent college graduates voluntarily earn to better qualify for positions as childcare center directors.

Academic deans and chairpersons usually have a doctorate in their specialty. Most have held a professorship in their department before advancing. Admissions, student affairs, and financial aid directors and registrars sometimes start in related staff jobs with bachelor's degrees—any field usually is acceptable—and obtain advanced degrees in college student affairs, counseling, or higher education administration. A Ph.D. or Ed.D. usually is necessary for top student affairs positions. Computer literacy and a background in accounting or statistics may be assets in admissions, records, and financial work.

Advanced degrees in higher education administration, educational supervision, and college student affairs are offered in many colleges and universities. The National Council for Accreditation of Teacher Education and the Educational Leadership Constituent Council accredit these programs. Education administration degree programs include courses in school leadership, school law, school finance and budgeting, curriculum development and evaluation, research design and data analysis, community relations, politics in education, and counseling. Educational supervision degree programs include courses in supervision of instruction and curriculum, human relations, curriculum development, research, and advanced teaching courses.

Education administrators advance through promotion to more responsible administrative positions or by transferring to more responsible positions at larger schools or systems. They also may become superintendents of school systems or presidents of educational institutions.

Job Outlook

Employment of education administrators is projected to grow faster than the average for all occupations through 2012. As education and training take on greater importance in everyone's lives, the need for people to administer education programs will grow. Job opportunities for many of these positions should also be excellent because a large proportion of education administrators are expected to retire over the next 10 years.

A significant portion of growth will stem from growth in the private and for-profit segments of education. Many of these schools cater to working adults, many of whom might not ordinarily participate in postsecondary education. These schools allow students to earn a degree, receive job-specific training or update their skills, in a convenient manner, such as through part-time programs or distance learning. As the number of these schools continues to grow, more administrators will be needed to oversee them.

Enrollments of school-age children will also have an impact on the demand for education administrators. The U.S. Department of Education projects enrollment of elementary and secondary school students to grow between 5 and 7 percent over the next decade. Preschool and childcare center administrators are expected to experience substantially more growth as enrollments in formal child care programs continues to expand as fewer private households care for young children. Additionally, if mandatory preschool becomes more widespread more preschool directors will be needed. The number of postsecondary school students is projected to grow more rapidly than other student populations, creating significant demand for administrators at that level. In addition, enrollments are expected to increase the fastest in the West and South, where the population is growing, and to decline or remain stable in the Northeast and the Midwest. School administrators also are in greater demand in rural and urban areas, where pay is generally lower than in the suburbs.

Principals and assistant principals should have favorable job prospects. A sharp increase in responsibilities in recent years has made the job more stressful, and has discouraged teachers from taking positions in administration. Principals are now being held more accountable for the performance of students and teachers, while at the same time they are required to adhere to a growing number of government regulations. In addition, overcrowded classrooms, safety issues, budgetary concerns, and teacher shortages in some areas all are creating additional stress for administrators. The increase in pay is often not high enough to entice people into the field.

Job prospects also are expected to be favorable for college and university administrators, particularly those seeking nonacademic positions. Colleges and universities may be subject to funding shortfalls during economic downturns, but increasing enrollments over the projection period will require that institutions replace the large numbers of administrators who retire, and even hire additional administrators. While competition among faculty for prestigious positions as academic deans and department heads is likely to remain keen, fewer applicants are expected for nonacademic administrative jobs, such as director of admissions or student affairs. Furthermore, many people are discouraged from seeking administrator jobs by the requirement that they have a master's or doctoral degree in education administration—as well as by the opportunity to earn higher salaries in other occupations.

Earnings

In 2002, elementary and secondary school administrators had median annual earnings of \$71,490; postsecondary school administrators had median annual earnings of \$64,640, while preschool and childcare center administrators earned a median of \$33,340 per year. Salaries of education administrators depend on several factors, including the location and enrollment level in the school or school district. According to a survey of public schools, conducted by the Educational Research Service, average salaries for principals and assistant principals in the 2002-03 school year were as follows:

Directors, managers, coordinators, and supervisors, finance and business	\$81,451
Principals:	
Elementary school	75,291
Jr. high/middle school	80,708
Senior high school	86,452
Assistant principals:	
Elementary school	\$62,230
Jr. high/middle school	67,288
Senior high school	70,874

According to the College and University Professional Association for Human Resources, median annual salaries for selected administrators in higher education in 2001-02 were as follows:

Academic deans:	
Business	\$107,414
Graduate programs	100,391
Education	100,227
Arts and sciences	98,780
Health-related professions	89,234
Nursing	88,386
Continuing education	84,457
Occupational or vocational education	73,595
Other administrators:	
Dean of students	\$70,012
Director, admissions and registrar	61,519
Director, student financial aid	57,036
Director, annual giving	49,121
Director, student activities	41,050

Benefits for education administrators are generally very good. Many get 4 or 5 weeks vacation every year and have generous health and pension packages. Many colleges and universities offer free tuition to employees and their families.

Related Occupations

Education administrators apply organizational and leadership skills to provide services to individuals. Workers in related occupations include administrative services managers; office and administrative support worker supervisors and managers; human resource, training, and labor relations managers and specialists; and archivists, curators, and museum technicians. Education administrators also work with students and have backgrounds similar to those of counselors; librarians; instructional coordinators; teachers—pre-school, kindergarten, elementary, middle, and secondary; and teachers—postsecondary.

Sources of Additional Information

For information on principals and other management staff in public schools, contact:

► Educational Research Service, 2000 Clarendon Boulevard, Arlington, VA 22201-2908. Internet: <http://www.ers.org>

For information on principals, contact:

► The National Association of Elementary School Principals, 1615 Duke St., Alexandria, VA 22314-3483. Internet: <http://www.naesp.org>

► The National Association of Secondary School Principals, 1904 Association Drive, Reston, VA 20191-1537. Internet: <http://www.nassp.org>

For information on collegiate registrars and admissions officers, contact:

► American Association of Collegiate Registrars and Admissions Officers, One Dupont Circle NW., Suite 520, Washington, DC 20036-1171. Internet: <http://www.aacrao.org>

For information on professional development and graduate programs for college student affairs administrators, contact:

► NASPA, Student Affairs Administrators in Higher Education, 1875 Connecticut Ave. NW., Suite 418, Washington, DC 20009. Internet: <http://www.naspa.org>

Engineering and Natural Sciences Managers

(0*NET 11-9041.00, 11-9121.00)

Significant Points

- Most engineering and natural sciences managers have previous experience as engineers, scientists, or mathematicians.
- Projected employment growth for engineering and natural sciences managers should be closely related to those for the engineers and scientists they supervise and the industries in which they are found.
- Opportunities will be best for workers with advanced technical knowledge and strong communication and business management skills.

Nature of the Work

Engineering and natural sciences managers plan, coordinate, and direct research, design, and production activities. They may supervise engineers, scientists, and technicians, along with support personnel. These managers use advanced technical knowledge of engineering and science to oversee a variety of activities. They determine scientific and technical goals within broad outlines provided by top executives, who are discussed elsewhere in the *Handbook*. These goals may include improving manufacturing processes, advancing scientific research, or developing new products. Managers make detailed plans to accomplish these goals—for example, they may develop the overall concepts of a new product or identify technical problems preventing the completion of a project.

To perform effectively, they also must possess knowledge of administrative procedures, such as budgeting, hiring, and supervision. These managers propose budgets for projects and programs and determine staff, training, and equipment needs. They hire and assign scientists, engineers, and support personnel to carry out specific parts of each project. They also supervise the work of these employees, review their output, and establish administrative procedures and policies—including environmental standards, for example.

In addition, these managers use communication skills extensively. They spend a great deal of time coordinating the activities of their unit with those of other units or organizations. They confer with higher levels of management; with financial, production, marketing, and other managers; and with contractors and equipment and materials suppliers.

Engineering managers supervise people who design and develop machinery, products, systems, and processes; or direct and coordinate production, operations, quality assurance, testing, or maintenance in industrial plants. Many are plant engineers, who direct and coordinate the design, installation, operation, and maintenance of equipment and machinery in industrial plants. Others manage research and development teams that produce new products and processes or improve existing ones.

Natural sciences managers oversee the work of life and physical scientists, including agricultural scientists, chemists, biologists, geologists, medical scientists, and physicists. These managers direct research and development projects and coordinate activities such as testing, quality control, and production. They may work on basic research projects or on commercial activities. Science managers sometimes conduct their own research in addition to managing the work of others.

Working Conditions

Engineering and natural sciences managers spend most of their time in an office. Some managers, however, also may work in laboratories, where they may be exposed to the same conditions as research scientists, or in industrial plants, where they may be exposed to the same conditions as production workers. Most managers work at least 40 hours a week and may work much longer on occasion to meet project deadlines. Some may experience considerable pressure to meet technical or scientific goals on a short deadline or within a tight budget.

Employment

Engineering and natural sciences managers held about 257,000 jobs in 2002. About 26 percent worked in professional, scientific, and technical services industries, primarily for firms providing architectural, engineering, and related services; computer systems design and related services; and scientific research and development services. Manufacturing industries employed 35 percent of engineering and natural sciences managers. Manufacturing industries with the largest employment include those producing computer and electronic equipment, machinery, transportation equipment, including aerospace products and parts, and chemicals, including pharmaceuticals. Other large employers include government agencies and telecommunications and utilities companies.

Training, Other Qualifications, and Advancement

Strong technical knowledge is essential for engineering and natural sciences managers, who must understand and guide the work of their subordinates and explain the work in nontechnical terms to senior management and potential customers. Therefore, these management positions usually require work experience and formal education similar to those of engineers, scientists, or mathematicians.

Most engineering managers begin their careers as engineers, after completing a bachelor's degree in the field. To advance to higher level positions, engineers generally must assume management responsibility. To fill management positions, employers seek engineers who possess administrative and communications skills in addition to technical knowledge in their specialty. Many engineers gain these skills by obtaining a master's degree in engineering management or a master's degree in business administration (MBA). Employers often pay for such training. In large firms, some courses required in these degree programs may be offered on site. Engineers who prefer to manage in technical areas should get a master's



Engineering and natural sciences managers provide guidance to employees and oversee day-to-day operations of the organization.

degree in engineering management, while those interested in non-technical management should get an MBA.

Many science managers begin their careers as scientists, such as chemists, biologists, geologists, or mathematicians. Most scientists or mathematicians engaged in basic research have a Ph.D.; some in applied research and other activities may have a bachelor's or master's degree. Science managers must be specialists in the work they supervise. In addition, employers prefer managers with good communication and administrative skills. Graduate programs allow scientists to augment their undergraduate training with instruction in other fields, such as management or computer technology. Given the rapid pace of scientific developments, science managers must continuously upgrade their knowledge.

Engineering and natural sciences managers may advance to progressively higher leadership positions within their discipline. Some may become managers in nontechnical areas such as marketing, human resources, or sales. In high technology firms, managers in nontechnical areas often must possess the same specialized knowledge as do managers in technical areas. For example, employers in an engineering firm may prefer to hire experienced engineers as sales workers because the complex services offered by the firm can be marketed only by someone with specialized engineering knowledge. Such sales workers could eventually advance to jobs as sales managers.

Job Outlook

Employment of engineering and natural sciences managers is expected to have average growth through the year 2012—in line with projected employment growth in engineering and most sciences. However, many additional jobs will result from the need to replace managers who retire or move into other occupations. Opportunities for obtaining a management position will be best for workers with advanced technical knowledge and strong communication skills. In addition, business management skills are important because engineering and natural sciences managers are involved in their firm's financial, production, and marketing activities.

Projected employment growth for engineering and natural sciences managers should be closely related to the growth of the occupations they supervise and the industries in which they are found. For example, opportunities for managers should be better in rapidly growing areas of engineering—such as electrical, computer, and biomedical engineering—than in more slowly growing areas of engineering or physical science, such as aerospace and petroleum engineering. (See the statements on engineers and on life and physical scientists, elsewhere in the *Handbook*.) In addition, many employers are finding it more efficient to contract engineering and science management services to outside companies and consultants, creating good opportunities for managers in management services and management, scientific, and technical consulting firms.

Earnings

Earnings for engineering and natural sciences managers vary by specialty and level of responsibility. Median annual earnings of engineering managers were \$90,930 in 2002. The middle 50 percent earned between \$72,480 and \$114,050. The lowest 10 percent earned less than \$57,840, and the highest 10 percent earned more than \$141,380. Median annual earnings in the industries employing the largest numbers of engineering managers in 2002 were:

Navigational, measuring, electromedical, and control instruments manufacturing	\$101,290
Management of companies and enterprises	98,000
Aerospace product and parts manufacturing	97,420
Federal Government	90,030
Architectural, engineering, and related services	89,520

Median annual earnings of natural sciences managers were \$82,250 in 2002. The middle 50 percent earned between \$60,000 and \$111,070. The lowest 10 percent earned less than \$45,640, and the highest 10 percent earned more than \$144,590. Median annual earnings in the industries employing the largest numbers of natural sciences managers in 2002 were:

Scientific research and development services	\$101,690
Federal Government	77,020

A survey of manufacturing firms, conducted by Abbot, Langer & Associates, found that engineering department managers and superintendents earned a median annual income of \$89,271 in 2003, while research and development managers earned \$86,412.

In addition, engineering and natural sciences managers, especially those at higher levels, often receive more benefits—such as expense accounts, stock option plans, and bonuses—than do non-managerial workers in their organizations.

Related Occupations

The work of engineering and natural sciences managers is closely related to that of engineers; mathematicians; and physical and life scientists, including agricultural and food scientists, biological and medical scientists, conservation scientists and foresters, atmospheric scientists, chemists and materials scientists, environmental scientists and geoscientists, and physicists and astronomers. It also is related to the work of other managers, especially top executives.

Sources of Additional Information

For information about a career as an engineering and natural sciences manager, contact the sources of additional information for engineers, life scientists, and physical scientists that are listed at the end of statements on these occupations elsewhere in the *Handbook*.

Farmers, Ranchers, and Agricultural Managers

(0*NET 11-9011.01, 11-9011.02, 11-9011.03, 11-9012.00)

Significant Points

- Modern farming requires knowledge of new developments in agriculture, and work experience acquired through growing up on a farm or through a small number of internships now available.
- Overall employment is projected to decline because of increasing productivity and consolidation of farms.
- Aquaculture and horticulture should provide better employment opportunities.
- Developments in value-added marketing and organic farming are making small-scale farming economically viable again.

Nature of the Work

American farmers, ranchers, and agricultural managers direct the activities of one of the world's largest and most productive agricultural sectors. They produce enough food and fiber to meet the needs of the United States and produce a surplus for export.

Farmers and ranchers own and operate mainly family-owned farms. They may also lease land from a landowner and operate it as a working farm. The type of farm they operate determines their specific tasks. On crop farms—farms growing grain, cotton, and other fibers, fruit, and vegetables—farmers are responsible for preparing, tilling, planting, fertilizing, cultivating, spraying, and harvesting. After the harvest, they make sure the crops are properly packaged, stored, or marketed. Livestock, dairy, and poultry farmers must feed, and care for the animals and keep barns, pens, coops, and other farm buildings clean and in good condition. They also plan and oversee breeding and marketing activities. Horticultural specialty farmers oversee the production of ornamental plants, nursery products—such as flowers, bulbs, shrubbery, and sod—and fruits and vegetables grown in greenhouses. Aquaculture farmers raise fish and shellfish in marine, brackish, or fresh water, usually in ponds, floating net pens, raceways, or recirculating systems. They stock, feed, protect, and otherwise manage aquatic life sold for consumption or used for recreational fishing.

Responsibilities of farmers and ranchers range from caring for livestock, to operating machinery, to maintaining equipment and facilities. The size of the farm or ranch often determines which of these tasks farmers and ranchers will handle themselves. Operators of small farms usually perform all tasks, physical and administrative. They keep records for management and tax purposes, service machinery, maintain buildings, and grow vegetables and raise animals. Operators of large farms, on the other hand, have employees who help with the physical work that small-farm operators do themselves. Although employment on most farms is limited to the farmer and one or two family workers or hired employees, some large farms have 100 or more full-time and seasonal workers. Some of these employees are in nonfarm occupations, working as truck drivers, sales representatives, bookkeepers, and computer specialists.

Agricultural managers manage the day-to-day activities of one or more farms, ranches, nurseries, timber tracts, greenhouses, and other agricultural establishments for farmers, absentee landowners, or corporations. Their duties and responsibilities vary widely, but are concentrated on the business aspects of running a farm. On

small farms, they may oversee the entire operation, while on large farms they may oversee a single activity, such as marketing. Agricultural managers usually do not perform production activities; instead they hire and supervise farm and livestock workers, who perform most of the daily production tasks. In these cases, managers may establish output goals; determine financial constraints; monitor production and marketing; hire, assign, and supervise workers; determine crop transportation and storage requirements; and oversee maintenance of the property and equipment.

Farmers, ranchers, and agricultural managers make many managerial decisions. Farm output is strongly influenced by the weather, disease, fluctuations in prices of domestic and foreign farm products, and Federal farm programs. In crop production operations, farmers and managers usually determine the best time to plant seed, apply fertilizer and chemicals, harvest, and market. They use different strategies to protect themselves from unpredictable changes in the markets for agricultural products. Many farmers and managers carefully plan the combination of crops they grow so that if the price of one crop drops, they will have sufficient income from another to make up for the loss. While most farm output is sold to middlemen—primarily food processing companies—some farmers, particularly operators of smaller farms, may choose to sell their goods directly through farmers' markets, or use cooperatives to reduce their financial risk and to gain a larger share of consumers' expenditures on food. For example, in Community Supported Agriculture (CSA), cooperatives sell to consumers shares of a harvest prior to the planting season, thus freeing the farmer from having to bear all the financial risks and ensuring the farmer a market for the produce of the coming season.

Farmers, ranchers, and agricultural managers also negotiate with banks and other credit lenders to get the best financing deals for their equipment as well as their livestock and seed. They must also keep abreast of constantly changing prices for their products and be able to manage the risk of fluctuating prices. Those who plan ahead may be able to store their crops or keep their livestock to take advantage of better prices later in the year. Those who participate in the risky futures market, where contracts on agricultural goods are bought and sold at specified prices in the future, can minimize the risk of sudden price changes by buying futures contracts that guarantee they will get at least a certain price for their agricultural goods when they are ready to sell.

Like other businesses, farming operations have become more complex in recent years, so many farmers use computers to keep



Getting a crop to market is a prime responsibility of farmers and agricultural managers.

financial and inventory records. They also use computer databases and spreadsheets to manage breeding, dairy, and other farm operations.

Working Conditions

The work of farmers, ranchers, and agricultural managers is often strenuous; work hours are frequently long; and they rarely have days off during the planting, growing, and harvesting seasons. Nevertheless, for those who enter farming or ranching, the disadvantages are outweighed by the quality of life in a rural area, working outdoors, being self-employed, and making a living working the land. Farmers and farm managers on crop farms usually work from sunrise to sunset during the planting and harvesting seasons. During the rest of the year they plan next season's crops, market their output, and repair machinery; some may earn additional income by working a second job off the farm.

On livestock producing farms and ranches, work goes on throughout the year. Animals, unless they are grazing, must be fed and watered every day, and dairy cows must be milked two or three times a day. Many livestock and dairy farmers monitor and attend to the health of their herds, which may include assisting in the birthing of animals. Such farmers rarely get the chance to get away unless they hire an assistant or arrange for a temporary substitute.

Farmers who grow produce and perishables have different demands on their time. For example, organic farmers must maintain cover crops during the cold months, which keep them occupied with farming beyond the typical growing season.

Farm work also can be hazardous. Tractors and other farm machinery can cause serious injury, and workers must be constantly alert on the job. The proper operation of equipment and handling of chemicals is necessary to avoid accidents and protect the environment.

On very large farms, farmers spend substantial time meeting with farm managers or farm supervisors in charge of various activities. Professional farm managers overseeing several farms may divide their time between traveling to meet farmers or landowners and planning the farm operations in their offices. As farming practices and agricultural technology become more sophisticated, farmers and farm managers are spending more time in offices and at computers, where they electronically manage many aspects of their businesses. Some farmers also spend time at conferences, particularly during the winter months, exchanging information.

Employment

Farmers, ranchers, and agricultural managers held nearly 1.4 million jobs in 2002. About 84 percent were self-employed. Most farmers, ranchers, and agricultural managers oversee crop production activities, while others manage livestock and dairy production. A smaller number are involved in agricultural services, such as contract harvesting and farm labor contracting.

The soil, topography of the land, and climate determine the type of farming and ranching done in a particular area. For example, California, Wisconsin, New York, and Pennsylvania lead the country in milk production, while Iowa, Ohio, Pennsylvania, and California lead in egg production. Texas, California, Mississippi, Georgia, and Arizona are the biggest cotton producers; and Kansas, North Dakota, Washington, and Montana are the biggest wheat producers.

Training, Other Qualifications, and Advancement

Growing up on a family farm and participating in agricultural programs for young people (sponsored by the National FFA Organization, formerly known as the Future Farmers of America, or the 4-H

youth educational programs, or other educational opportunities offered by the Extension Service) are important sources of training for those interested in pursuing agriculture as a career. However, modern farming requires increasingly complex scientific, business, and financial decisions. Therefore, even people who were raised on farms must acquire the appropriate education.

Not all agricultural managers grew up on farms or ranches. For these people, a bachelor's degree in business with a concentration in agriculture is important. In addition to formal education, they need several years of work experience in the different aspects of farm and ranch operations in order to qualify for an agricultural manager position.

Students should select the college most appropriate to their specific interests and location. In the United States, all State university systems have one land-grant university with a school of agriculture. Common programs of study include agronomy, dairy science, agricultural economics and business, horticulture, crop and fruit science, and animal science. For students interested in aquaculture, formal programs are available, and include coursework in fisheries biology, fish culture, hatchery management and maintenance, and hydrology. Whatever one's interest, the college curriculum should include courses in agricultural production, marketing, and economics.

Professional status can be enhanced through voluntary certification as an Accredited Farm Manager (AFM) by the American Society of Farm Managers and Rural Appraisers. Certification requires several years of farm management experience, the appropriate academic background—a bachelor's degree or, preferably, a master's degree in a field of agricultural science—and the passing of courses and examinations relating to business, financial, and legal aspects of farm and ranch management.

Farmers, ranchers, and agricultural managers need to keep abreast of continuing advances in agricultural methods both in the United States and abroad, as well as changes in governmental regulations that may impact methods or markets for particular crops. Besides print journals that inform the agricultural community, the spread of the Internet allows quick access to the latest developments in areas such as agricultural marketing, legal arrangements, or growing crops, vegetables, and livestock. Electronic mail, on-line journals, and newsletters from agricultural organizations also speed the exchange of information directly between farming associations and individual farmers.

Farmers, ranchers, and agricultural managers also must have enough technical knowledge of crops, growing conditions, and plant diseases to make decisions ensuring the successful operation of their farms. A rudimentary knowledge of veterinary science, as well as animal husbandry, is important for livestock and dairy farmers. Knowledge of the relationship between farm operations—for example, the use of pesticides—and environmental conditions is essential. Mechanical aptitude and the ability to work with tools of all kinds are also valuable skills for the operator of a small farm, who often maintains and repairs machinery or farm structures.

Farmers, ranchers, and agricultural managers need the managerial skills necessary to organize and operate a business. A basic knowledge of accounting and bookkeeping is essential in keeping financial records, while knowledge of credit sources is vital for buying seed, fertilizer, and other inputs necessary for planting. It is also necessary to be familiar with complex safety regulations and requirements of governmental agricultural support programs. Computer skills are increasingly important, especially on large farms, where computers are widely used for recordkeeping and business analysis. For example, some farmers, ranchers, and agricultural managers use personal computers to access the Internet to get the

latest information on prices of farm products and other agricultural news. Additionally, skills in personnel management, communication, and conflict resolution are equally important in the operation of a farm or ranch business.

High school training should include courses in mathematics and in biology and other life sciences. Completion of a 2-year degree, and preferably a 4-year bachelor's degree program in a college of agriculture, is becoming increasingly important. But even after obtaining formal education, novices may need to spend time working under an experienced farmer to learn how to put into practice the skills learned through academic training. A small number of farms offer, on a formal basis, apprenticeships to help young people acquire such practical skills.

Job Outlook

Market pressures and low prices for many agricultural goods, will cause more farms to go out of business over the 2002-2012 period. The complexity of modern farming and keen competition among farmers leaves little room for the marginally successful farmer. Therefore, the long-term trend toward consolidation of farms into fewer and larger farms is expected to continue over the 2002-12 period, and result in the continued decline in employment of self-employed farmers and ranchers and slower than average growth in employment of salaried agricultural managers. As land, machinery, seed, and chemicals become more expensive, only well capitalized farmers and corporations are able to acquire many of the farms that become available. It is the larger, more productive farms that are better able to withstand the adverse effects of climate and price fluctuations upon farm output and income and to cover operating costs for livestock, feed, seed, and fuel, for example. Larger farms also have advantages in competing for government subsidies and payments.

In addition, the agriculture sector continues to produce more with fewer workers. Increasing productivity in the U.S. agricultural production industry is expected to allow greater domestic consumption needs and export requirements to be met with fewer farmers, ranchers, and agricultural managers overall. The overwhelming majority of job openings for self-employed farmers and ranchers will result from the need to replace farmers who retire or leave the occupation for economic or other reasons.

Despite the expected continued consolidation of farm land and the projected decline in overall employment of farmers, ranchers, and agricultural managers, an increasing number of small-scale farmers have developed successful market niches that involve personalized, direct contact with their customers. Many are finding opportunities in organic food production, as more consumers demand food grown without pesticides or chemicals. Others use farmers' markets that cater directly to urban and suburban consumers, allowing the farmers to capture a greater share of consumers' food dollars. Some small-scale farmers, such as some dairy farmers, belong to collectively owned marketing cooperatives that process and sell their product. Other farmers participate in community-supported agriculture cooperatives that allow consumers to directly buy a share of the farmer's harvest.

Aquaculture also should continue to provide some new employment opportunities over the 2002-12 period. Overfishing has resulted in declining ocean catches even as public demand for the consumption of seafood continues to grow. This has spurred the growth of aquaculture farms that raise selected aquatic species—such as shrimp, salmon, trout and catfish—in pens or ponds. Aquaculture's presence in even landlocked States has increased as farmers attempt to diversify and cater to the growing demand for fish by consumers. Additionally, growing consumer demand for

horticulture products, such as flowers and ornamentals, trees, shrubs, and other non-edibles, is expected to produce better employment opportunities for greenhouse and nursery farmers and managers.

Earnings

Incomes of farmers and ranchers vary greatly from year to year because prices of farm products fluctuate depending upon weather conditions and other factors that influence the quantity and quality of farm output and the demand for those products. A farm that shows a large profit in one year may show a loss in the following year. Farmers, however, often receive government subsidies or other payments that supplement their incomes and reduce some of the risk of farming. Price supports for dairy farmers, though, are being phased out and may result in lower incomes for these farmers. Many farmers—primarily operators of small farms—have income from off-farm business activities or careers, often greater than that of their farm income.

Full-time, salaried farm managers had median annual earnings of \$43,740 in 2002. The middle half earned between \$32,620 and \$59,330. The highest paid 10 percent earned more than \$81,100, and the lowest paid 10 percent earned less than \$24,410.

Farmers and self-employed farm managers make their own provisions for benefits. As members of farm organizations, they may derive benefits such as group discounts on health and life insurance premiums.

Related Occupations

Farmers, ranchers, and agricultural managers strive to improve the quality of agricultural products and the efficiency of farms. Others whose work is related to agricultural products include agricultural engineers, agricultural and food scientists, agricultural workers, and purchasing agents and buyers of farm products.

Sources of Additional Information

For general information about farming and agricultural occupations, contact:

- ▶ Center for Rural Affairs, P.O. Box 406, Walthill, NE 68067. Internet: <http://www.cfra.org>
- ▶ National FFA Organization, The National FFA Center, Attention Career Information Requests, P.O. Box 68690, Indianapolis, IN 46268-0960. Internet: <http://www.ffa.org>

For information about certification as an accredited farm manager, contact:

- ▶ American Society of Farm Managers and Rural Appraisers, 950 Cherry St., Suite 508, Denver, CO 80222. Internet: <http://www.asfmra.org>

For information on the USDA's program to help small farmers get started, contact:

- ▶ Small Farm Program, U.S. Department of Agriculture, Cooperative State, Research, Education, and Extension Service, Stop 2220, Washington, DC 20250-2220. Internet: <http://www.reeusda.gov/smallfarm/>

For information on aquaculture, education, training, or Community Supported Agriculture, contact:

- ▶ Alternative Farming System Information Center (AFSIC), National Agricultural Library USDA, 10301 Baltimore Ave., Room 132, Beltsville, MD 20705-2351. Internet: <http://www.nal.usda.gov/afsic>
- ▶ Appropriate Technology Transfer for Rural Areas, P.O. Box 3657, Fayetteville, AR 72702. Internet: <http://www.attra.org>

Financial Analysts and Personal Financial Advisors

(0*NET 13-2051.00, 13-2052.00)

Significant Points

- A college degree and good interpersonal skills are among the most important qualifications for these workers.
- Although both occupations will benefit from an increase in investing by individuals, personal financial advisors will benefit more.
- Financial analysts will face keen competition for jobs, especially at top securities firms, where pay can be lucrative.

Nature of the Work

Financial analysts and personal financial advisors provide analysis and guidance to businesses and individuals to help them with their investment decisions. Both types of specialist gather financial information, analyze it, and make recommendations to their clients. However, their job duties differ because of the type of investment information they provide and the clients they work for. *Financial analysts* assess the economic performance of companies and industries for firms and institutions with money to invest. *Personal financial advisors* generally assess the financial needs of individuals, providing them a wide range of options.

Financial analysts, also called *securities analysts* and *investment analysts*, work for banks, insurance companies, mutual and pension funds, securities firms, and other businesses, helping these companies or their clients make investment decisions. Financial analysts read company financial statements and analyze commodity prices, sales, costs, expenses, and tax rates in order to determine a company's value and project future earnings. They often meet with company officials to gain a better insight into a company's prospects and to determine the company's managerial effectiveness. Usually, financial analysts study an entire industry, assessing current trends in business practices, products, and industry competition. They must keep abreast of new regulations or policies that may affect the industry, as well as monitor the economy to determine its effect on earnings.

Financial analysts use spreadsheet and statistical software packages to analyze financial data, spot trends, and develop forecasts. On the basis of their results, they write reports and make presentations, usually making recommendations to buy or sell a particular investment or security. Senior analysts may actually make the decision to buy or sell for the company or client if they are the ones responsible for managing the assets. Other analysts use the data to measure the financial risks associated with making a particular investment decision.

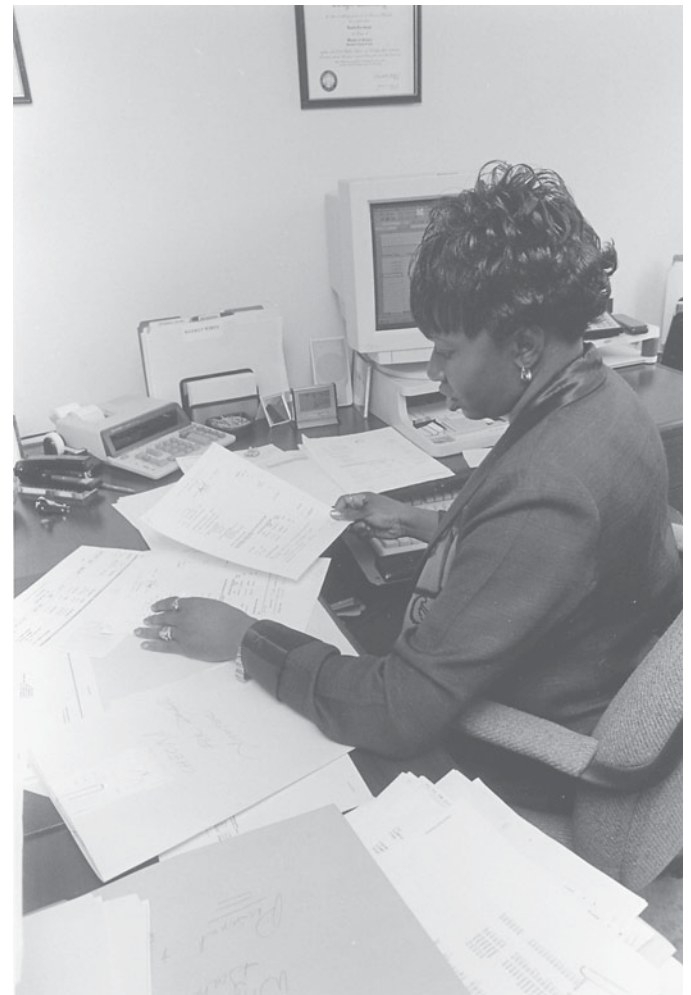
Financial analysts in investment banking departments of securities or banking firms often work in teams, analyzing the future prospects of companies that want to sell shares to the public for the first time. They also ensure that the forms and written materials necessary for compliance with Securities and Exchange Commission regulations are accurate and complete. They may make presentations to prospective investors about the merits of investing in the new company. Financial analysts also work in mergers and acquisitions de-

partments, preparing analyses on the costs and benefits of a proposed merger or takeover.

Some financial analysts, called *ratings analysts*, evaluate the ability of companies or governments that issue bonds to repay their debt. On the basis of their evaluation, a management team assigns a rating to a company's or government's bonds. Other financial analysts perform budget, cost, and credit analysis as part of their responsibilities.

Personal financial advisors, also called *financial planners* or *financial consultants*, use their knowledge of investments, tax laws, and insurance to recommend financial options to individuals in accordance with their short-term and long-term goals. Some of the issues that planners address are retirement and estate planning, funding for college, and general investment options. While most planners offer advice on a wide range of topics, some specialize in areas such as retirement and estate planning or risk management.

An advisor's work begins with a consultation with the client, from whom the advisor obtains information on the client's finances and financial goals. The advisor then develops a comprehensive financial plan that identifies problem areas, makes recommendations for improvement, and selects appropriate investments compatible with the client's goals, attitude toward risk, and expectation or need for a return on the investment. Sometimes this plan is writ-



Financial analysts and personal financial advisors gather and analyze information, and then make recommendations to businesses or individuals with money to invest.

ten, but, more often, it is in the form of verbal advice. Financial advisors usually meet with established clients at least once a year to update them on potential investments and to determine whether the clients have been through any life changes—such as marriage, disability, or retirement—that might affect their financial goals. Financial advisors also answer questions from clients regarding changes in benefit plans or the consequences of a change in their job or career.

Some advisors buy and sell financial products, such as mutual funds or insurance, or refer clients to other companies for products and services—for example, the preparation of taxes or wills. A number of advisors take on the responsibility of managing the clients' investments for them.

Finding clients and building a customer base is one of the most important parts of a financial advisor's job. Referrals from satisfied clients are an important source of new business. Many advisors also contact potential clients by giving seminars or lectures or meet clients through business and social contacts.

Working Conditions

Financial analysts and personal financial advisors usually work indoors in safe, comfortable offices or their own homes. Many of these workers enjoy the challenge of helping firms or people make financial decisions. However, financial analysts may face long hours, frequent travel to visit companies and talk to potential investors, and the pressure of deadlines. Much of their research must be done after office hours, because their day is filled with telephone calls and meetings. Personal financial advisors usually work standard business hours, but they also schedule meetings with clients in the evenings or on weekends. Many teach evening classes or hold seminars in order to bring in more clients.

Employment

Financial analysts and personal financial advisors held 298,000 jobs in 2002; financial analysts accounted for almost 6 in 10 of the total. Many financial analysts work at the headquarters of large financial companies, several of which are based in New York City. Nineteen percent of financial analysts work for securities and commodity brokers, exchanges, and investment services firms; and 17 percent work for depository and nondepository institutions, including banks, savings institutions, and mortgage bankers and brokers. The remainder work primarily for insurance carriers; accounting, tax preparation, bookkeeping, and payroll services; management, scientific, and technical consulting services; and State and local government agencies.

Approximately 38 percent of personal financial advisors are self-employed, operating small investment advisory firms, usually in urban areas. About 31 percent of personal financial advisors are employed by securities and commodity brokers, exchanges, and investment services firms. Another 14 percent are employed by depository and nondepository institutions, including banks, savings institutions, and credit unions. A small number work for insurance carriers and insurance agents, brokers, and services.

Training, Other Qualifications, and Advancement

A college education is required for financial analysts and is strongly preferred for personal financial advisors. Most companies require financial analysts to have at least a bachelor's degree in business administration, accounting, statistics, or finance. Coursework in statistics, economics, and business is required, and knowledge of accounting policies and procedures, corporate budgeting, and fi-

ancial analysis methods is recommended. A master of business administration is desirable. Advanced courses in options pricing or bond valuation and knowledge of risk management also are suggested.

Employers usually do not require a specific field of study for personal financial advisors, but a bachelor's degree in accounting, finance, economics, business, mathematics, or law provides good preparation for the occupation. Courses in investments, taxes, estate planning, and risk management also are helpful. Programs in financial planning are becoming more widely available in colleges and universities. However, many financial planners enter the field after working in a related occupation, such as accountant, auditor, insurance sales agent, lawyer, or securities, commodities, and financial services sales agent.

Mathematical, computer, analytical, and problem-solving skills are essential qualifications for financial analysts and personal financial advisors. Good communication skills also are necessary, because these workers must present complex financial concepts and strategies in easy-to-understand language to clients and other professionals. Self-confidence, maturity, and the ability to work independently are important as well.

Financial analysts must be detail oriented, motivated to seek out obscure information, and familiar with the workings of the economy, tax laws, and money markets. Strong interpersonal skills and sales ability are crucial to the success of both financial analysts and personal financial advisors.

Although not required for financial analysts or personal financial advisors to practice, certification can enhance one's professional standing and is strongly recommended by many financial companies. Financial analysts may receive the title Chartered Financial Analyst (CFA), sponsored by the Association of Investment Management and Research. To qualify for CFA designation, applicants must hold a bachelor's degree, must have 3 years of work experience in a related field, and must pass a series of three examinations. The essay exams, administered once a year for 3 years, cover subjects such as accounting, economics, securities analysis, asset valuation, and portfolio management.

Personal financial advisors may obtain the Certified Financial Planner credential, often referred to as CFP (R), demonstrating to potential customers that a planner has extensive training and competency in the area of financial planning. The CFP (R) certification, issued by the Certified Financial Planner Board of Standards, Inc., requires relevant experience, the completion of education requirements, the passage of a comprehensive examination, and adherence to an enforceable code of ethics. Personal financial advisors may also obtain the Chartered Financial Consultant (ChFC) designation, issued by the American College in Bryn Mawr, Pennsylvania, which requires experience and the completion of an eight-course program of study. Both designations have a continuing education requirement.

A license is not required to work as a personal financial advisor, but advisors who sell stocks, bonds, mutual funds, insurance, or real estate may need licenses to perform these additional services. Also, if legal advice is provided, a license to practice law may be required. Financial advisors who do not provide these additional services often refer clients to those qualified to provide them.

Financial analysts may advance by becoming portfolio managers or financial managers, directing the investment portfolios of their companies or of clients. Personal financial advisors who work in firms also may move into managerial positions, but most advisors advance by accumulating clients and managing more assets.

Job Outlook

Increased investment by businesses and individuals is expected to result in faster-than-average employment growth of financial analysts and personal financial advisors through 2012. Both occupations will benefit as baby boomers save for retirement and as a generally better educated and wealthier population requires investment advice. In addition, people are living longer and must plan to finance more years of retirement. The globalization of the securities markets will increase the need for analysts and advisors to help investors make financial choices.

Deregulation of the financial services industry is also expected to spur demand for financial analysts and personal financial advisors. Since 1999, banks, insurance companies, and brokerage firms have been allowed to broaden their financial services. Many firms are adding investment advice to their list of services and are expected to increase their hiring of personal financial advisors. Numerous banks are now entering the securities brokerage and investment banking fields and will increasingly need the skills of financial analysts in these areas.

Employment of personal financial advisors is expected to grow faster than the average for all occupations through the year 2012. The rapid expansion of self-directed retirement plans, such as 401(k) plans, is expected to continue. As the number and complexity of investments rises, more individuals will look to financial advisors to help manage their money. Financial advisors who have either the CFP (R) certification or ChFC designation are expected to have the best opportunities.

Employment of financial analysts is expected to grow about as fast as the average for all occupations through the year 2012. As the number of mutual funds and the amount of assets invested in the funds increase, mutual-fund companies will need increased numbers of financial analysts to recommend which financial products the funds should buy or sell.

Financial analysts also will be needed in the investment banking field, where they help companies raise money and work on corporate mergers and acquisitions. However, growth in demand for financial analysts to do company research will be constrained by the implementation of reform proposals calling for investment firms to subsidize independent research boutiques and separate research from investment banking. Firms may try to contain the costs of reform by eliminating research jobs.

Demand for financial analysts in investment banking fluctuates because investment banking is sensitive to changes in the stock market. In addition, further consolidation in the financial services industry may eliminate some financial analyst positions, dampening overall employment growth somewhat. Competition is expected to be keen for these highly lucrative positions, with many more applicants than jobs.

Earnings

Median annual earnings of financial analysts were \$57,100 in 2002. The middle 50 percent earned between \$43,660 and \$76,620. The lowest 10 percent earned less than \$34,570, and the highest 10 percent earned more than \$108,060. Median annual earnings in the industries employing the largest numbers of financial analysts in 2002 were as follows:

Other financial investment activities	\$74,860
Management of companies and enterprises	60,670
Securities and commodity contracts intermediation and brokerage	58,540
Nondepository credit intermediation	51,700
Depository credit intermediation	51,570

Median annual earnings of personal financial advisors were \$56,680 in 2002. The middle 50 percent earned between \$36,180 and \$100,540. Median annual earnings in the industries employing the largest number of personal financial advisors in 2002 were as follows:

Other financial investment activities	\$74,260
Securities and commodity contracts intermediation and brokerage	68,110
Depository credit intermediation	51,030

Many financial analysts receive a bonus in addition to their salary, and the bonus can add substantially to their earnings. Usually, the bonus is based on how well their predictions compare to the actual performance of a benchmark investment. Personal financial advisors who work for financial services firms are generally paid a salary plus bonus. Advisors who work for financial-planning firms or who are self-employed either charge hourly fees for their services or charge one set fee for a comprehensive plan, based on its complexity. Advisors who manage a client's assets usually charge a percentage of those assets. A majority of advisors receive commissions for financial products they sell, in addition to charging a fee.

Related Occupations

Other jobs requiring expertise in finance and investment or in the sales of financial products include accountants and auditors; financial managers; insurance sales agents; real estate brokers and sales agents; and securities, commodities, and financial services sales representatives.

Sources of Additional Information

For information on a career in financial planning, contact:

► The Financial Planning Association, 4100 E. Mississippi Ave., Denver, CO 80246-3053. Internet: <http://www.fpanet.org>

For information about the Certified Financial Planner, CFP (R), certification, contact:

► Certified Financial Planner Board of Standards, Inc., 1670 Broadway, Suite 600, Denver, CO 80202-4809. Internet: <http://www.cfp.net/become>

For information about the Chartered Financial Consultant (ChFC) designation, contact:

► The American College, 270 South Bryn Mawr Ave., Bryn Mawr, PA 19010. Internet: <http://www.amercoll.edu>

For information on a career as a financial analyst, contact:

► American Academy of Financial Management, 102 Beverly Dr., Metairie, LA 70001. Internet: <http://www.financialanalyst.org>

► CFA Institute, P.O. Box 3668, 560 Ray C. Hunt Dr., Charlottesville, VA 22903. Internet: <http://www.cfainstitute.org>

Financial Managers

(0*NET 11-3031.01, 11-3031.02)

Significant Points

- A bachelor's degree in finance, accounting, or a related field is the minimum academic preparation, but many employers increasingly seek graduates with a master's degree.
- Employment will grow as the economy expands and increases the need for workers with financial expertise.

Nature of the Work

Almost every firm, government agency, and organization has one or more financial managers who oversee the preparation of financial reports, direct investment activities, and implement cash management strategies. As computers are increasingly used to record and organize data, many financial managers are spending more time developing strategies and implementing the long-term goals of their organization.

The duties of financial managers vary with their specific titles, which include controller, treasurer or finance officer, credit manager, cash manager, and risk and insurance manager. *Controllers* direct the preparation of financial reports that summarize and forecast the organization's financial position, such as income statements, balance sheets, and analyses of future earnings or expenses. Controllers also are in charge of preparing special reports required by regulatory authorities. Often, controllers oversee the accounting, audit, and budget departments. *Treasurers* and *finance officers* direct the organization's financial goals, objectives, and budgets. They oversee the investment of funds and manage associated risks, supervise cash management activities, execute capital-raising strategies to support a firm's expansion, and deal with mergers and acquisitions. *Credit managers* oversee the firm's issuance of credit. They establish credit-rating criteria, determine credit ceilings, and monitor the collections of past-due accounts. Managers specializing in international finance develop financial and accounting systems for the banking transactions of multinational organizations.

Cash managers monitor and control the flow of cash receipts and disbursements to meet the business and investment needs of the firm. For example, cashflow projections are needed to determine whether loans must be obtained to meet cash requirements or whether surplus cash should be invested in interest-bearing instruments. *Risk and insurance managers* oversee programs to minimize risks and losses that might arise from financial transactions and business operations undertaken by the institution. They also manage the organization's insurance budget.

Financial institutions, such as commercial banks, savings and loan associations, credit unions, and mortgage and finance companies, employ additional financial managers who oversee various functions, such as lending, trusts, mortgages, and investments, or programs, including sales, operations, or electronic financial services. These managers may be required to solicit business, authorize loans, and direct the investment of funds, always adhering to Federal and State laws and regulations. (Chief financial officers and other executives are included with top executives elsewhere in the *Handbook*.)

Branch managers of financial institutions administer and manage all of the functions of a branch office, which may include hiring personnel, approving loans and lines of credit, establishing a

rapport with the community to attract business, and assisting customers with account problems. Financial managers who work for financial institutions must keep abreast of the rapidly growing array of financial services and products.

In addition to the general duties described above, all financial managers perform tasks unique to their organization or industry. For example, government financial managers must be experts on the government appropriations and budgeting processes, whereas healthcare financial managers must be knowledgeable about issues surrounding healthcare financing. Moreover, financial managers must be aware of special tax laws and regulations that affect their industry.

Financial managers play an increasingly important role in mergers and consolidations, and in global expansion and related financing. These areas require extensive, specialized knowledge on the part of the financial manager to reduce risks and maximize profit. Financial managers increasingly are hired on a temporary basis to advise senior managers on these and other matters. In fact, some small firms contract out all accounting and financial functions to companies that provide these services.

The role of the financial manager, particularly in business, is changing in response to technological advances that have significantly reduced the amount of time it takes to produce financial reports. Financial managers now perform more data analysis and use it to offer senior managers ideas on how to maximize profits. They often work on teams, acting as business advisors to top management. Financial managers need to keep abreast of the latest computer technology in order to increase the efficiency of their firm's financial operations.

Working Conditions

Financial managers work in comfortable offices, often close to top managers and to departments that develop the financial data these managers need. They typically have direct access to state-of-the-art computer systems and information services. Financial managers commonly work long hours, often up to 50 or 60 per week. They generally are required to attend meetings of financial and economic associations and may travel to visit subsidiary firms or to meet customers.



Financial managers develop strategies and implement the long-term goals of an organization.

Employment

Financial managers held about 599,000 jobs in 2002. While the vast majority is employed in private industry, nearly 1 in 10 work for the different branches of government. In addition, although they can be found in every industry, approximately 1 out of 4 are employed by insurance and finance establishments, such as banks, savings institutions, finance companies, credit unions, and securities dealers.

Training, Other Qualifications, and Advancement

A bachelor's degree in finance, accounting, economics, or business administration is the minimum academic preparation for financial managers. However, many employers now seek graduates with a master's degree, preferably in business administration, economics, finance, or risk management. These academic programs develop analytical skills and provide knowledge of the latest financial analysis methods and technology.

Experience may be more important than formal education for some financial manager positions—notably, branch managers in banks. Banks typically fill branch manager positions by promoting experienced loan officers and other professionals who excel at their jobs. Other financial managers may enter the profession through formal management training programs offered by the company.

Continuing education is vital for financial managers, who must cope with the growing complexity of global trade, changes in Federal and State laws and regulations, and the proliferation of new and complex financial instruments. Firms often provide opportunities for workers to broaden their knowledge and skills by encouraging employees to take graduate courses at colleges and universities or attend conferences related to their specialty. Financial management, banking, and credit union associations, often in cooperation with colleges and universities, sponsor numerous national and local training programs. Persons enrolled prepare extensively at home and then attend sessions on subjects such as accounting management, budget management, corporate cash management, financial analysis, international banking, and information systems. Many firms pay all or part of the costs for employees who successfully complete courses. Although experience, ability, and leadership are emphasized for promotion, advancement may be accelerated by this type of special study.

In some cases, financial managers also may broaden their skills and exhibit their competency by attaining professional certification. There are many different associations that offer professional certification programs. For example, the Association for Investment Management and Research confers the Chartered Financial Analyst designation on investment professionals who have a bachelor's degree, pass three sequential examinations, and meet work experience requirements. The Association for Financial Professionals (AFP) confers the Certified Cash Manager credential to those who pass a computer-based exam and have a minimum of 2 years of relevant experience. The Institute of Management Accountants offers a Certified in Financial Management designation to members with a BA and at least 2 years of work experience who pass the institute's four-part examination and fulfill continuing education requirements. Also, financial managers who specialize in accounting may earn the Certified Public Accountant (CPA) or Certified Management Accountant (CMA) designations. (See accountants and auditors elsewhere in the *Handbook*.)

Candidates for financial management positions need a broad range of skills. Interpersonal skills are important because these jobs involve managing people and working as part of a team to solve

problems. Financial managers must have excellent communication skills to explain complex financial data. Because financial managers work extensively with various departments in their firm, a broad overview of the business is essential.

Financial managers should be creative thinkers and problem-solvers, applying their analytical skills to business. They must be comfortable with the latest computer technology. As financial operations increasingly are affected by the global economy, financial managers must have knowledge of international finance. Proficiency in a foreign language also may be important.

Because financial management is critical for efficient business operations, well-trained, experienced financial managers who display a strong grasp of the operations of various departments within their organization are prime candidates for promotion to top management positions. Some financial managers transfer to closely related positions in other industries. Those with extensive experience and access to sufficient capital may start their own consulting firms.

Job Outlook

Employment of financial managers is expected to grow about as fast as the average for all occupations through 2012. Growth is expected to be steady and will increase in line with the growth of the economy as a whole. However, jobseekers are likely to face keen competition for jobs, as the number of job openings is expected to be less than the number of applicants. Candidates with expertise in accounting and finance, particularly those with a master's degree, should enjoy the best job prospects. Strong computer skills and knowledge of international finance are important; so are excellent communication skills, because financial management jobs involve working on strategic planning teams.

As the economy expands, job growth for financial managers will stem from both the expansion of established companies and from the creation of new businesses. Over the short term, employment in this occupation is negatively impacted by economic downturns, during which companies are more likely to close departments, or even go out of business—decreasing the need for financial managers. Mergers, acquisitions, and corporate downsizing also are likely to adversely affect employment of financial managers. However, the growing need for financial expertise as the economy expands will ensure job growth over the next decade.

The banking industry, which employs more than 1 out of 10 financial managers, will continue to consolidate, although at a slower rate than in previous years. In spite of this trend, employment of bank branch managers is expected to increase as banks begin to refocus on the importance of their existing branches and as new branches are created to service a growing population. As banks expand the range of products and services they offer to include insurance and investment products, branch managers with knowledge in these areas will be needed. As a result, candidates who are licensed to sell insurance or securities will have the most favorable prospects.

Despite the current downturn in the securities and commodities industry, the long-run prospects for financial managers in that industry should be favorable, as more will be needed to handle increasingly complex financial transactions and manage a growing amount of investments. Financial managers also will be needed to handle mergers and acquisitions, raise capital, and assess global financial transactions. Risk managers, who assess risks for insurance and investment purposes, also will be in demand.

Some companies may hire financial managers on a temporary basis, to see the organization through a short-term crisis or to offer suggestions for boosting profits. Other companies may contract out all accounting and financial operations. Even in these cases, however, financial managers may be needed to oversee the contracts.

Computer technology has reduced the time and staff required to produce financial reports. As a result, forecasting earnings, profits, and costs, and generating ideas and creative ways to increase profitability will become a major role of corporate financial managers over the next decade. Financial managers who are familiar with computer software that can assist them in this role will be needed.

Earnings

Median annual earnings of financial managers were \$73,340 in 2002. The middle 50 percent earned between \$52,490 and \$100,660. The lowest 10 percent had earnings of less than \$39,120, while the top 10 percent earned over \$142,260. Median annual earnings in the industries employing the largest numbers of financial managers in 2002 were as follows:

Securities and commodity contracts intermediation and brokerage	\$125,220
Management of companies and enterprises	88,310
Nondepository credit intermediation	78,400
Local government	63,090
Depository credit intermediation	58,790

According to a 2002 survey by Robert Half International, a staffing services firm specializing in accounting and finance professionals, directors of finance earned between \$75,000 and \$204,500, and corporate controllers earned between \$54,000 and \$138,750.

The Association for Financial Professionals' 14th annual compensation survey showed that financial officers' average total compensation in 2002, including bonuses and deferred compensation, was \$130,900. Selected financial manager positions had average total compensation as follows:

Vice president of finance	\$183,500
Treasurer	150,600
Assistant vice president—finance	141,300
Controller/comptroller	134,300
Director	113,600
Assistant treasurer	111,900
Assistant controller/comptroller	115,500
Manager	84,500
Cash manager	64,700

Large organizations often pay more than small ones, and salary levels also can depend on the type of industry and location. Many financial managers in both public and private industry receive additional compensation in the form of bonuses, which also vary substantially by size of firm. Deferred compensation in the form of stock options is becoming more common, especially for senior level executives.

Related Occupations

Financial managers combine formal education with experience in one or more areas of finance, such as asset management, lending, credit operations, securities investment, or insurance risk and loss control. Workers in other occupations requiring similar training and skills include accountants and auditors; budget analysts; financial analysts and personal financial advisors; insurance underwriters; loan counselors and officers; securities, commodities, and

financial services sales agents; and real estate brokers and sales agents.

Sources of Additional Information

For information about careers and certification in financial management, contact:

► Financial Management Association International, College of Business Administration, University of South Florida, Tampa, FL 33620-5500. Internet: <http://www.fma.org>

For information about careers in financial and treasury management and the Certified Cash Manager program, contact:

► Association for Financial Professionals, 7315 Wisconsin Ave., Suite 600 West, Bethesda, MD 20814. Internet: <http://www.afponline.org>

For information about the Chartered Financial Analyst program, contact:

► CFA Institute, P.O. Box 3668, 560 Ray Hunt Dr., Charlottesville, VA 22903-0668. Internet: <http://www.cfainstitute.org>

For information about the Certified in Financial Management designation, contact:

► Institute of Management Accountants, 10 Paragon Drive, Montvale, NJ, 07645-1759. Internet: <http://www.imanet.org/>

Food Service Managers

(0*NET 11-9051.00)

Significant Points

- Many experienced food and beverage preparation and service workers are promoted into managerial positions; however, applicants with a bachelor's or an associate degree in restaurant and institutional food service management should have the best job opportunities.
- Most new jobs will arise in food services and drinking places as the number of establishments increases along with the population.
- Job opportunities for salaried food service managers should be better than for self-employed managers, because more restaurant managers will be employed by larger companies to run multi-outlet establishments.

Nature of the Work

Food service managers are responsible for the daily operations of restaurants and other establishments that prepare and serve meals and beverages to customers. Besides coordinating activities among various departments, such as kitchen, dining room, and banquet operations, food service managers ensure that customers are satisfied with their dining experience. In addition, they oversee the inventory and ordering of food, equipment, and supplies and arrange for the routine maintenance and upkeep of the restaurant, its equipment, and facilities. Managers generally are responsible for all of the administrative and human-resource functions of running the business, including recruiting new employees and monitoring employee performance and training.

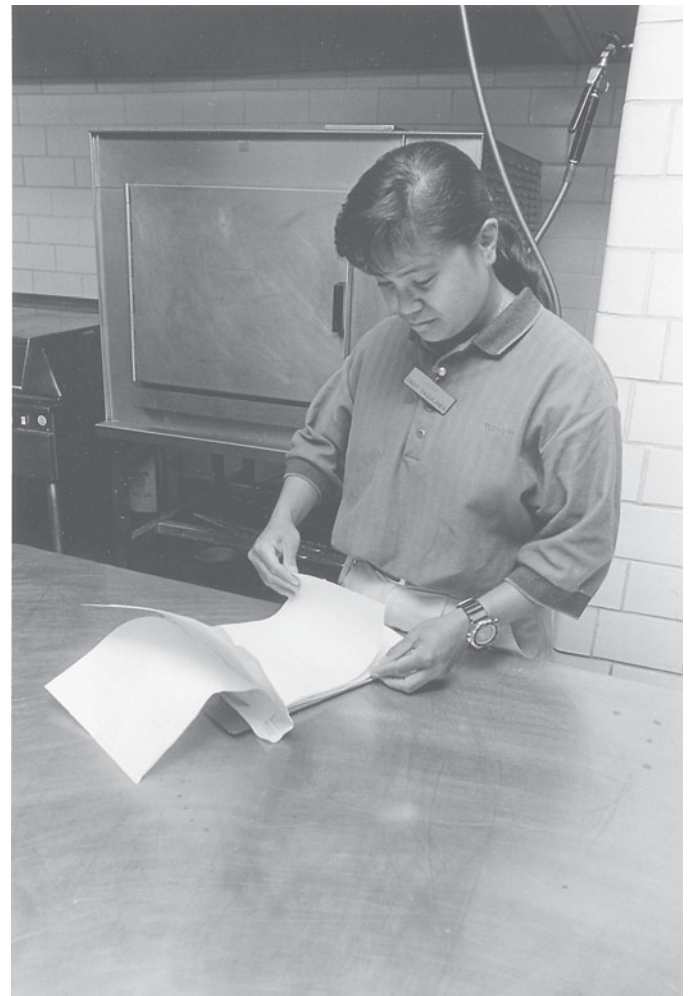
In most full-service restaurants and institutional food service facilities, the management team consists of a *general manager*, one or more *assistant managers*, and an *executive chef*. The executive chef is responsible for all food preparation activities, including running kitchen operations, planning menus, and maintaining quality standards for food service. In limited-service eating places, such as sandwich shops, coffee bars, or fast-food establishments, managers, not executive chefs, are responsible for supervising routine food preparation operations. Assistant managers in full-service facilities generally oversee service in the dining rooms and banquet areas. In larger restaurants and fast-food or other food service facilities that serve meals daily and maintain longer hours, individual assistant managers may supervise different shifts of workers. In smaller restaurants, formal titles may be less important, and one person may undertake the work of one or more food service positions. For example, the executive chef also may be the general manager or even sometimes an owner. (For additional information on these other workers, see the *Handbook* statements on top executives and chefs, cooks, and food preparation workers.)

One of the most important tasks of food service managers is assisting executive chefs as they select successful menu items. This task varies by establishment depending on the seasonality of menu items, the frequency with which restaurants change their menus, and the introduction of daily or weekly specials. Many restaurants rarely change their menus while others make frequent alterations. Managers or executive chefs select menu items, taking into account the likely number of customers and the past popularity of dishes. Other issues considered when planning a menu include whether there

was any unserved food left over from prior meals that should not be wasted, the need for variety, and the seasonal availability of foods. Managers or executive chefs analyze the recipes of the dishes to determine food, labor, and overhead costs and to assign prices to various dishes. Menus must be developed far enough in advance that supplies can be ordered and received in time.

Managers or executive chefs estimate food needs, place orders with distributors, and schedule the delivery of fresh food and supplies. They plan for routine services or deliveries, such as linen services or the heavy cleaning of dining rooms or kitchen equipment, to occur during slow times or when the dining room is closed. Managers also arrange for equipment maintenance and repairs, and coordinate a variety of services such as waste removal and pest control. Managers or executive chefs receive deliveries and check the contents against order records. They inspect the quality of fresh meats, poultry, fish, fruits, vegetables, and baked goods to ensure that expectations are met. They meet with representatives from restaurant supply companies and place orders to replenish stocks of tableware, linens, paper products, cleaning supplies, cooking utensils, and furniture and fixtures.

Managers must be good communicators. They need to speak well, often in several languages, with a diverse clientele and staff. They must motivate employees to work as a team, to ensure that food and service meet appropriate standards. Managers also must ensure that written supply orders are clear and unambiguous.



Food service managers check orders to ensure adequate inventories of food and other supplies.

Managers interview, hire, train, and, when necessary, fire employees. Retaining good employees is a major challenge facing food service managers. Managers recruit employees at career fairs, contact schools that offer academic programs in hospitality or culinary arts, and arrange for newspaper advertising to attract additional applicants. Managers oversee the training of new employees and explain the establishment's policies and practices. They schedule work hours, making sure that enough workers are present to cover each shift. If employees are unable to work, managers may have to call in alternates to cover for them or fill in themselves when needed. Some managers may help with cooking, clearing tables, or other tasks when the restaurant becomes extremely busy.

Food service managers ensure that diners are served properly and in a timely manner. They investigate and resolve customers' complaints about food quality or service. They monitor orders in the kitchen to determine where backups may occur, and they work with the chef to remedy any delays in service. Managers direct the cleaning of the dining areas and the washing of tableware, kitchen utensils, and equipment to comply with company and government sanitation standards. Managers also monitor the actions of their employees and patrons on a continual basis to ensure the personal safety of everyone. They make sure that health and safety standards and local liquor regulations are obeyed.

In addition to their regular duties, food service managers perform a variety of administrative assignments, such as keeping employee work records, preparing the payroll, and completing paperwork to comply with licensing laws and reporting requirements of tax, wage and hour, unemployment compensation, and Social Security laws. Some of this work may be delegated to an assistant manager or bookkeeper, or it may be contracted out, but most general managers retain responsibility for the accuracy of business records. Managers also maintain records of supply and equipment purchases and ensure that accounts with suppliers are paid.

Technology influences the jobs of food service managers in many ways, enhancing efficiency and productivity. Many restaurants use computers to track orders, inventory, and the seating of patrons. Point-of-service (POS) systems allow servers to key in a customer's order, either at the table, using a hand-held device, or from a computer terminal in the dining room, and send the order to the kitchen instantaneously so preparation can begin. The same system totals and prints checks, functions as a cash register, connects to credit card authorizers, and tracks sales. To minimize food costs and spoilage, many managers use inventory-tracking software to compare the record of sales from the POS with a record of the current inventory. Some establishments enter an inventory of standard ingredients and suppliers into their POS system. When supplies of particular ingredients run low, they can be ordered directly from the supplier using preprogrammed information. Computers also allow restaurant and food service managers to keep track of employee schedules and paychecks more efficiently.

Food service managers use the Internet to track industry news, find recipes, conduct market research, purchase supplies or equipment, recruit employees, and train staff. Internet access also makes service to customers more efficient. Many restaurants maintain Web sites that include menus and online promotions, provide information about the restaurant's location, and offer patrons the option to make a reservation.

Managers tally the cash and charge receipts received and balance them against the record of sales. They are responsible for depositing the day's receipts at the bank or securing them in a safe place. Finally, managers are responsible for locking up the estab-

lishment, checking that ovens, grills, and lights are off, and switching on alarm systems.

Working Conditions

Food service managers are among the first to arrive in the morning and the last to leave at night. Long hours—12 to 15 per day, 50 or more per week, and sometimes 7 days a week—are common. Managers of institutional food service facilities, such as school, factory, or office cafeterias, work more regular hours because the operating hours of these establishments usually conform to the operating hours of the business or facility they serve. However, hours for many managers are unpredictable.

Managers should be calm, flexible, and able to work through emergencies, such as a fire or flood, in order to ensure everyone's safety. Managers also should be able to fill in for absent workers on short notice. Managers often experience the pressures of simultaneously coordinating a wide range of activities. When problems occur, it is the manager's responsibility to resolve them with minimal disruption to customers. The job can be hectic, and dealing with irate customers or uncooperative employees can be stressful.

Managers also may experience the typical minor injuries of other restaurant workers, such as muscle aches, cuts, or burns. They might endure physical discomfort from moving tables or chairs to accommodate large parties, receiving and storing daily supplies from vendors, or making minor repairs to furniture or equipment.

Employment

Food service managers held about 386,000 jobs in 2002. Most managers were salaried, but about one-third were self-employed in independent restaurants or other small food service establishments. Almost three-fourths of all salaried jobs for food service managers were in full-service restaurants or limited-service eating places, such as fast-food restaurants and cafeterias. Other salaried jobs were in drinking places (alcoholic beverages) and in special food services—an industry that includes food service contractors who supply food services at institutional, governmental, commercial, or industrial locations. A small number of salaried jobs were in traveler accommodation (hotels); educational services; amusement, gambling, and recreation industries; nursing care facilities; and hospitals. Jobs are located throughout the country, with large cities and tourist areas providing more opportunities for full-service dining positions.

Training, Other Qualifications, and Advancement

Most food service management companies and national or regional restaurant chains recruit management trainees from 2- and 4-year college hospitality management programs. Restaurant chains prefer to hire people with degrees in restaurant and institutional food service management, but they often hire graduates with degrees in other fields who have demonstrated interest and aptitude. Some restaurant and food service manager positions—particularly self-service and fast-food—are filled by promoting experienced food and beverage preparation and service workers. Waiters, waitresses, chefs, and fast-food workers demonstrating potential for handling increased responsibility sometimes advance to assistant manager or management trainee jobs. Executive chefs need extensive experience working as chefs, and general managers need prior restaurant experience, usually as assistant managers.

A bachelor's degree in restaurant and food service management provides particularly strong preparation for a career in this occupation. A number of colleges and universities offer 4-year programs in restaurant and hotel management or institutional food

service management. For those not interested in pursuing a 4-year degree, community and junior colleges, technical institutes, and other institutions offer programs in the field leading to an associate degree or other formal certification. Both 2- and 4-year programs provide instruction in subjects such as nutrition, sanitation, and food planning and preparation, as well as accounting, business law and management, and computer science. Some programs combine classroom and laboratory study with internships providing on-the-job experience. In addition, many educational institutions offer culinary programs in food preparation. Such training can lead to a career as a cook or chef and provide a foundation for advancement to an executive chef position.

Most restaurant chains and food service management companies have rigorous training programs for management positions. Through a combination of classroom and on-the-job training, trainees receive instruction and gain work experience in all aspects of the operation of a restaurant or institutional food service facility. Areas include food preparation, nutrition, sanitation, security, company policies and procedures, personnel management, record-keeping, and preparation of reports. Training on use of the restaurant's computer system is increasingly important as well. Usually, after 6 months or a year, trainees receive their first permanent assignment as an assistant manager.

Most employers emphasize personal qualities when hiring managers. For example, self-discipline, initiative, and leadership ability are essential. Managers must be able to solve problems and concentrate on details. They need good communication skills to deal with customers and suppliers, as well as to motivate and direct their staff. A neat and clean appearance is important, because managers must convey self-confidence and show respect in dealing with the public. Food service management can be physically demanding, so good health and stamina also are important.

The certified Foodservice Management Professional (FMP) designation is a measure of professional achievement for food service managers. Although not a requirement for employment or advancement in the occupation, voluntary certification provides recognition of professional competence, particularly for managers who acquired their skills largely on the job. The National Restaurant Association Educational Foundation awards the FMP designation to managers who achieve a qualifying score on a written examination, complete a series of courses that cover a range of food service management topics, and meet standards of work experience in the field.

Willingness to relocate often is essential for advancement to positions with greater responsibility. Managers typically advance to larger establishments or regional management positions within restaurant chains. Some eventually open their own food service establishments.

Job Outlook

Employment of food service managers is expected to grow about as fast as the average for all occupations through 2012. In addition to job openings arising out of employment growth, the need to replace managers who transfer to other occupations or stop working will create many job opportunities. Applicants with a bachelor's or an associate degree in restaurant and institutional food service management should have the best job opportunities.

Projected employment growth varies by industry. Most new jobs will arise in full-service restaurants and limited-service eating places as the number of these establishments increases along with the population. Manager jobs in special food services, an industry that includes food service contractors, will increase as hotels, schools, healthcare facilities, and other businesses contract out their food

services to firms in this industry. Food service manager jobs still are expected to increase in hotels, schools, and health-care facilities, but growth will be slowed as contracting out becomes more common.

Job opportunities should be better for salaried managers than for self-employed managers. More new restaurants are affiliated with national chains than are independently owned and operated. As this trend continues, fewer owners will manage restaurants themselves, and more restaurant managers will be employed by larger companies to run individual establishments.

Earnings

Median annual earnings of salaried food service managers were \$35,790 in 2002. The middle 50 percent earned between \$27,910 and \$47,120. The lowest 10 percent earned less than \$21,760, and the highest 10 percent earned more than \$67,490. Median annual earnings in the industries employing the largest numbers of food service managers in 2002 were as follows:

Special food services	\$40,720
Traveler accommodation	39,210
Full-service restaurants	37,280
Nursing care facilities	33,910
Limited-service eating places	33,590
Elementary and secondary schools	31,210

In addition to receiving typical benefits, most salaried food service managers are provided free meals and the opportunity for additional training, depending on their length of service.

Related Occupations

Food service managers direct the activities of a hospitality-industry business and provide a service to customers. Other managers and supervisors in hospitality-oriented businesses include gaming managers, lodging managers, sales worker supervisors, and first-line supervisors or managers of food preparation and serving workers.

Sources of Additional Information

Information about a career as a food service manager, 2- and 4-year college programs in restaurant and food service management, and certification as a Foodservice Management Professional is available from:

► National Restaurant Association Educational Foundation, 175 West Jackson Blvd., Suite 1500, Chicago, IL 60604-2702. Internet: <http://www.nraef.org>

General information on hospitality careers may be obtained from:
 ► The International Council on Hotel, Restaurant, and Institutional Education, 2613 North Parham Rd., 2nd Floor, Richmond, VA 23294. Internet: <http://www.chrie.org>

Additional information about job opportunities in food service management may be obtained from local employers and from local offices of State employment services agencies.

Funeral Directors

(0*NET 11-9061.00)

Significant Points

- Funeral directors must be licensed by their State.
- Job opportunities should be good, particularly for those who also embalm; however, mortuary science graduates may have to relocate to find jobs.

Nature of the Work

Funeral practices and rites vary greatly among cultures and religions. Among the many diverse groups in the United States, funeral practices usually share some common elements—removing the deceased to a mortuary, preparing the remains, performing a ceremony that honors the deceased and addresses the spiritual needs of the family, and final disposition of the remains. Funeral directors arrange and direct these tasks for grieving families.

Funeral directors also are called morticians or undertakers. This career may not appeal to everyone, but those who work as funeral directors take great pride in their ability to provide efficient and appropriate services. They also comfort the family and friends of the deceased.

Funeral directors arrange the details and handle the logistics of funerals. They interview the family to learn what family members desire with regard to the nature of the funeral, the clergy members or other persons who will officiate, and the final disposition of the remains. Sometimes, the deceased leaves detailed instructions for his or her own funeral. Together with the family, funeral directors establish the location, dates, and times of wakes, memorial services, and burials. They arrange for a hearse to carry the body to the funeral home or mortuary.

Funeral directors also prepare obituary notices and have them placed in newspapers, arrange for pallbearers and clergy, schedule the opening and closing of a grave with a representative of the cemetery, decorate and prepare the sites of all services, and provide transportation for the remains, mourners, and flowers between sites. They also direct preparation and shipment of remains for out-of-State burial.

Most funeral directors also are trained, licensed, and practicing embalmers. Embalming is a sanitary, cosmetic, and preservative process through which the body is prepared for interment. If more than 24 hours elapses between death and interment, State laws usually require that the remains be refrigerated or embalmed.

When embalming a body, funeral directors wash the body with germicidal soap and replace the blood with embalming fluid to preserve the tissues. They may reshape and reconstruct disfigured or maimed bodies using materials, such as clay, cotton, plaster of paris, and wax. They also may apply cosmetics to provide a natural appearance, and then dress the body and place it in a casket. Funeral directors maintain records such as embalming reports, and itemized lists of clothing or valuables delivered with the body. In large funeral homes, an embalming staff of two or more, plus several apprentices may be employed.

Funeral services may take place in a home, house of worship, or funeral home, or at the gravesite or crematory. Services may be nonreligious, but often they reflect the religion of the family, so funeral directors must be familiar with the funeral and burial customs of many faiths, ethnic groups, and fraternal organizations. For

example, members of some religions seldom have the bodies of the deceased embalmed or cremated.

Burial in a casket is the most common method of disposing of remains in this country, although entombment also occurs. Cremation, which is the burning of the body in a special furnace, is increasingly selected because it can be less expensive, and is becoming more appealing. Memorial services can be held anywhere, and at any time, sometimes months later when all relatives and friends can get together. Even when the remains are cremated, many people still want a funeral service.

A funeral service followed by cremation need not be any different from a funeral service followed by a burial. Usually cremated remains are placed in some type of permanent receptacle, or urn, before being committed to a final resting place. The urn may be buried, placed in an indoor or outdoor mausoleum or columbarium, or interred in a special urn garden that many cemeteries provide for cremated remains.

Funeral directors handle the paperwork involved with the person's death, such as submitting papers to State authorities so that a formal certificate of death may be issued and copies distributed to the heirs. They may help family members apply for veterans' burial benefits, and notify the Social Security Administration of the death. Also, funeral directors may apply for the transfer of any pensions, insurance policies, or annuities on behalf of survivors.

Funeral directors also prearrange funerals. Increasingly, they arrange funerals in advance of need to provide peace of mind by ensuring that the client's wishes will be taken care of in a way that is satisfying to the person and to those who will survive.

Most funeral homes are small, family-run businesses, and the funeral directors are either owner-operators or employees of the operation. Funeral directors, therefore, are responsible for the success and the profitability of their businesses. Directors keep records of expenses, purchases, and services rendered; prepare and send invoices for services; prepare and submit reports for unemployment insurance; prepare Federal, State, and local tax forms; and prepare itemized bills for customers. Funeral directors increasingly are using computers for billing, bookkeeping, and marketing. Some are beginning to use the Internet to communicate with clients who are preplanning their funerals, or to assist clients by developing electronic obituaries and guestbooks. Directors strive to foster a cooperative spirit and friendly attitude among employees and a compassionate demeanor towards the families. A growing number of funeral



Funeral directors explain, arrange, and handle the details of funerals with clients.

directors also are involved in helping individuals adapt to changes in their lives following a death through aftercare services or support group activities.

Most funeral homes have a chapel, one or more viewing rooms, a casket-selection room, and a preparation room. An increasing number also have a crematory on the premises. Equipment may include a hearse, a flower car, limousines, and, sometimes, an ambulance. Funeral homes usually stock a selection of caskets and urns for families to purchase or rent.

Working Conditions

Funeral directors often work long, irregular hours, and the occupation can be highly stressful. Many work on an on-call basis, because they may be needed to remove remains in the middle of the night. Shiftwork sometimes is necessary because funeral home hours include evenings and weekends. In smaller funeral homes, working hours vary, but in larger homes employees usually work 8 hours a day, 5 or 6 days a week.

Funeral directors occasionally come into contact with the remains of persons who had contagious diseases, but the possibility of infection is remote if strict health regulations are followed.

To show proper respect and consideration for the families and the dead, funeral directors must dress appropriately. The profession usually requires short, neat haircuts and trim beards, if any, for men. Suits, ties, and dresses are customary for a conservative look.

Employment

Funeral directors held about 24,000 jobs in 2002. Eleven percent were self-employed. Nearly all worked in the death care services industry.

Training, Other Qualifications, and Advancement

Funeral directors must be licensed in all States. Licensing laws vary from State to State, but most require applicants to be 21 years old, have 2 years of formal education that includes studies in mortuary science, serve a 1-year apprenticeship, and pass a qualifying examination. After becoming licensed, new funeral directors may join the staff of a funeral home. Funeral directors who embalm must be licensed in all States, and some States issue a single license for funeral directors who embalm. In States that have separate licensing requirements, most people in the field obtain both licenses. Persons interested in a career as a funeral director should contact their State licensing board for specific requirements.

College programs in mortuary science usually last from 2 to 4 years; the American Board of Funeral Service Education accredits about 50 mortuary science programs. A small number of community and junior colleges offer 2-year programs, and a few colleges and universities offer both 2-year and 4-year programs. Mortuary science programs include courses in anatomy, physiology, pathology, embalming techniques, restorative art, business management, accounting and use of computers in funeral home management, and client services. They also include courses in the social sciences and legal, ethical, and regulatory subjects, such as psychology, grief counseling, oral and written communication, funeral service law, business law, and ethics.

Many State and national associations offer continuing education programs designed for licensed funeral directors. These programs address issues in communications, counseling, and management. More than 30 States have requirements that funeral directors receive continuing education credits in order to maintain their licenses.

Apprenticeships must be completed under the direction of an experienced and licensed funeral director. Depending on State regulations, apprenticeships last from 1 to 3 years and may be served

before, during, or after mortuary school. Apprenticeships provide practical experience in all facets of the funeral service, from embalming to transporting remains.

State board licensing examinations vary, but they usually consist of written and oral parts and include a demonstration of practical skills. Persons who want to work in another State may have to pass the examination for that State; however, some States have reciprocity arrangements and will grant licenses to funeral directors from another State without further examination.

High school students can start preparing for a career as a funeral director by taking courses in biology and chemistry and participating in public speaking or debate clubs. Part-time or summer jobs in funeral homes consist mostly of maintenance and cleanup tasks, such as washing and polishing limousines and hearses, but these tasks can help students to become familiar with the operation of funeral homes.

Important personal traits for funeral directors are composure, tact, and the ability to communicate easily with the public. They also should have the desire and ability to comfort people in a time of sorrow.

Advancement opportunities are best in larger funeral homes—funeral directors may earn promotions to higher paying positions such as branch manager or general manager. Some directors eventually acquire enough money and experience to establish their own funeral home businesses.

Job Outlook

Employment opportunities for funeral directors are expected to be good, particularly for those who also embalm. However, mortuary science graduates may have to relocate to find jobs.

Employment of funeral directors is projected to increase more slowly than the average for all occupations through the year 2012, as the population and the number of deaths increase. The need to replace funeral directors who retire or leave the occupation for other reasons will account for more job openings than will employment growth. Typically, a number of mortuary science graduates leave the profession shortly after becoming licensed funeral directors to pursue other career interests, and this trend is expected to continue. Also, funeral directors are older, on average, than workers in most other occupations, and should be retiring in greater numbers between 2002 and 2012.

Earnings

Median annual earnings for funeral directors were \$43,380 in 2002. The middle 50 percent earned between \$33,540 and \$58,140. The lowest 10 percent earned less than \$24,950, and the top 10 percent more than \$84,060.

Salaries of funeral directors depend on the number of years of experience in funeral service, the number of services performed, the number of facilities operated, the area of the country, the size of the community, and the level of formal education. Funeral directors in large cities earn more than their counterparts in small towns and rural areas.

Related Occupations

The job of a funeral director requires tact, discretion, and compassion when dealing with grieving people. Others who need these qualities include members of the clergy, social workers, psychologists, physicians and surgeons, and other health-diagnosing and -treating practitioners.

Sources of Additional Information

For a list of accredited mortuary science programs and information on the funeral service profession, write to:

► The National Funeral Directors Association, 13625 Bishop's Dr., Brookfield, WI 53005. Internet: <http://www.nfda.org>

For information about college programs in mortuary science, scholarships, and funeral service as a career, contact:

► The American Board of Funeral Service Education, 38 Florida Ave., Portland, ME 04103. Internet: <http://www.abfse.org/index.html>

Human Resources, Training, and Labor Relations Managers and Specialists

(0*NET 11-3040.00, 11-3041.00, 11-3042.00, 11-3049.99, 13-1071.01, 13-1071.02, 13-1072.00, 13-1073.00, 13-1079.99)

Significant Points

- Entry-level jobs are filled by college graduates who have majored in a wide range of fields.
- For many specialized jobs, previous experience is an asset; for more advanced positions, including those of managers, arbitrators, and mediators, it is essential.
- Keen competition for jobs is expected due to the abundant supply of qualified college graduates and experienced workers.

Nature of the Work

Attracting the most qualified employees and matching them to the jobs for which they are best suited is important for the success of any organization. However, many enterprises are too large to permit close contact between top management and employees. Human resources, training, and labor relations managers and specialists provide this link. In the past, these workers have been associated with performing the administrative function of an organization, such as handling employee benefits questions or recruiting, interviewing, and hiring new personnel in accordance with policies and requirements that have been established in conjunction with top management. Today's human resources workers juggle these tasks and, increasingly, consult top executives regarding strategic planning. They have moved from behind-the-scenes staff work to leading the company in suggesting and changing policies. Senior management is recognizing the importance of the human resources department to their financial success.

In an effort to improve morale and productivity and to limit job turnover, they also help their firms effectively use employee skills, provide training opportunities to enhance those skills, and boost employees' satisfaction with their jobs and working conditions. Although some jobs in the human resources field require only limited contact with people outside the office, dealing with people is an essential part of the job.

In a small organization, a *human resources generalist* may handle all aspects of human resources work, and thus require a broad range of knowledge. The responsibilities of human resources generalists can vary widely, depending on their employer's needs. In a large corporation, the top human resources executive usually develops and coordinates personnel programs and policies. (Executives are included in the *Handbook* statement on top executives.) These policies usually are implemented by a director or manager of human resources and, in some cases, a director of industrial relations.

The *director of human resources* may oversee several departments, each headed by an experienced manager who most likely specializes in one personnel activity, such as employment, compensation, benefits, training and development, or employee relations.

Employment and placement managers oversee the hiring and separation of employees and supervise various workers, including equal employment opportunity specialists and recruitment specialists. *Employment, recruitment, and placement specialists* recruit and place workers.

Recruiters maintain contacts within the community and may travel extensively, often to college campuses, to search for promising job applicants. Recruiters screen, interview, and sometimes test applicants. They also may check references and extend job offers. These workers must be thoroughly familiar with the organization and its personnel policies in order to discuss wages, working conditions, and promotional opportunities with prospective employees. They also must keep informed about equal employment opportunity (EEO) and affirmative action guidelines and laws, such as the Americans with Disabilities Act.

EEO officers, representatives, or affirmative action coordinators handle EEO matters in large organizations. They investigate and resolve EEO grievances, examine corporate practices for possible violations, and compile and submit EEO statistical reports.

Employer relations representatives, who usually work in government agencies, maintain working relationships with local employers and promote the use of public employment programs and services. Similarly, *employment interviewers*—whose many job titles include *personnel consultants, personnel development specialists, and human resources coordinators*—help to match employers with qualified jobseekers.

Compensation, benefits, and job analysis specialists conduct programs for employers and may specialize in specific areas such as position classifications or pensions. *Job analysts*, sometimes called *position classifiers*, collect and examine detailed information about job duties in order to prepare job descriptions. These descriptions explain the duties, training, and skills that each job requires. Whenever a large organization introduces a new job or reviews existing jobs, it calls upon the expert knowledge of the job analyst.

Occupational analysts conduct research, usually in large firms. They are concerned with occupational classification systems and study the effects of industry and occupational trends upon worker relationships. They may serve as technical liaison between the firm and other firms, government, and labor unions.

Establishing and maintaining a firm's pay system is the principal job of the *compensation manager*. Assisted by staff specialists, compensation managers devise ways to ensure fair and equitable pay rates. They may conduct surveys to see how their firm's rates compare with others and to see that the firm's pay scale complies with changing laws and regulations. In addition, compensation



Keen competition for jobs as human resources workers is expected due to the abundant supply of qualified college graduates and experienced workers.

managers often oversee their firm's performance evaluation system, and they may design reward systems such as pay-for-performance plans.

Employee benefits managers and specialists handle the company's employee benefits program, notably its health insurance and pension plans. Expertise in designing and administering benefits programs continues to take on importance as employer-provided benefits account for a growing proportion of overall compensation costs, and as benefit plans increase in number and complexity. For example, pension benefits might include savings and thrift, profit-sharing, and stock ownership plans; health benefits might include long-term catastrophic illness insurance and dental insurance. Familiarity with health benefits is a top priority for employee benefits managers and specialists, as more firms struggle to cope with the rising cost of healthcare for employees and retirees. In addition to health insurance and pension coverage, some firms offer employees life and accidental death and dismemberment insurance, disability insurance, and relatively new benefits designed to meet the needs of a changing workforce, such as parental leave, child and elder care, long-term nursing home care insurance, employee assistance and wellness programs, and flexible benefits plans. Benefits managers must keep abreast of changing Federal and State regulations and legislation that may affect employee benefits.

Employee assistance plan managers, also called *employee welfare managers*, are responsible for a wide array of programs covering occupational safety and health standards and practices; health promotion and physical fitness, medical examinations, and minor health treatment, such as first aid; plant security; publications; food service and recreation activities; carpooling and transportation programs, such as transit subsidies; employee suggestion systems; childcare and elder care; and counseling services. Childcare and elder care are increasingly important due to growth in the number of dual-income households and the elderly population. Counseling may help employees deal with emotional disorders, alcoholism, or marital, family, consumer, legal, and financial problems. Some employers offer career counseling as well. In large firms, certain programs, such as those dealing with security and safety, may be in separate departments headed by other managers.

Training and development managers and specialists conduct and supervise training and development programs for employees. Increasingly, management recognizes that training offers a way of developing skills, enhancing productivity and quality of work, and building worker loyalty to the firm. Training is widely accepted as a method of improving employee morale, but this is only one of the reasons for its growing importance. Other factors include the complexity of the work environment, the rapid pace of organizational and technological change, and the growing number of jobs in fields that constantly generate new knowledge. In addition, advances in learning theory have provided insights into how adults learn, and how training can be organized most effectively for them.

Training managers provide worker training either in the classroom or onsite. This includes setting up teaching materials prior to the class, involving the class, and issuing completion certificates at the end of the class.

Training specialists plan, organize, and direct a wide range of training activities. Trainers respond to corporate and worker service requests. They consult with onsite supervisors regarding available performance improvement services and conduct orientation sessions and arrange on-the-job training for new employees. They help rank-and-file workers maintain and improve their job skills, and possibly prepare for jobs requiring greater skill. They help

supervisors improve their interpersonal skills in order to deal effectively with employees. They may set up individualized training plans to strengthen an employee's existing skills or teach new ones. Training specialists in some companies set up leadership or executive development programs among employees in lower level positions. These programs are designed to develop potential executives to replace those leaving the organization. Trainers also lead programs to assist employees with transitions due to mergers and acquisitions, as well as technological changes. In government-supported training programs, training specialists function as case managers. They first assess the training needs of clients, then guide them through the most appropriate training method. After training, clients may either be referred to employer relations representatives or receive job placement assistance.

Planning and program development is an important part of the training specialist's job. In order to identify and assess training needs within the firm, trainers may confer with managers and supervisors or conduct surveys. They also periodically evaluate training effectiveness.

Depending on the size, goals, and nature of the organization, trainers may differ considerably in their responsibilities and in the methods they use. Training methods include on-the-job training; operating schools that duplicate shop conditions for trainees prior to putting them on the shop floor; apprenticeship training; classroom training; and electronic learning, which may involve interactive Internet-based training, multimedia programs, distance learning, satellite training, other computer-aided instructional technologies, videos, simulators, conferences, and workshops.

An organization's *director of industrial relations* forms labor policy, oversees industrial labor relations, negotiates collective bargaining agreements, and coordinates grievance procedures to handle complaints resulting from management disputes with unionized employees. The director of industrial relations also advises and collaborates with the director of human resources, other managers, and members of their staff, because all aspects of personnel policy—such as wages, benefits, pensions, and work practices—may be involved in drawing up a new or revised union contract.

Labor relations managers and their staffs implement industrial labor relations programs. When a collective bargaining agreement is up for negotiation, labor relations specialists prepare information for management to use during negotiation, a process that requires the specialist to be familiar with economic and wage data and to have extensive knowledge of labor law and collective bargaining trends. The labor relations staff interprets and administers the contract with respect to grievances, wages and salaries, employee welfare, healthcare, pensions, union and management practices, and other contractual stipulations. As union membership continues to decline in most industries, industrial relations personnel are working more often with employees who are not members of a labor union.

Dispute resolution—attaining tacit or contractual agreements—has become increasingly important as parties to a dispute attempt to avoid costly litigation, strikes, or other disruptions. Dispute resolution also has become more complex, involving employees, management, unions, other firms, and government agencies. Specialists involved in dispute resolution must be highly knowledgeable and experienced, and often report to the director of industrial relations. *Conciliators*, or *mediators*, advise and counsel labor and management to prevent and, when necessary, resolve disputes over labor agreements or other labor relations issues. *Arbitrators*, sometimes called umpires or referees, decide disputes that bind both labor and

management to specific terms and conditions of labor contracts. Labor relations specialists who work for unions perform many of the same functions on behalf of the union and its members.

Other emerging specialties include those of *international human resources managers*, who handle human resources issues related to a company's foreign operations, and *human resources information system specialists*, who develop and apply computer programs to process personnel information, match jobseekers with job openings, and handle other personnel matters.

Working Conditions

Personnel work usually takes place in clean, pleasant, and comfortable office settings. Arbitrators and mediators may work out of their homes. Many human resources, training, and labor relations managers and specialists work a standard 35- to 40-hour week. However, longer hours might be necessary for some workers—for example, labor relations managers and specialists, arbitrators, and mediators—when contract agreements are being prepared and negotiated.

Although most human resources, training, and labor relations managers and specialists work in the office, some travel extensively. For example, recruiters regularly attend professional meetings and visit college campuses to interview prospective employees; arbitrators and mediators often must travel to the site chosen for negotiations.

Employment

Human resources, training, and labor relations managers and specialists held about 677,000 jobs in 2002. The following tabulation shows the distribution of jobs by occupational specialty:

Training and development specialists	209,000
Human resources managers	202,000
Employment, recruitment, and placement specialists	175,000
Compensation, benefits, and job analysis specialists	91,000

Human resources, training, and labor relations managers and specialists were employed in virtually every industry. About 3,800 specialists were self-employed, working as consultants to public and private employers.

The private sector accounted for almost 8 out of 10 salaried jobs, including 11 percent in professional, scientific, and technical services and 10 percent each in manufacturing industries; health care and social assistance; finance and insurance firms; and administrative and support services.

Government employed about 18 percent of human resources managers and specialists. They handled the recruitment, interviewing, job classification, training, salary administration, benefits, employee relations, and other matters related to the Nation's public employees.

Training, Other Qualifications, and Advancement

Because of the diversity of duties and levels of responsibility, the educational backgrounds of human resources, training, and labor relations managers and specialists vary considerably. In filling entry-level jobs, many employers seek college graduates who have majored in human resources, personnel administration, or industrial and labor relations. Other employers look for college graduates with a technical or business background or a well-rounded liberal arts education.

Many colleges and universities have programs leading to a degree in personnel, human resources, or labor relations. Some offer

degree programs in personnel administration or human resources management, training and development, or compensation and benefits. Depending on the school, courses leading to a career in human resources management may be found in departments of business administration, education, instructional technology, organizational development, human services, communication, or public administration, or within a separate human resources institution or department.

Because an interdisciplinary background is appropriate in this field, a combination of courses in the social sciences, business, and behavioral sciences is useful. Some jobs may require a more technical or specialized background in engineering, science, finance, or law, for example. Most prospective human resources specialists should take courses in compensation, recruitment, training and development, and performance appraisal, as well as courses in principles of management, organizational structure, and industrial psychology. Other relevant courses include business administration, public administration, psychology, sociology, political science, economics, and statistics. Courses in labor law, collective bargaining, labor economics, labor history, and industrial psychology also provide a valuable background for the prospective labor relations specialist. As in many other fields, knowledge of computers and information systems also is useful.

An advanced degree is increasingly important for some jobs. Many labor relations jobs require graduate study in industrial or labor relations. A strong background in industrial relations and law is highly desirable for contract negotiators, mediators, and arbitrators; in fact, many people in these specialties are lawyers. A background in law also is desirable for employee benefits managers and others who must interpret the growing number of laws and regulations. A master's degree in human resources, labor relations, or in business administration with a concentration in human resources management is highly recommended for those seeking general and top management positions.

For many specialized jobs in the human resources field, previous experience is an asset; for more advanced positions, including those of managers as well as arbitrators and mediators, it is essential. Many employers prefer entry-level workers who have gained some experience through an internship or work-study program while in school. Personnel administration and human resources development require the ability to work with individuals as well as a commitment to organizational goals. This field also demands other skills that people may develop elsewhere—using computers, selling, teaching, supervising, and volunteering, among others. The field offers clerical workers opportunities for advancement to professional positions. Responsible positions sometimes are filled by experienced individuals from other fields, including business, government, education, social services administration, and the military.

The human resources field demands a range of personal qualities and skills. Human resources, training, and labor relations managers and specialists must speak and write effectively. The growing diversity of the workforce requires that they work with or supervise people with various cultural backgrounds, levels of education, and experience. They must be able to cope with conflicting points of view, function under pressure, and demonstrate discretion, integrity, fair-mindedness, and a persuasive, congenial personality.

The duties given to entry-level workers will vary, depending on whether the new workers have a degree in human resource management, have completed an internship, or have some other type of human resources-related experience. Entry-level employees commonly learn the profession by performing administrative duties—helping to enter data into computer systems, compiling employee

handbooks, researching information for a supervisor, or answering the phone and handling routine questions. Entry-level workers often enter formal or on-the-job training programs in which they learn how to classify jobs, interview applicants, or administer employee benefits. They then are assigned to specific areas in the personnel department to gain experience. Later, they may advance to a managerial position, overseeing a major element of the personnel program—compensation or training, for example.

Exceptional human resources workers may be promoted to director of personnel or industrial relations, which can eventually lead to a top managerial or executive position. Others may join a consulting firm or open their own business. A Ph.D. is an asset for teaching, writing, or consulting work.

Most organizations specializing in human resources offer classes intended to enhance the marketable skills of their members. Some organizations offer certification programs, which are signs of competence and can enhance one's advancement opportunities. For example, the International Foundation of Employee Benefit Plans confers a designation to persons who complete a series of college-level courses and pass exams covering employee benefit plans. The Society for Human Resources Management has two levels of certification; both require experience and a passing score on a comprehensive exam.

Job Outlook

The abundant supply of qualified college graduates and experienced workers should create keen competition for jobs. Overall employment of human resources, training, and labor relations managers and specialists is expected to grow faster than the average for all occupations through 2012. In addition to openings due to growth, many job openings will arise from the need to replace workers who transfer to other occupations or leave the labor force.

Legislation and court rulings setting standards in various areas—occupational safety and health, equal employment opportunity, wages, health, pensions, and family leave, among others—will increase demand for human resources, training, and labor relations experts. Rising healthcare costs should continue to spur demand for specialists to develop creative compensation and benefits packages that firms can offer prospective employees. Employment of labor relations staff, including arbitrators and mediators, should grow as firms become more involved in labor relations, and attempt to resolve potentially costly labor-management disputes out of court. Additional job growth may stem from increasing demand for specialists in international human resources management and human resources information systems.

Demand may be particularly strong for certain specialists. For example, employers are expected to devote greater resources to job-specific training programs in response to the increasing complexity of many jobs, the aging of the workforce, and technological advances that can leave employees with obsolete skills. This should result in particularly strong demand for training and development specialists. In addition, increasing efforts throughout industry to recruit and retain quality employees should create many jobs for employment, recruitment, and placement specialists.

Among industries, firms involved in management, consulting, and employment services should offer many job opportunities, as businesses increasingly contract out personnel functions or hire personnel specialists on a temporary basis in order to deal with the increasing cost and complexity of training and development programs. Demand also should increase in firms that develop and administer complex employee benefits and compensation packages for other organizations.

Demand for human resources, training, and labor relations managers and specialists also are governed by the staffing needs of the firms for which they work. A rapidly expanding business is likely to hire additional human resources workers—either as permanent employees or consultants—while a business that has experienced a merger or a reduction in its workforce will require fewer human resources workers. Also, as human resources management becomes increasingly important to the success of an organization, some small and medium-size businesses that do not have a human resources department may assign employees various human resources duties together with other unrelated responsibilities. In any particular firm, the size and the job duties of the human resources staff are determined by the firm's organizational philosophy and goals, skills of its workforce, pace of technological change, government regulations, collective bargaining agreements, standards of professional practice, and labor market conditions.

Job growth could be limited by the widespread use of computerized human resources information systems that make workers more productive. Like that of other workers, employment of human resources, training, and labor relations managers and specialists, particularly in larger firms, may be adversely affected by corporate downsizing, restructuring, and mergers.

Earnings

Annual salary rates for human resources workers vary according to occupation, level of experience, training, location, and size of the firm, and whether they are union members. Median annual earnings of human resources managers were \$64,710 in 2002. The middle 50 percent earned between \$47,420 and \$88,100. The lowest 10 percent earned less than \$36,280, and the highest 10 percent earned more than \$114,300. Median annual earnings in the industries employing the largest numbers of human resources managers in 2002 were:

Management of companies and enterprises	\$77,690
Local government	65,590
General medical and surgical hospitals	61,720
Depository credit intermediation	60,030

Median annual earnings of training and development specialists were \$42,800 in 2002. The middle 50 percent earned between \$32,050 and \$56,890. The lowest 10 percent earned less than \$24,760, and the highest 10 percent earned more than \$72,530. Median annual earnings in the industries employing the largest numbers of training and development specialists in 2002 were:

Management of companies and enterprises	\$49,660
Insurance carriers	45,830
Local government	43,740
State government	40,960
Federal Government	37,560

Median annual earnings of employment, recruitment, and placement specialists were \$39,410 in 2002. The middle 50 percent earned between \$30,390 and \$54,130. The lowest 10 percent earned less than \$24,440, and the highest 10 percent earned more than \$73,940. Median annual earnings in 2002 were \$34,850 in employment services, the industry employing the largest numbers of these specialists.

Median annual earnings of compensation, benefits, and job analysis specialists were \$45,100 in 2002. The middle 50 percent earned between \$35,000 and \$57,230. The lowest 10 percent earned less than \$28,160, and the highest 10 percent earned more than

\$72,250. Median annual earnings in 2002 were \$48,870 in local government, the industry employing the largest numbers of these specialists.

According to a 2003 salary survey conducted by the National Association of Colleges and Employers, bachelor's degree candidates majoring in human resources, including labor relations, received starting offers averaging \$35,400 a year.

The average salary for human resources managers employed by the Federal Government was \$66,886 in 2003; for employee relations specialists, \$63,345; for labor relations specialists, \$72,915; and for employee development specialists, \$68,735. Salaries were slightly higher in areas where the prevailing local pay level was higher. There are no formal entry-level requirements for managerial positions. Applicants must possess a suitable combination of educational attainment, experience, and record of accomplishment.

Related Occupations

All human resources occupations are closely related. Other workers with skills and expertise in interpersonal relations include counselors, education administrators, public relations specialists, lawyers, psychologists, social and human service assistants, and social workers.

Sources of Additional Information

For information about human resource management careers and certification, contact:

► Society for Human Resource Management, 1800 Duke St., Alexandria, VA 22314. Internet: <http://www.shrm.org>

For information about careers in employee training and development and certification, contact:

► American Society for Training and Development, 1640 King St., Box 1443, Alexandria, VA 22313. Internet: <http://www.astd.org>

For information about careers and certification in employee compensation and benefits, contact:

► International Foundation of Employee Benefit Plans, 18700 W. Bluemound Rd., P.O. Box 69, Brookfield, WI 53008-0069. Internet: <http://www.ifebp.org>

For information about academic programs in industrial relations, write to:

► Industrial Relations Research Association, 121 Labor and Industrial Relations, University of Illinois, 504 E. Armory, Champaign, IL 61820. Internet: <http://www.irra.uiuc.edu>

Information about personnel careers in the healthcare industry is available from:

► American Society for Healthcare Human Resources Administration, One North Franklin, 31st Floor, Chicago, IL 60606. Internet: <http://www.ashhra.org>

Industrial Production Managers

(0*NET 11-3051.00)

Significant Points

- While there is no standard preparation, a college degree is required.
- Applicants with a college degree in industrial engineering, management, or business administration, and particularly those with an undergraduate engineering degree and a master's degree in business administration or industrial management, enjoy the best job prospects.
- Projected slower-than-average growth in employment reflects increasing productivity.

Nature of the Work

Industrial production managers coordinate the resources and activities required to produce millions of goods every year in the United States. Although their duties vary from plant to plant, industrial production managers share many of the same major responsibilities. These responsibilities include production scheduling, staffing, procurement and maintenance of equipment, quality control, inventory control, and the coordination of production activities with those of other departments.

The primary mission of industrial production managers is planning the production schedule within budgetary limitations and time constraints. They do this by analyzing the plant's personnel and capital resources to select the best way of meeting the production quota. Industrial production managers determine, often using mathematical formulas, which machines will be used, whether new machines need to be purchased, whether overtime or extra shifts are necessary, and what the sequence of production will be. They monitor the production run to make sure that it stays on schedule and correct any problems that may arise.

As production techniques have evolved beyond traditional mass assembly lines, industrial production managers have adapted to "lean" production techniques. Many manufacturers have adopted lean production techniques, while some others use a combination of lean and mass production techniques. In a traditional assembly line, each worker is responsible for only a small portion of the assembly, repeating that task on every product. Lean production employs teams to build and assemble products in stations or cells. When companies use stations, one worker may work alone with handtools and various parts to complete a large portion of the assembly process. Rather than specializing in a specific task, workers are capable of performing all jobs within a team. Without the constraints of the traditional assembly line, companies can be more flexible in their production process, more easily changing production levels on different product lines.

The increased flexibility of lean manufacturing enables industrial production managers to experiment with ways of improving the assembly and manufacturing process. As companies strive to minimize inventory, they want to maintain only a limited stock of finished products. Employing manufacturing cells and stations, companies can more quickly react to changes in customer demand so that limited inventories will not get too low.

Industrial production managers also must monitor product standards. Inspecting samples of finished goods and recording defects enables managers to statistically analyze quality control problems.

While traditional quality control programs reacted only to problems that reached a certain significant level, newer management techniques and programs, such as ISO 9000, Total Quality Management (TQM), or Six Sigma, emphasize continuous quality improvement. If the problem relates to the quality of work performed in the plant, the manager may implement better training programs or reorganize the manufacturing process, often based upon the suggestions of employee teams. If the cause is substandard materials or parts from outside suppliers, companies may work with their suppliers to improve their quality.

Because the work of many departments is related, managers work closely with heads of other departments such as sales, procurement, and logistics to plan and implement company goals, policies, and procedures. For example, the production manager works with the procurement department to ensure that plant inventories are maintained at their optimal level. This is vital to a firm's operation because maintaining the inventory of materials necessary for production ties up the firm's financial resources, yet insufficient quantities cause delays in production. A breakdown in communications between the production manager and the purchasing department can cause slowdowns and a failure to meet production schedules. Just-in-time production techniques have reduced inventory levels, making constant communication among the manager, suppliers, and purchasing departments even more important. Computers play an integral part in this coordination. They also are used to provide up-to-date information on inventory, the status of work in progress, and quality standards.

Production managers usually report to the plant manager or the vice president for manufacturing, and may act as liaison between executives and first-line supervisors. (Information about top executives may be found elsewhere in the *Handbook*.) In many plants, one production manager is responsible for all aspects of production. In large plants with several operations—aircraft assembly, for example—there are managers in charge of each operation, such as machining, assembly, or finishing.

Working Conditions

Most industrial production managers divide their time between production areas and their offices. While in the production area, they must follow established health and safety practices and wear the required protective clothing and equipment. The time in the office, which often is located near production areas, usually is spent meeting with subordinates or other department managers, analyzing production data, and writing and reviewing reports.



Industrial production managers often work near the factory floor.

Most industrial production managers work more than 40 hours a week, especially when production deadlines must be met. In facilities that operate around-the-clock, managers often work late shifts and may be called at any hour to deal with emergencies. This could mean going to the plant to resolve the problem, regardless of the hour, and staying until the situation is under control. Dealing with production workers as well as superiors when working under the pressure of production deadlines or emergency situations can be stressful. Corporate restructuring has eliminated levels of management and support staff, thus shifting more responsibilities to production managers and compounding this stress.

Employment

Industrial production managers held about 182,000 jobs in 2002. Almost all are employed in manufacturing industries, including the plastics product manufacturing, printing and related support activities, motor vehicle parts manufacturing, and semiconductor and other electronic component manufacturing industries. Production managers work in all parts of the country, but jobs are most plentiful in areas where manufacturing is concentrated.

Training, Other Qualifications, and Advancement

Because of the diversity of manufacturing operations and job requirements, there is no standard preparation for this occupation. However, a college degree is required, even for those who have worked their way up through the ranks. Many industrial production managers have a college degree in business administration, management, industrial technology, or industrial engineering. Others have a master’s degree in industrial management or business administration (MBA). Some are former production-line supervisors who have been promoted. Although many employers prefer candidates with a business or engineering background, some companies hire well-rounded liberal arts graduates.

As production operations become more sophisticated, increasing numbers of employers are looking for candidates with graduate degrees in industrial management or business administration. Combined with an undergraduate degree in engineering, either of these graduate degrees is considered particularly good preparation. Managers who do not have graduate degrees often take courses in decision sciences, which provide them with techniques and mathematical formulas that can be used to maximize efficiency and improve quality. Companies also are placing greater importance on a candidate’s interpersonal skills. Because the job requires the ability to compromise, persuade, and negotiate, successful production managers must be well-rounded and have excellent communication skills.

Those who enter the field directly from college or graduate school often are unfamiliar with the firm’s production process. As a result, they may spend their first few months in the company’s training program. These programs familiarize trainees with the production process, company policies, and the requirements of the job. In larger companies, they also may include assignments to other departments, such as purchasing and accounting. A number of companies hire college graduates as first-line supervisors and later promote them.

Some industrial production managers have worked their way up through the ranks, perhaps after having worked as first-line supervisors. These workers already have an intimate knowledge of the production process and the firm’s organization. To be selected for promotion, however, they must obtain a college degree, must demonstrate leadership qualities, and usually must take company-sponsored courses in management skills and communication techniques.

In addition to formal training, industrial production managers must keep informed of new production technologies and management practices. Many belong to professional organizations and attend trade shows at which new equipment is displayed; they also attend industry conferences and conventions at which changes in production methods and technological advances are discussed. Some take courses to become certified in various quality and management systems.

Industrial production managers with a proven record of superior performance may advance to plant manager or vice president for manufacturing. Others transfer to jobs with more responsibilities at larger firms. Opportunities also exist for consultants. (For more information, see the statement on management analysts elsewhere in the *Handbook*.)

Job Outlook

Employment of industrial production managers is expected to grow more slowly than the average for all occupations through 2012. However, a number of job openings will stem from the need to replace workers who transfer to other occupations or leave the labor force. Applicants with a college degree in industrial engineering, management, or business administration, and particularly those with an undergraduate engineering degree and a master’s degree in business administration or industrial management, enjoy the best job prospects. Employers also are likely to seek candidates who have excellent communication skills and who are personable, flexible, and eager to enhance their knowledge and skills through ongoing training.

Although manufacturing output is projected to rise, increases in productivity among industrial production managers and the workers they supervise will limit growth in employment of these managers. Productivity gains among managers will stem from the increasing use of computers for scheduling, planning, and coordination. Productivity gains among workers will limit both the number of employees in factories and the need for supervision. In addition, more emphasis on quality in the production process has redistributed some of the production manager’s oversight responsibilities to supervisors and workers on the production line. Because production managers are so essential to the efficient operation of a plant, they have not been greatly affected by recent efforts to flatten management structures. Nevertheless, this trend has led production managers to assume more responsibilities and has limited the creation of more employment opportunities.

Earnings

Median annual earnings for industrial production managers were \$67,320 in 2002. The middle 50 percent earned between \$50,710 and \$88,880. The lowest 10 percent earned less than \$38,980, and the highest 10 percent earned more than \$114,750. Median annual earnings in the manufacturing industries employing the largest numbers of industrial production managers in 2002 were:

Management of companies and enterprises	\$89,570
Semiconductor and other electronic component manufacturing	78,070
Motor vehicle parts manufacturing	73,570
Plastics products manufacturing	60,720
Printing and related support activities	59,270

Related Occupations

Industrial production managers oversee production staff and equipment, ensure that production goals and quality standards are being

met, and implement company policies. Occupations requiring similar training and skills are engineers, management analysts, operations research analysts, top executives, and industrial engineers, including health and safety.

Sources of Additional Information

For more information on industrial production management, contact local manufacturers or schools with programs in industrial management.

Insurance Underwriters

(0*NET 13-2053.00)

Significant Points

- Because insurance is considered a necessity for people and businesses, there will always be a need for underwriters.
- Most large insurance companies prefer college graduates who have a degree in business administration or finance with courses in accounting; however, a bachelor's degree in any field—plus courses in business law and accounting—may be sufficient to qualify.

Nature of the Work

Insurance companies protect individuals and organizations from financial loss by assuming billions of dollars in risks each year. Underwriters are needed to identify and calculate the risk of loss from policyholders, establish appropriate premium rates, and write policies that cover these risks. An insurance company may lose business to competitors if the underwriter appraises risks too conservatively, or it may have to pay excessive claims if the underwriting actions are too liberal.

With the aid of computers, underwriters analyze information in insurance applications to determine if a risk is acceptable and will not result in a loss. Applications are often supplemented with reports from loss-control consultants, medical reports, data vendors, and actuarial studies. Underwriters then must decide whether to issue the policy and the appropriate premium to charge. In making this determination, underwriters serve as the main link between the insurance carrier and the insurance agent. On occasion, they accompany sales agents to make presentations to prospective clients.

Technology plays an important role in an underwriter's job. Underwriters use computer applications called "smart systems" to manage risks more efficiently and accurately. These systems automatically analyze and rate insurance applications, recommend acceptance or denial of the risk, and adjust the premium rate in accordance with the risk. With these systems, underwriters are better equipped to make sound decisions and avoid excessive losses.

The Internet also has affected the work of underwriters. Many insurance carriers' computer systems are now linked to different databases on the Internet that allow immediate access to information—such as driving records—necessary in determining a potential client's risk. This reduces the amount of time and paperwork necessary for an underwriter to complete a risk assessment.

Most underwriters specialize in one of three major categories of insurance—life, health, or property and casualty. Life and health insurance underwriters may further specialize in group or individual policies.

Property and casualty underwriters usually specialize in either commercial or personal insurance, and then by type of risk insured, such as fire, homeowners, automobile, marine, liability, or workers' compensation. In cases where casualty companies provide insurance through a single "package" policy, covering various types of risks, the underwriter must be familiar with different lines of insurance. For business insurance, the underwriter often must be able to evaluate the firm's entire operation in appraising its application for insurance.

An increasing proportion of insurance sales, particularly in life and health insurance, is being made through group contracts. A

standard group policy insures everyone in a specified group through a single contract at a standard premium rate. The group underwriter analyzes the overall composition of the group to assure that the total risk is not excessive. Another type of group policy provides members of a group—a labor union, for example—with individual policies reflecting their needs. These usually are casualty policies, such as those covering automobiles. The casualty underwriter analyzes the application of each group member and makes individual appraisals. Some group underwriters meet with union or employer representatives to discuss the types of policies available to their group.

Working Conditions

Underwriters have desk jobs that require no unusual physical activity. Their offices usually are comfortable and pleasant. Although underwriters typically work a standard 40-hour week, more are working longer hours due to the downsizing of many insurance companies. Most underwriters are based in a home or regional branch office, but they occasionally attend meetings away from home for several days. Construction and marine underwriters frequently travel to inspect worksites and assess risks.

Employment

Insurance underwriters held about 102,000 jobs in 2002. The majority of underwriters—about 64 percent—work for insurance companies called "carriers." Most of the remaining underwriters work in insurance agencies or for organizations that offer insurance services to insurance companies and policyholders. A small number of underwriters work in agencies owned and operated by banks, mortgage companies, and real estate firms.

Most underwriters are based in the insurance company's home office, but some, mostly in the property and casualty area, work out of regional branch offices of the insurance company. These underwriters usually have the authority to underwrite most risks and determine an appropriate rating without consulting the home office.

Training, Other Qualifications, and Advancement

For entry-level underwriting jobs, most large insurance companies prefer college graduates who have a degree in business administration or finance, with courses or experience in accounting. However, a bachelor's degree in almost any field—plus courses in business law and accounting—provides a good general background and



Insurance underwriters review insurance applications and decide whether to issue a policy.

may be sufficient to qualify. Because computers are an integral part of most underwriters' jobs, computer skills are essential.

New employees usually start as underwriter trainees or assistant underwriters. They may help collect information on applicants and evaluate routine applications under the supervision of an experienced risk analyst. Property and casualty trainees study claims files to become familiar with factors associated with certain types of losses. Many larger insurers offer work-study training programs, lasting from a few months to a year. As trainees gain experience, they are assigned policy applications that are more complex and cover greater risks. These require the use of computers for more efficient analysis and processing.

Underwriting can be a satisfying career for people who enjoy analyzing information and paying attention to detail. In addition, underwriters must possess good judgment in order to make sound decisions. Excellent communication and interpersonal skills also are essential, as much of the underwriter's work involves dealing with agents and other insurance professionals.

Continuing education is necessary for advancement. Insurance companies usually pay tuition for underwriting courses that their trainees successfully complete; some also offer salary incentives. Independent study programs for experienced property and casualty underwriters also are available. The Insurance Institute of America offers a program called "Introduction to Underwriting" for beginning underwriters, and the specialty designation, Associate in Commercial Underwriting (AU), the second formal step in developing a career in underwriting business insurance policies. Those interested in developing a career underwriting personal insurance policies may earn the Associate in Personal Insurance (API) designation. To earn either the AU or API designation, underwriters complete a series of courses and examinations that generally lasts 1 to 2 years.

The American Institute for Chartered Property Casualty Underwriters awards the designation Chartered Property and Casualty Underwriter, or CPCU, the third and final stage of development for an underwriter. Earning the more advanced CPCU designation takes about four years, and requires passing eight examinations covering risk management; insurance operations and regulations; business and insurance law; financial management; financial institutions; and a three course concentration in either personal or commercial insurance coverage. Although the CPCU may be mainly for underwriters, it is also meant for everyone working in all aspects of property and casualty insurance. The American College offers the Chartered Life Underwriter (CLU) designation and the Registered Health Underwriter (RHU) designation for all life and health insurance professionals.

Experienced underwriters who complete courses of study may advance to senior underwriter or underwriting manager positions. Some underwriting managers are promoted to senior managerial jobs. Some employers require a master's degree to achieve this level. Other underwriters are attracted to the earnings potential of sales and therefore obtain State licenses to sell insurance and related financial products as agents or brokers.

Job Outlook

Employment of underwriters is expected to grow as fast as the average for all occupations through 2012. Underwriting software will continue to make workers more productive; however, because computer software does not do away with the need for human skills, underwriter employment will increase as economic and population growth result in increased insurance needs by businesses and individuals. In addition, job openings will be generated to replace underwriters who transfer or leave the occupation.

Insurance carriers are always assessing new risks and offering policies to meet changing circumstances. Underwriters are particularly needed in the area of product development, where underwriters assess risks and set the premiums for new lines of insurance. One new line of insurance being offered by life insurance carriers that may provide job opportunities for underwriters is long term care insurance.

Demand for underwriters is also expected to improve as insurance carriers try to restore profitability to make up for an unusually large number of underwriting losses in recent years. As the carriers' returns on their investments have declined, insurers are placing more emphasis on underwriting to generate revenues. This renewed interest in underwriting will result in favorable job opportunities for underwriters in the near term.

Employment of underwriters has historically been relatively steady. Overall, the best prospects for underwriter jobs will be for persons with the right skills and credentials, such as excellent computer and communication skills coupled with a background in finance. Because insurance is considered a necessity for people and businesses, there will always be a need for underwriters. It is a profession that is less subject to recession and layoffs than other fields.

Earnings

Median annual earnings of insurance underwriters were \$45,590 in 2002. The middle 50 percent earned between \$35,190 and \$60,890 a year. The lowest 10 percent earned less than \$28,840, while the highest 10 percent earned over \$79,400. Median annual earnings in insurance carriers were \$46,690, while earnings in agencies, brokerages, and other insurance related activities were \$43,560.

Insurance companies usually provide better than average benefits, including employer-financed group life and health insurance, and retirement plans.

Related Occupations

Underwriters make decisions on the basis of financial and statistical data. Other workers with the same type of responsibility include accountants and auditors, actuaries, budget analysts, cost estimators, financial analysts and personal financial advisors, financial managers, loan counselors and officers, and credit analysts. Other related jobs in the insurance industry include insurance sales agents and claims adjusters, appraisers, examiners, and investigators.

Sources of Additional Information

Information about a career as an insurance underwriter is available from the home offices of many life, health, and property-casualty insurance companies.

Information about the property-casualty insurance field can be obtained by contacting:

► The Insurance Information Institute, 110 William St., New York, NY 10038. Internet: <http://www.iii.org>

Information on careers in the life insurance field can be obtained from:

► LIMRA International, P.O. Box 203, Hartford, CT 06141.

Information on the underwriting function and the CPCU and AU designations can be obtained from:

► The American Institute for Chartered Property and Casualty Underwriters/Insurance Institute of America, 720 Providence Rd., P.O. Box 3016, Malvern, PA 19355-0716. Internet: <http://www.aicpcu.org>

Information on the CLU and RHU designations can be obtained from:

► The American College, 270 South Bryn Mawr Ave., Bryn Mawr, PA, 19010-2196. Internet: <http://www.amercoll.edu>

Loan Counselors and Officers

(0*NET 13-2071.00, 13-2072.00)

Significant Points

- Loan officer positions generally require a bachelor's degree in finance, economics, or a related field; training or experience in banking, lending, or sales is advantageous.
- Average employment growth is expected for loan officers despite rising demand for loans, because technology is making loan processing and approval simpler and faster.
- Earnings often fluctuate with the number of loans generated, rising substantially when the economy is good and interest rates are low.

Nature of the Work

For many individuals, taking out a loan may be the only way to afford a house, car, or college education. For businesses, loans likewise are essential to start many companies, purchase inventory, or invest in capital equipment. *Loan officers* facilitate this lending by finding potential clients and assisting them in applying for loans. Loan officers also gather personal information about clients and businesses to ensure that an informed decision is made regarding the creditworthiness of the borrower and the probability of repayment. *Loan counselors* provide guidance to prospective loan applicants who have problems qualifying for traditional loans. The guidance they provide may include determining the most appropriate type of loan for a particular customer, and explaining specific requirements and restrictions associated with the loan. Some of the functions of a loan counselor also may be performed by a loan officer. Within some institutions, such as credit unions, loan counselor is an alternate title for loan officer.

Loan officers usually specialize in commercial, consumer, or mortgage loans. Commercial or business loans help companies pay for new equipment or expand operations; consumer loans include home equity, automobile, and personal loans; mortgage loans are made to purchase real estate or to refinance an existing mortgage. As banks and other financial institutions begin to offer new types of loans and a growing variety of financial services, loan officers will have to keep abreast of these new product lines so that they can meet their customers' needs.

In many instances, loan officers act as salespeople. Commercial loan officers, for example, contact firms to determine their needs for loans. If a firm is seeking new funds, the loan officer will try to persuade the company to obtain the loan from his or her institution. Similarly, mortgage loan officers develop relationships with commercial and residential real estate agencies so that, when an individual or firm buys a property, the real estate agent might recommend contacting a specific loan officer for financing.

Once this initial contact has been made, loan officers guide clients through the process of applying for a loan. This process begins with a formal meeting or telephone call with a prospective client, during which the loan officer obtains basic information about the purpose of the loan and explains the different types of loans and credit terms that are available to the applicant. Loan officers answer questions about the process and sometimes assist clients in filling out the application.

After a client completes the application, the loan officer begins the process of analyzing and verifying the information on the appli-

cation to determine the client's creditworthiness. Often, loan officers can quickly access the client's credit history by computer and obtain a credit "score." This score represents the creditworthiness of a person or business as assigned by a software program that makes the evaluation. In cases in which a credit history is not available or in which unusual financial circumstances are present, the loan officer may request additional financial information from the client or, in the case of commercial loans, copies of the company's financial statements. With this information, loan officers who specialize in evaluating a client's creditworthiness—often called loan underwriters—may conduct a financial analysis or other risk assessment. Loan officers include this information and their written comments in a loan file, which is used to analyze whether the prospective loan meets the lending institution's requirements. Loan officers then decide, in consultation with their managers, whether to grant the loan. If the loan is approved, a repayment schedule is arranged with the client.

A loan may be approved that would otherwise be denied if the customer can provide the lender with appropriate collateral—property pledged as security for the repayment of a loan. For example, when lending money for a college education, a bank may insist that borrowers offer their home as collateral. If the borrowers were ever unable to repay the loan, the home would be seized under court order and sold to raise the necessary money.

Some loan officers, referred to as *loan collection officers*, contact borrowers with delinquent loan accounts to help them find a method of repayment in order to avoid their defaulting on the loan. If a repayment plan cannot be developed, the loan collection officer initiates collateral liquidation, in which the lender seizes the collateral used to secure the loan—a home or car, for example—and sells it to repay the loan.

Working Conditions

Working as a loan officer usually involves considerable travel. For example, commercial and mortgage loan officers frequently work away from their offices and rely on laptop computers, cellular telephones, and pagers to keep in contact with their offices and clients. Mortgage loan officers often work out of their home or car, visiting offices or homes of clients while completing loan applications. Commercial loan officers sometimes travel to other cities to prepare complex loan agreements. Consumer loan officers and loan counselors, however, are likely to spend most of their time in an office.



Loan officers meet with prospective clients to discuss different types of loans and credit terms that are available.

Most loan officers and counselors work a standard 40-hour week, but many work longer, depending on the number of clients and the demand for loans. Mortgage loan officers can work especially long hours because they are free to take on as many customers as they choose. Loan officers usually carry a heavy caseload and sometimes cannot accept new clients until they complete current cases. They are especially busy when interest rates are low, a condition that triggers a surge in loan applications.

Employment

Loan counselors and officers together held about 255,000 jobs in 2002. The majority of this employment consisted of loan officers—nearly 88 percent—with the remaining 31,000 jobs being held by loan counselors. Approximately 40 percent of loan officers and counselors were employed by commercial banks, savings institutions, and credit unions. Mortgage and consumer finance companies employed an additional 33 percent. Loan officers are employed throughout the Nation, but most work in urban and suburban areas. At some banks, particularly in rural areas, the branch or assistant manager often handles the loan application process.

Training, Other Qualifications, and Advancement

Loan officer positions generally require a bachelor’s degree in finance, economics, or a related field. Most employers prefer applicants who are familiar with computers and their applications in banking. For commercial or mortgage loan officer jobs, training or experience in sales is highly valued by potential employers. Loan officers without college degrees usually advance to these positions from other jobs in an organization after acquiring several years of work experience in various other occupations, such as teller or customer service representative.

There are currently no specific licensing requirements for loan counselors and officers working in banks or credit unions. Training and licensing requirements for loan counselors and officers who work in mortgage banks or brokerages vary by State. These criteria also may vary depending on whether workers are employed by a mortgage bank or mortgage brokerage.

Various banking-related associations and private schools offer courses and programs for students interested in lending, as well as for experienced loan officers who want to keep their skills current. Completion of these courses and programs generally enhances one’s employment and advancement opportunities.

Persons planning a career as a loan officer or counselor should be capable of developing effective working relationships with others, confident in their abilities, and highly motivated. For public relations purposes, loan officers must be willing to attend community events as representatives of their employer.

Capable loan officers and counselors may advance to larger branches of the firm or to managerial positions, while less capable workers—and those having weak academic preparation—could be assigned to smaller branches and might find promotion difficult without obtaining training to upgrade their skills. Advancement beyond a loan officer position usually includes supervising other loan officers and clerical staff.

Job Outlook

Employment of loan counselors and officers is projected to increase as fast as the average for all occupations through 2012. College graduates and those with banking, lending, or sales experience should have the best job prospects. Employment growth stemming from economic expansion and population increases—factors that generate demand for loans—will be partially offset by increased automation that speeds lending processes and by the spread of alternative

methods of applying for and obtaining loans. Job opportunities for workers in these occupations are influenced by the volume of loan applications, which is determined largely by interest rates and by the overall level of economic activity. However, besides those resulting from growth, additional job openings will result from the need to replace workers who retire or otherwise leave the occupation permanently.

The use of credit scoring has made the loan evaluation process much simpler than in the past, and even unnecessary in some cases. Credit scoring allows loan officers, particularly loan underwriters, to evaluate many more loans in much less time, thus increasing loan officers’ efficiency. In addition, the mortgage application process has become highly automated and standardized. This simplification has enabled online mortgage loan vendors to offer loan shopping services over the Internet. Online vendors accept loan applications from customers over the Internet and determine which lenders have the best interest rates for particular loans. With this knowledge, customers can go directly to the lending institution, thereby bypassing mortgage loan brokers. Shopping for loans on the Internet—though currently not a widespread practice—is expected to become more common over the next 10 years, particularly for mortgages, thus reducing demand for loan officers.

Although loans remain a major source of revenue for banks, demand for new loans fluctuates and affects the income and employment opportunities of loan officers. When the economy is on the upswing or when interest rates decline dramatically, there is a surge in real estate buying and mortgage refinancing that requires loan officers to work long hours processing applications and induces lenders to hire additional loan officers. Loan officers often are paid by commission on the value of the loans they place, and some have high earnings when demand for mortgages is high. When the real estate market slows, loan officers often suffer a decline in earnings and may even be subject to layoffs. The same applies to commercial loan officers, whose workloads increase during good economic times as companies seek to invest more in their businesses. In difficult economic conditions, loan collection officers are likely to see an increase in the number of delinquent loans.

Earnings

Median annual earnings of loan counselors were \$32,010 in 2002. The middle 50 percent earned between \$26,330 and \$41,660. The lowest 10 percent earned less than \$22,800, while the top 10 percent earned more than \$57,400.

Median annual earnings of loan officers were \$43,980 in 2002. The middle 50 percent earned between \$32,360 and \$62,160. The lowest 10 percent earned less than \$25,790, while the top 10 percent earned more than \$88,450. Median annual earnings in the industries employing the largest numbers of loan officers in 2002 were:

Activities related to credit intermediation	\$47,240
Management of companies and enterprises	46,420
Nondepository credit intermediation	44,770
Depository credit intermediation	41,450

The form of compensation for loan officers varies. Most loan officers are paid a commission that is based on the number of loans they originate. In this way, commissions are used to motivate loan officers to bring in more loans. Some institutions pay only salaries, while others pay their loan officers a salary plus a commission or bonus based on the number of loans originated. Banks and other lenders sometimes offer their loan officers free checking privileges and somewhat lower interest rates on personal loans.

According to a salary survey conducted by Robert Half International, a staffing services firm specializing in accounting and finance, mortgage loan officers earned between \$36,000 and \$45,750

in 2002; consumer loan officers with 1 to 3 years of experience earned between \$42,250 and \$56,750; and commercial loan officers with 1 to 3 years of experience made between \$48,000 and \$64,500. With over 3 years of experience, commercial loan officers made between \$66,000 and \$92,000, and consumer loan officers earned between \$55,500 and \$75,750. Earnings of loan officers with graduate degrees or professional certifications were approximately 10 to 15 percent higher than these figures. Loan officers who are paid on a commission basis usually earn more than those on salary only, and those who work for smaller banks generally earn less than those employed by larger institutions.

Related Occupations

Loan officers help the public manage financial assets and secure loans. Occupations that involve similar functions include those of securities and financial services sales representatives, personal financial advisors, real estate brokers and sales agents, and insurance sales agents.

Sources of Additional Information

Information about a career as a mortgage loan officer can be obtained from:

► Mortgage Bankers Association of America, 1919 Pennsylvania Ave., NW., Washington, DC 20006-3438. Internet: <http://www.mbaa.org>

State bankers' associations can furnish specific information about job opportunities in their State. Also, individual banks can supply information about job openings and the activities, responsibilities, and preferred qualifications of their loan officers.

Lodging Managers

(0*NET 11-9081.00)

Significant Points

- As in other hotel occupations, night and weekend work is common.
- Employment is projected to grow more slowly than average.
- College graduates with degrees in hotel or restaurant management should have the best job opportunities.

Nature of the Work

A comfortable room, good food, and a helpful staff can make being away from home an enjoyable experience for both vacationing families and business travelers. While most lodging managers work in traditional hotels and motels, some work in other lodging establishments, such as camps, inns, boardinghouses, dude ranches, and recreational resorts. In full-service hotels, lodging managers help their guests have a pleasant stay by providing many of the comforts of home, including cable television, fitness equipment, and voice mail, as well as specialized services such as health spas. For business travelers, lodging managers often schedule available meeting rooms and electronic equipment, including slide projectors and fax machines.

Lodging managers are responsible for keeping their establishments efficient and profitable. In a small establishment with a limited staff, the manager may oversee all aspects of operations. However, large hotels may employ hundreds of workers, and the general manager usually is aided by a number of assistant managers assigned to the various departments of the operation. In hotels of every size, managerial duties vary significantly by job title.

General managers, for example, have overall responsibility for the operation of the hotel. Within guidelines established by the owners of the hotel or executives of the hotel chain, the general manager sets room rates, allocates funds to departments, approves expenditures, and establishes expected standards for guest service, decor, housekeeping, food quality, and banquet operations. Managers who work for chains also may organize and staff a newly built hotel, refurbish an older hotel, or reorganize a hotel or motel that is not operating successfully. In order to fill entry-level service and clerical jobs in hotels, some managers attend career fairs.

Resident managers live in hotels and are on call 24 hours a day to resolve problems or emergencies. In general, though, they typically work an 8- to 10 hour day and oversee the day-to-day operations of the hotel. In many hotels, the general manager also is the resident manager.

Executive housekeepers ensure that guest rooms, meeting and banquet rooms, and public areas are clean, orderly, and well maintained. They also train, schedule, and supervise the work of housekeepers, inspect rooms, and order cleaning supplies.

Front office managers coordinate reservations and room assignments, as well as train and direct the hotel's front desk staff. They ensure that guests are treated courteously, complaints and problems are resolved, and requests for special services are carried out. Front office managers may adjust charges posted on a customer's bill.

Convention services managers coordinate the activities of various departments in larger hotels to accommodate meetings, conventions, and special events. They meet with representatives of groups or organizations to plan the number of rooms to reserve, the desired configuration of the meeting space, and the banquet ser-

vices. During the meeting or event, they resolve unexpected problems and monitor activities to ensure that hotel operations conform to the expectations of the group.

Assistant managers help run the day-to-day operations of the hotel. In large hotels, they may be responsible for activities such as personnel, accounting, office administration, marketing and sales, purchasing, security, maintenance, and pool, spa, or recreational facilities. In smaller hotels, these duties may be combined into one position. Assistant managers may adjust charges on a hotel guest's bill when a manager is unavailable.

Computers are used extensively by lodging managers and their assistants to keep track of guests' bills, reservations, room assignments, meetings, and special events. In addition, computers are used to order food, beverages, and supplies, as well as to prepare reports for hotel owners and top-level managers. Managers work with computer specialists to ensure that the hotel's computer system functions properly. Should the hotel's computer system fail, managers must continue to meet the needs of hotel guests and staff.

Working Conditions

Because hotels are open around the clock, night and weekend work is common. Many lodging managers work more than 40 hours per week. Managers who live in the hotel usually have regular work schedules, but they may be called to work at any time. Some employees of resort hotels are managers during the busy season and have other duties during the rest of the year.

Lodging managers sometimes experience the pressures of coordinating a wide range of functions. Conventions and large groups of tourists may present unusual problems. Moreover, dealing with irate guests can be stressful. The job can be particularly hectic for front office managers during check-in and check-out time. Computer failures can further complicate an already busy time.

Employment

Lodging managers held about 69,000 jobs in 2002. Self-employed managers—primarily owners of small hotels and motels—held about 50 percent of these jobs. Companies that manage hotels and motels under contract employed some managers.

Training, Other Qualifications, and Advancement

Hotels increasingly emphasize specialized training. Postsecondary training in hotel or restaurant management is preferred for most hotel management positions, although a college liberal arts degree



Lodging managers establish standards for guest services.

may be sufficient when coupled with related hotel experience. Internships or part-time or summer work are an asset to students seeking a career in hotel management. The experience gained and the contacts made with employers can greatly benefit students after graduation. Most bachelor's degree programs include work-study opportunities.

Community colleges, junior colleges, and some universities offer associate's, bachelor's, and graduate degree programs in hotel or restaurant management. Combined with technical institutes, vocational and trade schools, and other academic institutions, over 800 educational facilities have programs leading to formal recognition in hotel or restaurant management. Hotel management programs include instruction in hotel administration, accounting, economics, marketing, housekeeping, food service management and catering, and hotel maintenance engineering. Computer training also is an integral part of hotel management training, due to the widespread use of computers in reservations, billing, and housekeeping management.

Additionally, over 450 high schools in 45 States offer the Lodging Management Program created by the Educational Institute of the American Hotel and Lodging Association. This is a two-year program offered to high school juniors and seniors, which teaches management principles and leads to a professional certification called the "Certified Rooms Division Specialist". Many colleges and universities grant participants credit towards a post-secondary degree in hotel management.

Lodging managers must be able to get along with many different people, even in stressful situations. They must be able to solve problems and concentrate on details. Initiative, self-discipline, effective communication skills, and the ability to organize and direct the work of others also are essential for managers at all levels.

In the past, many managers were promoted from the ranks of front desk clerks, housekeepers, waiters, chefs, and hotel sales workers. Although some employees still advance to hotel management positions without education beyond high school, postsecondary education is preferred. Restaurant management training or experience also is a good background for entering hotel management, because the success of a hotel's food service and beverage operations often is important to the profitability of the entire establishment.

Graduates of hotel or restaurant management programs usually start as trainee assistant managers. Some large hotels sponsor specialized on-the-job management training programs that allow trainees to rotate among various departments and gain a thorough knowledge of the hotel's operation. Other hotels may help finance formal training in hotel management for outstanding employees. Newly built hotels, particularly those without established on-the-job training programs, often prefer to hire applicants who have hotel management experience.

Large hotel and motel chains may offer better opportunities for advancement than small, independently owned establishments, but relocation every several years often is necessary for advancement. The large chains have more extensive career ladder programs and offer managers the opportunity to transfer to another hotel or motel in the chain or to the central office. Career advancement can be accelerated by the completion of certification programs offered by various associations. These programs usually require a combination of course work, examinations, and experience. For example, outstanding lodging managers may advance to higher level manager positions. (For more information, see the statement on top executives elsewhere in the *Handbook*.)

Job Outlook

Employment of lodging managers is expected to grow more slowly than the average for all occupations through 2012. Additional job openings are expected to occur as experienced managers transfer to other occupations or leave the labor force, in part because of the long hours and stressful working conditions. Job opportunities are expected to be best for persons with college degrees in hotel or restaurant management.

Increasing business travel and domestic and foreign tourism will drive employment growth of lodging managers. Managerial jobs are not expected to grow as rapidly as the hotel industry overall, however. As the industry consolidates, many chains and franchises will acquire independently owned establishments and increase the numbers of economy-class rooms to accommodate bargain-conscious guests. Economy hotels offer clean, comfortable rooms and front desk services without costly extras such as restaurants and room service. Because there are not as many departments in these hotels, fewer managers will be needed. Similarly, the increasing number of extended-stay hotels will temper demand for managers because, in these establishments, management is not required to be available 24 hours a day. In addition, front desk clerks increasingly are assuming some responsibilities previously reserved for managers, further limiting the employment growth of managers and their assistants.

Additional demand for managers is expected in suite hotels, because some guests—especially business customers—are willing to pay higher prices for rooms with kitchens and suites that provide the space needed to conduct meetings. In addition, large full-service hotels—offering restaurants, fitness centers, large meeting rooms, and play areas for children, among other amenities—will continue to provide many trainee and managerial opportunities.

Earnings

Median annual earnings of lodging managers were \$33,970 in 2002. The middle 50 percent earned between \$26,110 and \$44,670. The lowest 10 percent earned less than \$20,400, while the highest 10 percent earned more than \$59,420.

Salaries of lodging managers vary greatly according to their responsibilities and the segment of the hotel industry in which they are employed, as well as the location and region where the hotel is located. Managers may earn bonuses of up to 25 percent of their basic salary in some hotels and also may be furnished with lodging, meals, parking, laundry, and other services. In addition to providing typical benefits, some hotels offer profit-sharing plans and educational assistance to their employees.

Related Occupations

Other occupations concerned with organizing and directing a business in which customer service is the cornerstone of their success include food service managers, gaming managers, sales worker supervisors, and property, real estate, and community association managers.

Sources of Additional Information

For information on careers and scholarships in hotel management, contact

► American Hotel and Lodging Association, 1201 New York Ave. NW., #600, Washington, DC 20005-3931.

Information on careers in the lodging industry and on professional development and training programs may be obtained from:

► Educational Institute of the American Hotel and Lodging Association, 800 N. Magnolia Ave., Suite 1800, Orlando, FL 32853-1126. Internet: **<http://www.ei-ahla.org>**

For information on educational programs, including correspondence courses, in hotel and restaurant management, write to:

► International Council on Hotel, Restaurant, and Institutional Education, 2613 North Parham Rd., 2nd Floor, Richmond, VA 23294-4442. Internet: **<http://www.chrie.org>**

Information on careers in housekeeping management may be obtained from:

► International Executive Housekeepers Association, Inc., 1001 Eastwind Dr., Suite 301, Westerville, OH 43081. Internet: **<http://www.ieha.org>**

Management Analysts

(0*NET 13-1111.00)

Significant Points

- Thirty percent are self-employed, about one and a half times the average for other management, business, and financial occupations.
- Most positions in private industry require a master's degree and additional years of specialized experience; a bachelor's degree is sufficient for entry-level government jobs.
- Despite projected faster-than-average employment growth, intense competition is expected for jobs.

Nature of the Work

As business becomes more complex, the Nation's firms are continually faced with new challenges. Firms increasingly rely on management analysts to help them remain competitive amidst these changes. Management analysts, often referred to as *management consultants* in private industry, analyze and propose ways to improve an organization's structure, efficiency, or profits. For example, a small but rapidly growing company that needs help improving the system of control over inventories and expenses may decide to employ a consultant who is an expert in just-in-time inventory management. In another case, a large company that has recently acquired a new division may hire management analysts to help reorganize the corporate structure and eliminate duplicate or non-essential jobs. In recent years, information technology and electronic commerce have provided new opportunities for management analysts. Companies hire consultants to develop strategies for entering and remaining competitive in the new electronic marketplace. (For information on computer specialists working in consulting, see the following statements elsewhere in the *Handbook*: Computer software engineers; systems analysts, computer scientists, and database administrators; and computer programmers.)

Firms providing management analysis range in size from a single practitioner to large international organizations employing thousands of consultants. Some analysts and consultants specialize in a specific industry, such as healthcare or telecommunications, while others specialize by type of business function, such as human resources, marketing, logistics, or information systems. In government, management analysts tend to specialize by type of agency. The work of management analysts and consultants varies with each client or employer, and from project to project. Some projects require a team of consultants, each specializing in one area. In other projects, consultants work independently with the organization's managers. In all cases, analysts and consultants collect, review, and analyze information in order to make recommendations to managers.

Both public and private organizations use consultants for a variety of reasons. Some lack the internal resources needed to handle a project, while others need a consultant's expertise to determine what resources will be required and what problems may be encountered if they pursue a particular opportunity. To retain a consultant, a company first solicits proposals from a number of consulting firms specializing in the area in which it needs assistance. These proposals include the estimated cost and scope of the project, staffing requirements, references from a number of previous clients, and a completion deadline. The company then selects the proposal that best suits its needs.

After obtaining an assignment or contract, management analysts first define the nature and extent of the problem. During this phase, they analyze relevant data, which may include annual revenues, employment, or expenditures, and interview managers and employees while observing their operations. The analyst or consultant then develops solutions to the problem. In the course of preparing their recommendations, they take into account the nature of the organization, the relationship it has with others in the industry, and its internal organization and culture. Insight into the problem often is gained by building and solving mathematical models.

Once they have decided on a course of action, consultants report their findings and recommendations to the client. These suggestions usually are submitted in writing, but oral presentations regarding findings also are common. For some projects, management analysts are retained to help implement the suggestions they have made.

Management analysts in government agencies use the same skills as their private-sector colleagues to advise managers on many types of issues, most of which are similar to the problems faced by private firms. For example, if an agency is planning to purchase personal computers, it must first determine which type to buy, given its budget and data processing needs. In this case, management analysts would assess the prices and characteristics of various machines and determine which best meets the agency's needs.



Management analysts frequently work in teams to complete projects.

Working Conditions

Management analysts usually divide their time between their offices and the client's site. In either situation, much of an analyst's time is spent indoors in clean, well-lit offices. Because they must spend a significant portion of their time with clients, analysts travel frequently.

Analysts and consultants generally work at least 40 hours a week. Uncompensated overtime is common, especially when project deadlines are approaching. Analysts may experience a great deal of stress as a result of trying to meet a client's demands, often on a tight schedule.

Self-employed consultants can set their workload and hours and work at home. On the other hand, their livelihood depends on their ability to maintain and expand their client base. Salaried consultants also must impress potential clients to get and keep clients for their company.

Employment

Management analysts held about 577,000 jobs in 2002. Thirty percent of these workers were self-employed, about one and a half times the average for other management, business, and financial occupations. Management analysts are found throughout the country, but employment is concentrated in large metropolitan areas. Most work in management, scientific, and technical consulting firms, in computer systems design and related services firms, and for Federal, State, and local governments. The majority of those working for the Federal Government are in the U.S. Department of Defense.

Training, Other Qualifications, and Advancement

Educational requirements for entry-level jobs in this field vary widely between private industry and government. Most employers in private industry generally seek individuals with a master's degree in business administration or a related discipline. Some employers also require additional years of experience in the field in which the worker plans to consult, in addition to a master's degree. Some will hire workers with a bachelor's degree as a research analyst or associate. Research analysts usually need to pursue a master's degree in order to advance to a consulting position. Most government agencies hire people with a bachelor's degree and no pertinent work experience for entry-level management analyst positions.

Few universities or colleges offer formal programs of study in management consulting; however, many fields of study provide a suitable educational background for this occupation because of the wide range of areas addressed by management analysts. These include most academic programs in business and management, such as accounting and marketing, as well as economics, computer and information sciences, and engineering. In addition to the appropriate formal education, most entrants to this occupation have years of experience in management, human resources, information technology, or other specialties. Analysts also routinely attend conferences to keep abreast of current developments in their field.

Management analysts often work with minimal supervision, so they need to be self-motivated and disciplined. Analytical skills, the ability to get along with a wide range of people, strong oral and written communication skills, good judgment, time management skills, and creativity are other desirable qualities. The ability to work in teams also is an important attribute as consulting teams become more common.

As consultants gain experience, they often become solely responsible for a specific project, taking on more responsibility and managing their own hours. At the senior level, consultants may supervise lower level workers and become more involved in seeking out new business. Those with exceptional skills may eventu-

ally become a partner in the firm. Others with entrepreneurial ambition may open their own firm.

A high percentage of management consultants are self-employed, partly because business startup costs are low. Self-employed consultants also can share office space, administrative help, and other resources with other self-employed consultants or small consulting firms, thus reducing overhead costs. Because many small consulting firms fail each year for lack of managerial expertise and clients, persons interested in opening their own firm must have good organizational and marketing skills and several years of consulting experience.

The Institute of Management Consultants USA, Inc. (IMC USA) offers a wide range of professional development programs and resources, such as meetings and workshops, which can be helpful for management consultants. The IMC USA also offers the Certified Management Consultant (CMC) designation to those who meet minimum levels of education and experience, submit client reviews, and pass an interview and exam covering the IMC USA's Code of Ethics. Management consultants with a CMC designation must be recertified every 3 years. Certification is not mandatory for management consultants, but it may give a jobseeker a competitive advantage.

Job Outlook

Despite projected rapid employment growth, keen competition is expected for jobs as management analysts. Because analysts can come from such diverse educational backgrounds, the pool of applicants from which employers can draw is quite large. Furthermore, the independent and challenging nature of the work, combined with high earnings potential, makes this occupation attractive to many. Job opportunities are expected to be best for those with a graduate degree, industry expertise, and a talent for salesmanship and public relations.

Employment of management analysts is expected to grow faster than the average for all occupations through 2012, as industry and government increasingly rely on outside expertise to improve the performance of their organizations. Job growth is projected in very large consulting firms with international expertise and in smaller consulting firms that specialize in specific areas, such as biotechnology, healthcare, information technology, human resources, engineering, and marketing. Growth in the number of individual practitioners may be hindered, however, by increasing use of consulting teams, which permits examination of a variety of different issues and problems within an organization.

Employment growth of management analysts and consultants has been driven by a number of changes in the business environment that have forced firms to take a closer look at their operations. These changes include developments in information technology and the growth of electronic commerce. Traditional companies hire analysts to help design intranets or company Web sites, or establish online businesses. New Internet start-up companies hire analysts not only to design Web sites, but also to advise them in more traditional business practices, such as pricing strategies, marketing, and inventory and human resource management. In order to offer clients better quality and a wider variety of services, consulting firms are partnering with traditional computer software and technology firms. Also, many computer firms are developing consulting practices of their own in order to take advantage of this expanding market. Although information technology consulting should remain one of the fastest growing consulting areas, the volatility of the computer services industry necessitates that the most successful management analysts have knowledge of traditional business practices

in addition to computer applications, systems integration, and Web design and management skills.

The growth of international business also has contributed to an increase in demand for management analysts. As U.S. firms expand their business abroad, many will hire management analysts to help them form the right strategy for entering the market; advise on legal matters pertaining to specific countries; or help with organizational, administrative, and other issues, especially if the U.S. company is involved in a partnership or merger with a local firm. These trends provide management analysts with more opportunities to travel or work abroad, but also require them to have a more comprehensive knowledge of international business and foreign cultures and languages.

Furthermore, as international and domestic markets have become more competitive, firms have needed to use resources more efficiently. Management analysts increasingly are sought to help reduce costs, streamline operations, and develop marketing strategies. As this process continues and businesses downsize, even more opportunities will be created for analysts to perform duties that previously were handled internally. Finally, management analysts also will be in greater demand in the public sector, as Federal, State, and local government agencies seek ways to become more efficient.

Though management consultants are continually expanding their services, employment growth could be hampered by increasing competition for clients from occupations that do not traditionally perform consulting work, such as accountants, financial analysts, lawyers, and computer systems analysts. Furthermore, economic downturns also can have adverse effects on employment for some management consultants. In these times, businesses look to cut costs and consultants can be considered excess expense. On the other hand, some consultants might experience an increase in work during recessions because they advise businesses on how to cut costs and remain profitable.

Earnings

Salaries for management analysts vary widely by years of experience and education, geographic location, sector of expertise, and size of employer. Generally, management analysts employed in large firms or in metropolitan areas have the highest salaries. Median annual wage and salary earnings of management analysts in 2002 were \$60,340. The middle 50 percent earned between \$46,160 and \$83,590. The lowest 10 percent earned less than \$35,990, and the highest 10 percent earned more than \$115,670. Median annual earnings in the industries employing the largest numbers of management analysts and consultants in 2002 were:

Management, scientific, and technical consulting services	\$71,790
Computer systems design and related services	66,120
Federal Government	65,480
Insurance carriers	51,780
State government	47,340

According to a 2002 survey by the Association of Management Consulting Firms, earnings—including bonuses and profit sharing—averaged \$47,826 for research associates in member firms; \$61,496 for entry-level consultants, \$78,932 for management consultants, \$112,716 for senior consultants, \$168,998 for junior partners, and \$254,817 for senior partners.

Salaried management analysts usually receive common benefits such as health and life insurance, a retirement plan, vacation, and sick leave, as well as less common benefits such as profit sharing and bonuses for outstanding work. In addition, all travel expenses usually are reimbursed by the employer. Self-employed consult-

ants have to maintain their own office and provide their own benefits.

Related Occupations

Management analysts collect, review, and analyze data; make recommendations; and implement their ideas. Occupations with similar duties include accountants and auditors; budget analysts; cost estimators; financial analysts and personal financial advisors; operations research analysts; economists; and market and survey researchers. Some management analysts specialize in information technology and work with computers, as do systems analysts, computer scientists, and database administrators. Most management analysts also have managerial experience similar to that of administrative services managers; advertising, marketing, promotions, public relations, and sales managers; financial managers; human resources, training, and labor relations managers and specialists; and top executives.

Sources of Additional Information

Information about career opportunities in management consulting is available from:

► Association of Management Consulting Firms, 380 Lexington Ave., Suite 1700, New York, NY 10168. Internet: <http://www.amcf.org>

Information about the Certified Management Consultant designation can be obtained from:

► Institute of Management Consultants USA, Inc., 2025 M St. NW., Suite 800, Washington DC 20036. Internet: <http://www.imcusa.org>

Information on obtaining a management analyst position with the Federal Government is available from the Office of Personnel Management (OPM) through a telephone-based system. Consult your telephone directory under U.S. Government for a local number or call (703) 724-1850; Federal Relay Service: (800) 877-8339. The first number is not tollfree, and charges may result. Information also is available from the OPM Internet site: <http://www.usajobs.opm.gov>.

Medical and Health Services Managers

(0*NET 11-9111.00)

Significant Points

- Earnings of medical and health services managers are high, but long work hours are common.
- A master's degree is the standard credential for most positions, although a bachelor's degree is adequate for some entry-level positions in smaller facilities.
- Employment will grow fastest in practitioners' offices and in home healthcare services.
- Applicants with work experience in healthcare and strong business and management skills should have the best opportunities.

Nature of the Work

Healthcare is a business and, like every other business, it needs good management to keep it running smoothly. The occupation, medical and health services manager, encompasses all individuals who plan, direct, coordinate, and supervise the delivery of healthcare. Medical and health services managers include specialists and generalists. Specialists are in charge of specific clinical departments or services, while generalists manage or help to manage an entire facility or system.

The structure and financing of healthcare is changing rapidly. Future medical and health services managers must be prepared to deal with evolving integrated healthcare delivery systems, technological innovations, an increasingly complex regulatory environment, restructuring of work, and an increased focus on preventive care. They will be called upon to improve efficiency in healthcare facilities and the quality of the healthcare provided. Increasingly, medical and health services managers will work in organizations in which they must optimize efficiency of a variety of interrelated services—for example, those ranging from inpatient care to outpatient followup care.

Large facilities usually have several assistant administrators to aid the top administrator and to handle daily decisions. Assistant administrators may direct activities in clinical areas such as nursing, surgery, therapy, medical records, or health information. (Managers in nonhealth areas, such as administrative services, computer and information systems, finance, and human resources, are not included in this statement. For information about them, see the statements on management occupations elsewhere in the *Handbook*.)

In smaller facilities, top administrators handle more of the details of daily operations. For example, many nursing home administrators manage personnel, finance, facility operations, and admissions, and have a larger role in resident care.

Clinical managers have more specific responsibilities than do generalists, and have training or experience in a specific clinical area. For example, directors of physical therapy are experienced physical therapists, and most health information and medical record administrators have a bachelor's degree in health information or medical record administration. Clinical managers establish and implement policies, objectives, and procedures for their departments; evaluate personnel and work; develop reports and budgets; and coordinate activities with other managers.

In group medical practices, managers work closely with physicians. Whereas an office manager may handle business affairs in small medical groups, leaving policy decisions to the physicians themselves, larger groups usually employ a full-time administrator to help formulate business strategies and coordinate day-to-day business.

A small group of 10 to 15 physicians might employ 1 administrator to oversee personnel matters, billing and collection, budgeting, planning, equipment outlays, and patient flow. A large practice of 40 to 50 physicians may have a chief administrator and several assistants, each responsible for different areas.

Medical and health services managers in managed care settings perform functions similar to those of their counterparts in large group practices, except that they may have larger staffs to manage. In addition, they may do more work in the areas of community outreach and preventive care than do managers of a group practice.

Some medical and health services managers oversee the activities of a number of facilities in health systems. Such systems may contain both inpatient and outpatient facilities and offer a wide range of patient services.

Working Conditions

Most medical and health services managers work long hours. Facilities such as nursing care facilities and hospitals operate around the clock, and administrators and managers may be called at all hours to deal with problems. They also may travel to attend meetings or inspect satellite facilities.

Some managers work in comfortable, private offices; others share space with other managers or staff. They may spend considerable time walking, to consult with coworkers.

Employment

Medical and health services managers held about 244,000 jobs in 2002. About 37 percent worked in hospitals, and another 17 percent worked in offices of physicians or nursing care facilities. The remainder worked mostly in home healthcare services, Federal government healthcare facilities, ambulatory facilities run by State and local governments, outpatient care centers, insurance carriers, and community care facilities for the elderly.



Medical and health services managers plan, direct, coordinate, and supervise the delivery of healthcare.

Training, Other Qualifications, and Advancement

Medical and health services managers must be familiar with management principles and practices. A master's degree in health services administration, long-term care administration, health sciences, public health, public administration, or business administration is the standard credential for most generalist positions in this field. However, a bachelor's degree is adequate for some entry-level positions in smaller facilities and at the departmental level within healthcare organizations. Physicians' offices and some other facilities may substitute on-the-job experience for formal education.

For clinical department heads, a degree in the appropriate field and work experience may be sufficient for entry. However, a master's degree in health services administration or a related field may be required to advance. For example, nursing service administrators usually are chosen from among supervisory registered nurses with administrative abilities and a graduate degree in nursing or health services administration.

Bachelor's, master's, and doctoral degree programs in health administration are offered by colleges, universities, and schools of public health, medicine, allied health, public administration, and business administration. In 2003, 67 schools had accredited programs leading to the master's degree in health services administration, according to the Accrediting Commission on Education for Health Services Administration.

Some graduate programs seek students with undergraduate degrees in business or health administration; however, many graduate programs prefer students with a liberal arts or health profession background. Candidates with previous work experience in healthcare also may have an advantage. Competition for entry to these programs is keen, and applicants need above-average grades to gain admission. Graduate programs usually last between 2 and 3 years. They may include up to 1 year of supervised administrative experience, and course work in areas such as hospital organization and management, marketing, accounting and budgeting, human resources administration, strategic planning, health economics, and health information systems. Some programs allow students to specialize in one type of facility—hospitals, nursing care facilities, mental health facilities, or medical groups. Other programs encourage a generalist approach to health administration education.

New graduates with master's degrees in health services administration may start as department managers or as staff employees. The level of the starting position varies with the experience of the applicant and the size of the organization. Hospitals and other health facilities offer postgraduate residencies and fellowships, which usually are staff positions. Graduates from master's degree programs also take jobs in large group medical practices, clinics, mental health facilities, nursing care corporations, and consulting firms.

Graduates with bachelor's degrees in health administration usually begin as administrative assistants or assistant department heads in larger hospitals. They also may begin as department heads or assistant administrators in small hospitals or nursing care facilities.

All States and the District of Columbia require nursing care facility administrators to have a bachelor's degree, pass a licensing examination, complete a State-approved training program, and pursue continuing education. A license is not required in other areas of medical and health services management.

Medical and health services managers often are responsible for millions of dollars' worth of facilities and equipment and hundreds of employees. To make effective decisions, they need to be open to different opinions and good at analyzing contradictory information. They must understand finance and information systems, and

be able to interpret data. Motivating others to implement their decisions requires strong leadership abilities. Tact, diplomacy, flexibility, and communication skills are essential because medical and health services managers spend most of their time interacting with others.

Medical and health services managers advance by moving into more responsible and higher paying positions, such as assistant or associate administrator, or by moving to larger facilities.

Job Outlook

Employment of medical and health services managers is expected to grow faster than the average for all occupations through 2012, as the health services industry continues to expand and diversify. Opportunities will be especially good in offices of physicians and other health practitioners, home healthcare services, and outpatient care centers. Applicants with work experience in the healthcare field and strong business and management skills should have the best opportunities.

Hospitals will continue to employ the most medical and health services managers over the projection period. However, the number of new jobs created in hospitals is expected to increase at a slower rate than in many other industries, as hospitals focus on controlling costs and increasing the utilization of clinics and other alternate care sites. Medical and health services managers with experience in large facilities will enjoy the best job opportunities, as hospitals become larger and more complex.

Employment will grow the fastest in practitioners' offices and in home healthcare agencies. Many services previously provided in hospitals will continue to shift to these sectors, especially as medical technologies improve. Demand in medical group practice management will grow as medical group practices become larger and more complex. Medical and health services managers will need to deal with the pressures of cost containment and financial accountability, as well as with the increased focus on preventive care. They also will become more involved in trying to improve the health of their communities. Managers with specialized experience in a particular field, such as reimbursement, should have good opportunities.

Medical and health services managers also will be employed by healthcare management companies who provide management services to hospitals and other organizations, as well as to specific departments such as emergency, information management systems, managed care contract negotiations, and physician recruiting.

Earnings

Median annual earnings of medical and health services managers were \$61,370 in 2002. The middle 50 percent earned between \$47,910 and \$80,150. The lowest 10 percent earned less than \$37,460, and the highest 10 percent earned more than \$109,080. Median annual earnings in the industries employing the largest numbers of medical and health services managers in 2002 were as follows:

General medical and surgical hospitals	\$65,950
Home health care services	56,320
Outpatient care centers	55,650
Offices of physicians	55,600
Nursing care facilities	55,320

Earnings of medical and health services managers vary by type and size of the facility, as well as by level of responsibility. For

example, the Medical Group Management Association reported that, in 2002, median salaries for administrators were \$78,258 in practices with fewer than 7 physicians; \$92,727 in practices with 7 to 25 physicians; and \$125,988 in practices with more than 26 physicians.

According to a survey by *Modern Healthcare* magazine, median annual compensation in 2003 for managers of selected clinical departments was \$71,800 in respiratory care, \$79,000 in physical therapy, \$84,500 in home healthcare, \$85,100 in laboratory services, \$89,100 in rehabilitation services, \$89,500 in medical imaging/diagnostic radiology, and \$98,400 in nursing services. Salaries also varied according to size of facility and geographic region.

Related Occupations

Medical and health services managers have training or experience in both health and management. Other occupations requiring knowledge of both fields are insurance underwriters and social and community service managers.

Sources of Additional Information

Information about undergraduate and graduate academic programs in this field is available from:

► Association of University Programs in Health Administration, 730 11th St. NW., Washington, DC 20001-4510. Internet: <http://www.aupha.org>

For a list of accredited graduate programs in medical and health services administration, contact:

► Accrediting Commission on Education for Health Services Administration, 730 11th St. NW., Washington, DC 20001-4510. Internet: <http://www.acehsa.org>

For information about career opportunities in long-term care administration, contact:

► American College of Health Care Administrators, 300 N. Lee St., Suite 301, Alexandria, VA 22314. Internet: <http://www.achca.org>

For information about career opportunities in medical group practices and ambulatory care management, contact:

► Medical Group Management Association, 104 Inverness Terrace East, Englewood, CO 80112-5306.

For information about medical and healthcare office managers, contact:

► Professional Association of Health Care Office Management, 461 East Ten Mile Rd., Pensacola, FL 32534-9712.

Property, Real Estate, and Community Association Managers

(0*NET 11-9141.00)

Significant Points

- Many enter the occupation as onsite managers of apartment buildings, office complexes, or community associations, or as employees of property management firms or community association management companies.
- Forty-six percent of property, real estate, and community association managers are self-employed.
- Opportunities should be best for those with college degrees in business administration or related fields, as well as professional designations.

Nature of the Work

Buildings can be homes, stores, or offices to those who use them. To businesses and investors, properly managed real estate is a potential source of income and profits, and, to homeowners, it is a way to preserve and enhance resale values. Property, real estate, and community association managers maintain and increase the value of real estate investments. *Property and real estate managers* oversee the performance of income-producing commercial or residential properties, and ensure that real estate investments achieve their expected revenues. *Community association managers* manage the common property and services of condominiums, cooperatives, and planned communities through their homeowners' or community associations.

When owners of apartments, office buildings, or retail or industrial properties lack the time or expertise needed for day-to-day management of their real estate investments or homeowners' associations, they often hire a property or real estate manager, or community association manager. The manager is employed either directly by the owner or indirectly through a contract with a property management firm.

Generally, property and real estate managers handle the financial operations of the property, ensuring that rent is collected and that mortgages, taxes, insurance premiums, payroll, and maintenance bills are paid on time. In community associations, although homeowners pay no rent and pay their own real estate taxes and mortgages, community association managers must collect association dues. Some property managers, called *asset property managers*, supervise the preparation of financial statements and periodically report to the owners on the status of the property, occupancy rates, dates of lease expirations, and other matters.

Often, property managers negotiate contracts for janitorial, security, groundskeeping, trash removal, and other services. When contracts are awarded competitively, managers solicit bids from several contractors and recommend to the owners which bid to accept. They monitor the performance of contractors and investigate and resolve complaints from residents and tenants when services are not properly provided. Managers also purchase supplies and equipment for the property and make arrangements with specialists for repairs that cannot be handled by regular property maintenance staff.

In addition to these duties, property managers must understand and comply with provisions of legislation, such as the Americans with Disabilities Act and the Federal Fair Housing Amendment Act,

as well as local fair housing laws. They must ensure that their renting and advertising practices are not discriminatory and that the property itself complies with all of the local, State, and Federal regulations and building codes.

Onsite property managers are responsible for day-to-day operations for one piece of property, such as an office building, shopping center, community association, or apartment complex. To ensure that the property is safe and properly maintained, onsite managers routinely inspect the grounds, facilities, and equipment to determine if repairs or maintenance are needed. They meet not only with current residents when handling requests for repairs or trying to resolve complaints, but also with prospective residents or tenants to show vacant apartments or office space. Onsite managers also are responsible for enforcing the terms of rental or lease agreements, such as rent collection, parking and pet restrictions, and termination-of-lease procedures. Other important duties of onsite managers include keeping accurate, up-to-date records of income and expenditures from property operations and submitting regular expense reports to the asset property manager or owners.

Property managers who do not work onsite act as a liaison between the onsite manager and the owner. They also market vacant space to prospective tenants through the use of a leasing agent or by advertising or other means, and establish rental rates in accordance with prevailing local economic conditions.



Property, real estate, and community association managers manage, maintain, and increase the value of real estate investments.

Some property and real estate managers, often called *real estate asset managers*, act as the property owners' agent and adviser for the property. They plan and direct the purchase, development, and disposition of real estate on behalf of the business and investors. These managers focus on long-term strategic financial planning rather than on day-to-day operations of the property.

When deciding to acquire property, real estate asset managers take several factors into consideration, such as property values, taxes, zoning, population growth, transportation, and traffic volume and patterns. Once a site is selected, they negotiate contracts for the purchase or lease of the property, securing the most beneficial terms. Real estate asset managers periodically review their company's real estate holdings and identify properties that are no longer financially profitable. They then negotiate the sale of or terminate the lease on such properties.

Property and real estate managers who work for homebuilders, real estate developers, and land development companies acquire land and plan construction of shopping centers, houses, apartments, office buildings, or industrial parks. They negotiate with representatives of local governments, other businesses, community and public interest groups, and public utilities to eliminate obstacles to the development of land and to gain support for a planned project. It sometimes takes years to win approval for a project and, in the process, managers may have to modify plans for the project many times. Once cleared to proceed with a project, managers may help to negotiate short-term loans to finance the construction of the project, and later negotiate long-term permanent mortgage loans. They then help to choose, assist, and advise the architectural firms that draw up detailed plans and the construction companies that build the project.

In many respects, the work of community association managers parallels that of property managers. They collect monthly assessments, prepare financial statements and budgets, negotiate with contractors, and help to resolve complaints. In other respects, however, the work of these managers differs from that of other residential property and real estate managers. Community association managers interact on a daily basis with homeowners and other residents, rather than with renters. Hired by the volunteer board of directors of the association, they administer the daily affairs, and oversee the maintenance of property and facilities that the homeowners own and use jointly through the association. They also assist the board and owners in complying with association and government rules and regulations.

Some associations encompass thousands of homes and employ their own onsite staff and managers. In addition to administering the associations' financial records and budget, managers may be responsible for the operation of community pools, golf courses, and community centers, and for the maintenance of landscaping and parking areas. Community association managers also may meet with the elected boards of directors to discuss and resolve legal issues or disputes that may affect the owners, as well as to review any proposed changes or improvements by homeowners to their properties, to make sure that they comply with community guidelines.

Working Conditions

Offices of most property, real estate, and community association managers are clean, modern, and well lighted. However, many managers spend a major portion of their time away from their desks. Onsite managers, in particular, may spend a large portion of their workday away from their office, visiting the building engineer, show-

ing apartments, checking on the janitorial and maintenance staff, or investigating problems reported by tenants. Property and real estate managers frequently visit the properties they oversee, sometimes on a daily basis when contractors are doing major repair or renovation work. Real estate asset managers may spend time away from home while traveling to company real estate holdings or searching for properties to acquire.

Property, real estate, and community association managers often must attend evening meetings with residents, property owners, community association boards of directors, or civic groups. Not surprisingly, many managers put in long workweeks, especially before financial and tax reports are due. Some apartment managers are required to live in the apartment complexes where they work so that they are available to handle any emergency that occurs, even when they are off duty. They usually receive compensatory time off for working nights or weekends. Many apartment managers receive time off during the week so that they are available on weekends to show apartments to prospective residents.

Employment

Property, real estate, and community association managers held about 293,000 jobs in 2002. Forty percent worked for real estate agents and brokers, lessors of real estate, or property management firms. Others worked for real estate development companies, government agencies that manage public buildings, and corporations with extensive holdings of commercial properties. Forty-six percent of property, real estate, and community association managers were self-employed.

Training, Other Qualifications, and Advancement

Most employers prefer to hire college graduates for property management positions. Entrants with degrees in business administration, accounting, finance, real estate, public administration, or related fields are preferred, but those with degrees in the liberal arts also may qualify. Good speaking, writing, computer, and financial skills, as well as an ability to tactfully deal with people, are essential in all areas of property management.

Many people enter property management as onsite managers of apartment buildings, office complexes, or community associations, or as employees of property management firms or community association management companies. As they acquire experience working under the direction of a property manager, they may advance to positions with greater responsibility at larger properties. Those who excel as onsite managers often transfer to assistant property manager positions in which they can acquire experience handling a broad range of property management responsibilities.

Previous employment as a real estate sales agent may be an asset to onsite managers because it provides experience useful in showing apartments or office space. In the past, those with backgrounds in building maintenance have advanced to onsite manager positions on the strength of their knowledge of building mechanical systems, but this is becoming less common as employers place greater emphasis on administrative, financial, and communication abilities for managerial jobs.

Although many people entering jobs such as assistant property manager do so by having previously gained onsite management experience, employers increasingly hire inexperienced college graduates with bachelor's or master's degrees in business administration, accounting, finance, or real estate for these positions. Assistants work closely with a property manager and learn how to prepare budgets, analyze insurance coverage and risk options, mar-

ket property to prospective tenants, and collect overdue rent payments. In time, many assistants advance to property manager positions.

The responsibilities and compensation of property, real estate, and community association managers increase as they manage more and larger properties. Most property managers are responsible for several properties at a time. As their careers advance, they gradually are entrusted with larger properties that are more complex to manage. Many specialize in the management of one type of property, such as apartments, office buildings, condominiums, cooperatives, homeowner associations, or retail properties. Managers who excel at marketing properties to tenants may specialize in managing new properties, while those who are particularly knowledgeable about buildings and their mechanical systems might specialize in the management of older properties requiring renovation or more frequent repairs. Some experienced managers open their own property management firms.

Persons most commonly enter real estate asset manager jobs by transferring from positions as property managers or real estate brokers. Real estate asset managers must be good negotiators, adept at persuading and handling people, and good at analyzing data in order to assess the fair market value of property or its development potential. Resourcefulness and creativity in arranging financing are essential for managers who specialize in land development.

Many employers encourage attendance at short-term formal training programs conducted by various professional and trade associations active in the real estate field. Employers send managers to these programs to improve their management skills and expand their knowledge of specialized subjects, such as the operation and maintenance of building mechanical systems, enhancement of property values, insurance and risk management, personnel management, business and real estate law, community association risks and liabilities, tenant relations, communications, and accounting and financial concepts. Managers also participate in these programs to prepare themselves for positions of greater responsibility in property management. Completion of these programs, related job experience, and a satisfactory score on a written examination lead to certification, or the formal award of a professional designation, by the sponsoring association. (Some organizations offering such programs are listed as sources of additional information at the end of this statement.) In addition to these qualifications, some associations require their members to adhere to a specific code of ethics. In some States, community association managers must be licensed.

Managers of public housing subsidized by the Federal Government are required to be certified, but many property, real estate, and community association managers, who work with all types of property, choose to earn a professional designation voluntarily because it represents formal recognition of their achievements and status in the occupation. Real estate asset managers who buy or sell property are required to be licensed by the State in which they practice.

Job Outlook

Employment of property, real estate, and community association managers is projected to increase about as fast as the average for all occupations through the year 2012. Additional job openings are expected to occur as managers transfer to other occupations or leave the labor force. Opportunities should be best for those with a college degree in business administration, real estate, or a related field, and for those who attain a professional designation.

Job growth among onsite property managers in commercial real estate is expected to accompany the projected expansion of the real estate and rental and leasing industry. An increase in the Nation's

stock of apartments, houses, and offices also should require more property managers. Developments of new homes increasingly are being organized with community or homeowner associations that provide community services and oversee jointly owned common areas, requiring professional management. To help properties become more profitable or to enhance the resale values of homes, more commercial and residential property owners are expected to place their investments in the hands of professional managers.

The changing demographic composition of the population also should create more jobs for property, real estate, and community association managers. The number of older people will grow during the 2000-12 projection period, increasing the need for various types of suitable housing, such as assisted-living facilities and retirement communities. Accordingly, there will be demand for property and real estate managers to operate these facilities, and especially for those who have a background in the operation and administrative aspects of running a health unit.

Earnings

Median annual earnings of salaried property, real estate, and community association managers were \$36,880 in 2002. The middle 50 percent earned between \$25,470 and \$56,000 a year. The lowest 10 percent earned less than \$17,450, and the highest 10 percent earned more than \$86,650 a year. Median annual earnings of salaried property, real estate, and community association managers in the largest employing industries in 2002 were as follows:

Local government	\$50,340
Offices of real estate agents and brokers	37,820
Activities related to real estate	35,750
Lessors of real estate	31,190

Many resident apartment managers and onsite association managers receive the use of an apartment as part of their compensation package. Managers often are reimbursed for the use of their personal vehicles, and managers employed in land development often receive a small percentage of ownership in the projects that they develop.

Related Occupations

Property, real estate, and community association managers plan, organize, staff, and manage the real estate operations of businesses. Workers who perform similar functions in other fields include administrative services managers, education administrators, food service managers, lodging managers, medical and health services managers, real estate brokers and sales agents, and urban and regional planners.

Sources of Additional Information

General information about education and careers in property management is available from:

► Institute of Real Estate Management, 430 N. Michigan Ave., Chicago, IL 60611. Internet: <http://www.irem.org>

For information on careers and certification programs in commercial property management, contact:

► Building Owners and Managers Institute, 1521 Ritchie Hwy., Arnold, MD 21012.

For information on careers and professional designation and certification programs in residential property management and community association management, contact:

► Community Associations Institute, 225 Reinekers Ln., Suite 300, Alexandria, VA 22314. Internet: <http://www.caionline.org>

► National Board of Certification for Community Association Managers, P.O. Box 25037, Alexandria, VA 22313. Internet: <http://www.nbccam.org>

Purchasing Managers, Buyers, and Purchasing Agents

(0*NET 11-3061.00, 13-1021.00, 13-1022.00, 13-1023.00)

Significant Points

- Forty-two percent are employed in wholesale trade or manufacturing establishments.
- Some firms promote qualified employees to these positions, while other employers recruit college graduates; regardless of academic preparation, new employees need 1 to 5 years to learn the specifics of their employer's business.
- Overall employment is expected to be slower than the average, but the projected change in employment varies significantly by occupational specialty.
- Opportunities should be best for those with a college degree.

Nature of the Work

Purchasing managers, buyers, and purchasing agents seek to obtain the highest quality merchandise at the lowest possible purchase cost for their employers. In general, *purchasers* buy goods and services for use by their company or organization, whereas *buyers* typically buy items for resale. Purchasers and buyers determine which commodities or services are best, choose the suppliers of the product or service, negotiate the lowest price, and award contracts that ensure that the correct amount of the product or service is received at the appropriate time. In order to accomplish these tasks successfully, purchasing managers, buyers, and purchasing agents study sales records and inventory levels of current stock, identify foreign and domestic suppliers, and keep abreast of changes affecting both the supply of, and demand for, needed products and materials.

Purchasing managers, buyers, and purchasing agents evaluate suppliers on the basis of price, quality, service support, availability, reliability, and selection. To assist them in their search for the right suppliers, they review catalogs, industry and company publications, directories, and trade journals. Much of this information is now available on the Internet. They research the reputation and history of the suppliers and may advertise anticipated purchase actions in order to solicit bids. At meetings, trade shows, conferences, and suppliers' plants and distribution centers, they examine products and services, assess a supplier's production and distribution capabilities, and discuss other technical and business considerations that influence the purchasing decision. Once all of the necessary information on suppliers is gathered, orders are placed and contracts are awarded to those suppliers who meet the purchaser's needs. Contracts often are for several years and may stipulate the price or a narrow range of prices, allowing purchasers to reorder as necessary. Other specific job duties and responsibilities of purchasing managers, buyers, and purchasing agents vary by employer and by the type of commodities or services to be purchased.

Purchasing specialists employed by government agencies or manufacturing firms usually are called purchasing directors, managers, or agents; buyers or industrial buyers; or contract specialists. These workers acquire materials, parts, machines, supplies, services, and other inputs to the production of a final product. Some purchasing managers specialize in negotiating and supervising supply contracts, and are called contract or supply managers. Purchasing agents and managers obtain items ranging from raw materials, fab-

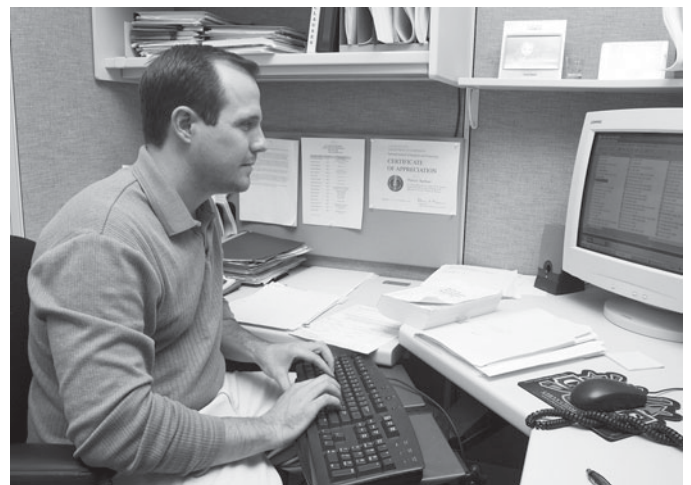
ricated parts, machinery, and office supplies to construction services and airline tickets. The flow of work—or even the entire production process—can be slowed or halted if the right materials, supplies, or equipment are not on hand when needed. To be effective, purchasing specialists must have a working technical knowledge of the goods or services to be purchased.

In large industrial organizations, a distinction often is drawn between the work of a buyer or purchasing agent and that of a purchasing manager. Purchasing agents and buyers commonly focus on routine purchasing tasks, often specializing in a commodity or group of related commodities, such as steel, lumber, cotton, grains, fabricated metal products, or petroleum products. Purchasing agents usually track market conditions, price trends, or futures markets. Purchasing managers usually handle the more complex or critical purchases and may supervise a group of purchasing agents handling other goods and services. Whether a person is titled purchasing manager, buyer, or purchasing agent depends more on specific industry and employer practices than on specific job duties.

Changing business practices have altered the traditional roles of purchasing or supply management specialists in many industries. For example, manufacturing companies increasingly involve workers in this occupation at most stages of product development because of their ability to forecast a part's or material's cost, availability, and suitability for its intended purpose. Furthermore, potential problems with the supply of materials may be avoided by consulting the purchasing department in the early stages of product design.

Businesses also might enter into integrated supply contracts. These contracts increase the importance of selecting the right supplier, because agreements are larger in scope and longer in duration. Integrated supply incorporates all members of the supply chain, including the supplier, transportation companies, and the retailer. A major responsibility of most purchasers is to work out problems that may occur with a supplier, because the success of the relationship affects the buying firm's performance.

Purchasing specialists often work closely with other employees in their own organization when deciding on purchases, an arrangement sometimes called team buying. For example, before submitting an order, they may discuss the design of custom-made products with company design engineers, talk about problems involving the quality of purchased goods with quality assurance engineers and production supervisors, or mention shipment problems to managers in the receiving department.



Purchasing managers, buyers, and purchasing agents work to get the best merchandise at the lowest cost.

Contract specialists and managers at various levels of government award contracts for an array of items, including office and building supplies, services for the public, and construction projects. For example, they may oversee the contract for cleaning services of a government office building to verify that the work is being done on schedule and on budget, even though the cleaners are not government employees. They may use sealed bids to award contracts, but usually establish negotiated agreements for complex items. Often, purchasing specialists in government place solicitations for services and accept bids and offers through the Internet. Government purchasing agents and managers must follow strict laws and regulations in their work, in order to avoid any appearance of impropriety. These legal requirements are occasionally changed, so agents and contract specialists must keep abreast of the latest regulations.

Purchasing specialists who buy finished goods for resale are employed by wholesale and retail establishments, where they commonly are known as buyers or merchandise managers. Wholesale and retail buyers are an integral part of a complex system of distribution and merchandising that caters to the vast array of consumer needs and desires. Wholesale buyers purchase goods directly from manufacturers or from other wholesale firms for resale to retail firms, commercial establishments, institutions, and other organizations. In retail firms, buyers purchase goods from wholesale firms or directly from manufacturers for resale to the public. Buyers largely determine which products their establishment will sell. Therefore, it is essential that they have the ability to predict what will appeal to consumers. They must constantly stay informed of the latest trends, because failure to do so could jeopardize profits and the reputation of their company. Buyers also follow ads in newspapers and other media to check competitors' sales activities, and they watch general economic conditions to anticipate consumer buying patterns. Buyers working for large and medium-sized firms usually specialize in acquiring one or two lines of merchandise, whereas buyers working for small stores may purchase the establishment's complete inventory.

The use of private-label merchandise and the consolidation of buying departments have increased the responsibilities of retail buyers. Private-label merchandise, produced for a particular retailer, requires buyers to work closely with vendors to develop and obtain the desired product. The downsizing and consolidation of buying departments increases the demands placed on buyers because, although the amount of work remains unchanged, there are fewer people to accomplish it. The result is an increase in the workloads and levels of responsibility for all.

Many merchandise managers assist in the planning and implementation of sales promotion programs. Working with merchandise executives, they determine the nature of the sale and purchase items accordingly. Merchandise managers may work with advertising personnel to create an ad campaign. For example, they may determine in which media the advertisement will be placed—newspapers, direct mail, television, or some combination of all three. In addition, merchandise managers often visit the selling floor to ensure that goods are properly displayed. Often, assistant buyers are responsible for placing orders and checking shipments.

Computers continue to have a major effect on the jobs of purchasing managers, buyers, and purchasing agents. In manufacturing and service industries, computers handle most of the routine tasks, enabling purchasing workers to concentrate mainly on the analytical and qualitative aspects of the job. Computers are used to obtain instant and accurate product and price listings, to track inventory levels, to process orders, and to help determine when to make purchases. Computers also maintain lists of bids and offers,

record the history of supplier performance, and issue purchase orders.

Computerized systems have dramatically simplified many of the acquisition functions and improved the efficiency of determining which products are selling. For example, cash registers connected to computers, known as point-of-sale terminals, allow organizations to maintain instant access to current sales and inventory records. The information contained therein can then be used to produce sales reports that reflect customer buying habits. The ability to find out quickly which products or combinations of products are selling well enables buyers and supply managers to increase sales and reduce costs. Buyers can gain instant access to the specifications for thousands of commodities, inventory records, and their customers' purchase records to avoid overpaying for goods and to avoid shortages of popular goods or surpluses of goods that do not sell as well. Firms are linked with manufacturers and wholesalers by electronic purchasing systems, the Internet, or Extranets. These systems permit faster selection, customization, and ordering of products, and they allow buyers to concentrate better on selecting goods and suppliers.

Working Conditions

Most purchasing managers, buyers, and purchasing agents work in comfortable offices. They frequently work more than the standard 40-hour week, because of special sales, conferences, or production deadlines. Evening and weekend work also is common, before holiday and back-to-school seasons for those working in retail trade. Consequently, many retail firms discourage the use of vacation time during peak periods.

Buyers and merchandise managers often work under great pressure. Because wholesale and retail stores are so competitive, buyers need physical stamina to keep up with the fast-paced nature of their work.

Many purchasing managers, buyers, and purchasing agents travel at least several days a month. Purchasers for worldwide manufacturing companies and large retailers, as well as buyers of high fashion, may travel outside the United States.

Employment

Purchasing managers, buyers, and purchasing agents held about 527,000 jobs in 2002. Forty-two percent worked in the wholesale trade and manufacturing industries, and another 15 percent worked in retail trade. The remainder worked mostly in service establishments, such as hospitals, or different levels of government. A small number were self-employed.

The following tabulation shows the distribution of employment by occupational specialty:

Purchasing agents, except wholesale, retail, and farm products	245,000
Wholesale and retail buyers, except farm products	155,000
Purchasing managers	108,000
Purchasing agents and buyers, farm products	19,000

Training, Other Qualifications, and Advancement

Qualified persons may begin as trainees, purchasing clerks, expeditors, junior buyers, or assistant buyers. Retail and wholesale firms prefer to hire applicants who have a college degree and who are familiar with the merchandise they sell and with wholesaling and retailing practices. Some retail firms promote qualified employees to assistant buyer positions; others recruit and train college gradu-

ates as assistant buyers. Most employers use a combination of methods.

Educational requirements tend to vary with the size of the organization. Large stores and distributors, especially those in wholesale and retail trade, prefer applicants who have completed a bachelor's degree program with a business emphasis. Many manufacturing firms put yet a greater emphasis on formal training, preferring applicants with a bachelor's or master's degree in engineering, business, economics, or one of the applied sciences. A master's degree is essential for advancement to many top-level purchasing manager jobs.

Regardless of academic preparation, new employees must learn the specifics of their employers' business. Training periods vary in length, with most lasting 1 to 5 years. In wholesale and retail establishments, most trainees begin by selling merchandise, supervising sales workers, checking invoices on material received, and keeping track of stock. As they progress, retail trainees are given increased buying-related responsibilities.

In manufacturing, new purchasing employees often are enrolled in company training programs and spend a considerable amount of time learning about their firm's operations and purchasing practices. They work with experienced purchasers to learn about commodities, prices, suppliers, and markets. In addition, they may be assigned to the production planning department to learn about the material requirements system and the inventory system the company uses to keep production and replenishment functions working smoothly.

Purchasing managers, buyers, and purchasing agents must know how to use both word processing and spreadsheet software, as well as the Internet. Other important qualities include the ability to analyze technical data in suppliers' proposals; good communication, negotiation, and mathematical skills; knowledge of supply-chain management; and the ability to perform financial analyses.

Persons who wish to become wholesale or retail buyers should be good at planning and decisionmaking and have an interest in merchandising. Anticipating consumer preferences and ensuring that goods are in stock when they are needed requires resourcefulness, good judgment, and self-confidence. Buyers must be able to make decisions quickly and to take risks. Marketing skills and the ability to identify products that will sell also are very important. Employers often look for leadership ability, too, because buyers spend a large portion of their time supervising assistant buyers and dealing with manufacturers' representatives and store executives.

Experienced buyers may advance by moving to a department that manages a larger volume or by becoming a merchandise manager. Others may go to work in sales for a manufacturer or wholesaler.

An experienced purchasing agent or buyer may become an assistant purchasing manager in charge of a group of purchasing professionals before advancing to purchasing manager, supply manager, or director of materials management. At the top levels, duties may overlap with other management functions, such as production, planning, logistics, and marketing.

Regardless of industry, continuing education is essential for advancement. Many purchasers participate in seminars offered by professional societies and take college courses in supply management. Professional certification is becoming increasingly important, especially for those just entering the occupation.

In private industry, recognized marks of experience and professional competence are the Accredited Purchasing Practitioner (APP) and Certified Purchasing Manager (CPM) designations, conferred

by the Institute for Supply Management, and the Certified Purchasing Professional (CPP) and Certified Professional Purchasing Manager (CPPM) designations, conferred by the American Purchasing Society. In Federal, State, and local government, the indications of professional competence are Certified Professional Public Buyer (CPPB) and Certified Public Purchasing Officer, (CPPO), conferred by the National Institute of Governmental Purchasing. Most of these certifications are awarded only after work-related experience and education requirements are met, and written or oral exams are successfully completed.

Job Outlook

Overall employment of purchasing managers, buyers, and purchasing agents is expected to be slower than the average through the year 2012. Offsetting some declines for purchasing workers in the manufacturing sector will be increases in the services sector. Companies in the services sector, which have typically made purchases on an ad hoc basis, are beginning to realize that centralized purchasing offices may be more efficient. Demand for purchasing workers will be limited by improving software, which has eliminated much of the paperwork involved in ordering and procuring supplies, the increased use of credit cards by some employees to purchase supplies without using the services of the procurement or purchasing office, and the growing number of purchases being made electronically. Despite slower-than-average growth, some job openings will result from the need to replace workers who transfer to other occupations or leave the labor force.

The projected change in employment varies significantly by occupational specialty. Employment of purchasing managers is expected to grow more slowly than the average through 2012. The use of the Internet to conduct electronic commerce has made information easier to obtain, thus increasing the productivity of purchasing managers. The Internet also allows both large and small companies to bid on contracts. Exclusive supply contracts and long-term contracting have allowed companies to negotiate with fewer suppliers less frequently.

Employment of wholesale and retail buyers, except farm products, also is projected to grow more slowly than the average. In the retail industry, mergers and acquisitions have forced buying departments to consolidate. In addition, larger retail stores are removing their buying departments from regional markets and centralizing them at their headquarters.

In contrast, employment of purchasing agents, except wholesale, retail, and farm products, is expected to increase about as fast as the average for all occupations through 2012. Despite the greater use of electronic transactions, purchases of complex equipment are more difficult both to automate and to transact electronically. Employment of purchasing agents and buyers, farm products, also is projected to increase about as fast as the average for all occupations, as the need to evaluate the quality and freshness of farm products limits the ease of making purchases electronically.

Persons who have a bachelor's degree in business should have the best chance of obtaining a buyer position in wholesale or retail trade or within government. A bachelor's degree, combined with industry experience and knowledge of a technical field, will be an advantage for those interested in working for a manufacturing or industrial company. Government agencies and larger companies usually require a master's degree in business or public administration for top-level purchasing positions.

Earnings

Median annual earnings of purchasing managers were \$59,890 in 2002. The middle 50 percent earned between \$43,670 and \$81,950 a year. The lowest 10 percent earned less than \$32,330, and the highest 10 percent earned more than \$108,140 a year.

Median annual earnings for purchasing agents and buyers, farm products were \$40,900 in 2002. The middle 50 percent earned between \$31,390 and \$55,440 a year. The lowest 10 percent earned less than \$23,850, and the highest 10 percent earned more than \$76,740 a year.

Median annual earnings for wholesale and retail buyers, except farm products, were \$40,780 in 2002. The middle 50 percent earned between \$30,040 and \$55,670 a year. The lowest 10 percent earned less than \$23,270, and the highest 10 percent earned more than \$76,070 a year. Median annual earnings in the industries employing the largest numbers of wholesale and retail buyers, except farm products, in 2002 were as follows:

Management of companies and enterprises	\$49,150
Grocery and related product wholesalers	42,850
Machinery, equipment, and supplies merchant wholesalers	37,920
Building material and supplies dealers	35,910

Median annual earnings for purchasing agents, except wholesale, retail, and farm products, were \$45,090 in 2002. The middle 50 percent earned between \$34,820 and \$58,780 a year. The lowest 10 percent earned less than \$27,950, and the highest 10 percent earned more than \$73,990 a year. Median annual earnings in the industries employing the largest numbers of purchasing agents, except of wholesale, retail, and farm products, in 2002 were as follows:

Federal Government	\$58,410
Aerospace product and parts manufacturing	52,900
Management of companies and enterprises	50,790
Local government	42,450
General medical and surgical hospitals	34,420

Purchasing managers, buyers, and purchasing agents receive the same benefits package as other workers, including vacations, sick leave, life and health insurance, and pension plans. In addition to receiving standard benefits, retail buyers often earn cash bonuses based on their performance and may receive discounts on merchandise bought from their employer.

Related Occupations

Workers in other occupations who need a knowledge of marketing and the ability to assess consumer demand include those in advertising, marketing, promotions, and public relations, as well as sales managers; food service managers; insurance sales agents; lodging managers; sales engineers; and sales representatives, wholesale and manufacturing.

Sources of Additional Information

Further information about education, training, employment, and certification for purchasing careers is available from any of the following sources:

- ▶ American Purchasing Society, North Island Center, Suite 203, 8 East Galena Blvd., Aurora, IL 60506. Internet: <http://www.american-purchasing.com>
- ▶ Institute for Supply Management, P.O. Box 22160, Tempe, AZ 85285-2160. Internet: <http://www.ism.ws>
- ▶ National Institute of Governmental Purchasing, Inc., 151 Spring St., Suite 300, Herndon, VA 20170-5223. Internet: <http://www.nigp.org>

Tax Examiners, Collectors, and Revenue Agents

(0*NET 13-2081.00)

Significant Points

- Tax examiners, collectors, and revenue agents work for Federal, State, and local governments.
- A bachelor's degree in accounting is becoming the standard source of training; in State and local government, an associate degree in accounting or related tax and accounting work experience may be sufficient.
- Employment is expected to grow more slowly than average over the 2002-12 projection period.
- Because of the relatively small number of openings, jobseekers can expect to face competition.

Nature of the Work

Taxes are one of the certainties of life. And, as long as governments collect taxes, there will be jobs for tax examiners, collectors, and revenue agents. These workers ensure that governments obtain revenues from businesses and citizens by reviewing tax returns, conducting audits, identifying taxes payable, and collecting overdue tax dollars.

Tax examiners do similar work, whether they are employed at the Federal, State, or local government level. They review filed tax returns for accuracy and determine whether tax credits and deductions are allowed by law. Because many States assess individual income taxes based on the taxpayer's reported Federal adjusted gross income, tax examiners working for the Federal Government report to the States adjustments or corrections they make. State tax examiners then determine whether the adjustments affect the taxpayer's State tax liability. At the local level, tax examiners often have additional duties, but an integral part of the work still includes the need to determine the factual basis for claims for refunds.

Tax examiners usually deal with the simplest tax returns—those filed by individual taxpayers with few deductions or those filed by small businesses. At the entry level, many tax examiners perform clerical duties, such as reviewing tax returns and entering them into a computer system for processing. If there is a problem, tax examiners may contact the taxpayer to resolve it.

Tax examiners also review returns for accuracy, checking taxpayers' math and making sure that the amounts that they report match those reported from other sources, such as employers and banks. In addition, the examiners verify that Social Security numbers match names and that taxpayers have correctly interpreted the instructions on the tax forms.

Much of a tax examiner's job involves making sure that tax credits and deductions claimed by taxpayers are legitimate. Tax examiners contact the taxpayer by mail or telephone to address discrepancies and request supporting documentation. They may notify the taxpayer of any overpayment or underpayment and either issue a refund or request further payment. If a taxpayer owes additional taxes, tax examiners adjust the total amount by assessing fees, interest, and penalties and notify the taxpayer of the total liability. Although most tax examiners deal with uncomplicated returns, some may work

in more complex tax areas such as pensions or business net-operating losses.

Revenue agents specialize in tax-related accounting work for the U.S. Internal Revenue Service (IRS) and for equivalent agencies at the State and local government levels. Like tax examiners, they audit returns for accuracy. However, revenue agents handle complicated income, sales, and excise tax returns of businesses and large corporations. As a result, their work differs in a number of ways from that of tax examiners.

Entry-level revenue agents at the Federal level usually audit tax returns of small businesses whose market specializations are similar. As they develop expertise in an industry, such as construction, retail sales, or finance, insurance, and real estate, revenue agents work with tax returns of larger corporations.

Many experienced revenue agents specialize; for example, they may focus exclusively on multinational businesses. But all revenue agents working for the Federal Government must keep abreast of the lengthy, complex, and frequently changing tax code. Computer technology has simplified the research process, allowing revenue agents Internet access to relevant legal bulletins, IRS notices, and tax-related court decisions.

At the State level, revenue agents have duties similar to those of their counterparts in the Federal Government. State revenue agents use revenue adjustment reports forwarded by the IRS to determine whether adjustments made by Federal revenue agents affect a



At the entry level, many tax examiners perform clerical duties, such as reviewing tax returns and entering them into a computer system for processing.

taxpayer's taxable income in the eyes of the States. In addition, State agents consider the sales and income taxes for their own States.

At the local level, revenue agents have varying titles and duties, but they still perform field audits or office audits of financial records for business firms. In some cases, local revenue agents also examine financial records of individuals. These local agents, like their State counterparts, rely on the information contained in Federal tax returns. However, local agents also must be knowledgeable enough to apply local tax laws regarding income, utility fees, or school taxes.

Collectors, also called revenue officers in the IRS, deal with delinquent accounts. The process of collecting a delinquent account starts with the revenue agent or tax examiner sending a report to the taxpayer. If the taxpayer makes no effort to resolve the delinquent account, the case is assigned to a collector. When a collector takes a case, he or she first sends the taxpayer a notice. The collector then works with the taxpayer on how to settle the debt.

In cases in which taxpayers fail to file a tax return, Federal collectors may request that the IRS prepare the return on a taxpayer's behalf. In other instances, collectors are responsible for verifying claims that delinquent taxpayers cannot pay their taxes. They investigate these claims by researching court information for the status of liens, mortgages, or financial statements; locating assets through third parties, such as neighbors or local departments of motor vehicles; and requesting legal summonses for other records. Ultimately, collectors must decide whether the IRS should take a lien, or a claim on an asset—such as a bank account, real estate, or an automobile—to settle a debt. Collectors also have the discretion to garnish wages—that is, take a portion of earned wages—to collect owed taxes.

A big part of a collector's job at the Federal level is imposing and following up on delinquent taxpayers' payment deadlines. For each case file, collectors also must maintain records including contacts, telephone numbers, and actions taken.

Like tax examiners and revenue agents, collectors use computers to maintain files. Computer technology also gives collectors data access to help them identify high-risk debtors—those who are unlikely to pay or are likely to flee.

Collectors at the IRS usually work independently. However, they call on experts when tax examiners or revenue agents find fraudulent returns, or when a property seizure will involve complex legal steps.

At the State level, collectors decide whether to take action on the basis of their own States' tax returns. Collection work may be handled over the telephone or be turned over to a collector who specializes in obtaining settlements. These collectors contact people directly and have authority to issue subpoenas and request seizures of property. At the local levels, collectors have less power than do their State and Federal counterparts. Although they can start the processes leading to seizure of property and garnishment of wages, they must go through the local court system.

Working Conditions

Tax examiners, collectors, and revenue agents generally work a 40-hour week, although some overtime might be needed during the tax season. State and local tax examiners, who also may review sales, gasoline, and cigarette taxes, may have a steadier workload year-round. Stress can result from the need to work under a deadline in checking returns and evaluating taxpayer claims. Collectors also must face the unpleasant task of confronting delinquent taxpayers.

Tax examiners, collectors, and revenue agents work in clean, well-lighted offices, either in cubicles or at desks. Sometimes travel is necessary. Revenue agents at both the Federal and State levels

spend a significant portion of their time in the offices of private firms accessing tax-related records. Some agents may be permanently stationed in the offices of large corporations with complicated tax structures. Agents at the local level usually work in city halls or municipal buildings. Collectors travel to local courthouses; county and municipal seats of government; businesses; and taxpayers' homes to look up records, search for assets, and settle delinquent accounts.

Employment

In 2002, tax examiners, revenue agents, and collectors held about 75,000 jobs at all levels of government. About half worked for the Federal Government, one-third for State governments, and the remainder in local governments. Among those employed by the IRS, tax examiners and revenue agents predominate because of the need to examine or audit tax returns. Collectors make up a smaller proportion, because most disputed tax liabilities do not require enforced collection.

Training, Other Qualifications, and Advancement

Tax examiners, collectors, and revenue agents work with confidential financial and personal information; therefore, trustworthiness is crucial for maintaining the confidentiality of individuals and businesses. Applicants for Federal Government jobs must submit to a background investigation.

A degree in accounting is becoming the standard source of training for tax examiners, collectors, and revenue agents. A bachelor's degree generally is required for employment with the Federal Government. In State and local governments, prospective workers may be able to enter the occupation with an associate degree in accounting, or a combination of related tax and accounting work experience with some college-level business classes. For more advanced entry-level positions, applicants must have a bachelor's degree; demonstrate specialized experience working with tax records, tax laws and regulations, documents, financial accounts, or similar records; or have some combination of postsecondary education and specialized experience.

Tax examiners must be able to understand fundamental tax regulations and procedures, pay attention to detail, and cope well with deadlines. After they are hired, tax examiners receive some formal training. Additionally, annual employer-provided updates keep tax examiners current with changes in procedures or regulations.

Revenue agents need strong analytical, organizational, and time management skills. They also must be able to work independently because they spend so much time away from their home office, and must keep current with changes in the tax code and laws. Newly hired revenue agents expand their accounting knowledge and remain up to date by consulting auditing manuals and other sources for detailed information about individual industries. Additionally, employers continually offer training in new auditing techniques and tax-related issues and court decisions.

Collectors need good interpersonal and communication skills because they deal directly with the public and because their reports are scrutinized when the IRS must legally justify attempts to seize assets. They also must be able to act independently and to exercise good judgment in deciding when and how to collect a debt. Applicants for collector jobs need experience demonstrating knowledge and understanding of business and financial practices, or knowledge of credit operations and practices related to the collection of delinquent accounts.

Entry-level collectors receive formal and on-the-job training under an instructor's guidance before working independently. Col-

lectors usually complete initial training by the end of their second year of service but may receive advanced technical instruction as they gain seniority and take on more difficult cases. Also, collectors are encouraged to continue their professional education by attending meetings to exchange information about how changes in tax laws affect collection methods.

Advancement potential within Federal, State, and local agencies varies for tax examiners, revenue agents, and collectors. For related jobs outside government, experienced workers can take a licensing exam administered by the Federal Government to become enrolled agents—nongovernment tax professionals authorized to represent taxpayers before the IRS.

As revenue agents gain experience, they may specialize in an industry, work with larger corporations, and cover increasingly complex tax returns. Some revenue agents also specialize in assisting in criminal investigations, auditing the books of known or suspected criminals such as drug dealers or money launderers; some agents work with grand juries to help secure indictments. Others become international agents, assessing taxes on companies with subsidiaries abroad.

Collectors who demonstrate leadership skills and a thorough knowledge of collection activities may advance to supervisory or managerial collector positions, in which they oversee the activities of other collectors. It is only these higher supervisors and managers who may authorize the more serious actions against individuals and businesses. The more complex collection attempts, which usually are directed at larger businesses, are reserved for collectors at these higher levels.

Job Outlook

Employment of tax examiners, collectors, and revenue agents is projected to grow more slowly than average during the 2002-12 projection period. Job openings will stem primarily from the need to replace those workers who retire or leave the occupation for other reasons. Because of the relatively small number of openings, jobseekers can expect to face competition.

The number of tax returns filed will continue to increase as the labor force grows. Dampening this effect, however, is a decrease in the proportion of tax returns selected for audit and collection. Because much of the work done by tax examiners and revenue agents is now computerized, productivity has increased, limiting the need for more tax examiners, collectors, and revenue agents. Many State and local governments, as well as the Federal Government, may increasingly contract out their tax collection functions to private sector collection agencies in order to reduce costs.

Employment at the State and local levels may fluctuate with the overall state of the economy. When the economy is contracting, State and local governments are likely to freeze hiring and lay off workers in response to budgetary constraints. Employment growth is more likely to occur in Southern and Western States that are experiencing large population increases. Opportunities at the Federal level could arise from the relaxing of budget constraints imposed on the IRS, the primary employer of these workers.

Earnings

In 2002, median annual earnings for all tax examiners, collectors, and revenue agents was \$42,250. The middle 50 percent earned between \$31,250 and \$59,670. The bottom 10 percent earned less than \$23,950, and the top 10 percent earned more than \$74,600.

However, median earnings vary considerably depending on the level of government. At the Federal level, 2002 median annual earnings for tax examiners, collectors, and revenue agents were \$50,820; at the State level, they were \$41,000; and at the local level,

they were \$28,710. Earnings also vary by occupational specialty. For example, in the Federal Government in 2003, tax examiners earned an average of \$34,002, revenue agents earned \$75,816, and tax specialists earned \$53,083.

Related Occupations

Tax examiners, collectors, and revenue agents analyze and interpret financial data. Occupations with similar responsibilities include accountants and auditors, budget analysts, cost estimators, financial analysts and personal financial advisors, financial managers, and loan counselors and officers.

Sources of Additional Information

Information on obtaining a position as a tax examiner, collector, or revenue agent with the Federal Government is available from the U.S. Office of Personnel Management (OPM) through a telephone-based system. Consult your telephone directory under U.S. Government for a local number or call (703) 724-1850; Federal Relay Service: (800) 877-8339. The first number is not tollfree, and charges may result. Information also is available from the OPM Internet site: <http://www.usajobs.opm.gov>.

State or local government personnel offices can provide information about tax examiner, collector, or revenue agent jobs at those levels of government.

Top Executives

(0*NET 11-1011.01, 11-1011.02, 11-1021.00, 11-1031.00)

Significant Points

- Top executives are among the highest paid workers; however, long hours, considerable travel, and intense pressure to succeed are common.
- The formal education and experience of top executives varies as widely as the nature of their responsibilities.
- Keen competition is expected because the prestige and high pay attract a large number of qualified applicants.
- Most government chief executives and legislators are elected; local government managers are appointed.

Nature of the Work

All organizations have specific goals and objectives that they strive to meet. Top executives devise strategies and formulate policies to ensure that these objectives are met. Although they have a wide range of titles—such as chief executive officer, chief operating officer, board chair, president, vice president, school superintendent, county administrator, or tax commissioner—all formulate policies and direct the operations of businesses and corporations, nonprofit institutions, governments, and other organizations.

A corporation's goals and policies are established by the *chief executive officer* in collaboration with other top executives, who are overseen by a board of directors. In a large corporation, the chief executive officer meets frequently with subordinate executives to ensure that operations are conducted in accordance with these policies. The chief executive officer of a corporation retains overall accountability; however, a chief operating officer may be delegated several responsibilities, including the authority to oversee executives who direct the activities of various departments and implement the organization's policies on a day-to-day basis. In publicly held and nonprofit corporations, the board of directors ultimately is accountable for the success or failure of the enterprise, and the chief executive officer reports to the board.

The nature of other high-level executives' responsibilities depends upon the size of the organization. In large organizations, the duties of such executives are highly specialized. Some managers, for instance, are responsible for the overall performance of one aspect of the organization, such as manufacturing, marketing, sales, purchasing, finance, personnel, training, administrative services, computer and information systems, property management, transportation, or the legal services department. (Some of these and other management occupations are discussed elsewhere in this section of the *Handbook*.)

In smaller organizations, such as independent retail stores or small manufacturers, a partner, owner, or general manager often is responsible for purchasing, hiring, training, quality control, and day-to-day supervisory duties.

Chief financial officers direct the organization's financial goals, objectives, and budgets. They oversee the investment of funds and manage associated risks, supervise cash management activities, execute capital-raising strategies to support a firm's expansion, and deal with mergers and acquisitions.

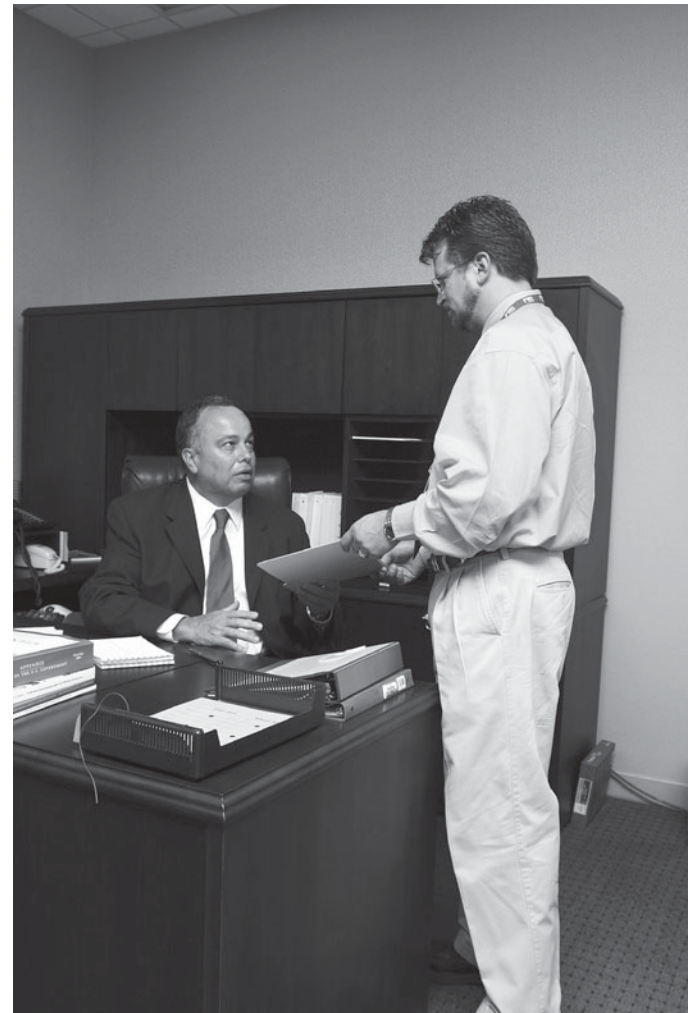
Chief information officers are responsible for the overall technological direction of their organizations. They are increasingly involved in the strategic business plan of a firm as part of the executive team. To perform effectively, they also need knowledge of administrative procedures, such as budgeting, hiring, and supervi-

sion. These managers propose budgets for projects and programs, and make decisions on staff training and equipment purchases. They hire and assign computer specialists, information technology workers, and support personnel to carry out specific parts of the projects. They supervise the work of these employees, review their output, and establish administrative procedures and policies. Chief information officers also provide organizations with the vision to master information technology as a competitive tool.

Chief executives and legislators at the Federal, State, and local levels direct government activities and pass laws that affect us daily. These officials consist of the President and Vice President of the United States; members of Congress; State governors and lieutenant governors; members of the State legislators; county chief executives and commissioners; city, town, and township council members; mayors; and city, county, town, and township managers. (Many small communities have top government officials who are volunteers and receive no salary. These individuals are not included in the employment or salary data cited in this *Handbook* statement.)

Most chief executives are elected by their constituents, but many managers are hired by a local government executive, council, or commission, to whom they are directly responsible. These officials formulate and establish government policy and develop Federal, State, or local laws and regulations.

Chief executives, government—like their counterparts in the private sector—have overall responsibility for the operation of their



Top executives devise strategies, formulate policies, and direct operations to ensure that an organization's objectives are met.

organizations. Working with legislators, they set goals and arrange programs to attain them. These executives also appoint department heads, who oversee the civil servants who carry out programs enacted by legislative bodies. As in the private sector, government chief executives oversee budgets and ensure that resources are used properly and that programs are carried out as planned.

Chief executive officers carry out a number of other important functions, such as meeting with legislators and constituents to determine the level of support for proposed programs. In addition, they often nominate citizens to boards and commissions, encourage business investment, and promote economic development in their communities. To do all of these varied tasks effectively, chief executives of large governments rely on a staff of highly skilled aides to research issues that concern the public. Executives who control small governmental bodies, however, often do this work by themselves.

Legislators are elected officials who develop, enact, or amend laws. They include U.S. Senators and Representatives, State senators and representatives, and county, city, and town commissioners and council members. Legislators introduce, examine, and vote on bills to pass official legislation. In preparing such legislation, they study staff reports and hear testimony from constituents, representatives of interest groups, board and commission members, and others with an interest in the issue under consideration. They usually must approve budgets and the appointments of nominees for leadership posts whose names are submitted by the chief executive. In some bodies, the legislative council appoints the city, town, or county manager.

General and operations managers plan, direct, or coordinate the operations of companies or public and private sector organizations. Their duties include formulating policies, managing daily operations, and planning the use of materials and human resources, but are too diverse and general in nature to be classified in any one area of management or administration, such as personnel, purchasing, or administrative services. In some organizations, the duties of general and operations managers may overlap the duties of chief executive officers.

Working Conditions

Top executives typically have spacious offices and numerous support staff. General managers in large firms or nonprofit organizations usually have comfortable offices close to those of the top executives to whom they report. Long hours, including evenings and weekends, are standard for most top executives and general managers, although their schedules may be flexible.

Substantial travel between international, national, regional, and local offices to monitor operations and meet with customers, staff, and other executives often is required of managers and executives. Many managers and executives also attend meetings and conferences sponsored by various associations. The conferences provide an opportunity to meet with prospective donors, customers, contractors, or government officials and allow managers and executives to keep abreast of technological and managerial innovations.

In large organizations, job transfers between local offices or subsidiaries are common for persons on the executive career track. Top executives are under intense pressure to succeed; depending on the organization, this may mean earning higher profits, providing better service, or attaining fundraising and charitable goals. Executives in charge of poorly performing organizations or departments usually find their jobs in jeopardy.

The working conditions of legislators and government chief executives vary with the size and budget of the governmental unit. Time spent at work ranges from a few hours a week for some local

leaders to stressful weeks of 60 or more hours for members of the U.S. Congress. Similarly, some jobs require only occasional out-of-town travel, while others involve long periods away from home, such as when attending sessions of the legislature.

U.S. Senators and Representatives, governors and lieutenant governors, and chief executives and legislators in municipalities work full time, year-round, as do most county and city managers. Many State legislators work full time on government business while the legislature is in session (usually for 2 to 6 months a year or every other year) and work only part time when the legislature is not in session. Some local elected officials work a schedule that is officially designated as part time, but actually is the equivalent of a full-time schedule when unpaid duties are taken into account. In addition to their regular schedules, most chief executives are on call to handle emergencies.

Employment

Top executives held about 2.7 million jobs in 2002. Employment by detailed occupation was distributed as follows:

General and operations managers	2,049,000
Chief executives	553,000
Legislators	67,000

Top executives are found in every industry, but service-providing industries, including government, employ almost 8 out of 10.

Chief executives and legislators in the Federal Government consist of the 100 Senators, 435 Representatives, and the President and Vice President. State governors, lieutenant governors, legislators, chief executives, professional managers, and council and commission members of local governments make up the remainder.

Government chief executives and legislators who do not hold full-time, year-round positions often continue to work in the occupation that they held before being elected.

Training, Other Qualifications, and Advancement

The formal education and experience of top executives varies as widely as the nature of their responsibilities. Many top executives have a bachelor's or higher degree in business administration or liberal arts. College presidents typically have a doctorate in the field in which they originally taught, and school superintendents often have a master's degree in education administration. (For information on lower level managers in educational services, see the *Handbook* statement on education administrators.) A brokerage office manager needs a strong background in securities and finance, and department store executives generally have extensive experience in retail trade.

Some top executives in the public sector have a background in public administration or liberal arts. Others might have a background related to their jobs. For example, a health commissioner might have a graduate degree in health services administration or business administration. (For information on lower level managers in health services, see the *Handbook* statement on medical and health services managers.)

Because many top executive positions are filled by promoting experienced, lower level managers when an opening occurs, many top managers have been promoted from within the organization. In industries such as retail trade or transportation, for instance, it is possible for individuals without a college degree to work their way up within the company and become managers. However, many companies prefer that their top executives have specialized backgrounds and, therefore, hire individuals who have been managers in other organizations.

Top executives must have highly developed personal skills. An analytical mind able to quickly assess large amounts of information and data is very important, as is the ability to consider and evaluate the interrelationships of numerous factors. Top executives also must be able to communicate clearly and persuasively. Other qualities critical for managerial success include leadership, self-confidence, motivation, decisiveness, flexibility, sound business judgment, and determination.

Advancement may be accelerated by participation in company training programs that impart a broader knowledge of company policy and operations. Managers also can help their careers by becoming familiar with the latest developments in management techniques at national or local training programs sponsored by various industry and trade associations. Managers who have experience in a particular field, such as accounting or engineering, may attend executive development programs to facilitate their promotion to an even higher level. Participation in conferences and seminars can expand knowledge of national and international issues influencing the organization and can help the participants to develop a network of useful contacts.

General managers may advance to top executive positions, such as executive vice president, in their own firm or they may take a corresponding position in another firm. They may even advance to peak corporate positions such as chief operating officer or chief executive officer. Chief executive officers often become members of the board of directors of one or more firms, typically as a director of their own firm and often as chair of its board of directors. Some top executives establish their own firms or become independent consultants.

Apart from meeting minimum age, residency, and citizenship requirements, candidates for a legislative position have no established training or qualifications. Candidates come from a wide variety of occupations—such as lawyer, private sector manager or executive, or business owner—but many do have some political experience as staffers or members of government bureaus, boards, or commissions. Successful candidates usually become well known through their political campaigns and some have built voter name recognition through their work with community religious, fraternal, or social organizations.

Increasingly, candidates target information to voters through advertising paid for by their respective campaigns, so fundraising skills are essential for candidates. Management-level work experience and public service help to develop the fundraising, budgeting, public speaking, and problem-solving skills that are needed to run an effective political campaign. Candidates must make decisions quickly, sometimes on the basis of limited or contradictory information. They also should be able to inspire and motivate their constituents and staff. Additionally, they must know how to reach compromises and satisfy conflicting demands of constituents. National, State, and some local campaigns require massive amounts of energy and stamina, traits vital to successful candidates.

Virtually all town, city, and county managers have at least a bachelor's degree, and many hold a higher degree. A master's degree in public administration is recommended, including courses in public financial management and legal issues in public administration. Working in management support positions in government is a prime source of the experience and personal contacts required to eventually secure a manager position. For example, applicants often gain experience as management analysts or assistants in government departments, working for committees, councils, or chief executives. In this capacity, they learn about planning, budgeting, civil engineering, and other aspects of running a government. With

sufficient experience, they may be hired to manage a small government.

Generally, a town, city, or county manager is first hired by a smaller community. Advancement often takes the form of securing positions with progressively larger towns, cities, or counties. A broad knowledge of local issues, combined with communication skills and the ability to compromise, are essential for advancement in this field.

Advancement opportunities for elected officials are not clearly defined. Because elected positions normally require a period of residency and because local public support is critical, officials usually advance to other offices only in the jurisdictions where they live. For example, council members may run for mayor or for a position in the State government, and State legislators may run for governor or for the U.S. Congress. Many officials are not politically ambitious, however, and do not seek advancement. Others lose their bids for reelection or voluntarily leave the occupation. A lifetime career as a government chief executive or legislator is rare.

Job Outlook

Keen competition is expected for top executive positions, with the prestige and high pay attracting a large number of qualified applicants. Because this is a large occupation, numerous openings will occur each year as executives transfer to other positions, start their own businesses, or retire. However, many executives who leave their jobs transfer to other executive positions, which tend to limit the number of job openings for new entrants.

Experienced managers whose accomplishments reflect strong leadership qualities and the ability to improve the efficiency or competitive position of an organization will have the best opportunities. In an increasingly global economy, experience in international economics, marketing, information systems, and knowledge of several languages also may be beneficial.

Employment of top executives—including chief executives, general and operations managers, and legislators—is expected to grow about as fast as the average for all occupations through 2012. Because top managers are essential to the success of any organization, they should be more immune to automation and corporate restructuring—factors that are expected to adversely affect employment of lower level managers. Projected employment growth of top executives varies by industry, reflecting the projected change in industry employment over the 2002-12 period. For example, employment growth is expected to be faster than average in professional, scientific, and technical services and administrative and support services. However, employment is projected to decline in some manufacturing industries.

Few new governments at any level are likely to be formed, and the number of chief executives and legislators in existing governments rarely changes. However, some increase will occur at the local level as counties, cities, and towns take on professional managers or move from volunteer to paid career executives to deal with population growth, Federal regulations, and long-range planning.

Elections give newcomers the chance to unseat incumbents or to fill vacated positions. The level of competition in elections varies from place to place. There tends to be less competition in small communities that offer part-time positions with low or no salaries and little or no staff, compared with large municipalities with prestigious full-time positions offering high salaries, staff, and greater exposure.

Earnings

Top executives are among the highest paid workers in the U.S. economy. However, salary levels vary substantially depending upon the level of managerial responsibility, length of service, and type, size, and location of the firm. For example, a top manager in a very large corporation can earn significantly more than a counterpart in a small firm.

Median annual earnings of general and operations managers in 2002 were \$68,210. The middle 50 percent earned between \$45,720 and \$104,970. Because the specific responsibilities of general and operations managers vary significantly within industries, earnings also tend to vary considerably. Median annual earnings in the industries employing the largest numbers of general and operations managers in 2002 were:

Management of companies and enterprises	\$94,600
Building equipment contractors	74,550
Depository credit intermediation	68,110
Local government	60,470
Grocery stores	44,980

Median annual earnings of chief executives in 2002 were \$126,260. Median annual earnings in the industries employing the largest numbers of chief executives in 2002 were:

Management of companies and enterprises	\$145,600
Architectural, engineering, and related services	133,880
Depository credit intermediation	123,220
Colleges, universities, and professional schools	103,120
Local government	73,990

Salaries vary substantially by type and level of responsibilities and by industry. According to a survey by Abbott, Langer & Associates, the median income of chief executive officers in the non-profit sector was \$81,000 in 2003, but some of the highest paid made \$600,000.

In addition to salaries, total compensation often includes stock options, dividends, and other performance bonuses. The use of executive dining rooms and company aircraft and cars, expense allowances, and company-paid insurance premiums and physical examinations also are among benefits commonly enjoyed by top executives in private industry. A number of chief executive officers also are provided with company-paid club memberships, a limousine with chauffeur, and other amenities.

Median annual earnings of legislators were \$15,220 in 2002. The middle 50 percent earned between \$13,180 and \$38,540. The lowest 10 percent earned less than \$12,130, and the highest 10 percent earned more than \$69,380.

Earnings of public administrators vary widely, depending on the size of the governmental unit and on whether the job is part time, full time and year round, or full time for only a few months a year. Salaries range from little or nothing for a small-town council member to \$400,000 a year for the President of the United States.

The National Conference of State Legislatures reports that the annual salary for rank-and-file legislators in the 40 States that paid an annual salary ranged from \$10,000 to more than \$99,000 in 2003. In eight States, legislators received a daily salary plus an additional allowance for living expenses while legislatures were in session.

The Council of State Governments reports in its *Book of the States, 2002-2003* that gubernatorial annual salaries ranged from \$50,000 in American Samoa to \$179,000 in New York. In addition to a salary, most governors received benefits such as transportation and an official residence. In 2003, U.S. Senators and Representa-

tives earned \$154,700, the Senate and House Majority and Minority leaders earned \$171,900, and the Vice President was paid \$198,600.

Related Occupations

Top executives plan, organize, direct, control, and coordinate the operations of an organization and its major departments or programs. The members of the board of directors and lower-level managers also are involved in these activities. Many other management occupations have similar responsibilities; however, they are concentrated in specific industries or are responsible for a specific department within an organization. A few examples are administrative services managers, education administrators, financial managers, food service managers, and advertising, marketing, promotions, public relations, and sales managers.

Sources of Additional Information

For a variety of information on top executives, including educational programs and job listings, contact:

- ▶ American Management Association, 1601 Broadway, 6th Floor, New York, NY 10019. Internet: <http://www.amanet.org>
- ▶ Institute of Certified Professional Managers, James Madison University, MSC 5504, Harrisonburg, VA 22807. Internet: <http://cob.jmu.edu/icpm/>
- ▶ International Public Management Association for Human Resources, 1617 Duke St., Alexandria, VA 22314. Internet: <http://www.ipma-hr.org>
- ▶ National Management Association, 2210 Arbor Blvd., Dayton, OH 45439. Internet: <http://www.nma1.org>

Information on appointed officials in local government can be obtained from:

- ▶ Council of State Governments, P.O. Box 11910, 2760 Research Park Dr., Lexington, KY 40578-1910. Internet: <http://www.statesnews.org>
- ▶ National Association of Counties, 440 First St. NW., 8th Floor, Washington, DC 20001. Internet: <http://www.naco.org>
- ▶ National Conference of State Legislatures, 7700 East First Place, Denver, CO 80230. Internet: <http://www.ncsl.org>
- ▶ National League of Cities, 1301 Pennsylvania Ave. NW., Washington, DC 20004. Internet: <http://www.nlc.org>

For information on executive financial management careers and certification, contact:

- ▶ Financial Executives International, 200 Campus Dr., P.O. Box 674, Florham Park, NJ 07932-0674. Internet: <http://www.fe.org>
- ▶ Financial Management Association International, College of Business Administration, University of South Florida, 4202 East Fowler Ave., BSN 3331, Tampa, FL 33620-5500. Internet: <http://www.fma.org>