

The 2008–18 job outlook in brief

Some occupations will fare better than others over the 2008–18 decade. Although it's impossible to predict the future, we can gain insight into job outlook by analyzing trends in population growth, technological advances, and business practices. This insight is helpful in planning a career.

The *Occupational Outlook Handbook*—published every 2 years by the U.S. Bureau of Labor Statistics (BLS)—features projections of long-term job growth and employment prospects for nearly 300 occupations. This special issue of the *Occupational Outlook Quarterly (OOQ)* includes a table summarizing that information so readers can compare occupations at a glance.

The next few pages help you get the most out of that table. Read on to learn what BLS projections mean, why employment is changing, and how BLS makes its projections.

Understanding employment projections

BLS projections give a broad overview of future employment conditions. They show expected changes in employment over the entire 2008–18 decade, but they do not depict variation from one year to another. Also, BLS projections are national in scope. Because conditions vary significantly by location, jobseekers should supplement this general analysis with more specific information from State workforce agencies and career counselors. (See, for example, www.careeronestop.org.)

BLS projections show expected job growth or decline in various occupations. Usually, occupations that are gaining jobs offer more opportunities for workers than other occupations do. Each job that is added to a growing occupation equals an opening for a worker trying to enter that occupation.

But job growth tells only part of the story. Opportunities in any occupation are also shaped by how many of today's workers will need to be replaced when they retire or leave their occupations for other reasons. Job prospects also depend on how much competition there is for jobs. An occupation is more difficult to enter if many people want to work in it or if many people qualify for it.

Understanding job growth

In the table, projected employment change over the 2008–18 decade is shown in two ways: as a number and as a percent. The number shows the actual number of jobs projected to be added or lost in an occupation. Percent change shows the rate of expected job growth or decline.

Sometimes, occupations with large projected changes in employment are also growing or declining at a fast rate. For example, between 2008 and 2018, employment of registered nurses is expected to grow by almost 582,000 jobs—the largest projected gain of any occupation. And the occupation's projected growth rate of 22 percent is well above the 10-percent average for all occupations.

Other times, there is no correlation between projected numeric changes in employment and rapid growth or decline. Financial examiners, for example, are projected to add 11,000 jobs over the decade—a relatively small gain. But that increase represents growth of 41 percent—a rate that's four times faster than the projected average growth rate for all occupations. And office clerks are projected to gain 375,000 jobs—a considerable increase that represents a 12-percent growth rate, which is about average. In general, occupations with the



greatest numeric changes are those that already have large numbers of workers. The fastest rates of change are usually in occupations that have fewer workers.

Job prospects

Increases and decreases in the number of jobs affect how easy it is to enter an occupation, but the total number of jobs is not the only factor. Employment prospects are also affected by how many workers leave and need to be replaced and by how many people want and qualify for jobs.

Replacement needs. Most of the job openings for people entering an occupation for the first time come not from job growth but from replacement needs, which are the needs to replace workers who retire or permanently leave the occupation for other reasons.

Replacement needs sometimes provide numerous job openings even in an occupation that is projected to decline. The total number of machinists, for example, is expected to fall in the coming decade. But the occupation still offers good job prospects because many of today's machinists are expected to retire soon, and some of them will need to be replaced. And occupations that have many jobs, high worker turnover, or many workers of



retirement age offer numerous opportunities, no matter what their level of growth.

Competition. If many qualified people are vying for jobs in an occupation, that occupation might be harder to enter. Occupations that are considered glamorous or prestigious, such as fashion designers and financial analysts, are often the most difficult to enter.

If an occupation has specific entry requirements, BLS economists can sometimes estimate how many people will qualify for future jobs and can compare that number with the number of projected job openings. This estimate of the expected supply of workers is based on historical data about the number of college degrees or technical certifications granted in subjects related to the occupation, information from technical journals and other relevant literature, interviews with occupational experts, and the judgment of the BLS economists who study the occupation.

Why employment is changing

Occupations gain or lose jobs because of different, often conflicting, forces. Demand for what an occupation's workers produce drives up the number of jobs in an occupation. At the same time, some innovation might make each worker more productive and, thus, reduce the number needed to create goods or provide services. Demand and innovation combine to change employment and affect job prospects.

Similarly, a change in technology, business practices, population, or some other element can drive growth in some occupations while slowing it in others. Automation, for example, may slow growth in some production occupations, but it may speed growth in occupations in which workers install or repair automation equipment.

This section highlights three of the most prevalent influences on employment gains or losses: changes in the demand for goods and services, increased worker productivity,

and new business practices. Each is discussed frequently in the outlook table.

Demand for goods and services. As the population grows, so too does demand for many goods and services. This increased demand often results in a greater need for workers who produce those goods and provide those services, which, in turn, generates employment growth in many occupations. For example, a growing population's demand for more roads increases the need for construction workers, surveyors, and landscape architects.

Beyond population growth, demographic changes in the population affect demand for goods and services and, by extension, employment. For instance, as baby boomers age, demand for services related to health-care—and for workers in occupations providing these services—is expected to increase.

At the same time, the number of children will increase, and those children will need education and supervision, creating many new jobs for teachers and child care workers.

Another factor affecting the demand for goods and services is economic growth. An increase in business activity leads to growth in many occupations, from secretaries to securities analysts. And rising incomes and greater affluence spur employment growth in occupations related to luxury goods and financial planning.

Technological change can also affect employment in many occupations. Advances in information technology, for example, are expected to increase demand for workers who write software, design and maintain computer networks, or otherwise help businesses take advantage of those advances. And continuing development in telecommunications technology and the Internet is spurring demand for writers, artists, and graphic designers who create content for Web sites and other media.

Changes in the law also affect the goods and services demanded and the jobs created. Stricter financial regulations, for example, heighten demand for accountants and auditors.

In the same way, shifting tastes change the goods and services demanded by



consumers. These changes lead, in turn, to changes in employment. Continued demand for motorcycles, for example, is expected to create new jobs for small engine mechanics to repair these vehicles. And concern about personal appearance will strengthen demand for skin care specialists.

Increased worker productivity. Computers, automated machinery, and other labor-saving technology reduce the number of workers needed to produce goods and provide services, thus lowering employment. This is why jobs for farmers are projected to decline even as the production of food increases.

Rising worker productivity slows job growth in many occupations. For example, the expected lack of job gains among assemblers—who generally work in factories making manufactured goods—is due, in part, to increased automation, improved manufacturing processes, and other productivity-boosting developments.

New business practices. Sometimes, organizations change the way in which they produce goods or provide services, and establishments might begin to hire more workers in one occupation to remain competitive. For example, rapid employment growth for management analysts is projected as organizations conduct more public opinion research and increase their marketing efforts to stay competitive.

How BLS develops projections

BLS economists analyze changing conditions, including the ones described above, to create specific estimates of job growth and decline. How do they do it? The process involves several steps.

Economists begin by estimating the total number of available workers based on population growth and labor force participation rates. Based on trends, they project demand for goods and services. The economists next project how employment will grow in the industries that provide those goods and services.

Finally, BLS economists analyze what types of work employers in those industries need. They estimate how many of an industry's jobs will be in a given occupation by researching production methods, business practices, and other factors—and analyzing how these elements are changing.

When making projections, economists rely on ongoing trends. But trends can change unexpectedly because of shifts in technology, consumer preferences, or trade patterns and because of natural disasters, wars, and other unpredictable events.

For more information about the employment projections program, visit online at www.bls.gov/emp or call (202) 691-5700.



A note about the economy in 2008

The usual practice for BLS is to prepare new projections every other year, with the base year of the projections decade being an even-numbered year. For this set of projections, the base year, 2008, happens to be during a significant downturn in the U.S. economy. Total employment of wage and salary workers fell by 532,000 between 2007 and 2008, and it continued to fall in 2009. The construction, manufacturing, and financial activities industry sectors, along with occupations that are concentrated in these industries, were hit particularly hard.


When developing long-term projections, however, the focus is on long-term trends in population, labor force, productivity, and output growth. The population and the labor force have been aging, and their growth rates are slowing. These long-term trends are expected to continue, regardless of the fluctuations in the economy. Readers should keep in mind, however, that the projected changes in employment between 2008 and 2018 usually include regaining part or all of the jobs that have been lost during the downturn.

Guide to the table

The table that follows is divided into sections that correspond with the 10 groups in the Standard Occupational Classification System. Use the index beginning on page 50 to find a specific occupation.

Employment data

The table provides a snapshot of how employment is expected to change in 289 occupations. For each occupation, it shows estimated employment in 2008, the projected numeric change in employment (that is, how many jobs are expected to be gained or lost) over the 2008–18 decade, and the projected percent change in employment (that is, the rate of job growth or loss). Then, a key phrase describes the rate of job growth as compared with other occupations (see box) and is followed by a summary of job prospects and factors affecting employment.

The employment data in the table come from the BLS National Employment Matrix, except where noted. The symbol  marks the occupations that are projected to grow much faster than average or to gain at least 200,000 new jobs.

Occupational groups

Occupations that have similar job duties are grouped according to the tasks that the workers in them perform. The table lists employment and outlook summaries for occupations in the following 10 groups:

Management, business, and financial.

Workers in these occupations establish plans and policies, manage money, and direct business activities.

Professional and related. Workers in this group perform a variety of skilled functions, such as diagnosing and treating illness, teaching, or designing.

Service. This group includes workers who assist the public in a number of ways, from providing child care services to providing community safety.

Sales and related. Workers in this group sell goods and services.

Office and administrative support. In these occupations, workers prepare and organize documents, provide information to the public, gather and deliver goods, and operate office software and equipment.

Farming, fishing, and forestry. Workers in this group tend and harvest renewable resources and manage forests and public parks.

Construction trades and related. Workers in these occupations build and repair homes, roads, and office buildings and other structures.

Installation, maintenance, and repair. These workers install and repair all types of goods and equipment.

Production. By operating machines and other equipment, workers in this group assemble goods or distribute energy.

Transportation and material moving. Workers in these occupations move people and materials.

The table also includes a statement about opportunities in the U.S. Armed Forces.

Key phrases in the “Brief”

For descriptions about changing employment between 2008 and 2018:

<i>If the description reads...</i>	<i>Employment is projected to...</i>
Much faster than average growth	Increase 20 percent or more
Faster than average growth	Increase 14 to 19 percent
About average growth	Increase 7 to 13 percent
Slower than average growth	Increase 3 to 6 percent
Little or no change	Decrease 2 percent to increase 2 percent
Moderate decline	Decrease 3 to 9 percent
Rapid decline	Decrease 10 percent or more

For descriptions about opportunities or prospects:

If an occupation is projected to have “very good” or “excellent” opportunities or prospects, then many openings are expected relative to the number of jobseekers. The reference does not address the quality of job openings or of the occupation’s wages.