Occupational Outlook Quarterly

U.S. Department of Labor
U.S. Bureau of Labor Statistics
Winter 2011–12

Inside, projections of:

Occupational employment

Labor force

Industry employment

Economic growth

Charting the projections: 2010–20

A special issue

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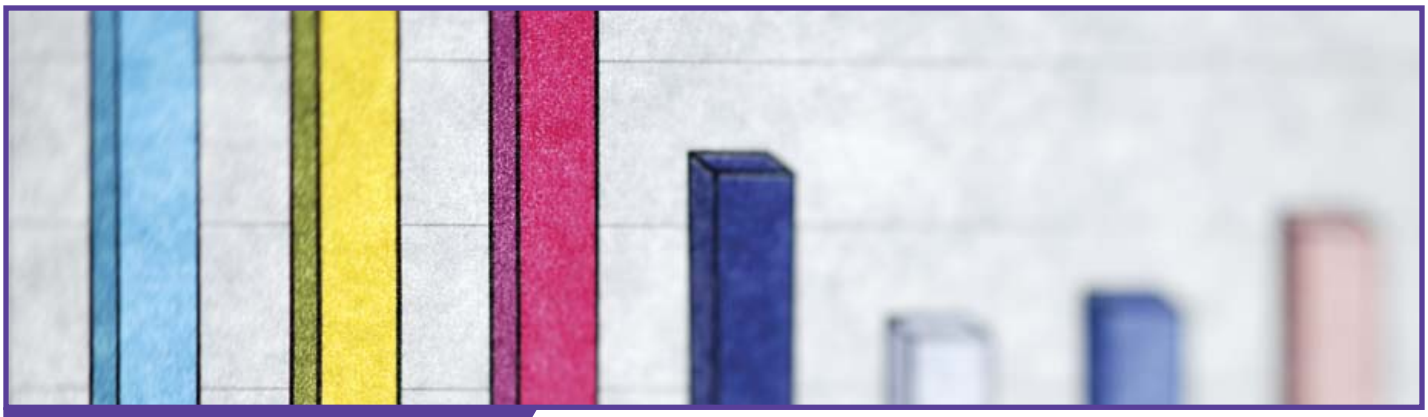
Charting the projections: 2010–20 (A special issue)



Getting started

by Dixie Sommers

In an uncertain economy, reliable information about tomorrow's labor market can be a valuable tool in career planning. Understanding the future workforce helps you prepare for your place in it.

When choosing among careers—or assisting others who are making such choices—it helps to know a few basics: the types and number of jobs likely to be available, the wages of workers in those occupations, and the typical ways of preparing for them. And that's just to get started.

The U.S. Bureau of Labor Statistics (BLS) provides this information and more. The 2012–13 *Occupational Outlook Handbook* describes hundreds of occupations in detail, cataloging data on employment, wages, projections, education, and job duties. And the January 2012 issue of the *Monthly Labor Review* includes comprehensive descriptions of the data, analysis, and methods BLS uses in the projections.

This special issue of the *Occupational Outlook Quarterly* offers a graphic summary of the latest projections, those covering the decade from 2010 to 2020.

How the recent recession affects the projections

Our usual practice 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, 2010, follows a severe downturn in the U.S. economy. Total employment of wage and salary workers fell by nearly 7.8 million between 2007 and 2010. The construction and manufacturing industry sectors, along with occupations that are concentrated in these industries, were hit particularly hard.

When developing long-term projections, our 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 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 2010 and 2020 include regaining jobs that were lost during the downturn. Total employment is projected to reach nearly 164 million by 2020, reflecting the addition of about 20 million new jobs between 2010 and 2020. About 7.8 million of these jobs are needed just to return total employment to its level before the recession.

The recession had a particularly severe impact on jobs in construction. Although employment in construction is projected to grow rapidly, it is not expected to return to its pre-recession employment level by 2020. Similarly, employment in the transportation and material moving and production occupations groups is also expected to grow, but not enough to return to 2006 levels.

Individual industry and occupation groups were affected in different ways by the recession. Some were severely affected, some mildly so, and others seem not to have been affected at all. Some industries and occupations are not expected to recover completely; others are expected to recover and have continued growth, and still others are projected to keep on growing.

Dixie Sommers is the Assistant Commissioner of the Office of Occupational Statistics and Employment Projections, BLS. She is available at (202) 691-5701 or at sommers.dixie@bls.gov.

The charts for occupations, the labor force, industries, and the overall economy depict the major findings beyond the trends in total employment.

Occupations

- The office and administrative support occupations group is expected to add the most new jobs and produce the largest number of job openings. (See pages 9–10.)
- Among all occupations, personal care aides and home health aides are expected to have the fastest employment growth. (See page 11.)
- Registered nurses, retail salespersons, and home health aides are expected to gain the most new jobs. Each of these occupations will add more than 700,000 jobs. (See page 12.)
- Most job openings for workers entering an occupation come from the need to replace workers who have left the occupation, rather than from the need to fill newly created jobs. The 20 occupations that are expected to have the most openings from growth and replacement needs are diverse. The list includes occupations from nine different groups, with the largest number from the office and administrative support occupations group and the sales and related occupations group. (See page 13.)
- The 20 occupations expected to have the most openings also range widely in 2010 median annual wages, from nearly $65,000 for registered nurses to about $18,000 for combined food preparation and serving workers, including fast food. (See page 13.)
- With these projections, BLS introduces a new way of depicting the education needed for entry into an occupation. The charts group occupations by typical entry-level education, from graduate degree to less than a high school diploma, and they also indicate whether workers typically need experience in a related occupation and whether they need training on the job after employment. In general, workers in occupations that typically need more education, experience, and training earn higher wages. (See pages 14–23.)
- Wage and salary employment of farmers, ranchers, and other agricultural managers is projected to decline. However, this occupation also had the most self-employed workers in 2020. (See pages 24–25.)

The labor force

- By 2020, the number of people in the labor force—those working or looking for work—is expected to increase by more than 10 million. This is a smaller gain than the more than 11 million people added to the labor force during the previous decade. (See page 27.)
- As the baby-boom generation ages, the number of people in the labor force ages 65 and older is projected to grow very rapidly, about 11 times faster than for the total labor force. The number in the 55- to 64-year-olds group is expected to grow nearly four times as fast as the total labor force. At the same time, younger age groups in the labor force are expected to either decline or increase at much slower rates. (See page 28.)
- Labor force participation rates are projected to decline slightly for both men and women by 2020, when about 68 percent of men and 57 percent of women are expected to be in the labor force. The annual growth of the labor force participation rate for women (0.7 percent) is expected to be slightly higher than that for men (0.6 percent). (See page 29.)
- The labor force will continue to become more diverse. The share of the labor force that is Asian, black, or in other non-white race groups is expected to increase to 21 percent, up from 19 percent a decade earlier. And Hispanics are expected to constitute nearly 19 percent of the labor force in 2020, up from 15 percent in 2010. (See pages 30 and 32.)

(Continued on page 5)

About the sections

The charts project 2010–20 changes in occupational employment, the labor force, industry employment, and the overall economy. You will get the most out of the charts if you understand how BLS publishes data in these areas.

"Occupation" classifies jobs according to the type of work performed. People who provide routine health care to individuals in their homes are in the occupation of home health aides, for example.

"Industry," on the other hand, classifies jobs in businesses according to the type of good produced or service provided. For example, any job in hospice care services—from home health aide to secretary—is classified as part of the home health care services industry.

"Labor force" is a measure of the number of people available for work. It includes both individuals who are employed and those who are unemployed (those not working but actively looking for a job).

"Overall economy" includes several concepts. The most important is the value of final goods produced and services provided, which is known as the gross domestic product, or GDP.

Reading the charts

The charts in this issue provide graphic answers to some basic questions about employment: How many new jobs will there be? How fast is the number of jobs changing? How many job openings will be available for new entrants to the labor force?

How many new jobs will there be? Charts that show numeric change illustrate how many new jobs there will be (the actual number of jobs gained or lost over the projections decade). In general, the occupations and industries with the greatest numeric increases are those that already have large numbers of workers.

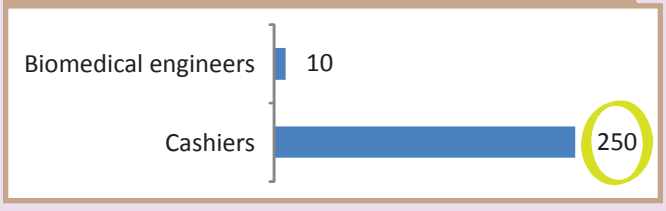
How fast is the number of jobs changing? Charts showing percent change illustrate how fast the number of jobs is changing (the rate of job growth or decline during the decade). The fastest rates of growth are usually found in occupations and industries that have fewer workers.

Fast growth does not always mean many new jobs. See, for example, the charts below. They show the projected increase in employment for cashiers compared with that for biomedical engineers. In numeric terms, as shown in the chart at upper left, more than 25 times as many new jobs are projected for cashiers as for biomedical engineers between 2010 and 2020.

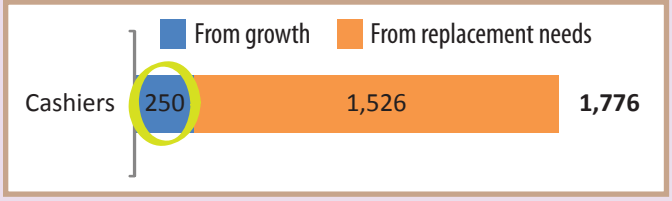
Percent change tells a different story. As the chart at lower left shows, employment of biomedical engineers is expected to grow more than 8 times faster than that of cashiers—even though biomedical engineers are projected to gain fewer jobs.

How many job openings will there be? Some charts go beyond showing the expected change in the total number of jobs and show how many job openings are expected for workers who are new to an occupation. Job openings for workers new to an occupation include not only openings from growth in the number of jobs but also openings from the need to replace workers who retire or leave an occupation for some other reason. The chart below at right shows how many job openings for cashiers are expected to result from job growth and how many are expected to result from the need to replace existing cashiers who leave the occupation.

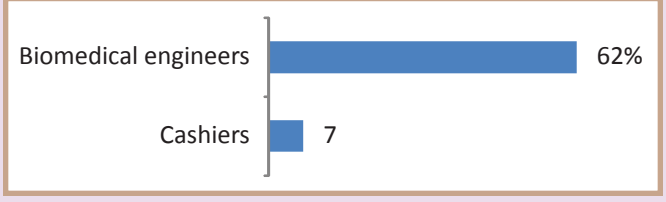
Numeric employment growth in two occupations, projected 2010–20, in thousands of jobs



Job openings for cashiers, projected 2010–20, in thousands of openings



Percent employment growth in two occupations, projected 2010–20



(Continued from page 3)

Industries

- Job growth over the 2010–20 decade will be concentrated in service-providing industries. In 2020, service-providing industries are expected to account for 131 million out of 150 million wage and salary jobs overall. (See page 34.)
- The health care and social assistance sector is projected to gain the most new jobs, more than 5.6 million, as well as to be the fastest growing, increasing by 34 percent over the decade. Employment is expected to grow slowly in mining but to decline in manufacturing and the federal government. (See page 36.)
- Among detailed industries, the home health care services industry is projected to be the fastest growing, with an increase of 81 percent. The next fastest growing detailed industry, individual and family care services, is projected to grow by 70 percent over the decade. (See page 37.)
- Among goods-producing industries, the construction sector is projected to gain the most new jobs, 1.8 million. All of this growth is to regain jobs lost during the 2007–09 recession, however, and the construction sector is not projected to regain enough jobs to return to its employment level before the recession. (See page 38.)

Overall economy

- The overall growth in the economy, as measured by gross domestic product (GDP), is projected to increase by 3.0 percent per year, on average, between 2010 and 2020. This is much faster than the 1.6 percent annual growth for 2000–10, which was pulled down by two recessions during the decade, including the severe 2007–09 downturn. Slow growth rates for most components of GDP reflect that downturn and the fact that the economy had not fully recovered by 2010. (See page 42.)

How we develop the BLS projections

BLS economists in the Office of Occupational Statistics and Employment Projections develop the projections in a number of steps, first analyzing broad trends and then examining several hundred industries and occupations.

We begin with how much the U.S. population and labor force are expected to grow over the next 10 years. We use population projections from the U.S. Census Bureau, which take into account trends in births, deaths, and immigration. We combine the population projections with our own estimates of what portion of the population will be in the labor force, based on historical trends for each age, gender, and race or ethnic group. The result is a projection of the labor force—an estimate of the total supply of workers in the future economy.

We then create a model of an economy that is operating at full potential, given the labor force and several other factors. Using this framework, we estimate the dollar value of each industry's total output of goods or services. Some of these goods and services are sold to other industries; for example, steel is used in making cars. Other output—such as the cars themselves or the repair services for maintaining them—is sold directly to consumers.

We also study trends in productivity—the amount of output produced per hour of work—and use this information to translate projected output into the number of jobs needed in each industry to produce these goods and provide these services.

Next, we project how the jobs in each industry will be distributed by occupation. To do this, we make extensive use of the BLS Occupational Employment Statistics survey, as well as of information from other sources for sectors that are not covered by the survey, to depict how employment in each of nearly 300 industries is distributed across more than 700 occupations. (For the 2010–20 projections, we used 2010 employment data.) We analyze how this distribution is likely to change over the decade by studying trends in technology, changing skill requirements, and other factors. Using this analysis, along with the survey data and our industry employment projections, we project employment by occupation—in this set of projections, for 2020.

Our projection methods are based on the fact that employment trends in most occupations are closely tied to the trends in particular industries. For example, in 2010, about 59 percent of registered nurses worked in hospitals. So an increase in the demand for hospital services between 2010 and 2020 will increase the need for these workers. Based on changes in demand, we project that the real output of the hospital industry will increase over the decade, and about 389,200 more registered nurses will be needed in hospitals to provide this output. As a result, this industry is projected to account for about 55 percent of the roughly 711,900 new jobs for registered nurses.

Occupational employment

When choosing a career, jobseekers often want to know which occupations offer the best prospects. Generally, occupations that have rapid job growth, many new jobs, or many job openings—and good wages—promise better opportunities.

This section shows how employment in particular occupations is projected to change from 2010 to 2020. Many of the charts in this section show which occupations or occupational groups are expected to grow fastest (highest percent growth) or gain the most jobs (highest numeric growth).

Between 2010 and 2020, overall employment is projected to grow by about 14 percent. This rate is shown as a dotted vertical line in the chart on page 11.

But when it comes to employment prospects, job growth tells only part of the story. Job openings for workers also come from the need to replace workers who retire or permanently leave an occupation for other reasons. Some charts show which occupations are expected to have the most openings for workers who are entering the occupation. These charts show projected openings both from job growth and from replacement needs (the need to replace workers who leave).

Growth by occupational group

Most charts in this section focus on detailed occupations. To better illustrate general employment trends, however, charts at the beginning of the section show employment growth in broad groups of similar occupations.

The federal government classifies workers into categories using the Standard Occupational Classification (SOC) system. All of the SOC occupations are included in these 12 broad groups:

Management, business, and financial occupations. Examples include logisticians, construction managers, and personal financial advisors.

Computer, engineering, and science occupations. Examples are computer programmers, nuclear engineers, landscape architects, chemists, and political scientists.

Education, legal, community service, arts, and media occupations. Examples include teachers, court reporters, social workers, graphic designers, and editors.

Healthcare practitioners and technical occupations. Examples of these workers include dentists, physical therapists, and veterinarians.

Service occupations. This group includes workers who assist the public, including healthcare support occupations. Firefighters, dental assistants, bartenders, barbers, and pest control workers are examples.

Sales and related occupations. Examples include cashiers, insurance sales agents, and retail salespersons.

Office and administrative support occupations. Examples include order clerks, customer service representatives, tellers, and medical secretaries.

Farming, fishing, and forestry occupations. Examples include forest and conservation workers, animal breeders, and logging equipment operators. Workers who manage farms or ranches are counted in the management occupations group rather than in this group.

Construction and extraction occupations. This group includes workers in construction and building trades, such as boilermakers and roofers. It also includes occupations in oil and gas extraction and mining, such as roustabouts and mining machine operators.

Installation, maintenance, and repair occupations. Examples include home appliance repairers, millwrights, and small engine mechanics.

Production occupations. Examples include machinists, power plant operators, welders, and tailors.

Transportation and material moving occupations. Examples include air traffic controllers, railroad conductors, taxi drivers, and dredge operators.

Growth by education assignment

To help guide students and jobseekers, some charts show occupations by education assignment. These charts are grouped by the typical level of education most workers need to enter an occupation: graduate degree, bachelor's degree, associate's degree, postsecondary non-degree award, high school diploma or equivalent, and less than a high school diploma.

- Completion of a graduate degree typically requires a bachelor's degree plus 1 or 2 years of full-time study for a master's degree or at least 3 years of full-time study for a doctoral or professional degree.
- Completion of a bachelor's degree typically requires at least 4 years of full-time study beyond high school.
- Completion of an associate's degree typically requires 2 years of full-time study beyond high school. Postsecondary non-degree award programs typically last from several weeks to 1 year or more beyond high school.

Although the charts in this section are arranged by education assignment, columns within each chart also provide information about the experience and training assignments for the occupations. Assignments for work experience in a related occupation are indicated in the appropriate column as follows: more than 5 years (5+), 1 to 5 years (1–5), less than 1 year (<1), or none (N).

Assignments for on-the-job training typically needed to attain competency are indicated in the appropriate column as follows: internship/residency (I/R), apprenticeship (A), long-term (L), moderate-term (M), short-term (S), or none (N).

- Internship and residency assignments include only those required for workers to be employed in an occupation. They may be paid or unpaid and vary from 1 to 8 years.
- Apprenticeships combine paid on-the-job training with occupation-specific instruction. Most programs last between 3 and 5 years.
- Long-term on-the-job training lasts more than 12 months and includes either on-the-job training or combines work experience with formal instruction.
- Moderate-term on-the-job training includes informal instruction and on-the-job training that lasts between 1 and 12 months.
- Short-term on-the-job training includes informal, on-the-job training or experience of 1 month or less.

For complete information, see **www.bls.gov/emp/ep_education_training_system.htm**.

Wages

Wages include hourly, weekly, or annual pay that people receive for the work that they do. Sales commissions, tips, and production bonuses also are part of the wages shown in these charts, but overtime and nonproduction bonuses are not.

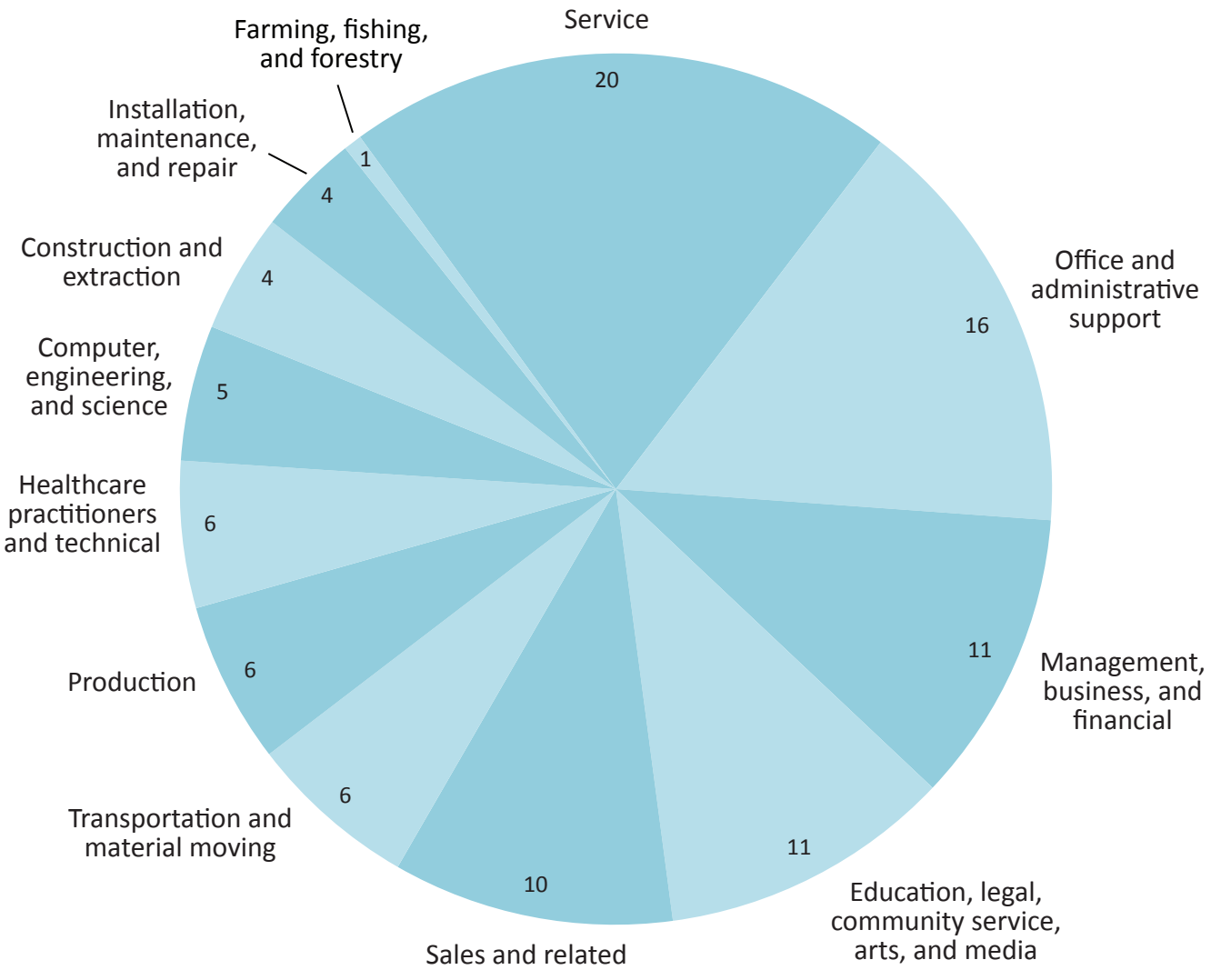
For individual occupations, most charts include 2010 median annual wage data from the BLS Occupational Employment Statistics (OES) program. The median wage is the point at which half of the workers in an occupation earned more than the amount, and half earned less. In May 2010, the median annual wage for all workers was $33,840.

The highest median annual wage among the occupations in a given chart is in **boldface** type. For occupations with a median annual wage of more than $166,400, a specific wage figure is not given because the OES survey does not publish wage data above this amount. In these cases, the charts show that the median wage was greater than or equal to (≥) $166,400.

Wages in these charts are for wage and salary workers only. Self-employed workers are not included in these measurements.

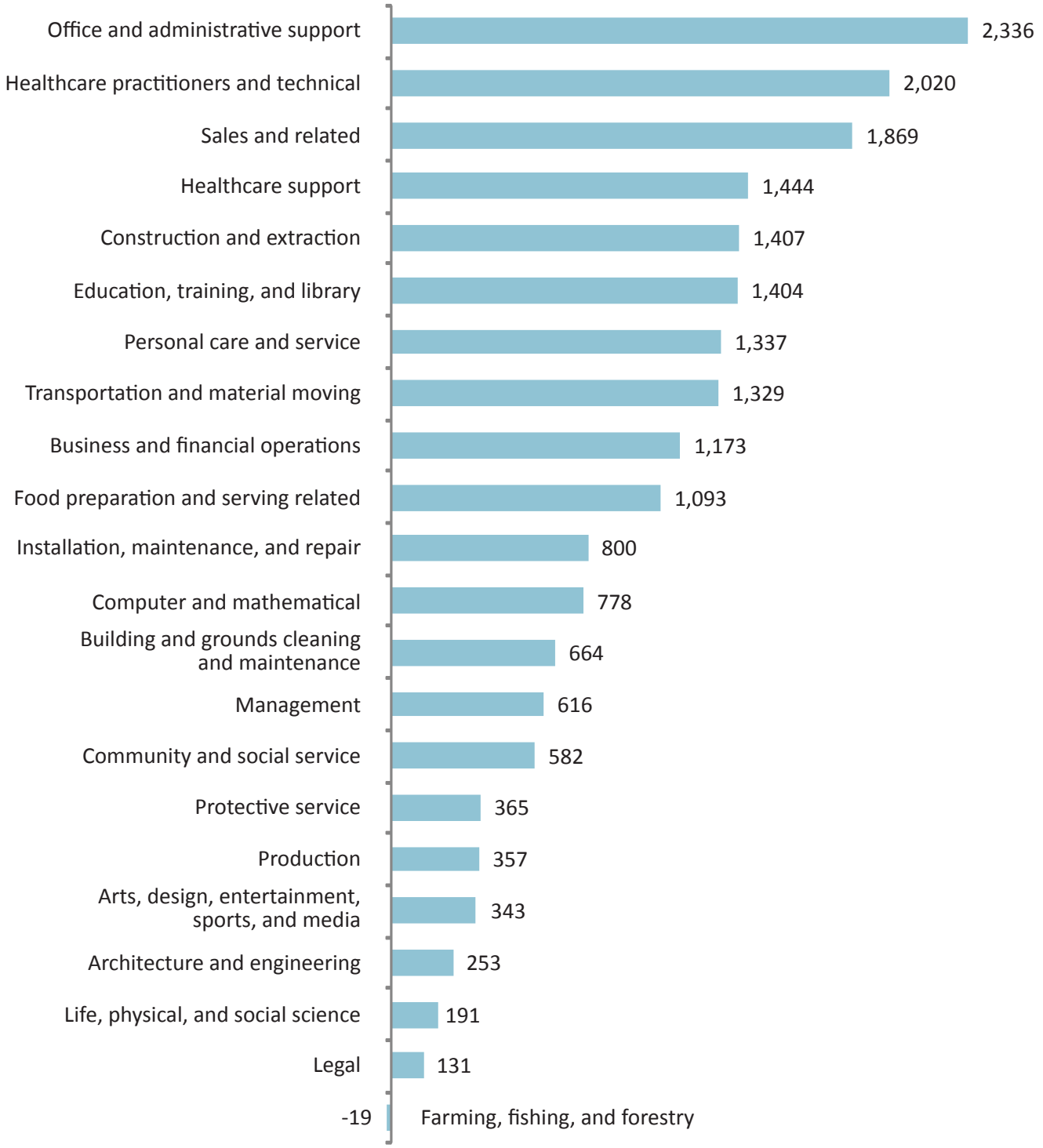
Employment, 2010

Percent distribution of employment by aggregate occupational group, 2010



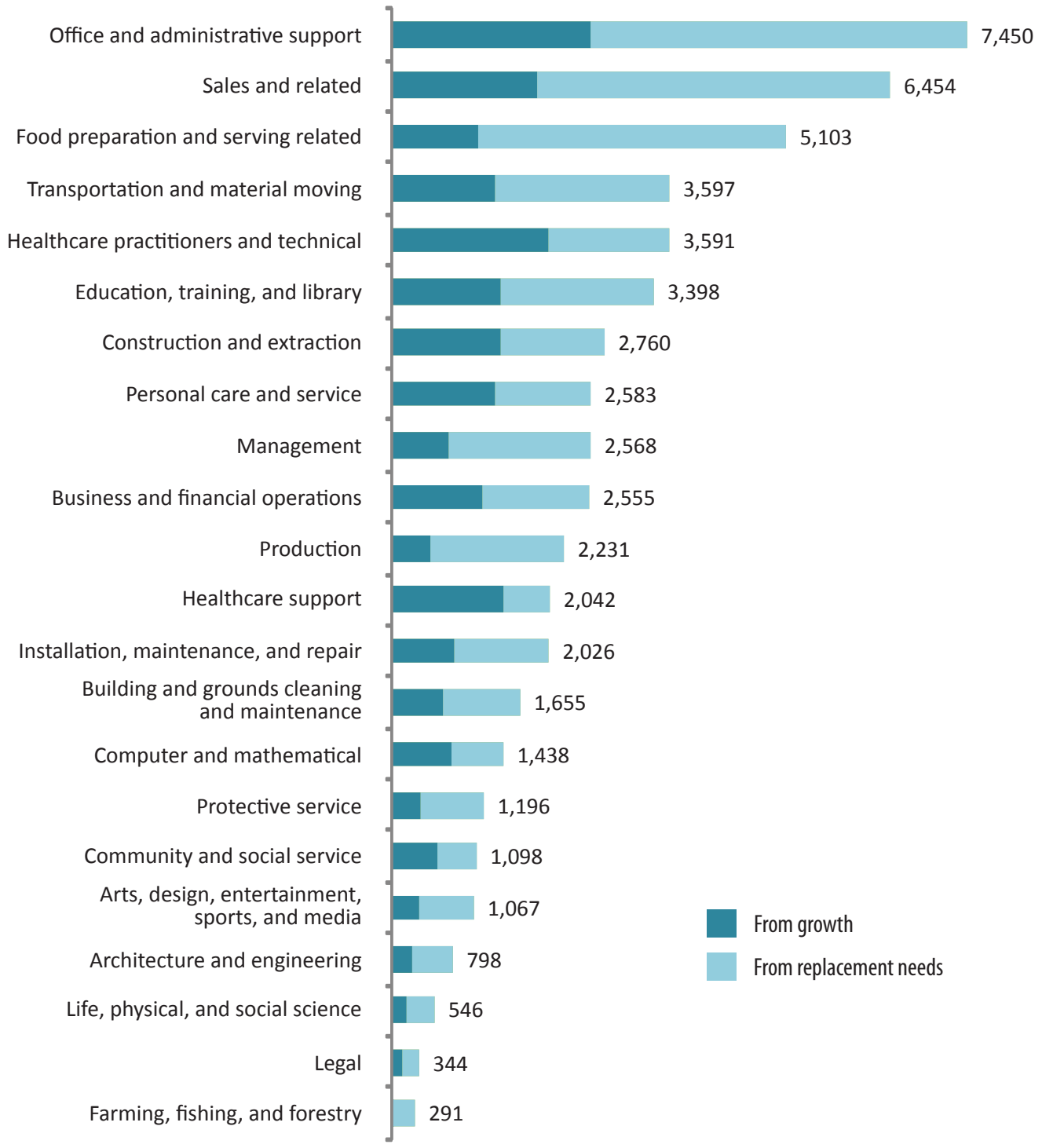
Occupations that have similar job duties are grouped according to the tasks that the workers in those occupations perform. This chart shows the aggregated occupational groups from the 2010 Standard Occupational Classification (SOC) system. For example, the computer, engineering, and science group in this chart includes computer and mathematical occupations; architecture and engineering occupations; and life, physical, and social science occupations.

Numeric change in employment by major occupational group, projected 2010–20, in thousands of jobs



This chart shows the 22 major occupational groups from the SOC. All of the major groups except one are projected to gain jobs.

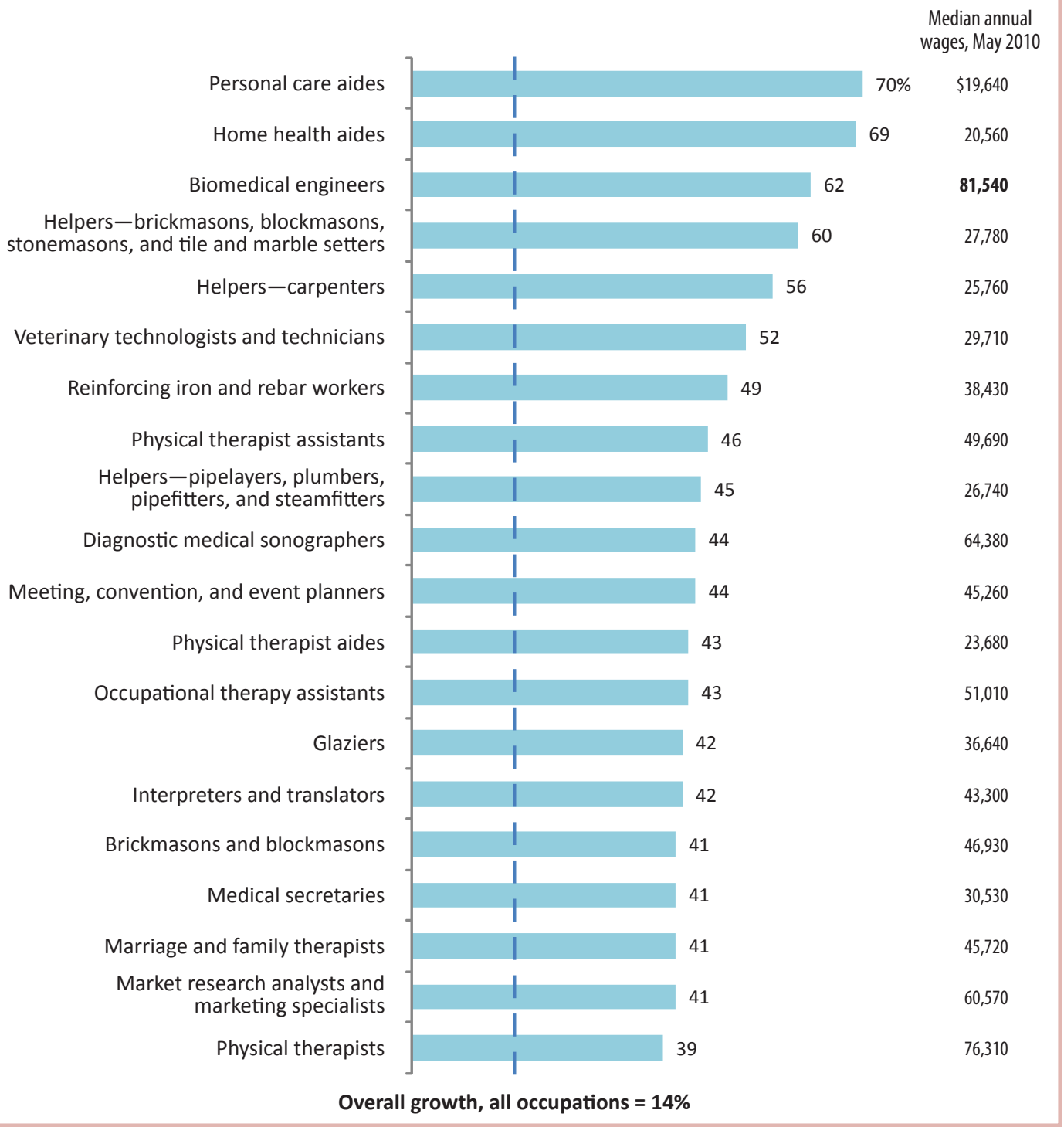
Job openings by major occupational group, projected 2010–20, in thousands of openings



Employment prospects depend on more than job growth. Openings for new workers occur not only when jobs are added to the economy but also when current workers leave an occupation permanently. In most occupations, the need to replace workers who leave an occupation is expected to create more openings than job growth will.

Fastest growing occupations

Percent growth in employment, projected 2010–20



Six of the occupations in this chart are construction occupations. The construction and extraction occupations group is projected to grow rapidly, by about 22 percent, and add 1.4 million jobs. However, employment in 2020 in this group is expected to remain below its 2006 level, before the 2007–09 recession.

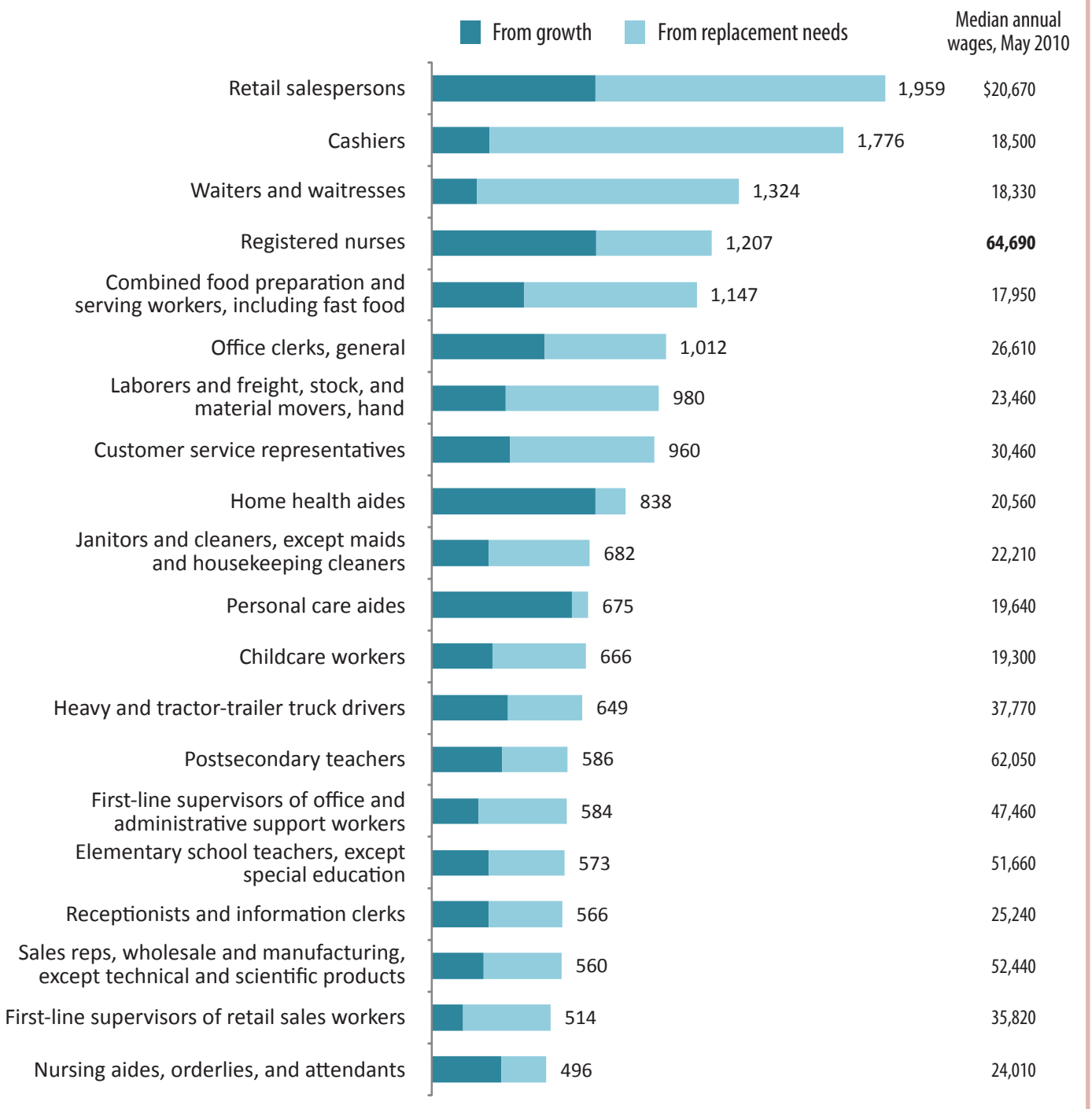
Most new jobs

Numeric growth in employment, projected 2010–20, in thousands of jobs

These 20 occupations are projected to gain the most new jobs between 2010 and 2020 and account for about 36 percent of all jobs projected to be added over the decade. These occupations have a range of wages, job duties, and education and training requirements. Registered nurses had the highest wage in May 2010 among occupations projected to gain the most new jobs.

Most job openings

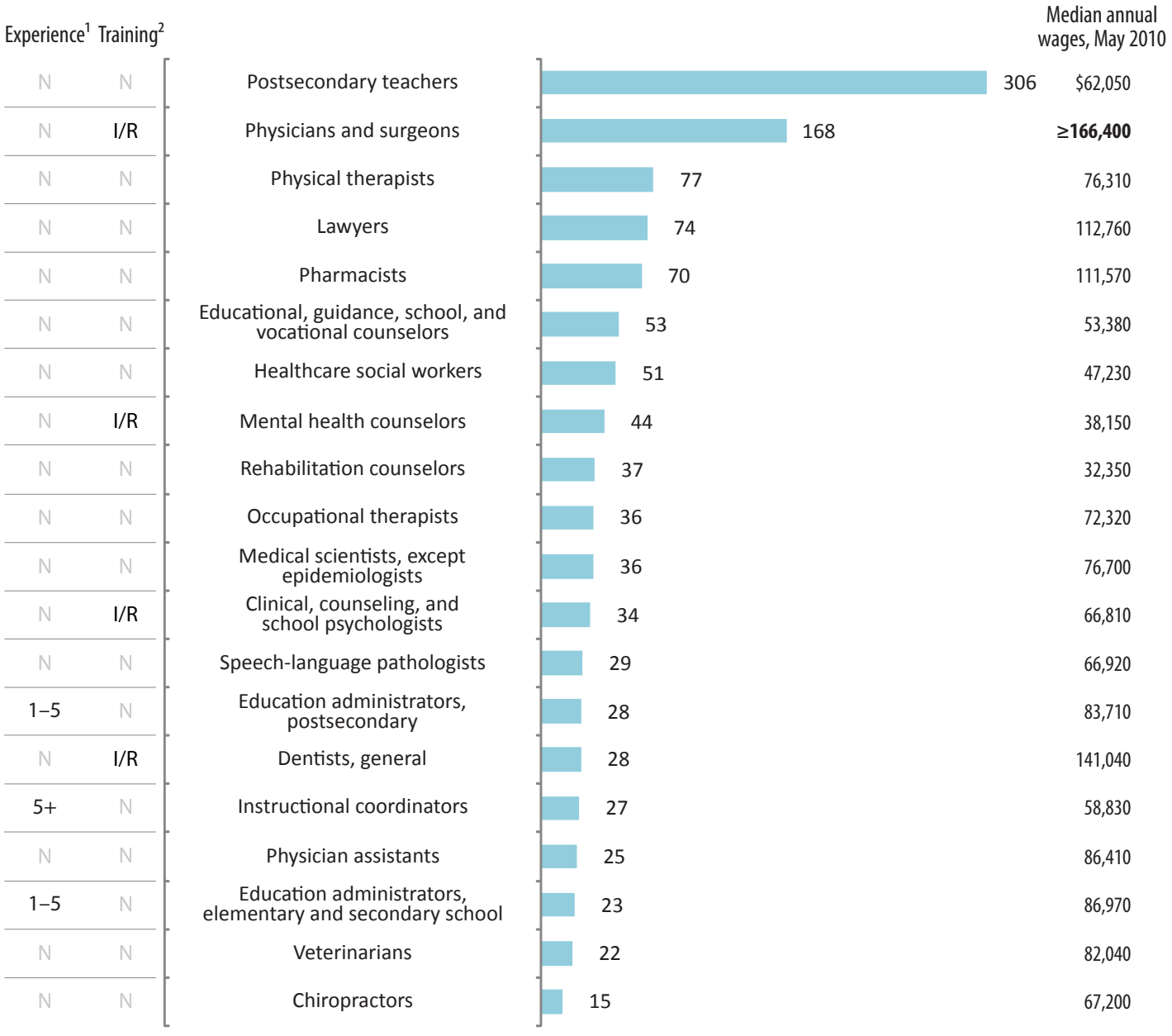
Job openings due to growth and replacement needs, projected 2010–20, in thousands of openings



Retail salespersons and cashiers are expected to have the most job openings over the projections decade. For most of the occupations in this chart, the need to replace workers leaving the occupation is projected to create more openings than job growth will.

Graduate degree

Occupations that have the most growth and have a master's, doctoral, or professional degree as the typical level of education needed to enter the occupation, projected 2010–20, in thousands of jobs



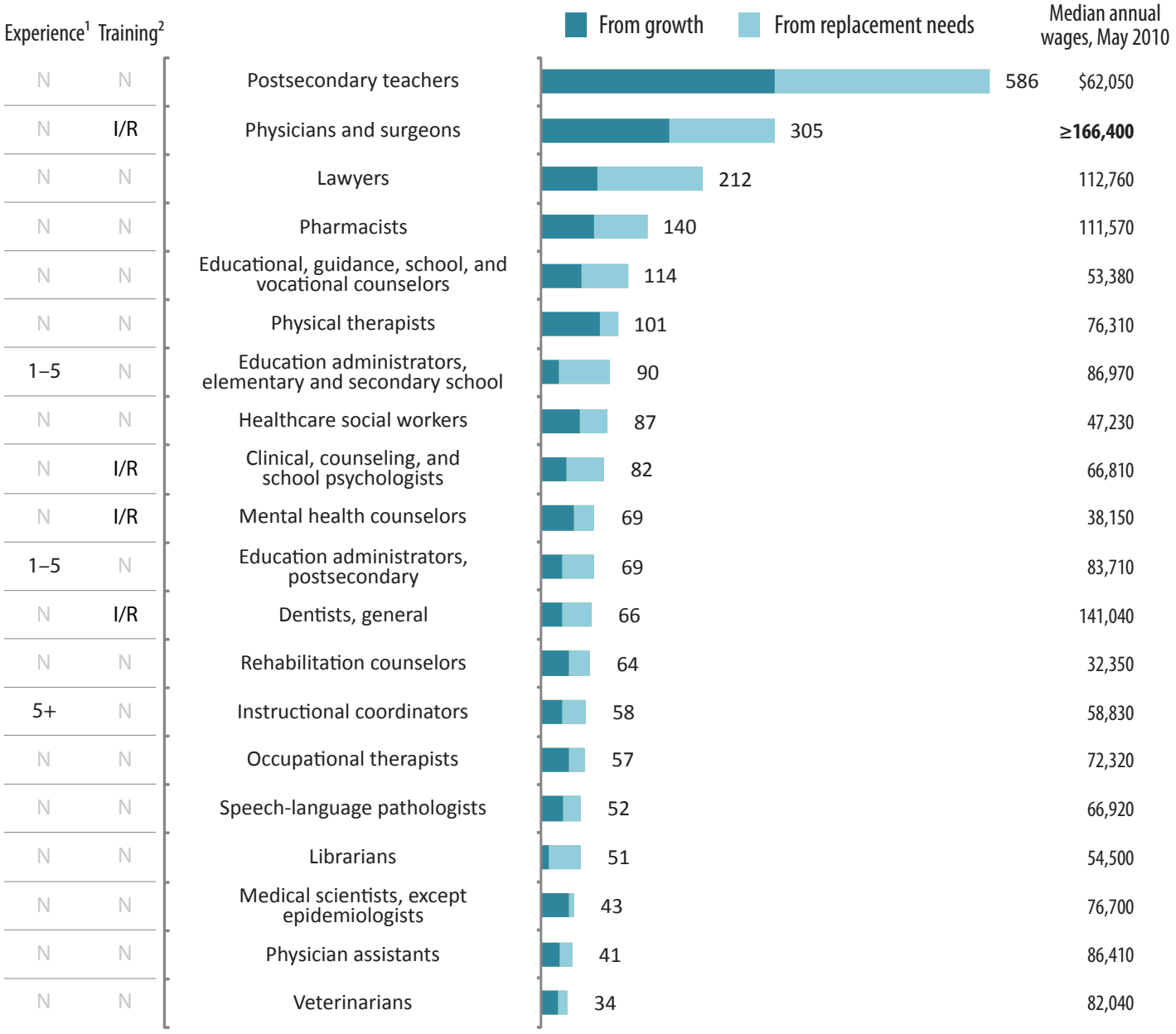
[1] *Indicates whether* ***work experience in a related occupation*** *is also typically needed for entry into the occupation. Assignments are more than 5 years (5+), 1–5 years (1–5), less than 1 year (<1), or none (N).*

[2] *Indicates whether* ***on-the-job training is typically needed to attain competency in the occupation****. Assignments are internship/residency (I/R), apprenticeship (A), long-term (L), moderate-term (M), short-term (S), or none (N).*

Most high-growth occupations in these educational categories are related to healthcare, education, and social services. The projected increase in the number of postsecondary teachers reflects expanding college enrollments.

Graduate degree

Occupations that have the most job openings and have a master's, doctoral, or professional degree as the typical level of education needed to enter the occupation, projected 2010–20, in thousands of openings



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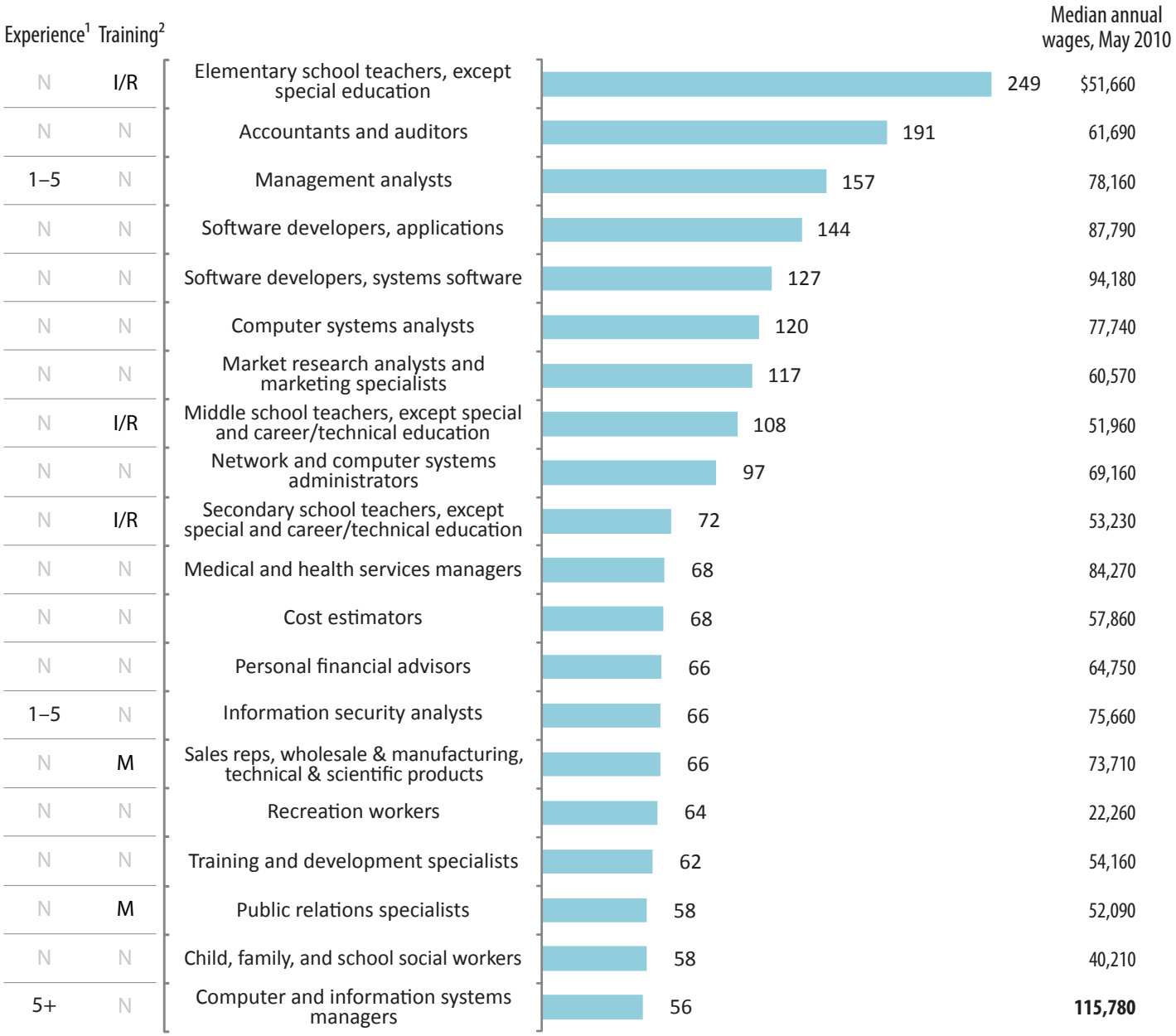
[2] *Indicates whether **on-the-job training is typically needed to attain competency in the occupation**. Assignments are internship/residency (I/R), apprenticeship (A), long-term (L), moderate-term (M), short-term (S), or none (N).*

Workers in seven of the occupations in this chart typically need either experience or training in addition to a graduate degree.

Bachelor's degree

Occupations that have the most growth and have a bachelor's degree as the typical level of education needed to enter the occupation, projected 2010–20, in thousands of jobs



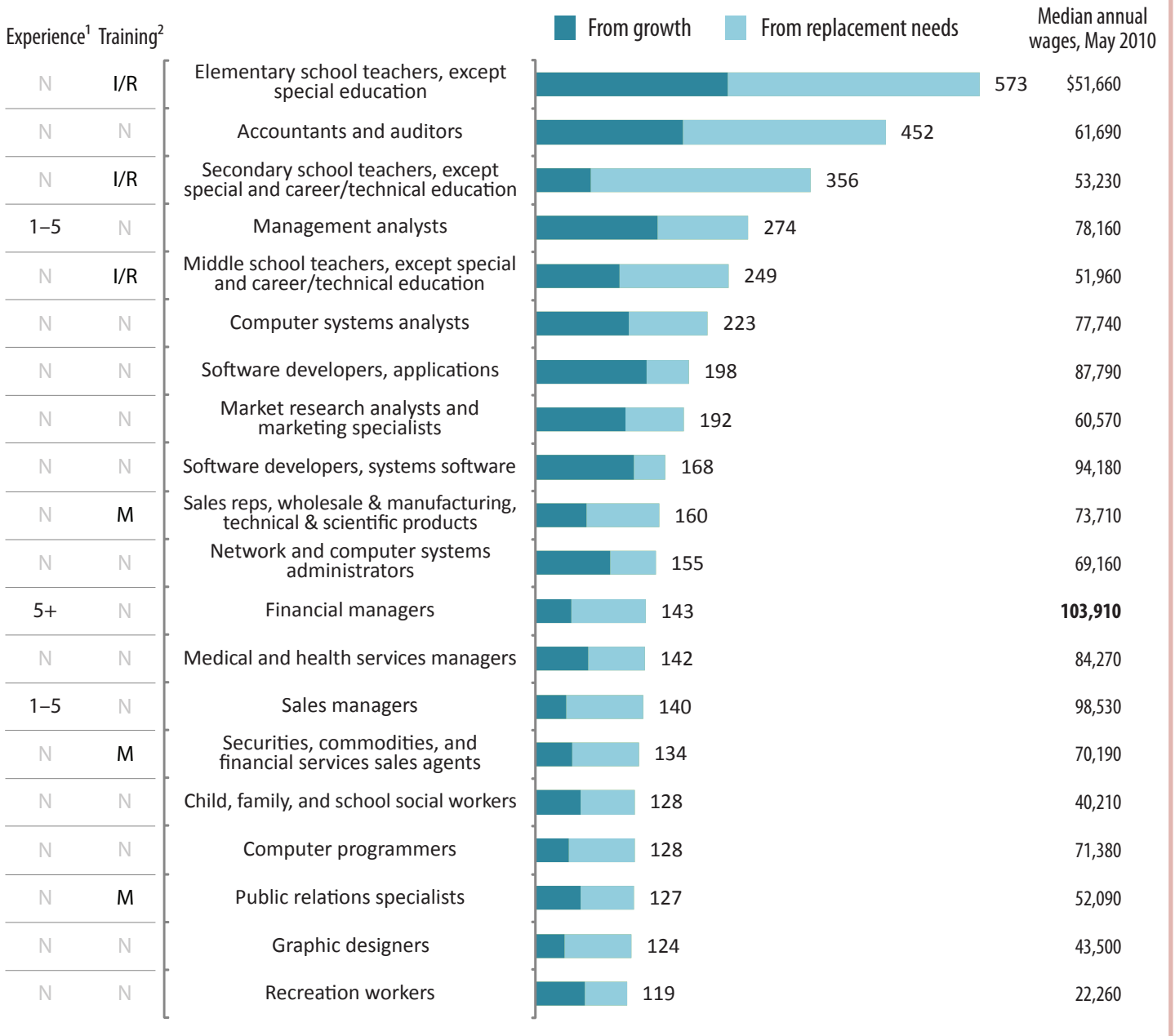
[1] *Indicates whether **work experience in a related occupation** is also typically needed for entry into the occupation. Assignments are more than 5 years (5+), 1–5 years (1–5), less than 1 year (<1), or none (N).*

[2] *Indicates whether **on-the-job training is typically needed to attain competency in the occupation**. Assignments are internship/residency (I/R), apprenticeship (A), long-term (L), moderate-term (M), short-term (S), or none (N).*

Of the occupations shown here, computer and information systems managers had the highest wage in May 2010. They typically need more than 5 years of experience in a related occupation.

Bachelor's degree

Occupations that have the most job openings and have a bachelor's degree as the typical level of education needed to enter the occupation, projected 2010–20, in thousands of openings



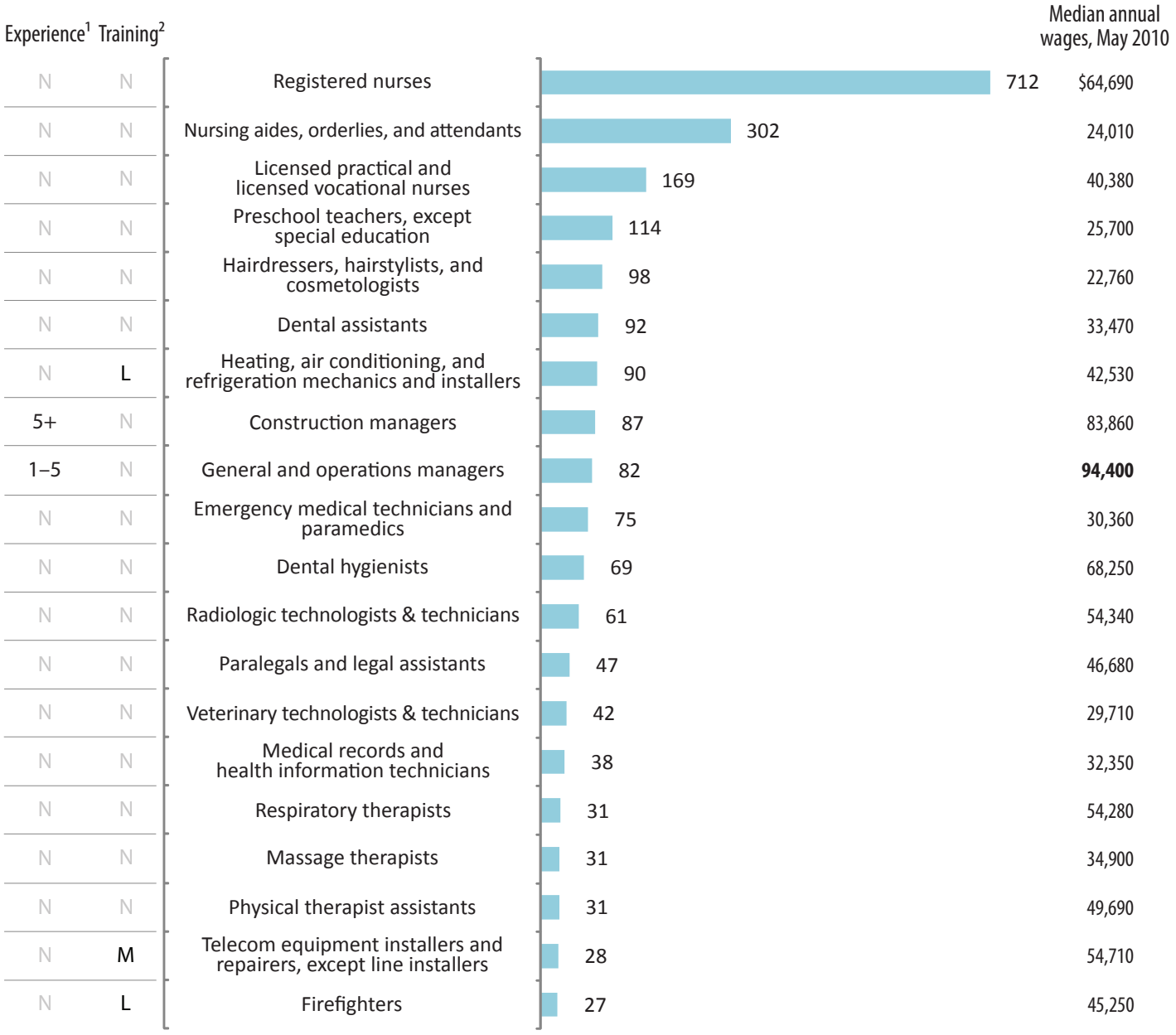
[1] *Indicates whether* ***work experience in a related occupation*** *is also typically needed for entry into the occupation. Assignments are more than 5 years (5+), 1–5 years (1–5), less than 1 year (<1), or none (N).*

[2] *Indicates whether* ***on-the-job training is typically needed to attain competency in the occupation****. Assignments are internship/residency (I/R), apprenticeship (A), long-term (L), moderate-term (M), short-term (S), or none (N).*

The large number of projected openings for teachers reflects the size of teaching occupations, the need to replace teachers who are expected to retire, and rising student enrollments.

Associate's degree or postsecondary non-degree award

Occupations that have the most growth and have an associate's degree or postsecondary non-degree award as the typical level of education needed to enter the occupation, projected 2010–20, in thousands of jobs



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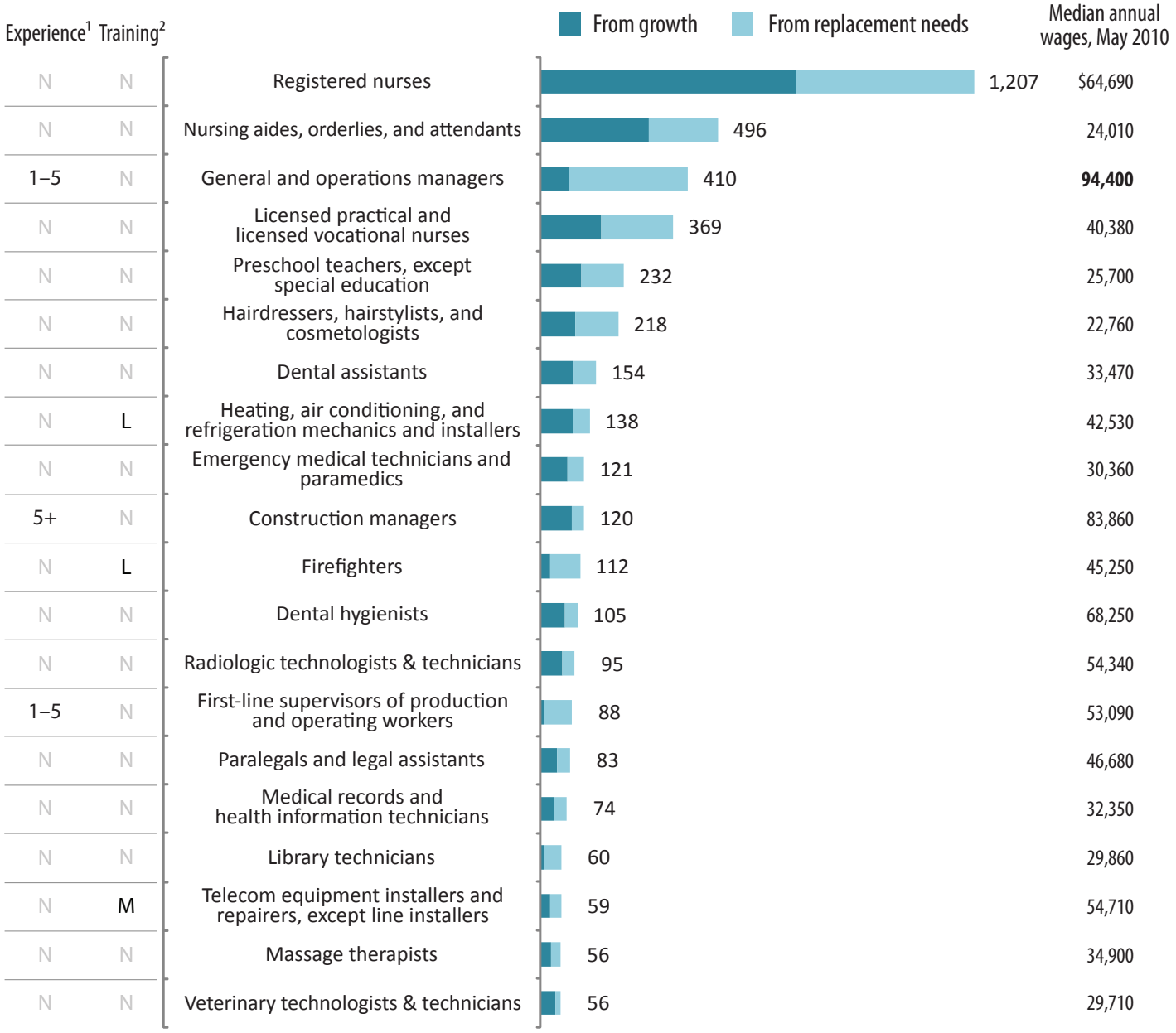
[2] *Indicates whether **on-the-job training is typically needed to attain competency in the occupation**. Assignments are internship/residency (I/R), apprenticeship (A), long-term (L), moderate-term (M), short-term (S), or none (N).*

At these levels of education, occupations that are projected to gain the most jobs are largely related to healthcare, reflecting the growing medical needs of an aging population.

Associate's degree or postsecondary non-degree award

Occupations that have the most job openings and have an associate's degree or postsecondary non-degree award as the typical level of education needed to enter the occupation, projected 2010–20, in thousands of openings



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[2] *Indicates whether **on-the-job training is typically needed to attain competency in the occupation**. Assignments are internship/residency (I/R), apprenticeship (A), long-term (L), moderate-term (M), short-term (S), or none (N).*

Over the 2010–20 decade, registered nurses are expected to have more than twice as many job openings as any other occupation with these levels of education.

High school diploma or equivalent

Occupations that have the most growth and have a high school diploma or equivalent as the typical level of education needed to enter the occupation, projected 2010–20, in thousands of jobs

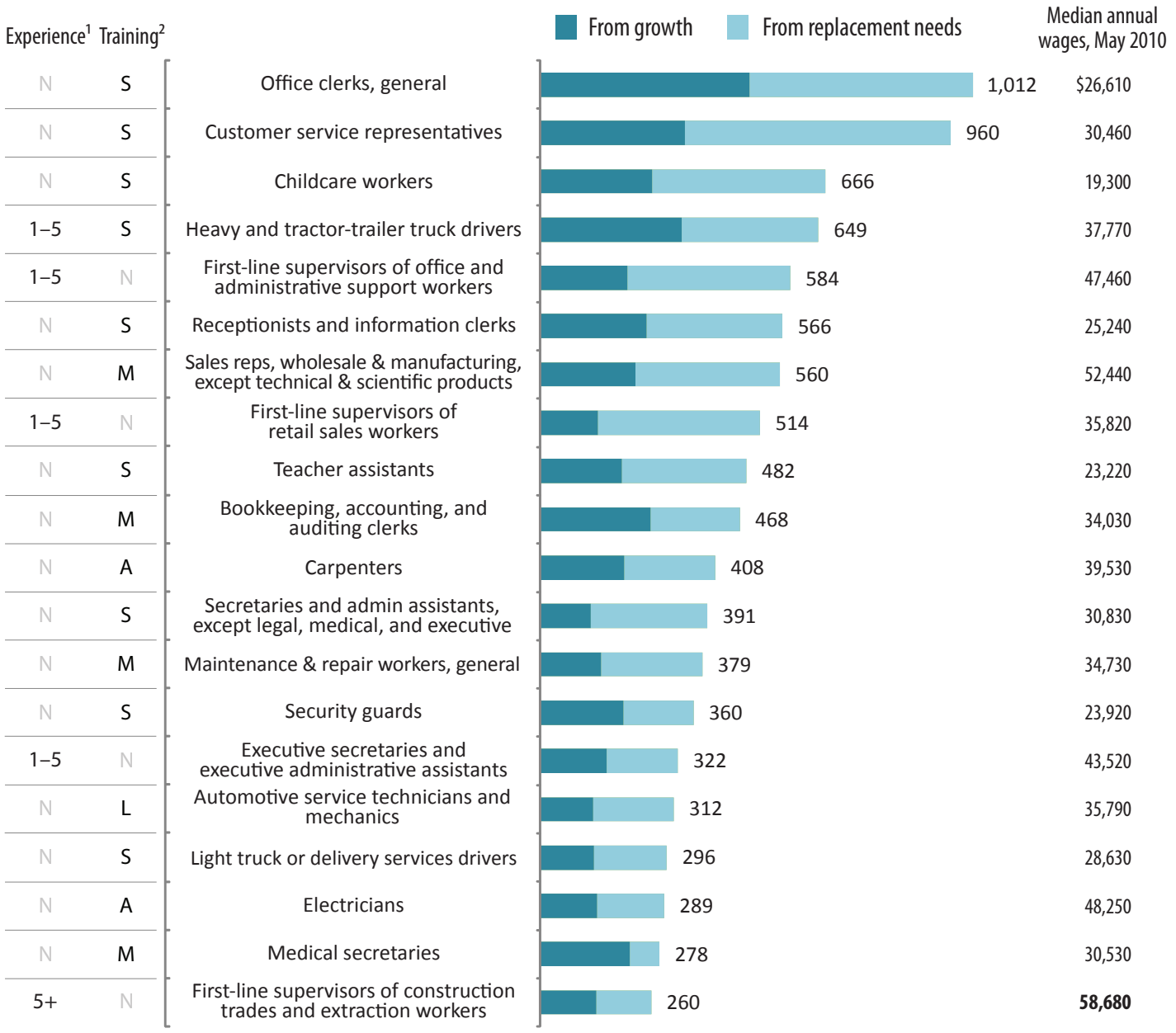
[1] *Indicates whether **work experience in a related occupation** is also typically needed for entry into the occupation. Assignments are more than 5 years (5+), 1–5 years (1–5), less than 1 year (<1), or none (N).*

[2] *Indicates whether **on-the-job training is typically needed to attain competency in the occupation**. Assignments are internship/residency (I/R), apprenticeship (A), long-term (L), moderate-term (M), short-term (S), or none (N).*

Occupations at this education level need different types of training, ranging from short-term on-the-job training to apprenticeships. The four fastest growing occupations in this chart typically need short-term on-the-job training.

High school diploma or equivalent

Occupations that have the most job openings and have a high school diploma or equivalent as the typical level of education needed to enter the occupation, projected 2010–20, in thousands of openings



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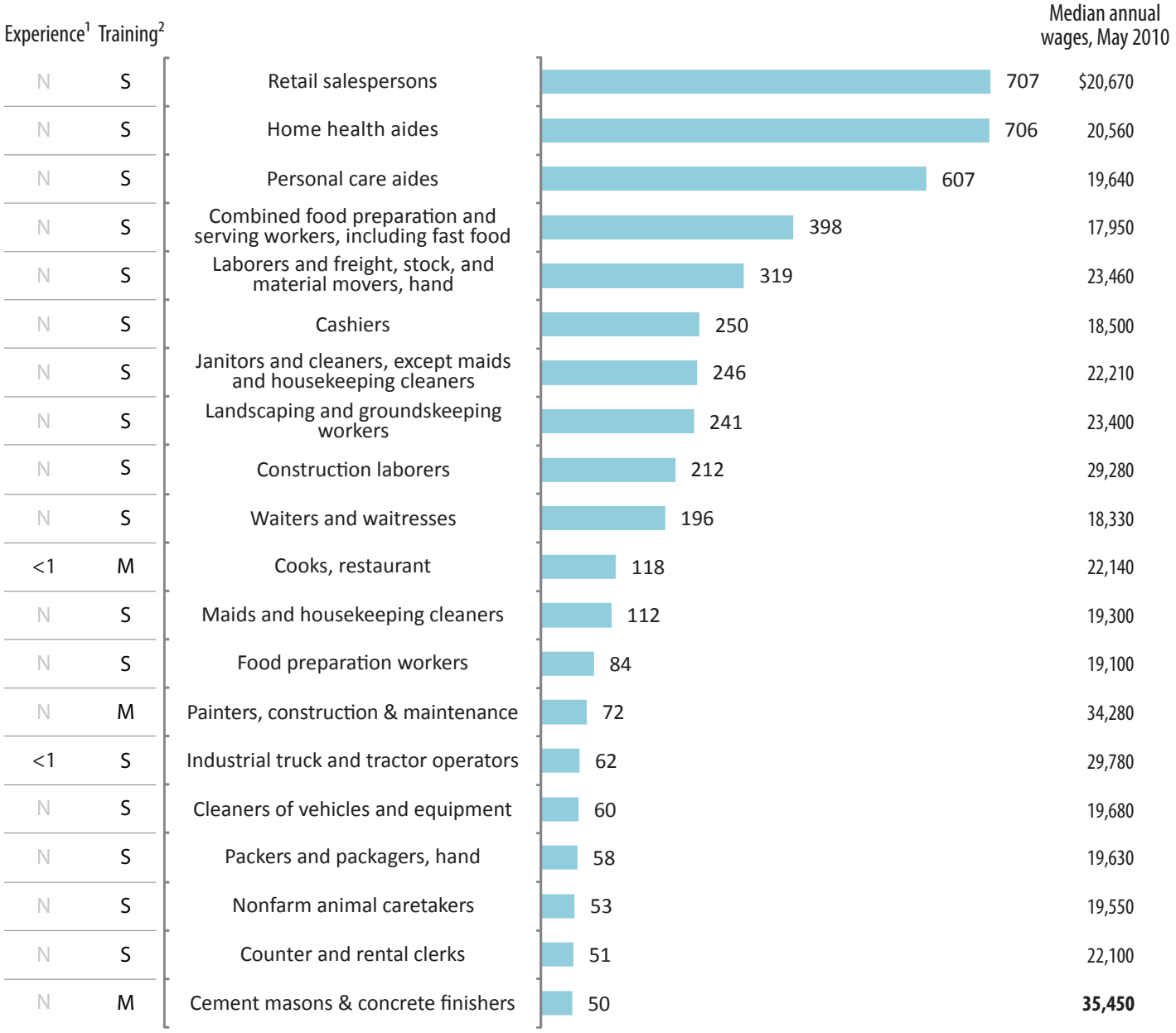
[2] *Indicates whether* ***on-the-job training is typically needed to attain competency in the occupation****. Assignments are internship/residency (I/R), apprenticeship (A), long-term (L), moderate-term (M), short-term (S), or none (N).*

Of the occupations shown here, first-line supervisors of construction trades and extraction workers had the highest wage in May 2010. They also typically need more than 5 years of experience in a related occupation.

Less than a high school diploma

Occupations that have the most growth and have less than a high school diploma as the typical level of education needed to enter the occupation, projected 2010–20, in thousands of jobs



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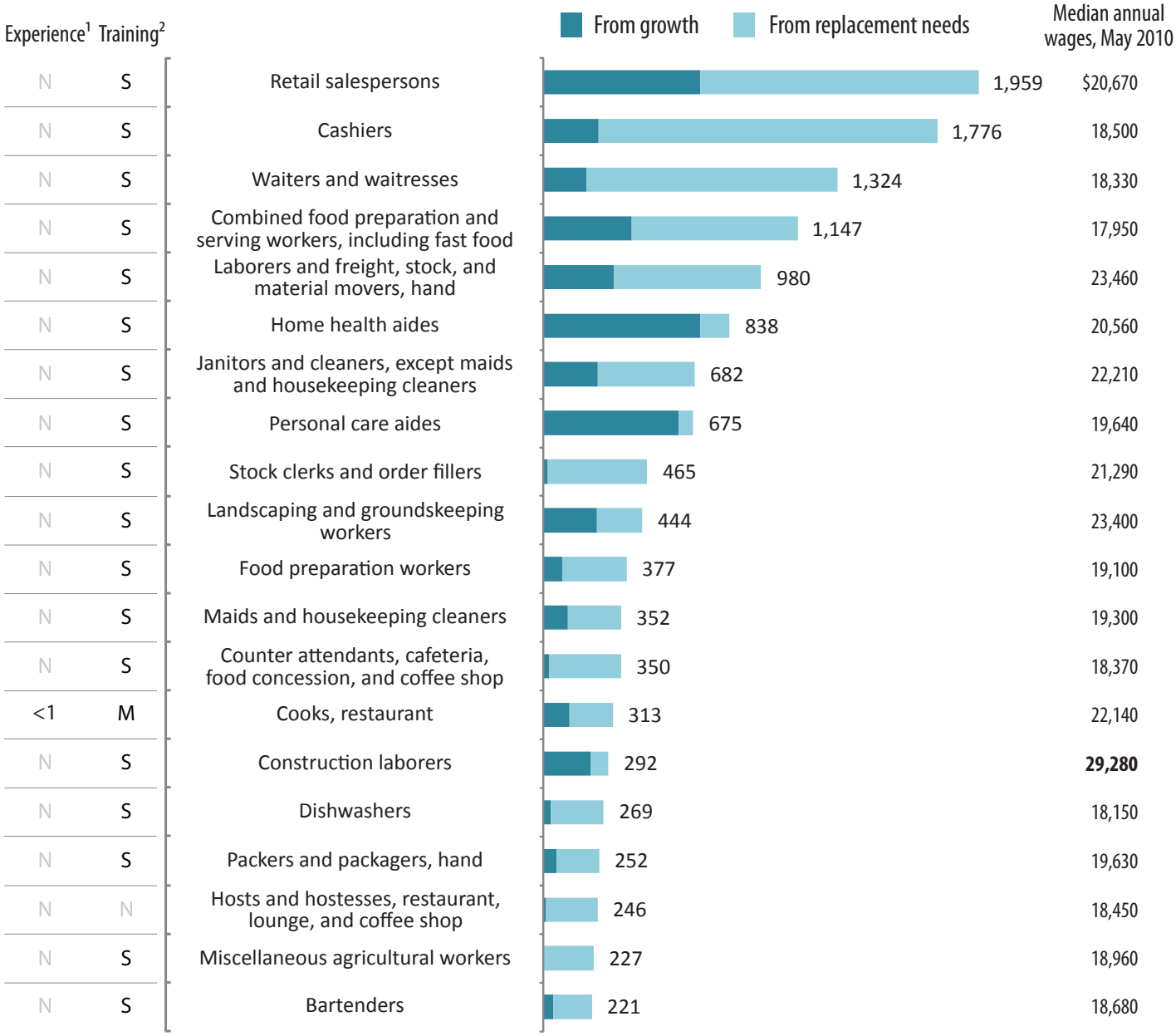
[2] *Indicates whether **on-the-job training is typically needed to attain competency in the occupation**. Assignments are internship/residency (I/R), apprenticeship (A), long-term (L), moderate-term (M), short-term (S), or none (N).*

Workers might not need a high school diploma to enter these occupations, but they typically need on-the-job training to attain competency.

Less than a high school diploma

Occupations that have the most job openings and have less than a high school diploma as the typical level of education needed to enter the occupation, projected 2010–20, in thousands of openings



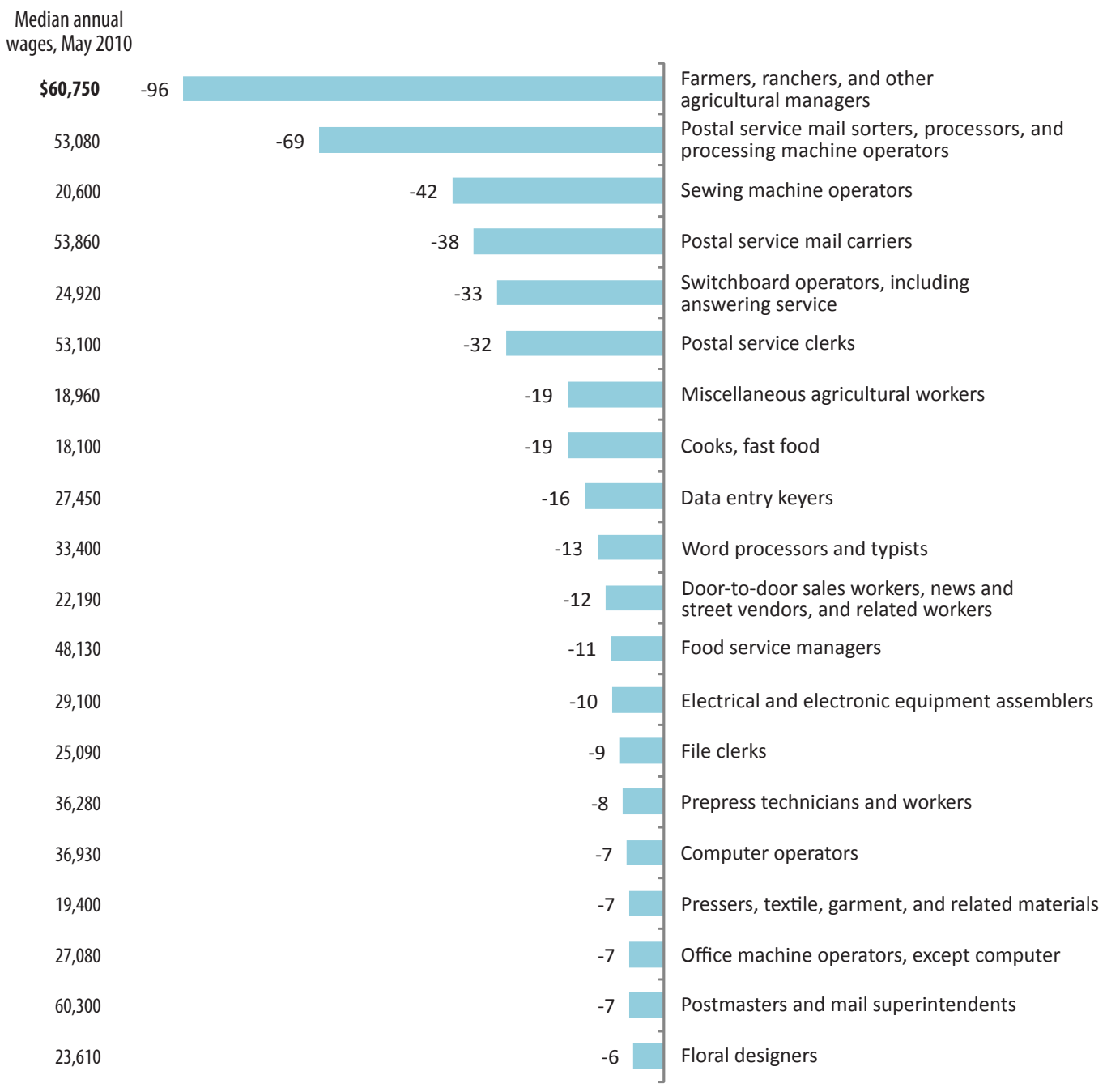
[1] *Indicates whether **work experience in a related occupation** is also typically needed for entry into the occupation. Assignments are more than 5 years (5+), 1–5 years (1–5), less than 1 year (<1), or none (N).*

[2] *Indicates whether **on-the-job training is typically needed to attain competency in the occupation**. Assignments are internship/residency (I/R), apprenticeship (A), long-term (L), moderate-term (M), short-term (S), or none (N).*

Construction laborers, the highest paid occupation in this chart, had a wage that was lower than $33,840—the median annual wage for all workers in May 2010.

Most job losses

Decline in employment by occupation, projected 2010–20, in thousands of jobs



These occupations are expected to lose jobs for many reasons, including increasing worker productivity. Even in occupations that are not expected to gain jobs, however, the need to replace existing workers who leave should create some opportunities.

Most self-employed

Occupations with the most self-employed jobs, projected 2020, in thousands of jobs

** Total employment includes self-employed jobs, wage and salary jobs, and jobs for unpaid family workers.*

Most of the new jobs added to the economy are expected to be for wage and salary workers; employment of self-employed and unpaid family workers is projected to grow slowly through 2020. Farmers, ranchers, and other agricultural managers are projected to have the most jobs for self-employed workers in 2020.

Labor force

The labor force is the number of people ages 16 or older who are either working or looking for work. It does not include active-duty military personnel or the institutionalized population, such as prison inmates. Determining the size of the labor force is a way of determining how big the economy can get.

The size of the labor force depends on two factors. The first is the size of the population, which is determined by rates of birth, immigration, and death. The second is the labor force participation rate—the percent of the population that is working or actively seeking employment.

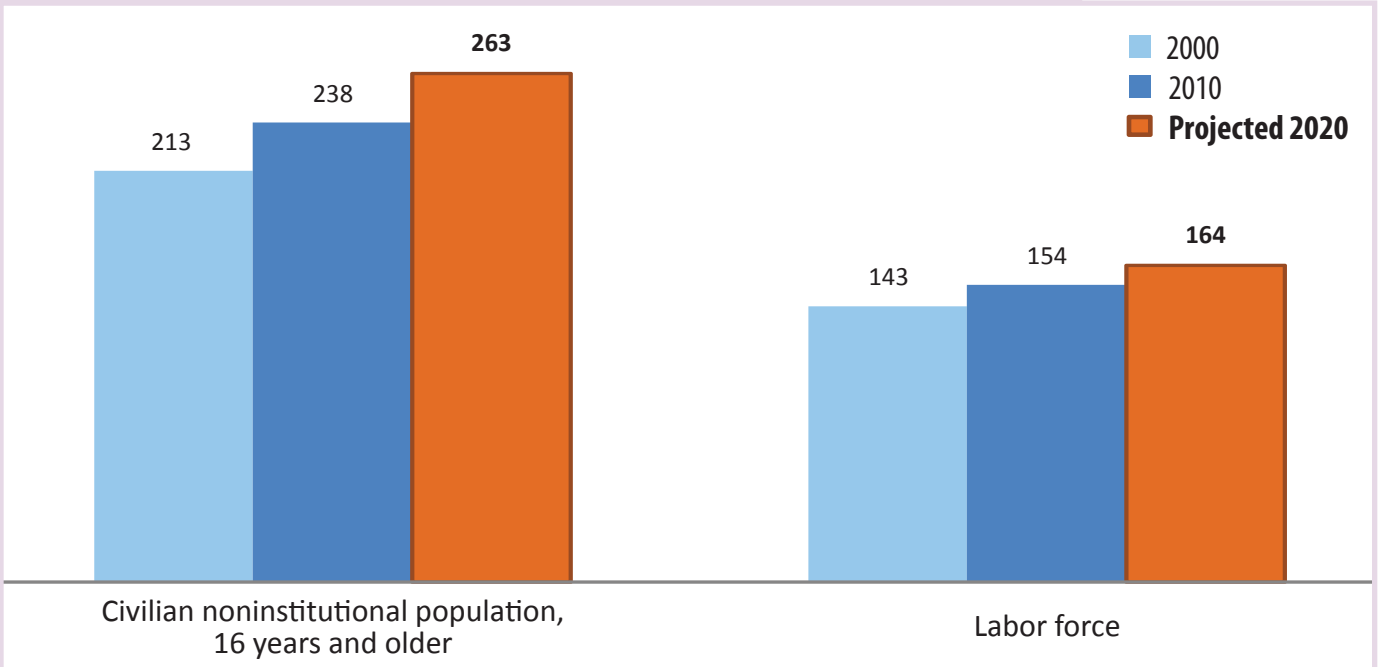
Labor force participation rates vary significantly between men and women and among different age, racial, and ethnic groups. Population growth rates also vary from one group to another. These variations change the composition of the labor force over time.

The charts that follow show how the labor force is projected to change among age groups, between men and women, among racial groups (Asians, blacks, whites, and others), and among ethnic groups (Hispanics and non-Hispanics of any race). The U.S. Census Bureau uses these categories to produce the demographic data on which BLS projections are based.

Total labor force growth is expected to be about 0.7 percent annually between 2010 and 2020. This average is shown as a dotted vertical line in the chart on page 28.

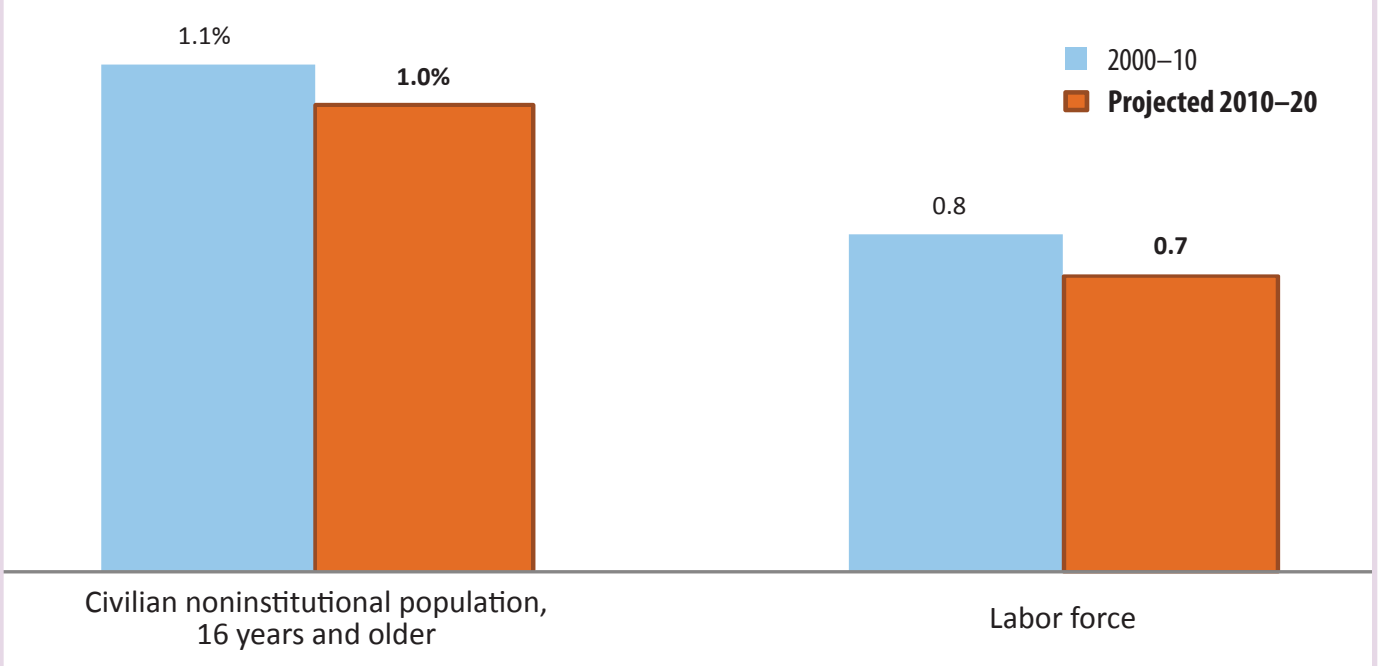
As in previous years, the labor force is projected to grow more slowly than the number of jobs, but this is not an indication of a labor shortage. Instead, this discrepancy reflects that these two measures are based on different concepts.

Population and labor force, 2000, 2010, and projected 2020, in millions of people



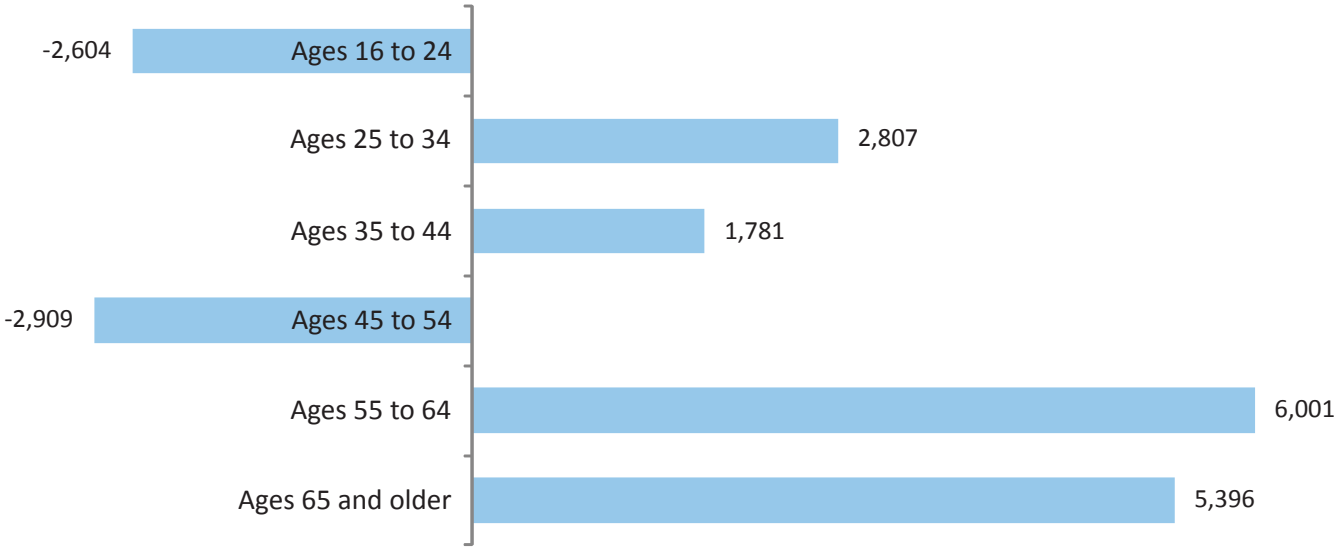
Both the population and the labor force are projected to continue growing slowly. By 2020, the number of people working or looking for work is expected to reach about 164 million. That number excludes people younger than 16 years of age and those who are active-duty members of the U.S. Armed Forces, are inmates of penal or mental institutions, or are in homes for the aged.

Annual growth rates in population and labor force, 2000–10 and projected 2010–20, in percent



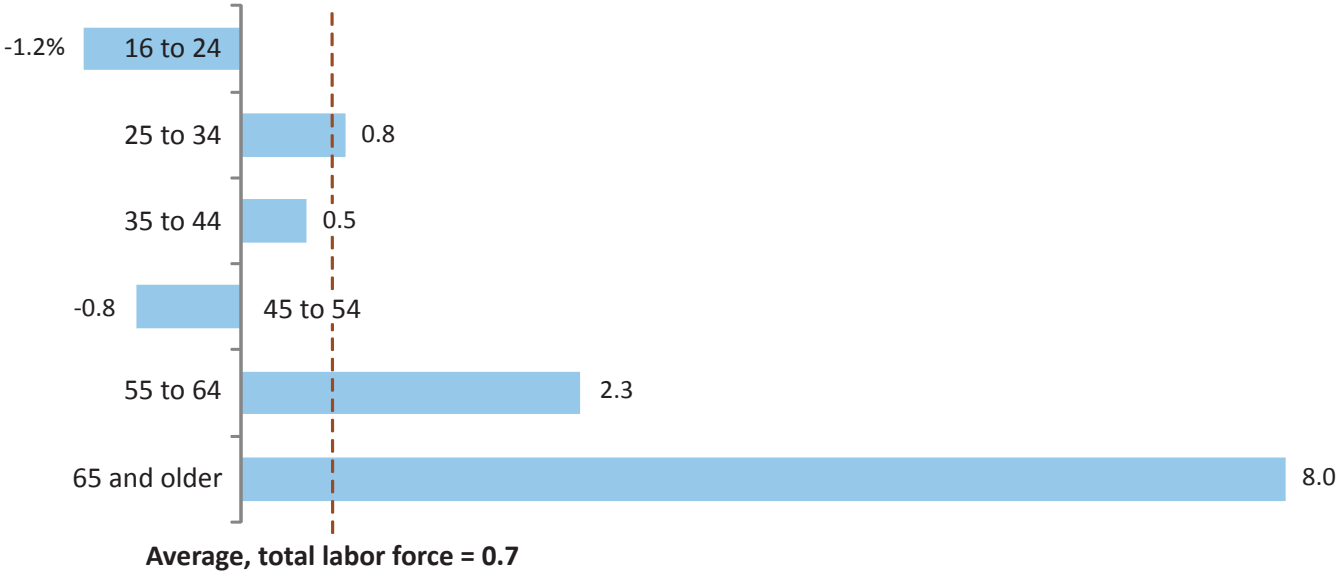
Between 2010 and 2020, both the population and the labor force are expected to grow more slowly than they did during the previous decade.

Numeric change in labor force by age, projected 2010–20, in thousands of people



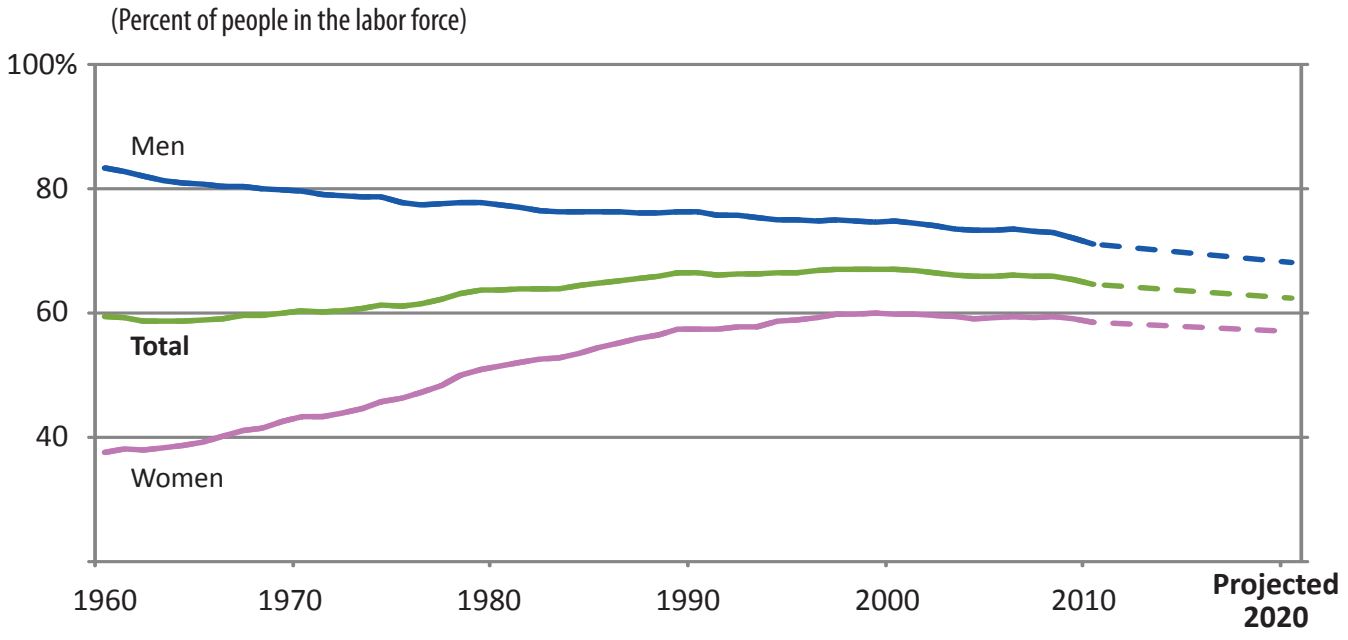
The aging of the baby-boom generation (those born between 1946 and 1964) increases the share of the older age groups in the population. As baby boomers age over the projections decade, the number of people in the labor force ages 55 to 64 is expected to increase by more than 6 million, and the number of people ages 65 and older is projected to increase by more than 5 million. The number of 45– to 54–year-olds in the labor force is expected to shrink as baby boomers shift into older groups.

Annual growth rate in labor force by age, projected 2010–20, in percent



Thanks to advances in medicine, people now enjoy better health as they age and, as a result, are able to remain in the labor force longer than workers in previous generations did. A variety of economic factors—an increase in the Social Security eligibility age, for example—create incentives for people to keep working. Because of these factors, the number of people in the labor force ages 65 and older is expected to grow about 11 times faster than the total labor force.

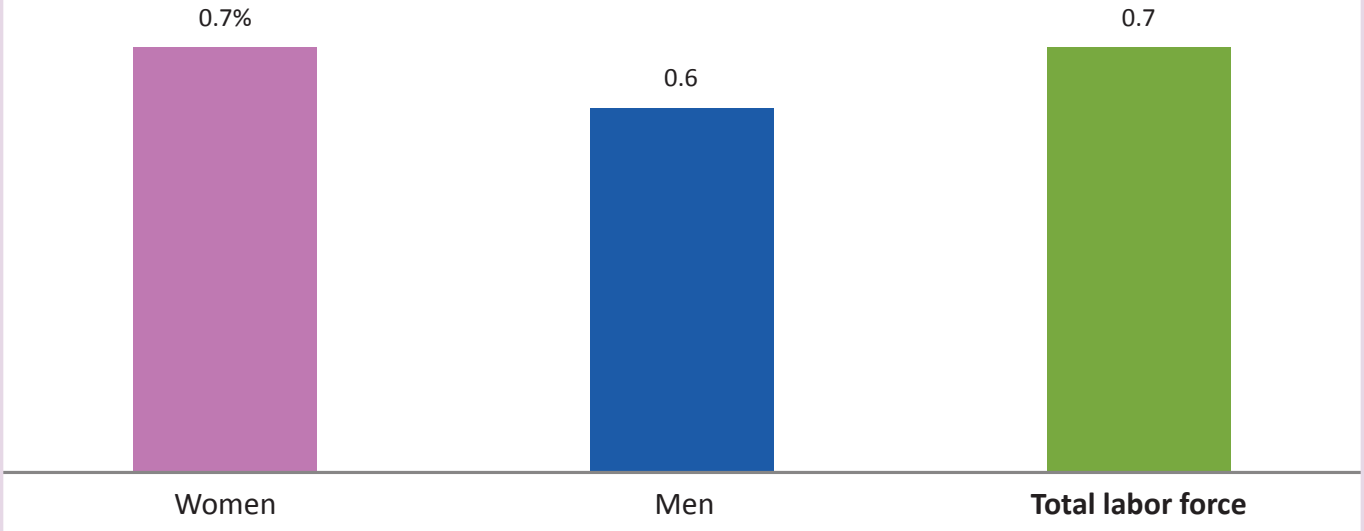
Labor force participation rates for men and women, 1960–2010 and projected 2020



The labor force participation rates for both men and women are expected to decline slightly over the projections decade. By 2020, about 68 percent of men and 57 percent of women are expected to be in the labor force.

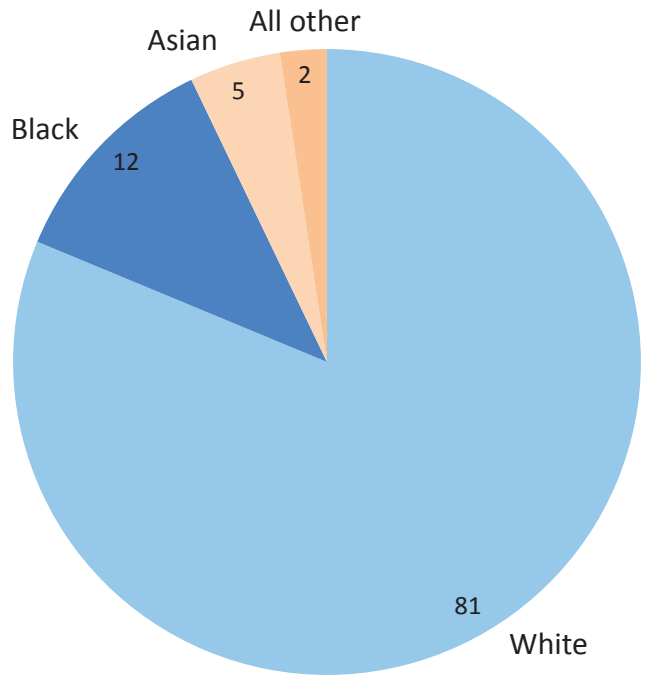
The aging of the population will be a factor driving down labor force participation rates. Despite working longer than previous generations, baby boomers will still have lower levels of labor force participation than those in younger age groups. The baby-boom generation is becoming a larger segment of the total population, driving down overall participation in the labor force.

Annual growth rate in labor force for men and women, projected 2010–20, in percent



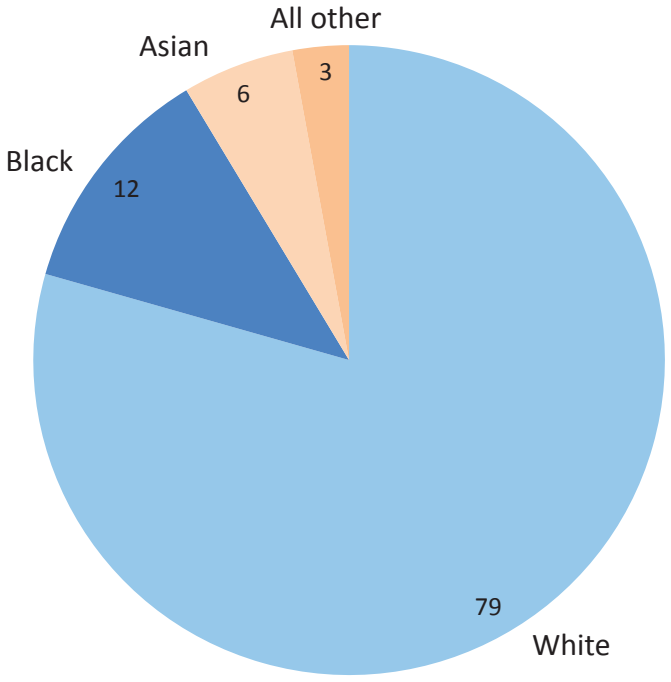
Between 2010 and 2020, the increase in the number of women in the labor force is expected to be greater than the increase in the number of men.

Percent distribution of labor force by race, 2010



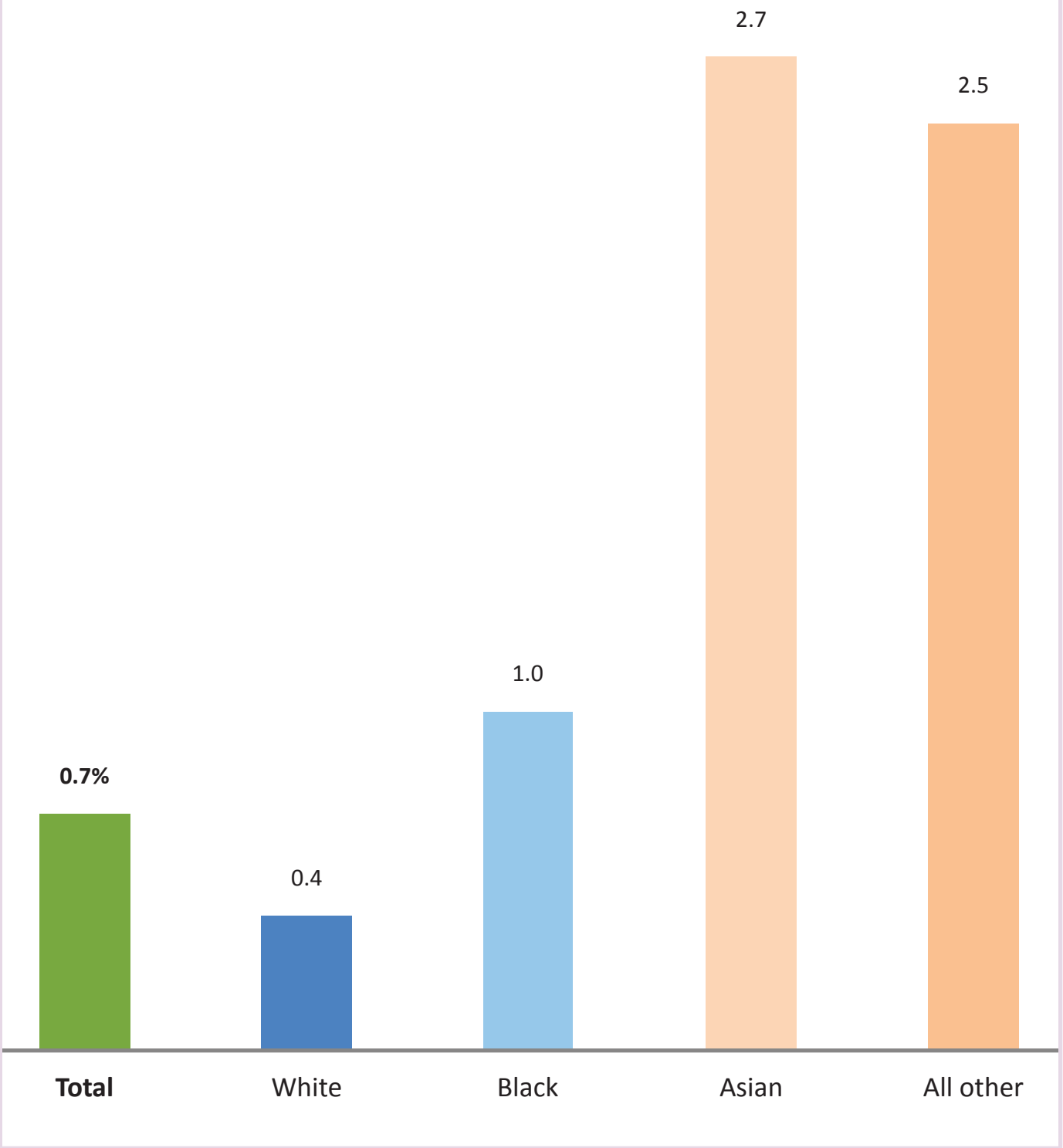
Whites made up 81 percent of the labor force in 2010.

Percent distribution of labor force by race, projected 2020



Although whites will continue to be the largest racial category in the labor force, other racial groups are projected to make up 21 percent of the labor force by 2020.

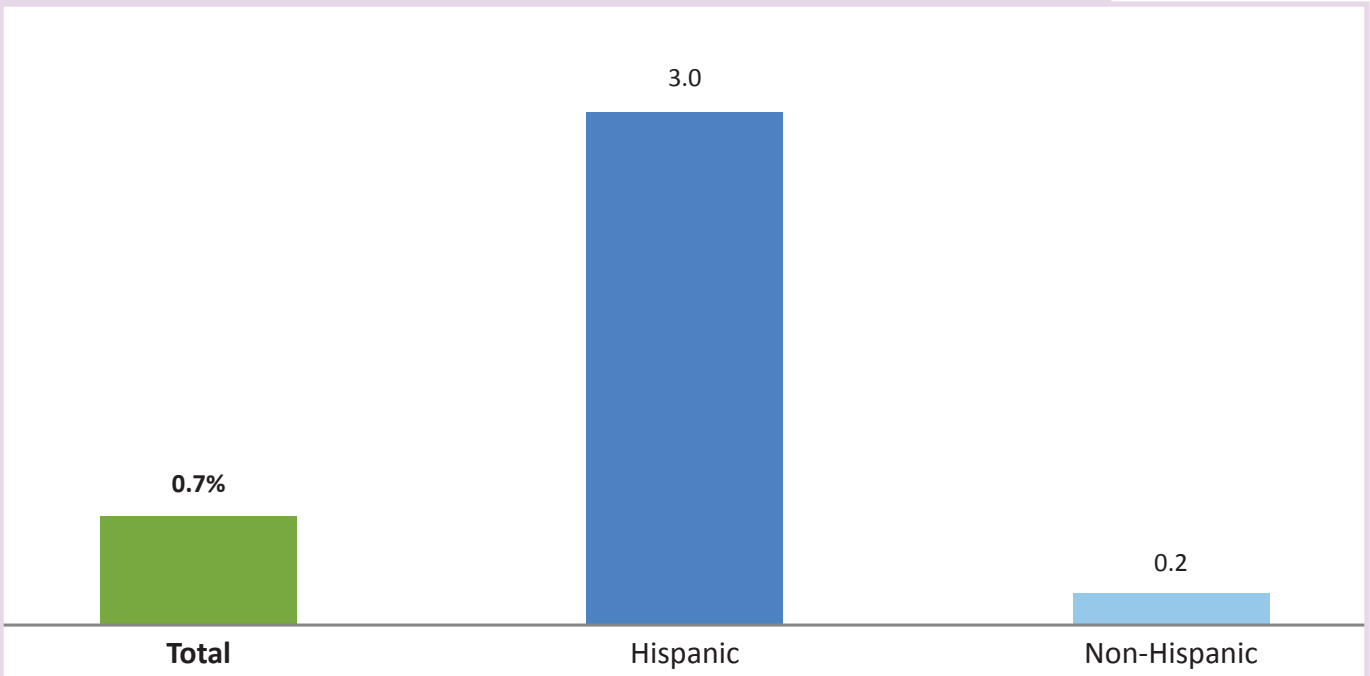
Annual growth rate in labor force by race, projected 2010–20, in percent



Although Asians will remain a small part of the labor force, they will have the fastest rate of labor force growth between 2010 and 2020. This growth is due to increased immigration and high labor force participation rates.

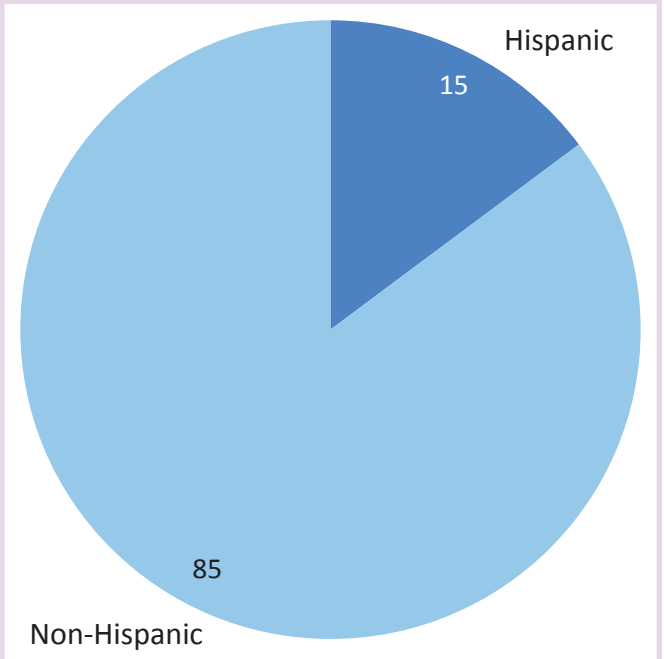
The "all other races" category includes American Indians and Alaska Natives, Native Hawaiians and other Pacific Islanders, multiracial individuals, and any other people who do not identify themselves as white, black, or Asian.

Annual growth rate in labor force by ethnic origin, projected 2010–2020, in percent



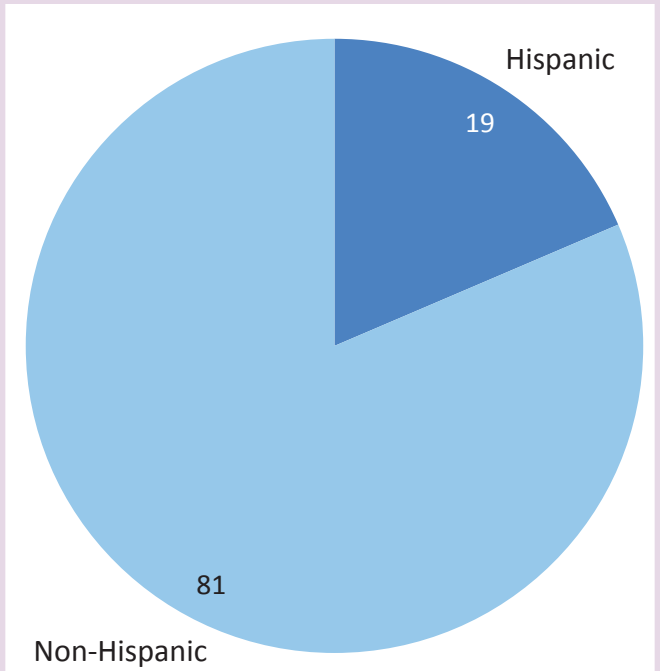
The Hispanic labor force is growing faster than any other ethnic group because of overall population growth—due to higher births and increased immigration—and because of significantly higher labor force participation rates...

Percent distribution of labor force by ethnic origin, 2010



...leading to an increased share of the labor force: from 15 percent in 2010...

Percent distribution of labor force by ethnic origin, projected 2020



...to 19 percent in 2020.

Industry employment

This section illustrates projected employment change for industries over the 2010–20 decade. Workers are grouped into an industry according to the type of good produced or service provided by the establishment for which they work. For example, everyone who is on a construction company's payroll is part of the construction industry, regardless of his or her job duties. The construction industry includes not only construction workers, such as carpenters and roofers, but also other workers, such as office managers and truck drivers.

Industry employment projections are shown in terms of numeric change (growth or decline in the total number of jobs) and percent change (the rate of job growth or decline). Unlike the employment totals in the occupational charts, however, the employment totals in this section cover only wage and salary workers and do not include self-employed or unpaid family workers.

Employment growth for all wage and salary workers is projected to average about 15 percent between 2010 and 2020. This average is shown as a dotted vertical line in two charts.

As discussed in the introduction to this issue of the *Quarterly*, job growth or decline in some industries affects particular occupations significantly. The number of jobs for registered nurses, for example, is highly dependent on the growth of the hospital industry. Many occupations, however—from accountants to computer systems analysts—are found in nearly every industry.

Employment growth in industries depends on industry output (the total amount produced) and worker productivity (how much each worker produces). Labor-saving technologies and methods can increase productivity, limiting employment growth even as output increases. For example, even as domestic manufacturing output is projected to increase, employment in factories is projected to decline as advanced methods and machines reduce the number of workers needed to produce goods.

Industries shown in the charts are defined primarily according to the 2007 North American Industry Classification System (NAICS), a system used by the federal government to classify establishments into industry categories. Industries fall into one of two groups: goods producing or service providing.

The goods-producing industries are as follows:

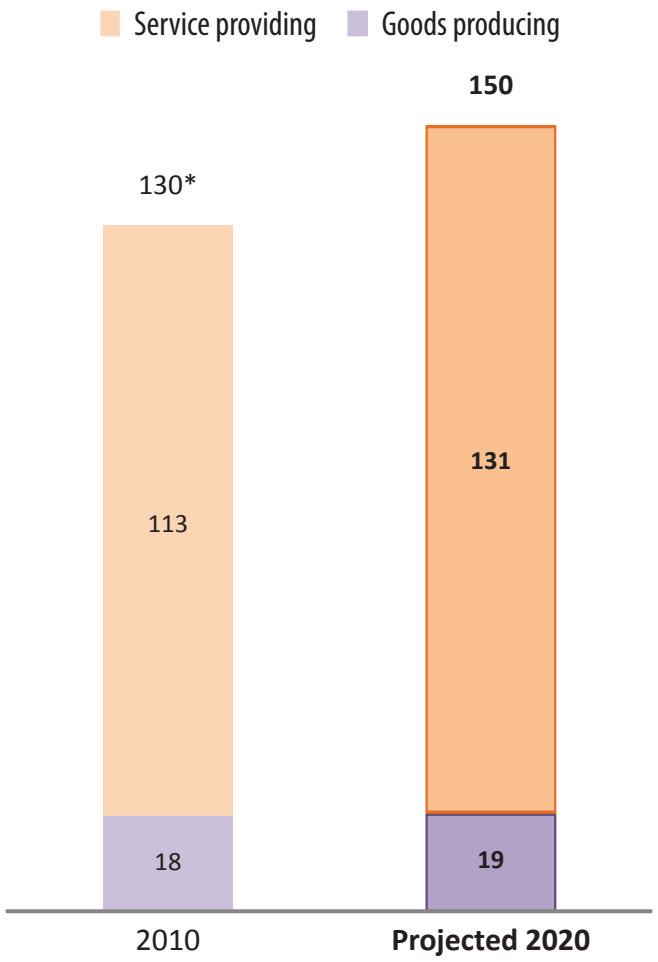
- ***Construction.*** Examples of establishments in this sector include electrical contracting firms and excavating companies.
- ***Manufacturing.*** Examples include businesses that make motor vehicle parts, snack foods, and other goods.
- ***Mining.*** Establishments in this sector include quarries, mines, and oil and gas extraction companies.

The service-providing industries are as follows:

- ***Educational services.*** This sector includes local, state, and private schools and other providers of education.
- ***Financial activities.*** This sector includes banks, insurance companies, real estate offices, and rental services organizations.

- ***Health care and social assistance.*** Health care and social assistance providers—including public and private providers of health care and private providers of social assistance—are part of this sector. Examples include medical laboratories, optometrists' offices, and nursing homes.
- ***Information.*** This sector includes print, software, and database publishing firms; broadcasting and telecommunications providers; and information and data processing providers.
- ***Leisure and hospitality.*** Examples include hotels, restaurants, theme parks, and performing arts companies.
- ***Professional and business services.*** Examples include law firms, consulting services, and temporary help firms.
- ***Public administration.*** This sector consists of government establishments that administer programs and provide for public safety. Federal, state, and local government (except education and hospitals) are classified here.
- ***Trade, transportation, and utilities.*** Included here are wholesale and retail trade establishments, taxi services, and sewage treatment facilities.

Wage and salary employment by industry type, 2010 and projected 2020, in millions of jobs

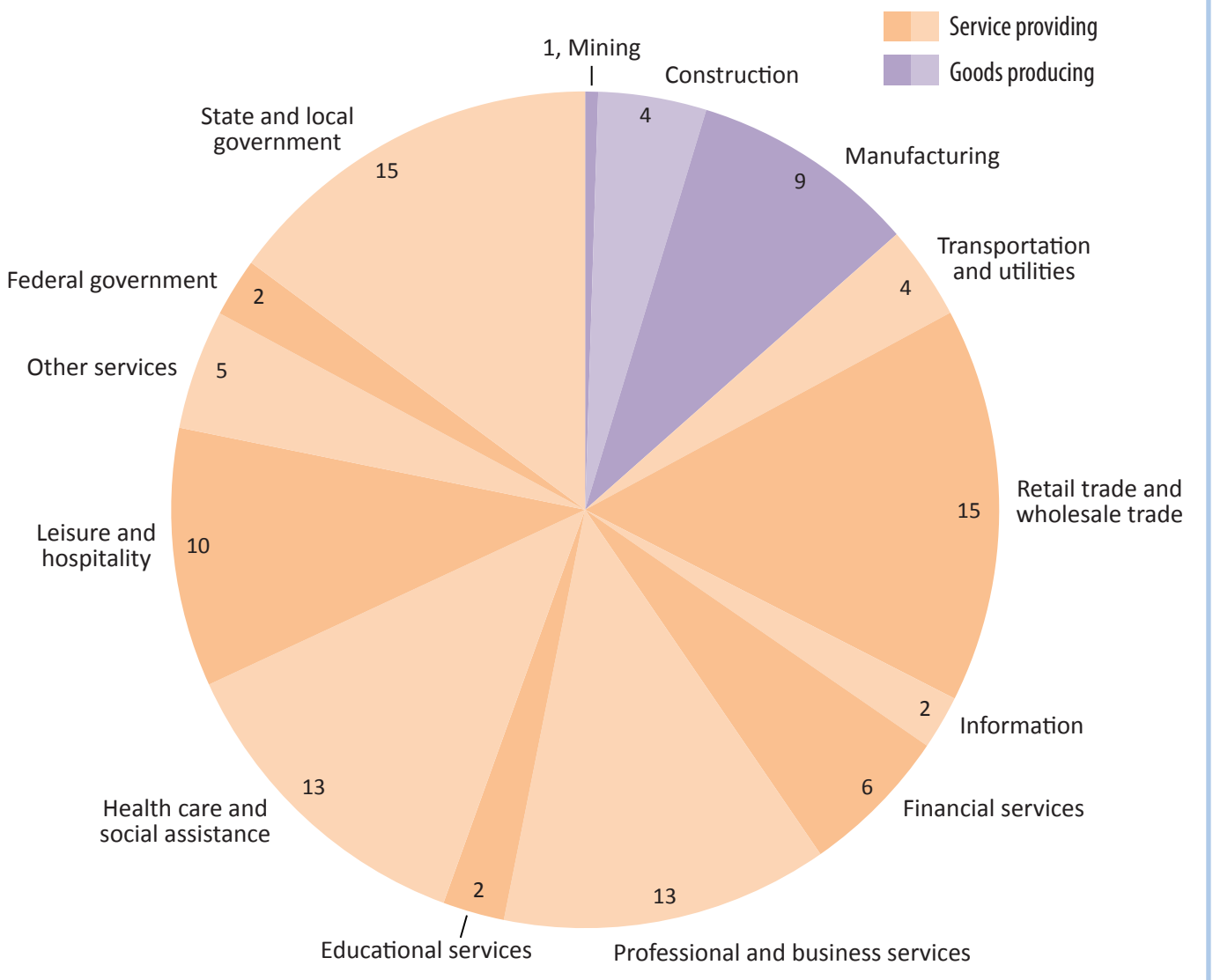


**Note: Data do not sum to total because of rounding.*

Service-providing industries are projected to account for the most job growth between 2010 and 2020. In goods-producing industries, employment is projected to stay about the same over the decade.

Employment, 2010

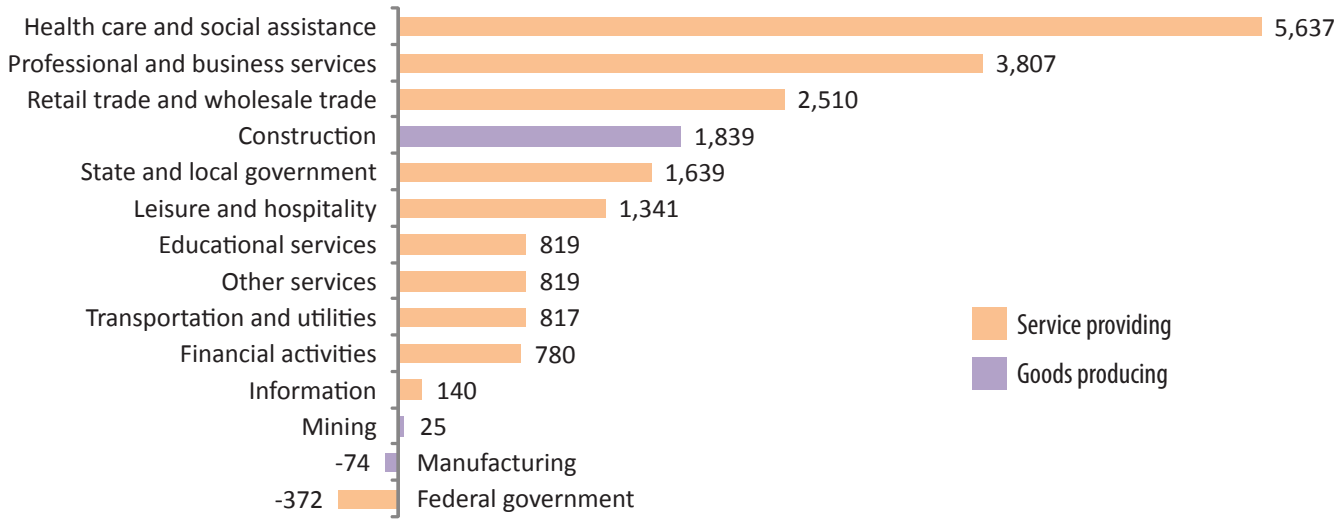
Percent distribution of wage and salary employment by industry sector, 2010



In 2010, four industry sectors—retail trade and wholesale trade, state and local government, professional and business services, and health care and social assistance—accounted for more than half of all employment.

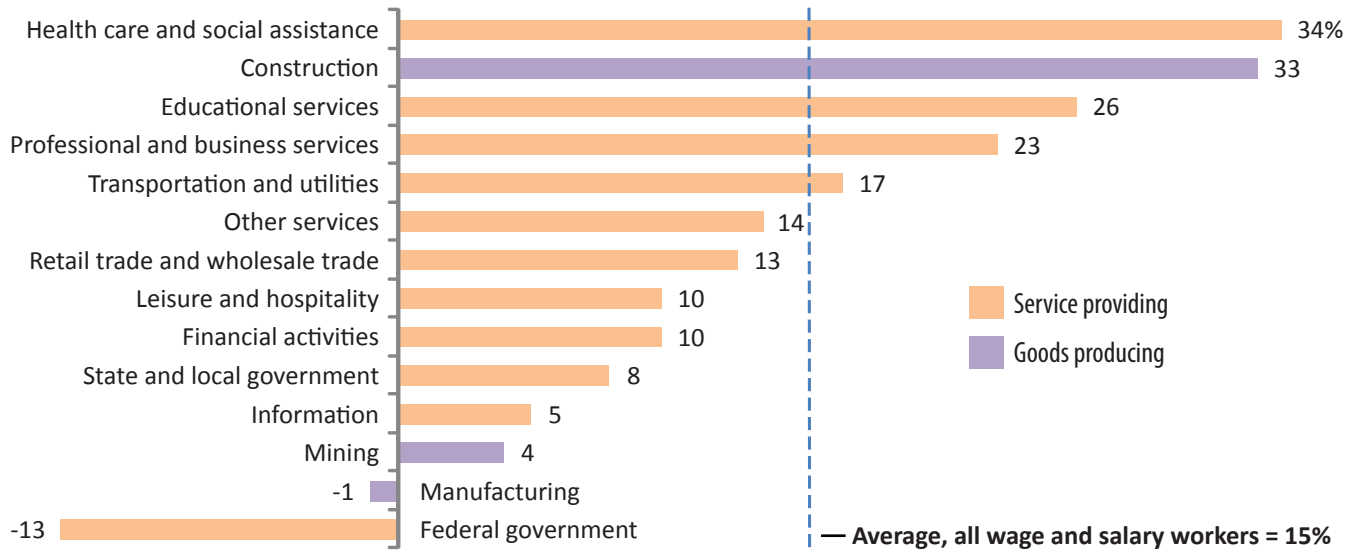
Employment change

Numeric change in employment of wage and salary workers by industry sector, projected 2010–20, in thousands of jobs



Employment is projected to increase by more than 5.6 million in the health care and social assistance sector. Home health care services and individual and family services are expected to lead growth in this sector. Growth in professional and business services is expected to be led by providers of management, scientific, and technical consulting services.

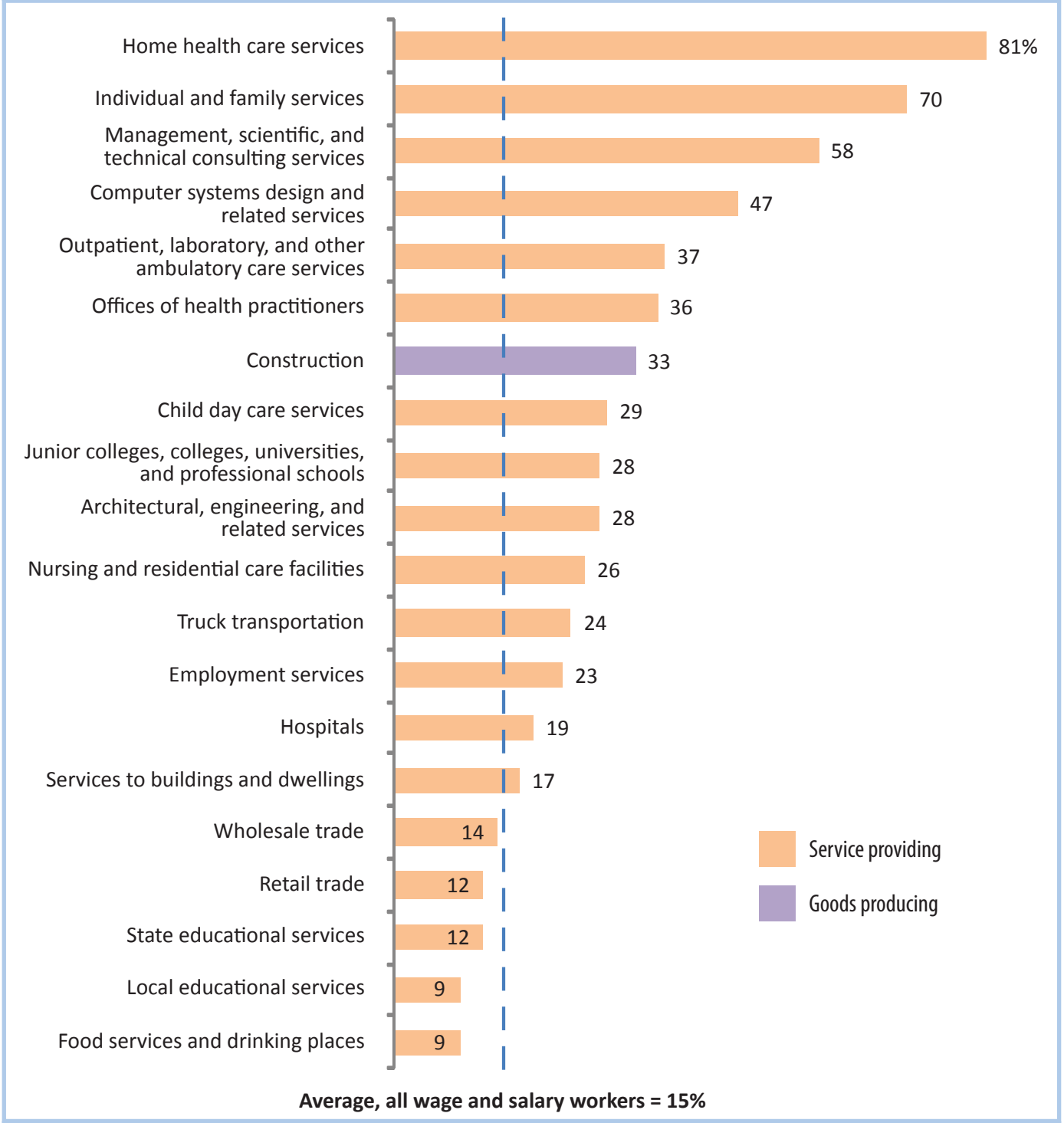
Percent change in employment of wage and salary workers by industry sector, projected 2010–20



Both the health care and social assistance sector and the construction sector are projected to grow more than twice as fast as the average for all industries between 2010 and 2020. Growth in health care and social assistance is expected to be driven by increased demand from an aging population. In construction, projected rapid employment growth represents a partial recovery of significant job losses that occurred between 2007 and 2009.

Fastest growing industries

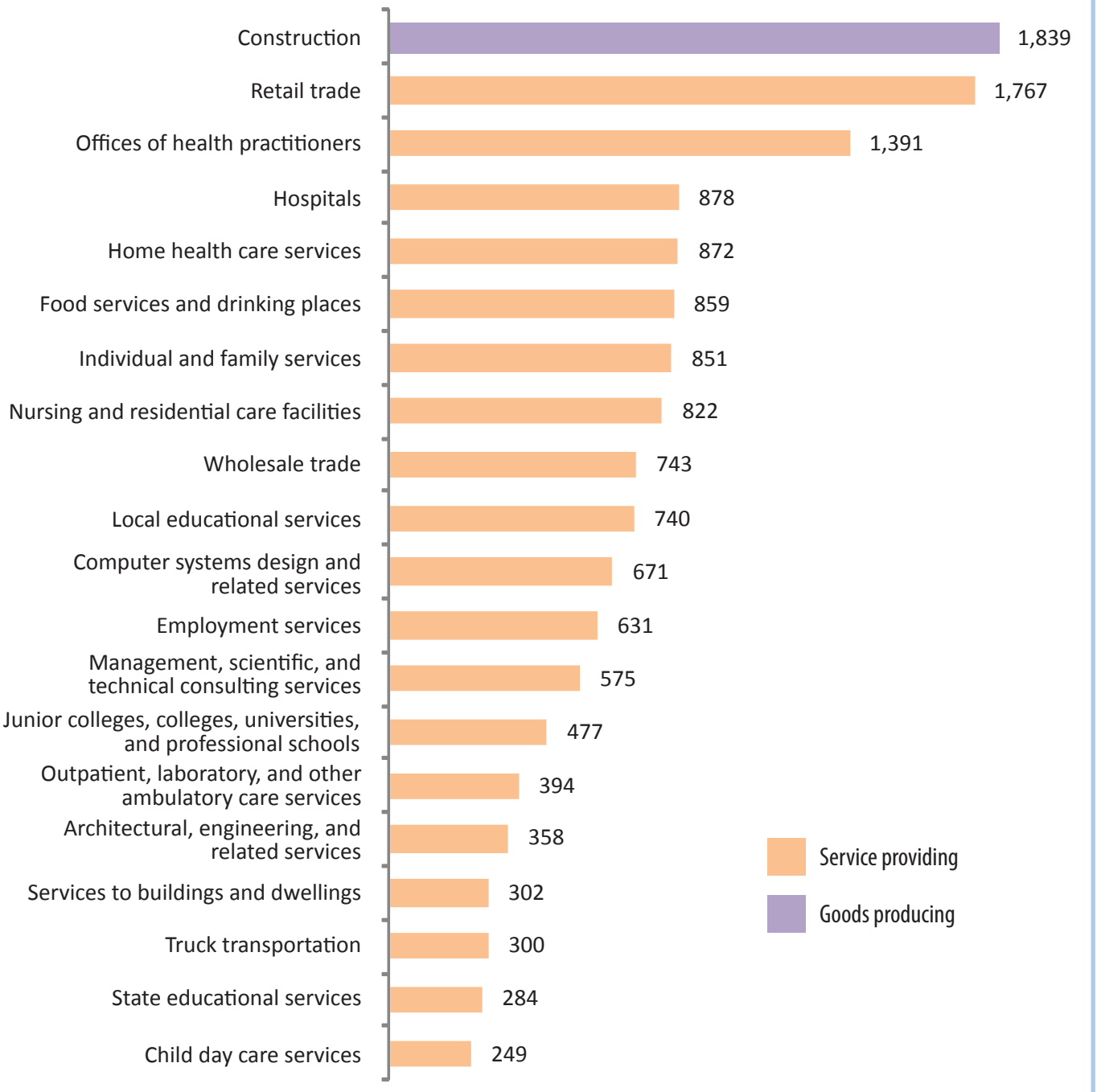
Percent growth in employment of wage and salary workers by detailed industry, projected 2010–20



Nearly all of the detailed industries that are projected to grow fastest between 2010 and 2020 are service-providing ones. Five of these are related to healthcare.

Most new jobs

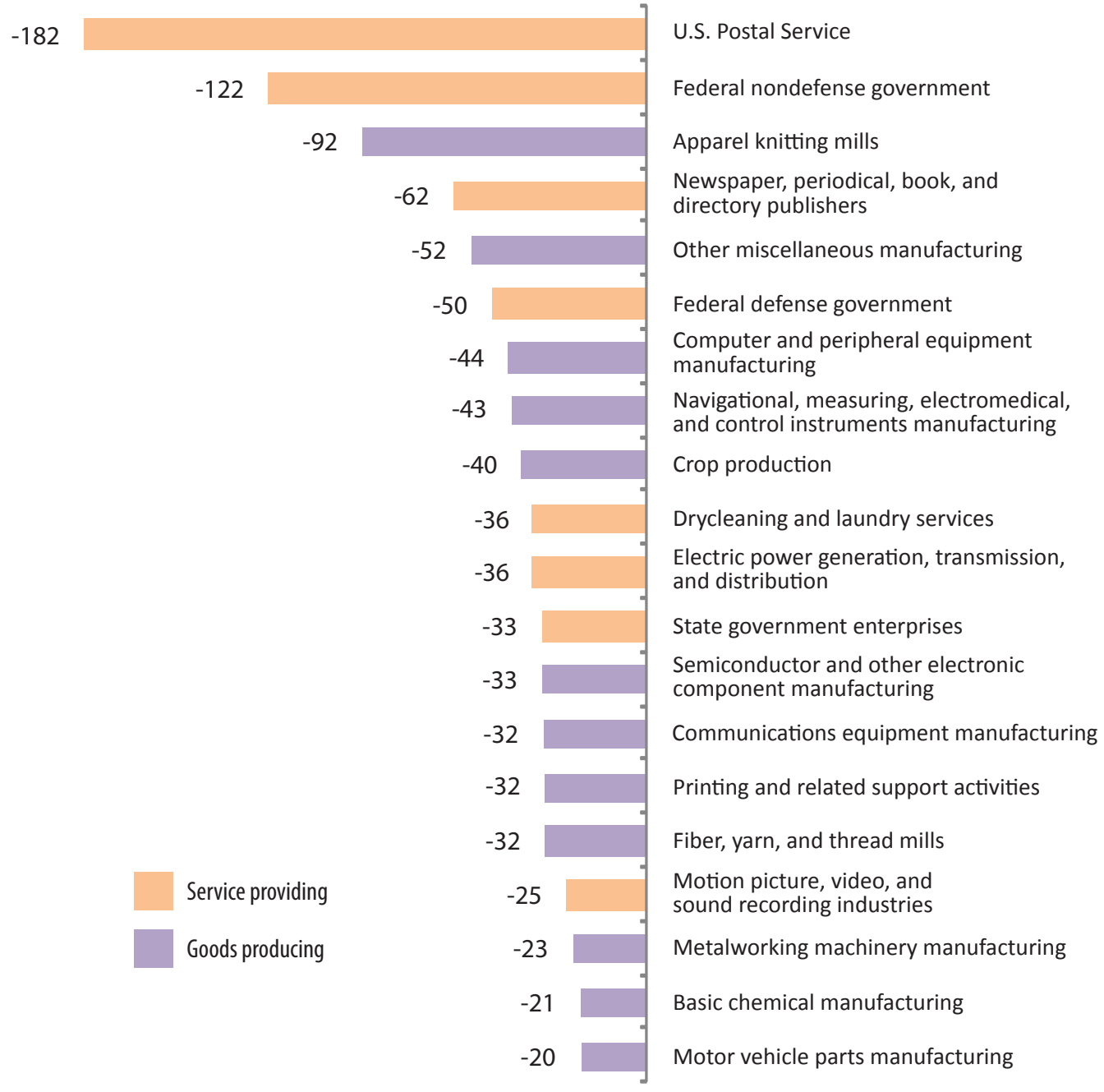
Numeric growth in employment of wage and salary workers by detailed industry, projected 2010–20, in thousands of jobs



All of the projected growth in construction is to regain jobs that were lost during the 2007–09 recession, but these 1.8 million jobs will not be enough to return construction employment to its pre-recession level. Five other industries projected to gain the most jobs are related to health care: offices of health practitioners; hospitals; home health care services; nursing and residential care facilities; and outpatient, laboratory, and other ambulatory care services.

Most job losses

Numeric decline in employment of wage and salary workers by detailed industry, projected 2010–20, in thousands of jobs



Declines in industry employment are usually the result of falling demand for specific goods and services, increased imports that reduce domestic production, or the use of technology that increases worker productivity. Declining employment may lead to unfavorable job prospects, but the need to replace workers who leave an industry often creates some job openings.

Overall economy

The economy's need for workers originates in the demand for the goods and services that these workers provide. So, to project employment, BLS starts by estimating the components of gross domestic product (GDP) for 2020. GDP is the value of the final goods produced and services provided in the United States.

Then, BLS estimates the size—in inflation-adjusted dollars—of the five major categories of production. The categories are as follows:

- ***Personal consumption expenditures.*** This category includes purchases made by individuals, including goods (such as cameras, appliances, and food) and services (such as public transportation, personal care, and household maintenance).
- ***Gross private domestic investment.*** This category includes business investment in equipment and software; the construction of houses, factories, hospitals, and other structures; and changes in business inventories.
- ***Government consumption expenditures and gross investment.*** This category includes goods and services bought by federal, state, and local governments.
- ***Exports.*** These are goods and services produced in the United States and purchased in foreign countries.
- ***Imports.*** Imports are goods and services produced abroad and purchased in the United States. Because GDP measures production in the United States, the value of imports is subtracted from the other four categories of GDP.

Next, BLS breaks down these major categories into more detailed ones, such as the production of automobiles or the provision of medical services.

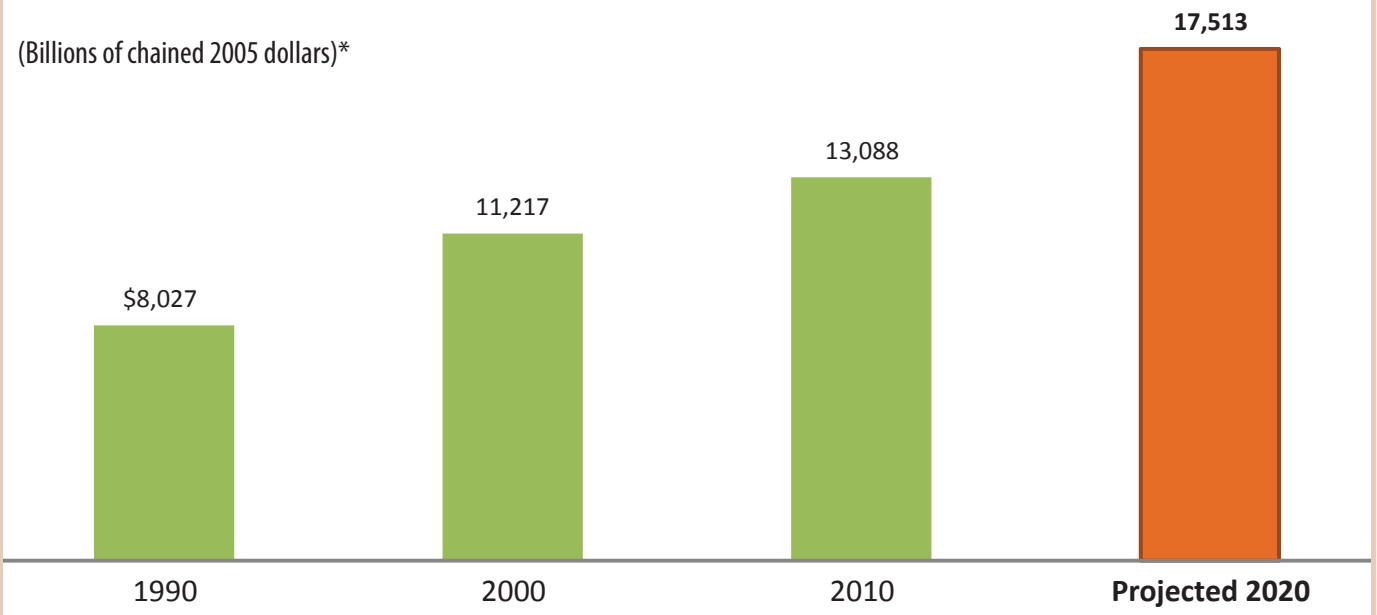
Changes in the level and composition of goods produced and services provided often affect industry employment levels. For example, an increased level of business investment in computer software may increase employment in the computer industry and in all those industries that provide inputs—either products or services—to the computer industry. In turn, employment in occupations in those industries would grow.

Industry employment levels are also affected by changes in labor productivity—the amount an employee produces per hour of work. Because of technological advances, for example, some industries are able to increase output with fewer employees.

Unlike previous sections, the growth charts in this section show annual rates of change instead of the percent change over the entire projections decade. Annual rates are used here, in part, because they are the measure used for other economic indicators, including inflation.

To show changes in demand more accurately, dollar amounts in these charts are given not in current dollars but in 2005 chain-weighted dollars. This means that amounts have been adjusted for changing prices over time.

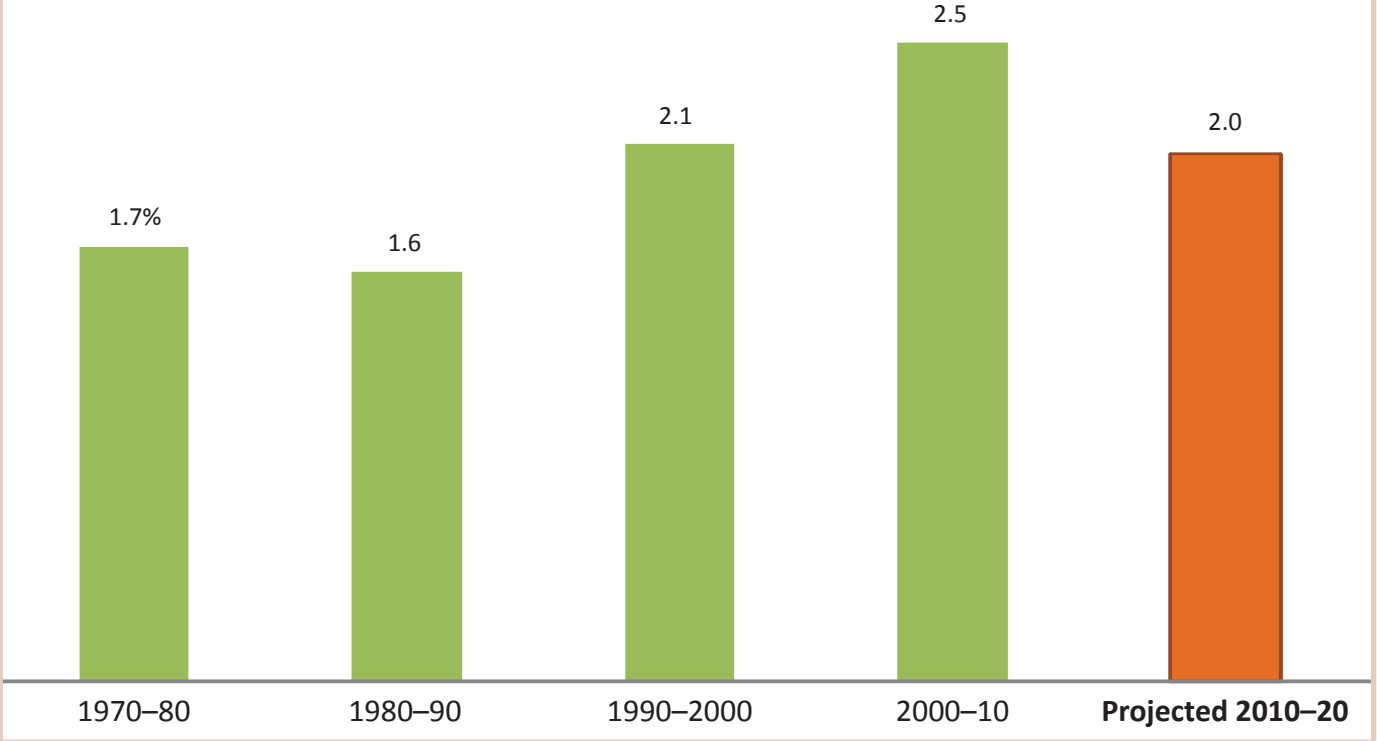
GDP in 1990, 2000, 2010, and projected 2020



**Note: Chain-weighted dollars have been adjusted to reflect price changes that occur over time.*

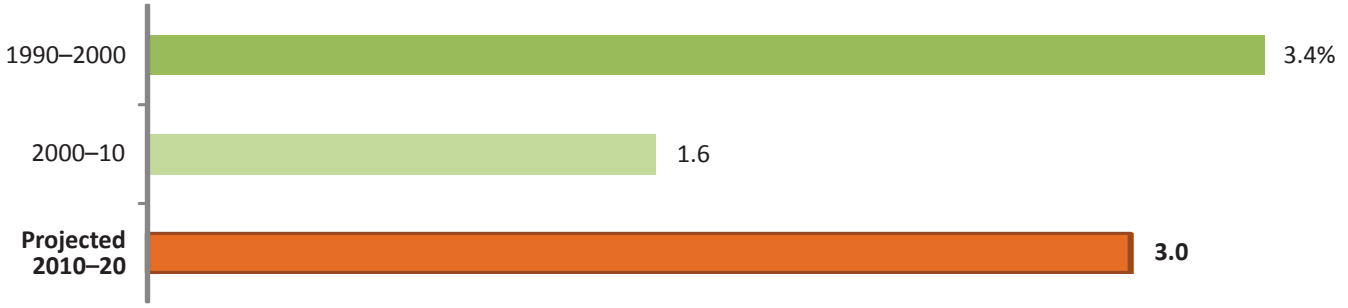
By 2020, the value of goods produced and services provided (gross domestic product, or GDP) in the United States is projected to reach more than $17.5 trillion.

Annual growth in productivity by decade, 1970–2010 and projected 2010–20, in percent



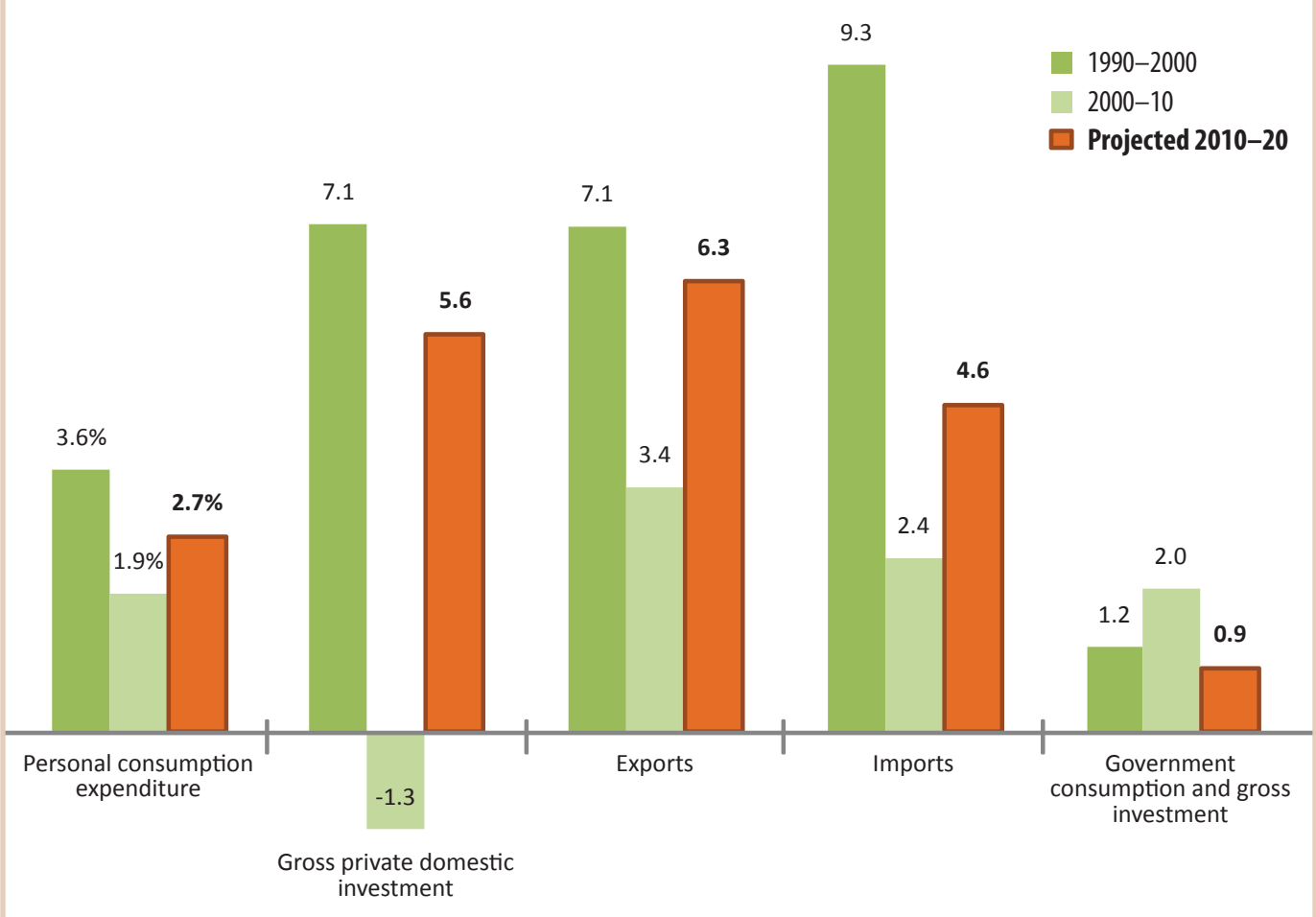
Growth in GDP is due, in part, to increasing productivity. Productivity is projected to grow 2.0 percent annually over the 2010–20 decade.

Annual growth in real GDP, 1990–2000, 2000–10, and projected 2010–20, in percent



GDP growth of 1.6 percent for 2000–10 was slower that its long-run trend, reflecting the 2007–09 downturn and the fact that the economy had not fully recovered by 2010. GDP is projected to grow on average by 3.0 percent per year between 2010 and 2020.

Annual change in components of GDP, 1990–2000, 2000–10, and projected 2010–20, in percent



Gross private domestic investment, which includes new construction and spending by businesses, is more sensitive to the business cycle than are expenditures by consumers. As the world becomes more open to trade, both imports and exports, is projected to keep outpacing GDP growth.

2007–11 Index

2007–11 OOQ Index

See the complete *OOQ* Online index at **www.bls.gov/ooq/ooqindex.htm**

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