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EMPLOYMENT PROJECTIONS — 2022−2032

The U.S. economy is projected to add almost 4.7 million jobs from 2022 to 2032, the U.S. Bureau of Labor Statistics (BLS) reported today. Total employment is projected to increase to 169.1 million and grow 0.3 percent annually, which is slower than the 1.2-percent annual growth recorded over the 2012−22 decade. (See chart 1.)

Chart 1. Total employment, 2002–22 and projected 2032

Note: Total employment includes wage and salary employment and self-employment.
Source: U.S. Bureau of Labor Statistics
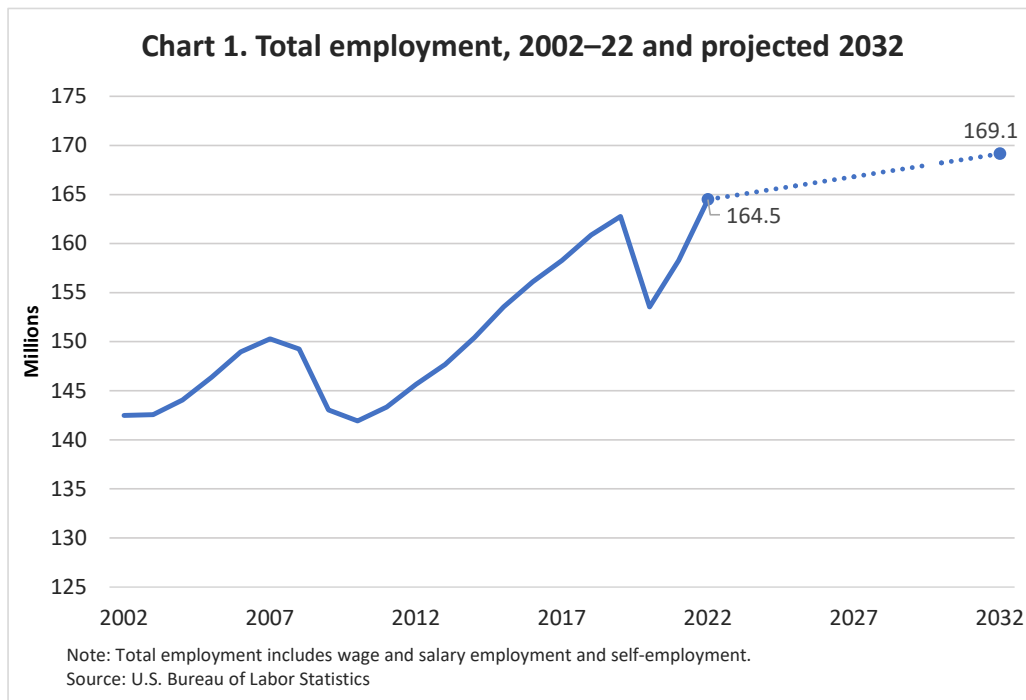
Projected employment growth is driven by labor force growth, which in turn is constrained by population growth. Total population is projected to grow slightly slower than previous decades, at 0.7 percent annually over the projections period, although population growth is concentrated among

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Occupational Outlook Handbook

The BLS projections are the foundation of the *Occupational Outlook Handbook* (*OOH*), one of the nation's most widely used career information resources. The *OOH* reflects BLS employment projections for the 2022–32 decade. The updated *OOH* is available online at www.bls.gov/ooh.

individuals aged 75 and over because of the aging of the baby-boom generation. Because older age groups have lower labor force participation rates than prime age workers, overall labor force participation rates are projected to decline. Despite all these constraints, real Gross Domestic Product (GDP) is expected to grow 1.9 percent over the 2022−32 decade, remaining largely consistent with the growth over the 2002−12 and 2012−22 periods.

The health care and social assistance sector is projected to not only grow most rapidly of any sector, but it is also projected to create about 45 percent of all the projected job gains from 2022 to 2032. Various healthcare occupations that are involved with the increased care of the aging population are projected to experience large and rapid employment increases. Home health and personal care aides, nurse practitioners, and medical and health services managers are three occupations that are projected to experience both large increases in employment and rapid growth.

The computer and mathematical occupational group is also projected to experience much faster than average employment growth. The expanding digital presence of businesses and consumers will produce a massive amount of data that these workers collect, organize, analyze, and protect. Employment in occupations such as data scientists, statisticians, and information security analysts is projected to grow more than 11 times the average rate.

Highlights of the BLS 2022−32 projections for the population and labor force, macroeconomy, industry employment, and occupational employment are included below.

Population and Labor Force

- The civilian noninstitutional population is projected to increase by 18.7 million to a level of 282.6 million in 2032, which is less than the 20.7 million increase that occurred over the 2012−22 decade. The civilian noninstitutional population is expected to grow 0.7 percent annually over the 2022−32 decade, slowing slightly from the 0.8-percent annual growth rate that occurred in the decade from 2012 to 2022. Population growth rates have been slowing for several decades; the projected 0.7-percent annual growth represents one of the slowest growth rates in the data series' history. (See chart 2.)

- The slower birth rates of the 1970's will cause the population ages 55 to 64 to decrease much faster than any other age group. Meanwhile, the 65 and older age group will experience fast growth as all baby boomers age into that category by 2032. This age group's projected 14.4 million increase in population accounts for over three quarters of the overall projected population growth. Of that 14.4 million increase, about 10.6 million comes from the 75 and over age group, as most of the baby boomers age into that bracket. (See chart 3.)

Chart 2. Population, 10-year compound annual average growth rates, 1972–2022 and projected 2022–32
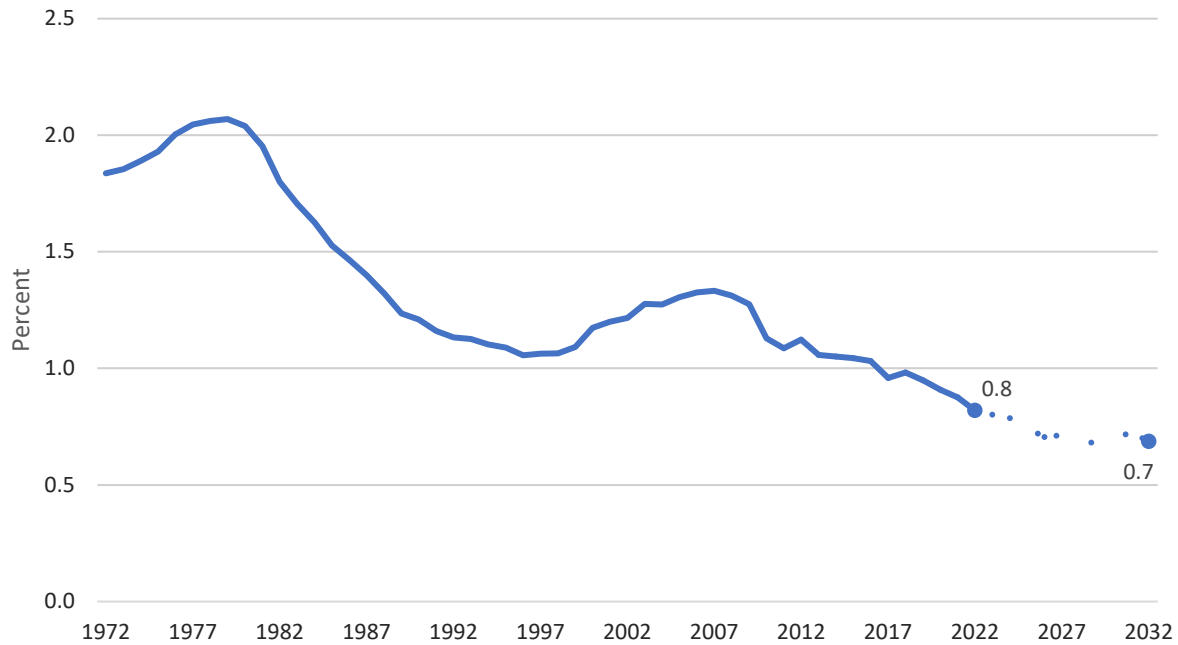
Percent

0.8

0.7

1972 1977 1982 1987 1992 1997 2002 2007 2012 2017 2022 2027 2032

Note: Reference to population in the text and charts refers to the civilian noninstitutional population, 16 years and over.
Source: U.S. Bureau of Labor Statistics

- Slower projected growth in the population is expected to constrain growth in the civilian labor force over the projections period. The civilian labor force is expected to increase from 164.3 million in 2022 to 170.7 million in 2032, an increase of almost 6.5 million. This translates to a projected annual growth rate of 0.4 percent, slower than the 0.6-percent annual growth rate exhibited during the 2012−22 decade.

- The labor force participation rate is projected to fall from 62.2 percent in 2022 to 60.4 percent in 2032. The principal factor driving the projected decline in the labor force participation rate is a greater share of individuals over the age of 65. Despite this age group having the highest projected labor force participation rate increases over the projections period, the participation rate of this age group is still projected to be much lower than that of the prime working age group, those ages 25 to 54.

- The participation rate for prime working age women, ages 25-54, is projected to increase slightly from 76.4 percent in 2022 to 76.7 in 2032. For prime working age men, however, the participation rate is projected to decline 0.2 percent annually in the 2022−32 decade, from 88.6 percent to 86.7 percent.

Chart 3. Population and Labor Force Participation Rate, by select age group, 1992−2022 and projected 2022−32
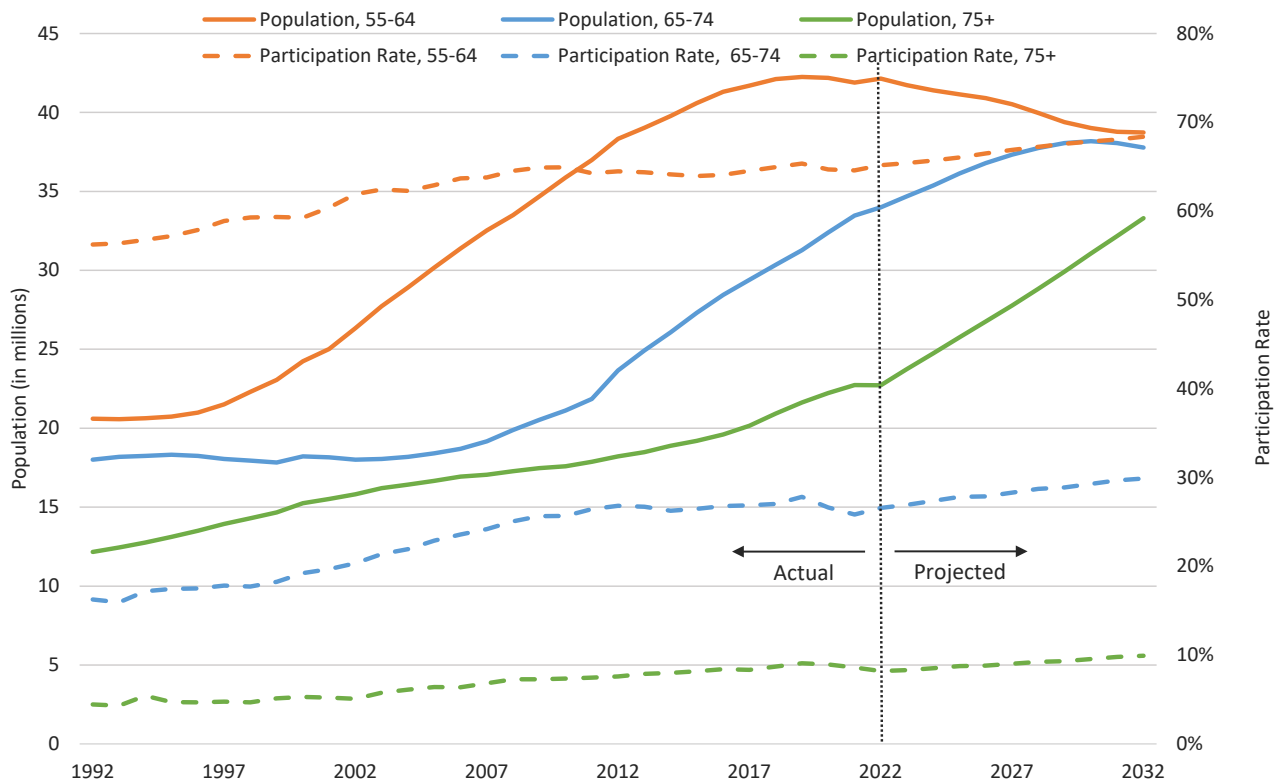
Note: Reference to population in the text and charts refers to the civilian noninstitutional population, 16 years and over.
Source: U.S. Bureau of Labor Statistics

Macroeconomy

- Real GDP is projected to grow 1.9 percent annually over the 2022−32 decade. This is slightly lower than the 2012−22 decade's annual rate of 2.1 percent, but the same as the annual rate during the 2002−12 decade. However, the projected growth rate in the 2022−32 decade is much lower than the 3.0 percent and above rates seen during the 1980s and 90s, when population and labor force growth was faster. (See chart 4.)

Industry Employment

- Total employment is projected to grow 0.3 percent annually from 164.5 million in 2022 to 169.1 million in 2032. This projected growth is much slower than the 1.2-percent annual employment growth in the 2012−22 decade, which was marked by strong recovery growth following the 2007−09 Great Recession and 2020 COVID-19 recession.

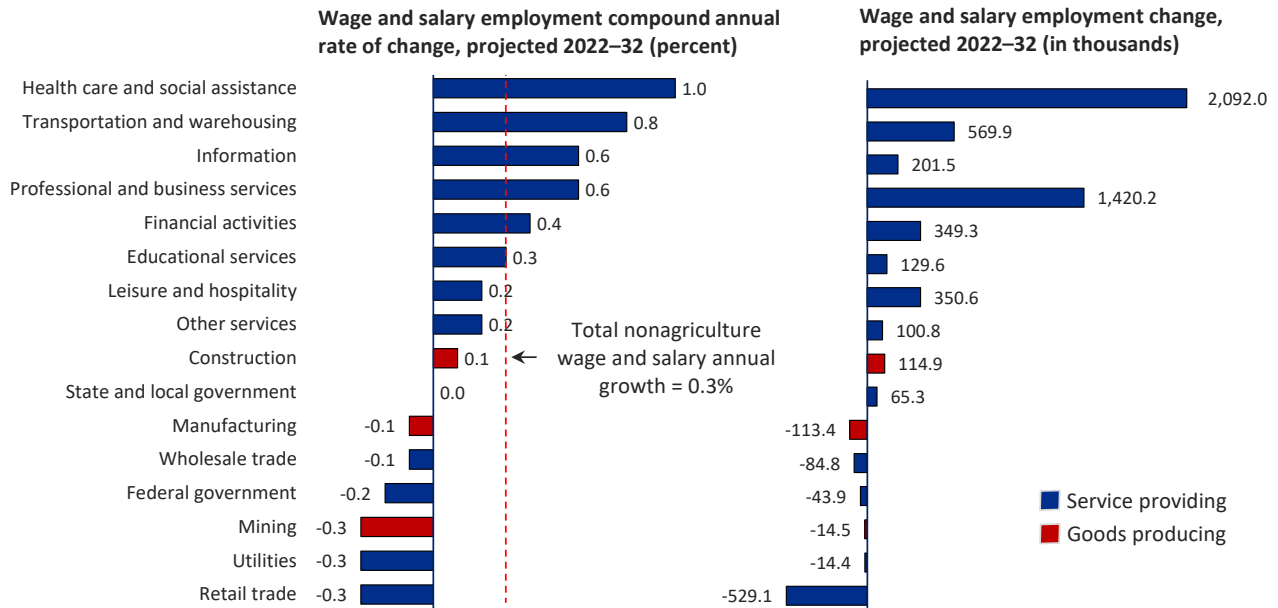**Chart 4. Real Gross Domestic Product (GDP), 10-year compound annual growth rates, 1982–2022 and projected 2022–32**
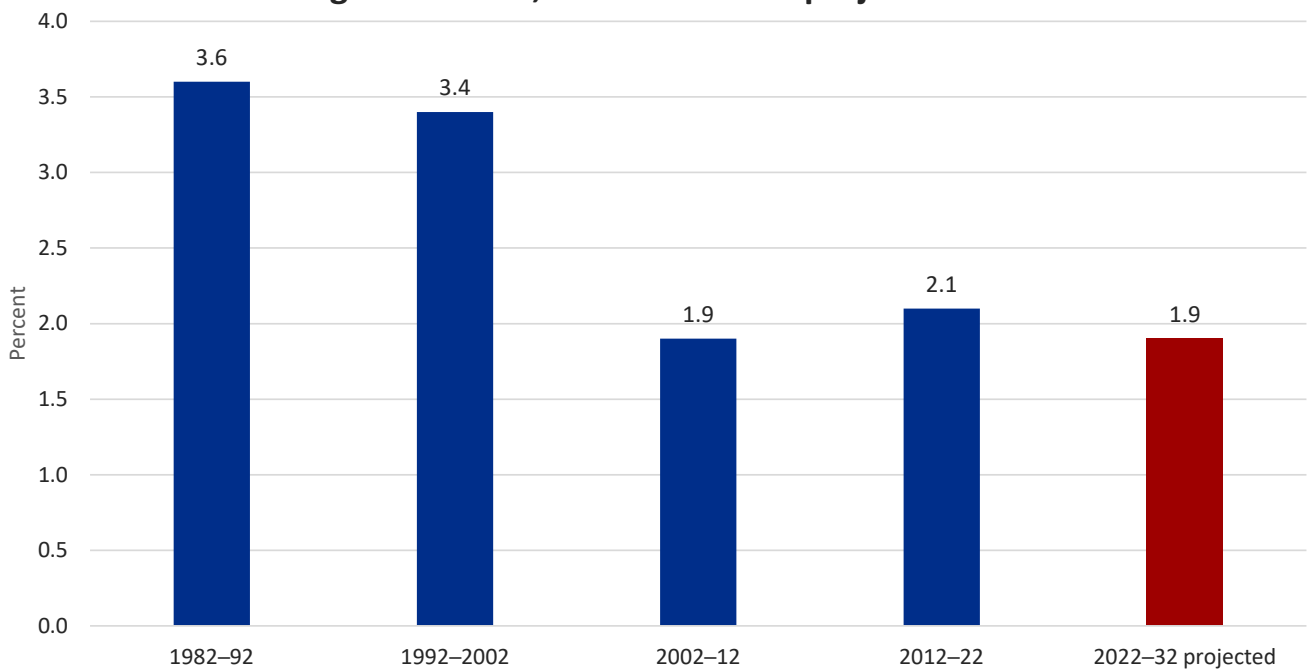
Source: Historical data are from the U.S. Bureau of Economic Analysis.
Projected data are from the U.S. Bureau of Labor Statistics.

- The health care and social assistance sector is projected to add about 2.1 million jobs from 2022 to 2032, the most of any sector and about 45 percent of all new jobs. (See chart 5.) This sector is also projected to grow faster than any other sector, growing at an annual rate of 1.0 percent. Four of the 10 fastest growing industries over the projections period come from within this sector, with the individual and family services industry projected to grow the fastest of those four–at an annual rate of 2.2 percent. Employment growth in the health care and social assistance sector is expected to be driven by both the aging population and a higher prevalence of chronic conditions, such as heart disease, cancer, and diabetes.

- The computer systems design and related services industry is the eighth fastest growing industry, growing at a rate of 1.8 percent annually over the 2022−32 decade. This industry is also seen adding 474,800 jobs over the projections period, the second most of any industry. Employment opportunities in the computer systems design and related services industry are expected to arise because of demand for information technology and cybersecurity products and services.

- Growth in e-commerce is expected to drive employment growth in the transportation and warehousing sector. BLS projects this sector to grow 0.8 percent annually from 2022 to 2032, adding close to 570,000 jobs over that period. The couriers and messengers industry together with the warehousing and storage industry account for about 80 percent of this sector's projected job growth.

Chart 5. Employment change by industry sector, projected 2022–32

Wage and salary employment compound annual rate of change, projected 2022–32 (percent)

Wage and salary employment change, projected 2022–32 (in thousands)

Industry sector	Rate of change (percent)	Change (in thousands)
Health care and social assistance	1.0	2,092.0
Transportation and warehousing	0.8	569.9
Information	0.6	201.5
Professional and business services	0.6	1,420.2
Financial activities	0.4	349.3
Educational services	0.3	129.6
Leisure and hospitality	0.2	350.6
Other services	0.2	100.8
Construction	0.1	114.9
State and local government	0.0	65.3
Manufacturing	-0.1	-113.4
Wholesale trade	-0.1	-84.8
Federal government	-0.2	-43.9
Mining	-0.3	-14.5
Utilities	-0.3	-14.4
Retail trade	-0.3	-529.1

Total nonagriculture wage and salary annual growth = 0.3%
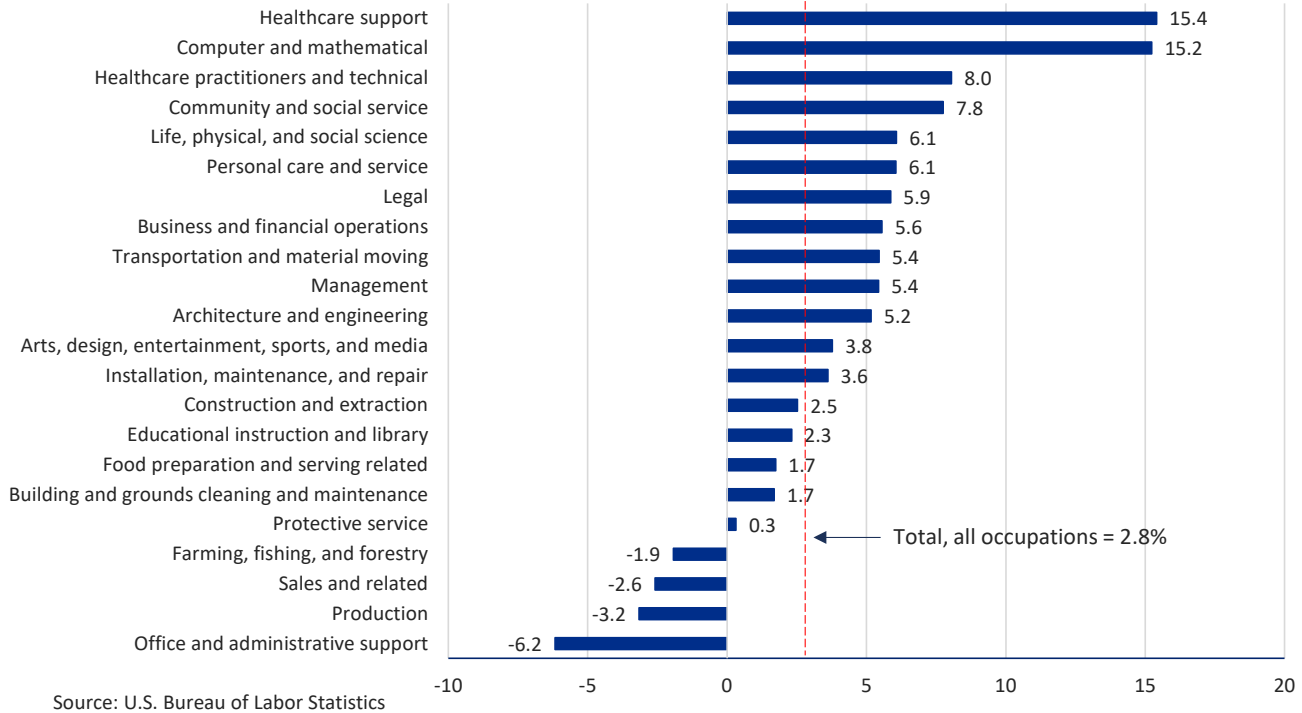
Legend: ■ Service providing ■ Goods producing

Note: Nonagriculture wage and salary employment includes wage and salary data from the Current Employment Statistics (CES) survey, except private households, which is from the Current Population Survey (CPS). Logging workers are excluded.

Source: U.S. Bureau of Labor Statistics

- The continued consumer shift to online shopping is projected to drive the loss of 529,100 jobs in the retail trade sector. While omnichannel strategies such as buy online pick-up in store (BOPIS) may support some employment, employment losses within this sector are still expected.

- The manufacturing sector is projected to lose 113,400 jobs over the 2022−32 decade as manufacturers continue to automate processes to improve production efficiency and throughput. However, stronger demand for electric vehicle batteries and energy battery storage systems is expected to result in rapid employment growth in battery production. That growth is evident in the other electrical equipment and component manufacturing industry, which is the manufacturing industry with the fastest growth at a rate of 3.0 percent annually over the projections period, gaining 52,700 jobs over the decade.
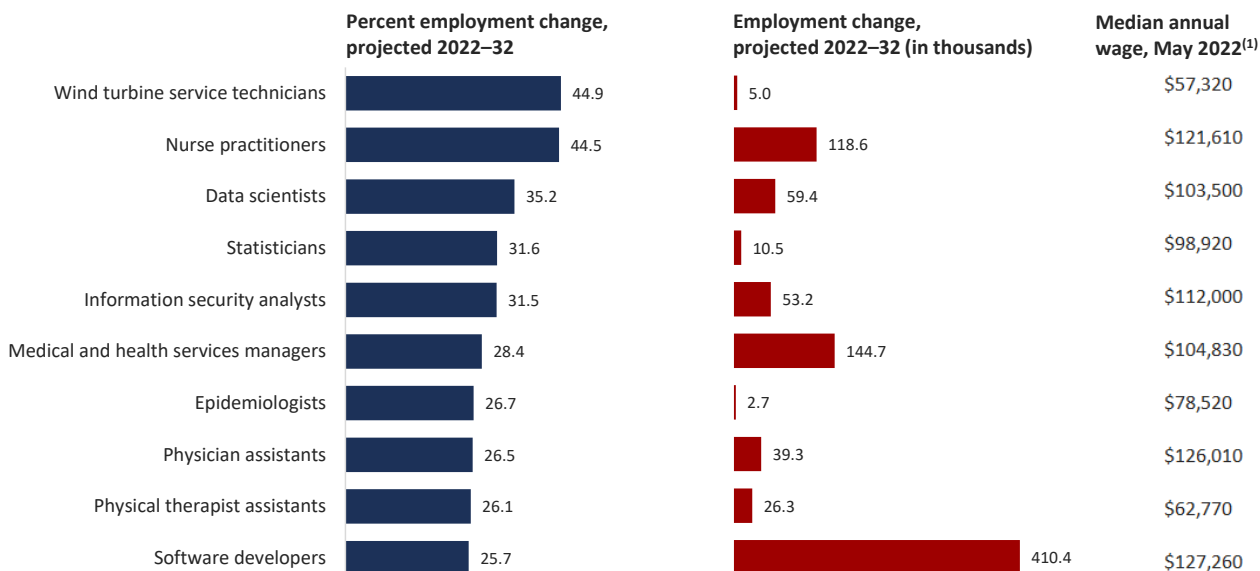
Occupational Employment

- Healthcare support occupations are projected to grow the fastest of all occupational groups, at 15.4 percent from 2022 to 2032. (See chart 6.) In addition to growing rapidly, one occupation from this group, home health and personal care aides, is also projected to experience the largest increase in new jobs of any occupation over the 2022−32 projections period. Projected to gain 804,600 jobs, this occupation is projected to account for approximately 1 of every 6 new jobs, and by 2032, would represent the largest occupation in the economy. The growing elderly population, which typically has increased healthcare needs compared to younger groups, will in turn increase demand for caregiving and therapy services.

Chart 6. Projected percent change in employment, by occupational group, projected 2022–32

Occupational group	Percent change
Healthcare support	15.4
Computer and mathematical	15.2
Healthcare practitioners and technical	8.0
Community and social service	7.8
Life, physical, and social science	6.1
Personal care and service	6.1
Legal	5.9
Business and financial operations	5.6
Transportation and material moving	5.4
Management	5.4
Architecture and engineering	5.2
Arts, design, entertainment, sports, and media	3.8
Installation, maintenance, and repair	3.6
Construction and extraction	2.5
Educational instruction and library	2.3
Food preparation and serving related	1.7
Building and grounds cleaning and maintenance	1.7
Protective service	0.3
Farming, fishing, and forestry	-1.9
Sales and related	-2.6
Production	-3.2
Office and administrative support	-6.2

Total, all occupations = 2.8%

Source: U.S. Bureau of Labor Statistics

- As healthcare facilities increasingly use team-based healthcare models, demand will increase for nurse practitioners (44.5-percent growth) and physician assistants (26.5-percent growth) to provide patient care that would otherwise be provided by a doctor. Nurse practitioners also have the largest projected job growth for occupations that typically require a master's degree.

- Computer and mathematical occupations are projected to experience 15.2-percent growth from 2022−32. The marked increase in the number and severity of cyberattacks and data breaches on U.S. businesses is expected to lead to greater demand for cybersecurity products and services. This increase, in turn, will fuel demand for the information security analysts occupation, which is projected to grow 31.5 percent over the 10-year period between 2022 and 2032, making it the fifth fastest growing occupation in the economy. (See chart 7.)

- The projected 2.6-percent decline in employment over the projections period in the sales and related occupational group reflects the continued consumer shift to online shopping. Cashiers, an occupation within this group, are currently the fifth largest occupation in the economy and projected to be significantly affected by these changes in the retail sector, shedding a total of 348,100 jobs, more than any other occupation in the economy.

Chart 7. Ten fastest growing occupations, projected 2022–32

	Percent employment change, projected 2022–32	Employment change, projected 2022–32 (in thousands)	Median annual wage, May 2022[1]
Wind turbine service technicians	44.9	5.0	$57,320
Nurse practitioners	44.5	118.6	$121,610
Data scientists	35.2	59.4	$103,500
Statisticians	31.6	10.5	$98,920
Information security analysts	31.5	53.2	$112,000
Medical and health services managers	28.4	144.7	$104,830
Epidemiologists	26.7	2.7	$78,520
Physician assistants	26.5	39.3	$126,010
Physical therapist assistants	26.1	26.3	$62,770
Software developers	25.7	410.4	$127,260

Footnotes:
(1) Data are from the Occupational Employment and Wage Statistics (OEWS) program, U.S. Bureau of Labor Statistics. Wage data cover non-farm wage and salary workers and do not cover the self-employed, owners and partners in unincorporated firms, or household workers.
Source: U.S. Bureau of Labor Statistics

- The expanding digital presence of businesses and consumers alike is expected to result in a significant increase in the volume of data generated. Employment of data scientists, statisticians, actuaries, and operations research analysts are each projected to grow more than 20.0 percent as demand surges for workers who can model, interpret, and analyze the ever-growing amount of data.

- As renewable energy generation expands due to lower production costs, government policies, and technological advancements in renewable energy infrastructure and battery storage, demand for the occupations tied to their operation will expand as well. Employment of wind turbine service technicians is projected to grow 44.9 percent from 2022 to 2032, the fastest growth of any occupation for the projections decade, while solar photovoltaic installers are projected to grow 22.3 percent. However, because these are small occupations, the fast projected growth is expected to result in only about 5,000 new jobs for wind turbine service technicians and about 6,600 new jobs for solar photovoltaic installers over the projections decade.

- Despite the overall decline in employment in production occupations, driven by automation of production activities, some occupations employed in this group are projected to experience strong employment growth over the projections period. The combination of strong demand for semiconductors and incentives provided through the Creating Helpful Incentives to Produce Semiconductors (CHIPS) and Science Act is expected to lead to an 8.0-percent increase in employment in semiconductor processing technicians over the projections period.

More Information

The *Occupational Outlook Handbook* (*OOH*) includes information about more than 500 detailed occupations in over 300 occupational profiles, covering about 4 out of 5 jobs in the economy.

Each profile features the 2022–32 projections, along with assessments of the job outlook, work activities, wages, education and training requirements, and more.

- The *OOH* is available online at www.bls.gov/ooh. A mobile version of the *OOH* is available for iOS (https://apps.apple.com/us/app/careerinfo/id1476300397) and Android (https://play.google.com/store/apps/details?id=gov.dol.ooh_occupational_handbook&hl=en_US&gl=US) devices.

- Field of degree pages are available online at www.bls.gov/ooh/field-of-degree/home.htm.

- Detailed information on the 2022–32 labor force and macroeconomy projections and on the 2022–32 industry and occupation projections will appear in two separate *Monthly Labor Review* articles in September 2023.

- Tables with detailed, comprehensive projections data are available online at www.bls.gov/emp/tables.htm.

- Definitions for terms used in this news release are available in the BLS Glossary at www.bls.gov/bls/glossary.htm.

If you are deaf, hard of hearing, or have a speech disability, please dial 7-1-1 to access telecommunications relay services.

Technical Note

BLS publishes projections for the labor force, the macroeconomy, industry output and employment, and occupational employment. More information is available online:

- Labor force: https://www.bls.gov/emp/data/labor-force.htm
- Macroeconomy: https://www.bls.gov/emp/data/aggregate-economy.htm
- Industry output and employment: https://www.bls.gov/emp/data/industry-out-and-emp.htm
- Occupational employment: https://www.bls.gov/emp/data/occupational-data.htm

The projections data provide an overview of expected changes in the economy over a decade. The projections focus on long-term structural trends of the economy and do not try to anticipate future business cycle activity. To meet this objective, specific assumptions are made about the labor force, macroeconomy, industry output and employment, and occupational employment. Critical to the production of these projections is the assumption of full employment for the economy in the projected year. The projections are not intended to be a forecast of what the future will be but instead are a description of what would be expected to happen under these specific assumptions and circumstances. When these assumptions are not realized, actual values will differ from projections.

Projections methods are heavily based on historical relationships in the data, but BLS also conducts research on factors that are expected to impact employment, particularly those which may not be reflected in historical data, such as new technologies and legislation. Projections are always uncertain, and the exact impact of developments such as new technologies on the labor market ten years out is impossible to predict with precision. BLS issues new projections annually to incorporate new data, research, and analysis. BLS projections assume that technological change impacts the labor market gradually, not suddenly. This assumption has been supported by the historical record; see Michael J. Handel, "Growth trends for selected occupations considered at risk from automation," *Monthly Labor Review,* U.S. Bureau of Labor Statistics, July 2022, https://doi.org/10.21916/mlr.2022.21.

The difference between projected changes in the labor force and in employment does not necessarily imply a labor shortage or surplus. The BLS projections assume labor market equilibrium; that is, one in which labor supply meets labor demand except for some level of frictional unemployment. In addition, the employment and labor force measures use different definitional and statistical concepts. For example, employment is a count of jobs, and one person may hold more than one job. Labor force is a count of employed people, and a person is counted only once regardless of how many jobs they hold.

For more information, visit the Employment Projections Methodology page online at https://www.bls.gov/opub/hom/emp/home.htm.

Frequently asked questions about the employment projections are online at https://www.bls.gov/emp/frequently-asked-questions.htm.

Users and Uses

The BLS projections are used by high school and college students, their teachers and parents, jobseekers, career counselors, and guidance specialists to determine jobs in demand. The projections also are used by state workforce agencies to prepare state and area projections that, together with the national projections, are widely used by policymakers to make decisions about education and training, funding allocations, and program offerings. These projections of jobs in demand help improve the alignment between education and training and the hiring needs of employers. In addition, other federal agencies, researchers, and academics use the projections to understand trends in the economy and labor market.

Projections of industry and occupational employment are prepared by each state, using input from the BLS national projections. State projections data are available at Projections Central https://www.projectionscentral.org.