ECONOMIC REVIEW OF PENNSYLVANIA 2023

Preface

Pennsylvania's future depends upon the development of a workforce able to compete in today's global economy. Understanding the obstacles confronting the workforce is necessary for Pennsylvania to develop policies and strategies to remain economically competitive.

In an attempt to lower inflation to 2.0 percent or less, the Federal Reserve raised the federal funds target rate cumulatively to 4.5 percent in a series of seven increases beginning in March 2022. Inflation peaked in the summer of 2022, before starting to fall during the remainder of the year in response to the rate increases. However, by year's end, monthly inflation still exceeded the Fed's goal, and the annual average inflation was at 8.0 percent. Since the Federal Reserve had not achieved its inflation goal, it was expected that more rate increases were coming.

These expectations were fulfilled as the Fed raised rates to 5.5 percent in four more increments terminating in July 2023, before holding rates steady for the remainder of the year. Monthly inflation continued to fall but was still above the Fed's goal, while the annual inflation rate fell to 4.1 percent. Throughout this report, monthly and quarterly data are seasonally adjusted while average annual data are not seasonally adjusted. Given that monetary policy operates with a long (usually 6 to 9 months) and variable lag, the fear was that instead of getting a "soft landing", the Fed might raise rates too far. However, despite the higher interest rates, the labor markets of both Pennsylvania and the nation were robust by most measures. Employment was high, while unemployment was low. In fact, Pennsylvania's labor market set records in multiple measures. At the close of 2023, some economic indicators were pointing to a possible slowdown which led to a belief that the Fed would change the direction of policy in 2024 and start decreasing rates. Independent of the results of policies in the short run, Pennsylvania faces long-run challenges.

Pennsylvania's aging population and slow population growth will continue to be a long-term demographic challenge to its labor force. The continuing large wave of retirements from the baby-boom generation will cause a loss of key skills that will not be replaced by fewer youth replacing them. Other long-term challenges include structural changes such as the desire for teleworking, changes in the industry mix as the world continues to evolve towards an information economy and the impact of AI on the requisite skills across occupations. Technology, potential in-migration, and global competition may all help alleviate the need for workers, but a shortage of workers may still remain. The labor market has been and will continue to be challenged to create and maintain jobs with high and growing real wage rates in this new environment.

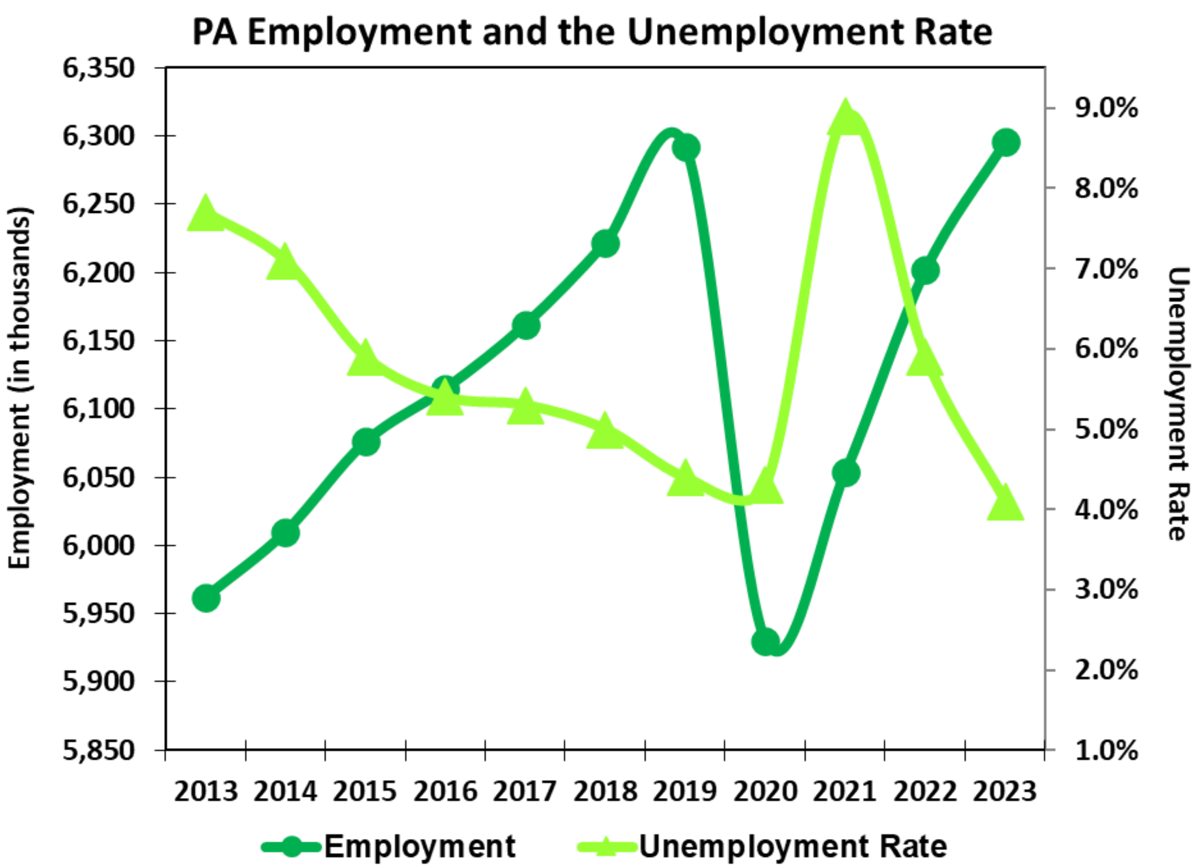
Labor Force Statistics

Employment

Pennsylvania's average employment was at a record high of 6,296,000 in 2023, surpassing the previous record of 6,292,000 set in 2019. Average employment in the state increased by 94,000 or 1.5 percent from its level in 2022. In comparison, the U.S. average employment in 2023 was at a record high of 161,037,000, up 2,746,000 or 1.7 percent from the previous record high set in 2022.

Unemployment Rate

Pennsylvania's average annual unemployment rate fell by 0.7 percentage points over the year to a record low of 3.4 percent in 2023. This was the third consecutive decline in the annual average unemployment rate after being at a recent high of 8.9 percent in 2020. The U.S. average unemployment rate in 2023 remained at its 2022 rate of 3.6 percent.



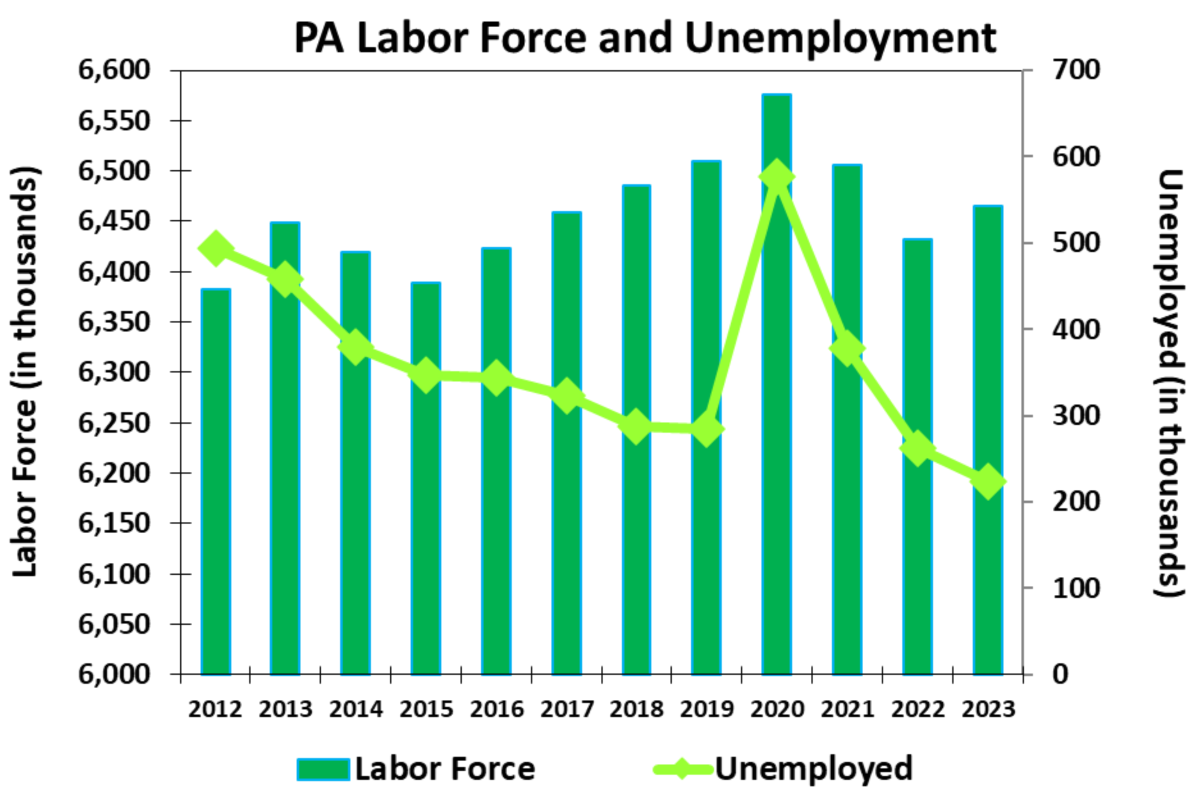
Source: Bureau of Labor Statistics, Local Area Unemployment Statistics

Unemployed

The average number of unemployed Pennsylvanians in 2023 decreased by 40,000 or 15.4 percent, to a record low of 223,000. The annual average volume of unemployment declined for the third consecutive year after increasing in 2020. Prior to that, it had decreased each year beginning with 2011. The U.S. unemployment level in 2023 was 6,080,000, up 84,000 or 1.4 percent from 2022. This was the nation's first increase in the average volume of unemployment after two consecutive decreases.

Labor Force

Pennsylvania's average labor force was 6,518,000 in 2023, up 53,000 or 0.8 percent from 2022. This was the second increase after two annual decreases in the labor force but was still below its peak level of 6,574,000 in 2019. The increase in the number of employed exceeded the decrease in the number of the unemployed. This indicates that the labor market is improving, as entrants or re-entrants to the labor were becoming employed. The U.S. labor force was at 167,116,000 in 2023, its second consecutive record high and an increase of 2,829,000 or 1.7 percent from 2022.

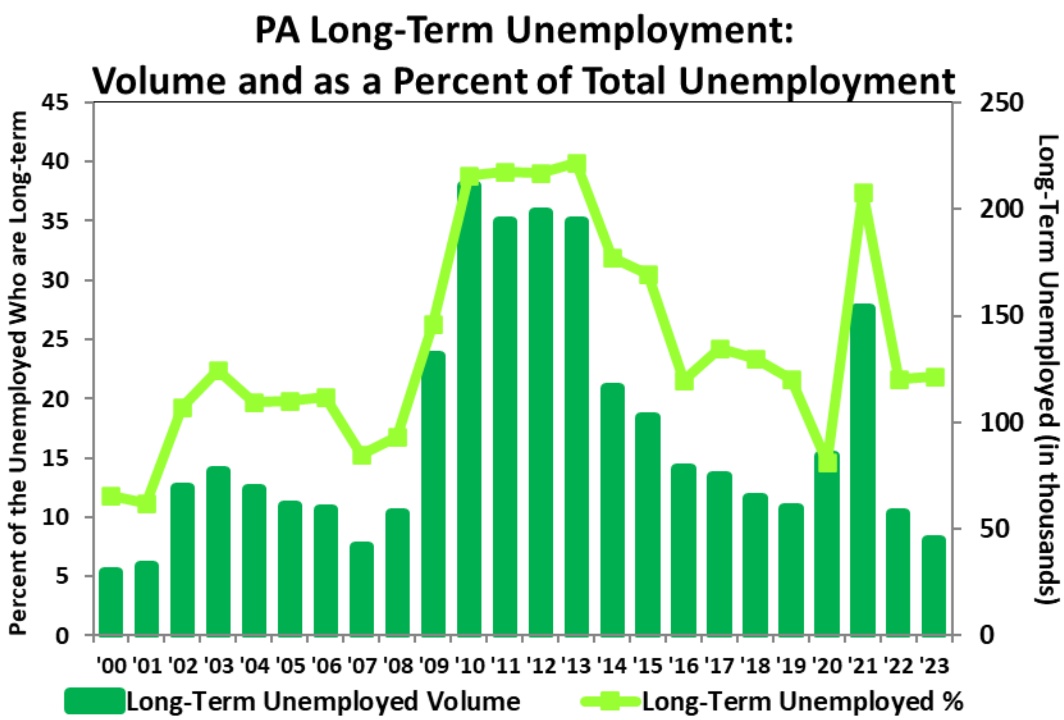


Source: Bureau of Labor Statistics, Local Area Unemployment Statistics

Long-Term Unemployment

Two dimensions of unemployment are its volume (the number of people unemployed at a given time) and duration (the length of time that those unemployed remain unemployed). One measure of duration can be obtained by classifying the unemployed into two categories: short-term (unemployed 26 weeks or less) and long-term (27 weeks or more). The volumes of both short-term and long-term unemployment as well as the average duration of unemployment tend to increase during recessions and in periods immediately thereafter. In non-recessionary times, the level of unemployment is low and consists mostly of the short-term unemployed such as entrants to the labor market or job leavers looking for better opportunities, while a smaller percentage are structurally unemployed people who tend to have longer durations. The long-term ratio, the percentage of the unemployed who are classified as long-term, tends to increase in recessions and shortly thereafter and with a lag to decrease during recoveries.

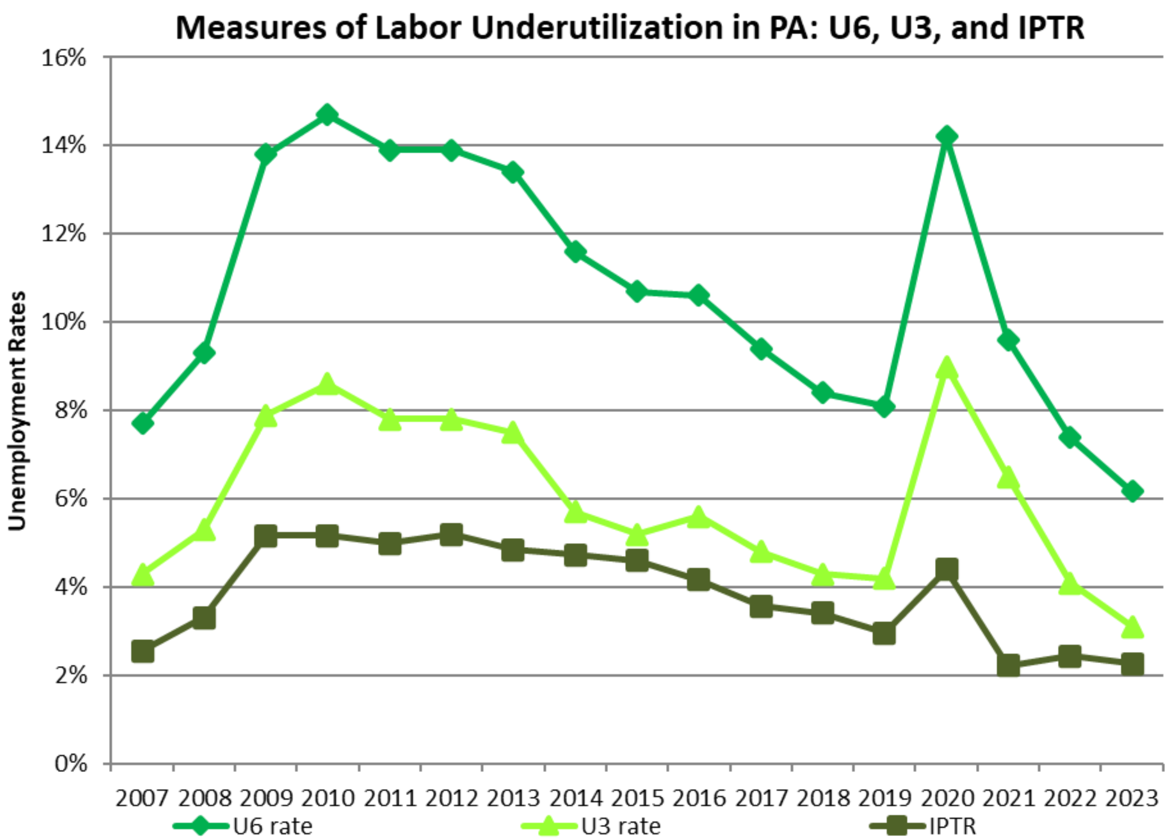
Typically, as an economy starts to recover from a recession, jobs become more plentiful and the level of unemployment decreases primarily due to the decrease in the number of short-term unemployed, while the longer-term unemployment decreases by a smaller percentage. This occurred in Pennsylvania in 2023 as the recovery continued. The annual average volume of long-term unemployed in 2023 decreased by 22.2 percent to 44,500 in Pennsylvania and therefore the long-term ratio ticked up by 0.2 percentage points to 21.9 percent. The 2023 annual average volume of long-term unemployed in the nation decreased by 10.4 percent to 1,177,000, while the long-term ratio decreased by 2.6 percentage points to 19.4 percent. The decrease in the ratio was due to a large increase in short-term unemployment as the labor force increased to a new record.



Source: U.S. Census Bureau, Current Population Survey

Alternative Measures of Labor Underutilization

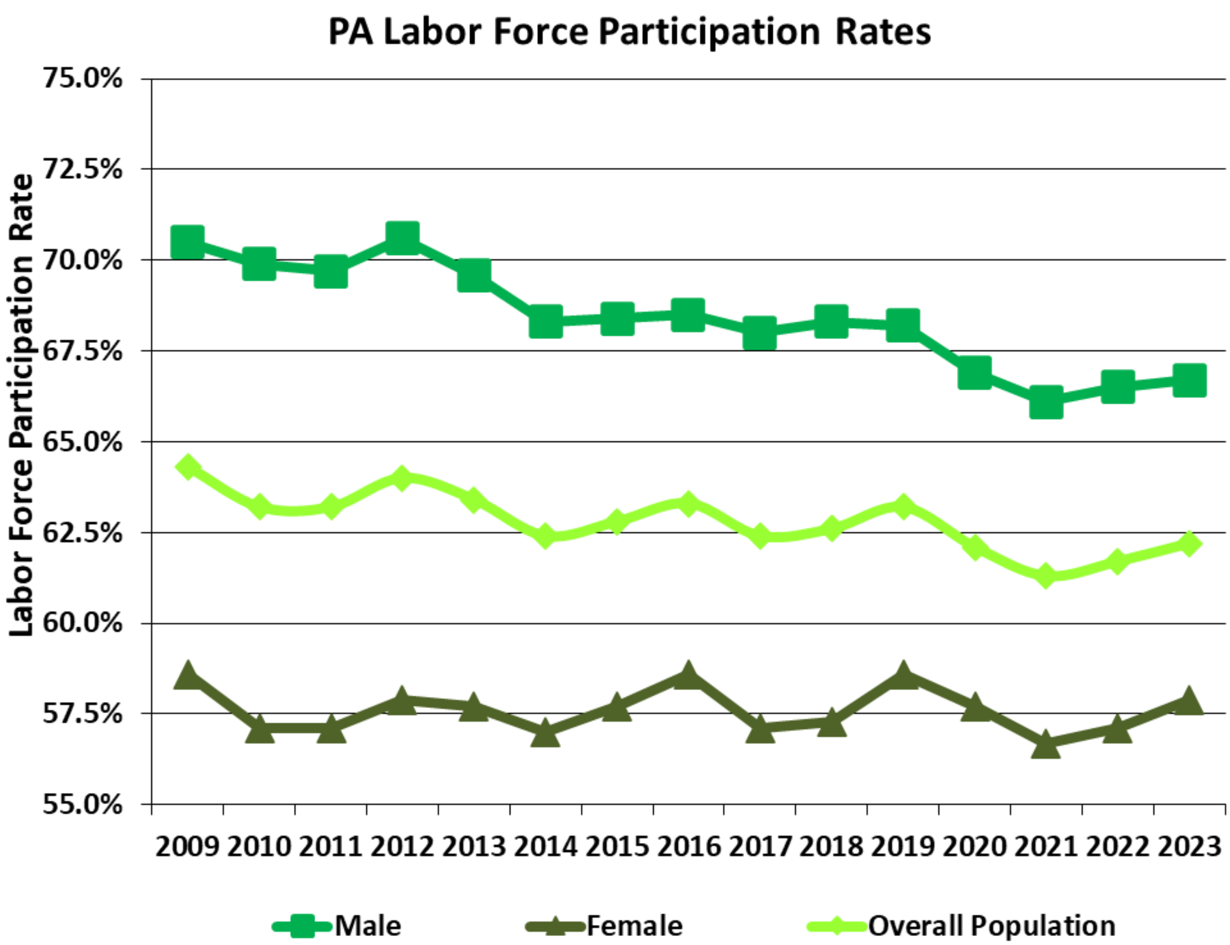
The official unemployment rate discussed earlier (which is termed U3) is one of six measures of labor underutilization reported monthly by the Bureau of Labor Statistics (BLS). It measures the percent of the labor force who do not have a job but are available for work and have actively searched for a job during the four weeks prior to the survey week. It could be claimed that this measure understates the degree that labor is underutilized in the economy, since it doesn't consider people who are working part-time for economic reasons but would prefer to work full-time (i.e., they are involuntarily part-time) and marginally attached workers who want and are available for work and have looked for a job in the prior year (though not in the previous four weeks). The involuntary part-time employees count as employed, while the marginally attached workers are not in the labor force. The broadest measure of labor underutilization (termed U6) is significantly larger than U3 since it accounts for both groups. Another related measure of labor demand slack is the Involuntary Part-Time Rate, IPTR, which is the percentage of the employed who are involuntarily part-time. All three rates tend to move together, indicating that the labor market is improving as the rates decrease. In 2023, the U3 and U6 rates fell for the third consecutive year, while the IPTR fell slightly from 2.4 percent to 2.3 percent after rising slightly in 2022. The U6 rate fell by 1.2 percentage points to 6.2 percent while the U3 rate fell by 1.0 percentage points. Decreases in the number of unemployed workers, those who are marginally attached and those working part time for economic reasons, are all positive signs for the labor market; however, the improvements in these three areas seem to be diminishing relative to the improvements since 2020.



Source: U.S. Census Bureau, Current Population Survey

Labor Force Participation

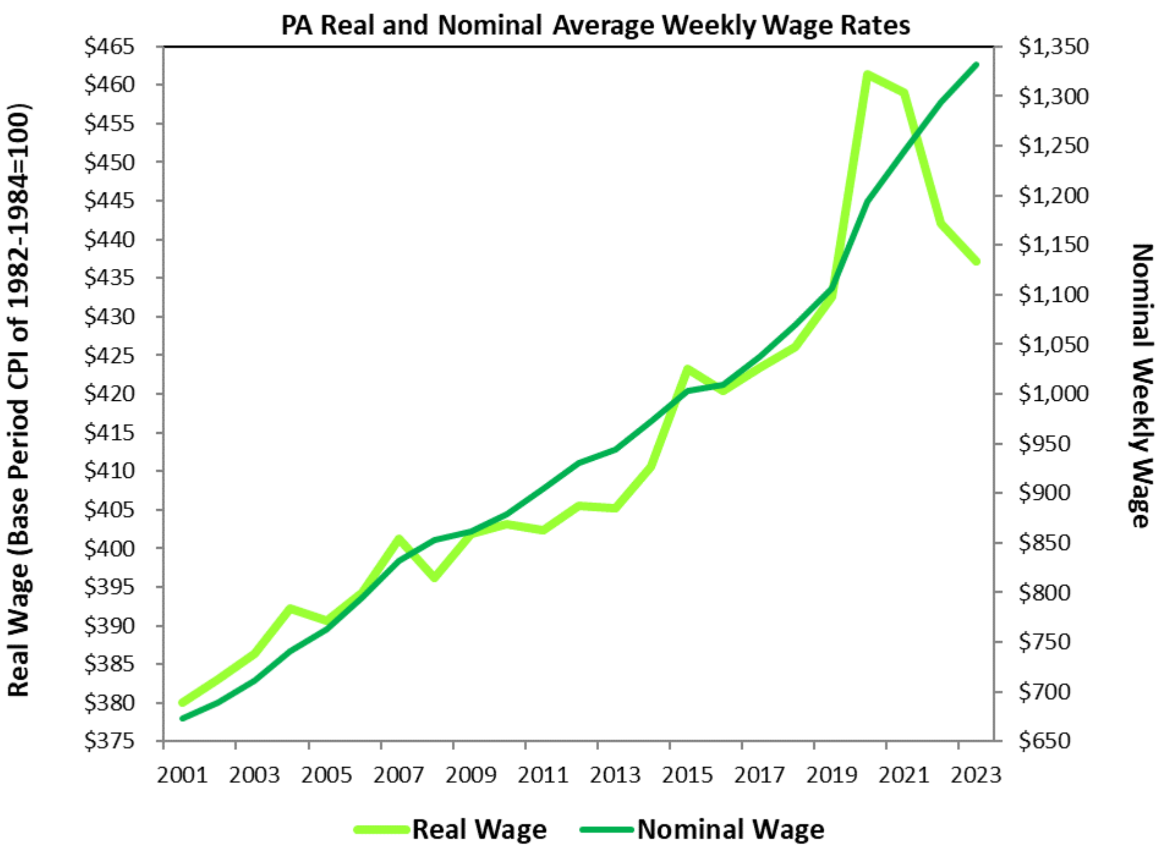
The labor force participation rate is a measure of people who are working or who want to work as a percentage of the relevant population. Pennsylvania's labor force participation rate in 2023 increased 0.5 percentage points to 62.2 percent from 2022. In 2023, the male labor force participation rate also increased by 0.2 percentage points to 66.7 percent while the female rate was 57.9 percent, an increase of 0.8 percentage points. The nation's average labor force participation rate in 2023 was 62.6 percent, an increase of 0.4 percentage points from 2022. The long-term trend in the rate tends to be dominated by demographic factors, such as the aging of the population (which would tend to decrease the rate) and various sociological factors, while cyclical factors such as an improvement in the prospects of employment can increase the rate in the short run. Notwithstanding the increases in the rate for the state and the nation, the long-term trend is for the rate to continue to decrease. The lower rate in Pennsylvania is likely due to the older age distribution in the state relative to the nation.



Source: U.S. Census Bureau, Current Population Survey

Nominal and Real Wage Rates

In addition to looking at employment and the labor force as measures of labor demand and labor supply, it is instructive to look at the wage rate, which is the "price" of labor. The nominal wage rate is measured in current (year in question) dollars, while the real wage rate is measured in constant dollars by holding prices at their levels in a base year. As such, the real wage rate factors out the effects of inflation and is a measure of the purchasing power of the wage rate. The nominal wage rate tends to increase over time as it reflects a higher price level and increased labor productivity, albeit with a lag. In situations of increasing labor demand, such as periods of recovery in the economy, employment and real and nominal wages usually increase. In 2023, the real wage decreased by 1.1 percent despite a 2.9 percent increase in nominal wages as price inflation rose by a greater percentage (4.1 percent). The 2023 inflation fell from the recent high of 8.0 percent rate in 2022 as some of the pent-up demand and supply chain issues were dissipating. Nominal wage rates tend to be rigid downward and usually increase (but by less) even during labor market downturns, while real wage rates tend to fall during such periods. However, even in times of increasing demand, when inflation accelerates real wages may fall since nominal wage rates tend to lag inflation, which was what happened in 2023.



Sources: Quarterly Census of Employment and Wages, Bureau of Labor Statistics, and Center for Workforce Information & Analysis

The real wage was calculated by deflating the nominal wage by the annual value of the broadest CPI-U not seasonally adjusted (U.S. City Average for all items), with base period of 1982-1984 = 100. Wage data for 2023 was preliminary.

Industry Employment

Jobs

According to the National Bureau of Economic Research, the nation's last peak of the business cycle was in February 2020, which is why it is used as a reference month in the analysis below. Through 2022, Pennsylvania's all-time high volume of total nonfarm jobs was reached in January of 2020 before a small decrease in February. Jobs began to rebound in May following a significant decrease in March and April. While the nation's total nonfarm jobs surpassed its February 2020 record by June 2022, it took until August of 2023 for Pennsylvania to set a new monthly record. In December 2023, Pennsylvania set its fifth consecutive monthly record with jobs at 6,115,100. This was an increase of 80,800 (1.3 percent) over the year and was 0.5 percent higher than in February 2020. U.S. nonfarm jobs were at 157.3 million in December 2023, up 3.0 million jobs from one year prior or 2.0 percent. Despite a secular trend of decreasing government jobs, public sector jobs in 2023 increased by 1.9 percent over the year in Pennsylvania and by 3.2 percent in the nation. The volume of these jobs remained 2.0 percent below their February 2020 level in Pennsylvania, but finally surpassed their February 2020 level by 0.9 percent in the nation. Private sector jobs increased in both Pennsylvania and the nation over the year and since February 2020. The performance of private and public sector jobs in the nation since February 2020 was superior to that in Pennsylvania. Since private sector jobs constitute a much higher percentage of total jobs than do public sector jobs, the performance of private jobs will disproportionately affect total jobs.

PA Total Nonfarm Jobs December 2007 to December 2023 (Seasonally Adjusted)

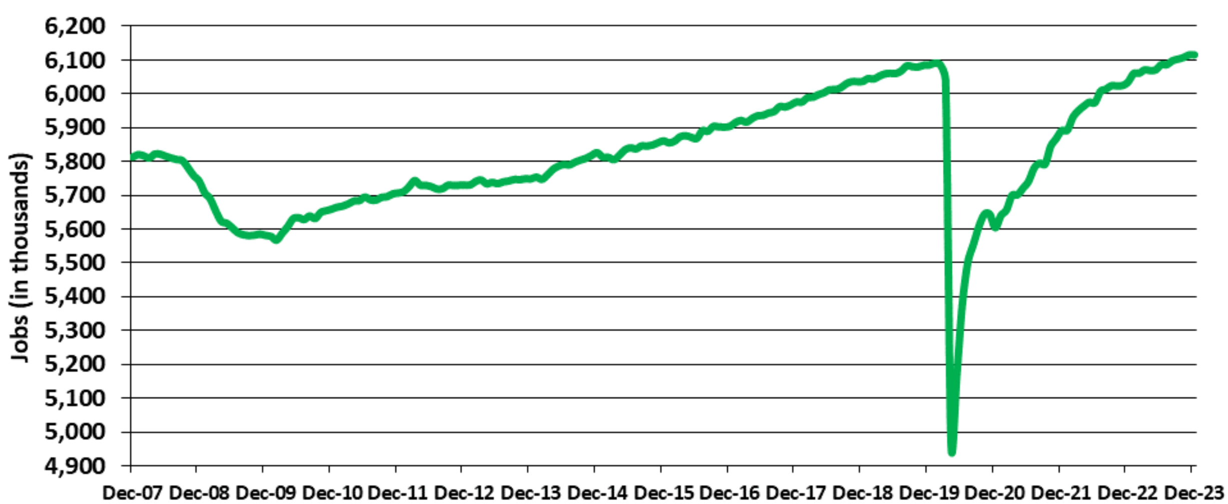


Table 1: PA Total Nonfarm Jobs – 2020 and 2023 Comparison

Category	December 2023	OTY Change	PA Change from February 2020 - Volume	PA Change from February 2020 - Percent	US Change from February 2020 - Percent
Total Nonfarm Jobs	**6,115,100**	**80,800**	**28,900**	**0.5%**	**3.3%**
Total Private Jobs	5,420,500	67,600	43,000	0.8%	3.7%
Government Jobs	694,600	13,200	-14,100	-2.0%	0.9%

Source: Bureau of Labor Statistics, Current Employment Statistics

Goods-Producing Jobs

Pennsylvania's goods-producing jobs in December 2023 were down 4,700 (0.6 percent) from one year prior and were 16,400 or 1.9 percent below the level of February 2020. The decline in jobs was widespread as all the goods-producing sectors and supersectors except for mining & logging lost jobs in 2023. Construction had the largest volume and percentage decreases and accounted for 63.8 percent of the job losses in the domain. Durable goods accounted for 70.6 percent of the one-year decrease in manufacturing jobs. All of the sectors except for nondurable goods manufacturing had fewer jobs in December 2023 than they had in February 2020. Goods-producing jobs since February 2020 increased in the nation by 3.1 percent, led by a 6.6 percent increase in construction jobs, which accounted for 78.4 percent of the increase in that interval, while mining and logging was the only sector in which jobs fell. In the nation over the year, construction had the largest percentage increase, while mining & logging (the smallest sector in this domain) had the second largest percentage increase. Additionally, nondurable goods manufacturing was the only sector that lost jobs over the year. The disparity in job performance in this domain between Pennsylvania and the nation may be partially due to Pennsylvania's greater reliance on heavy industry.

Table 2: Pennsylvania Goods-Producing Industries Nonfarm Wage & Salary Employment (Seasonally Adjusted)

Industry	December 2023	OTY Change	PA Change from February 2020 - Volume	PA Change from February 2020 - Percent	US Change from February 2020
Goods-Producing Industries	**844,800**	**-4,700**	**-16,400**	**-1.9%**	**3.1%**
Mining & Logging	22,700	0	-3,400	-13.0%	-6.0%
Construction	256,700	-3,000	-7,200	-2.7%	6.6%
Manufacturing	565,400	-1,700	-5,800	-1.0%	1.4%
Durable Goods	333,600	-1,200	-7,800	-2.3%	1.8%
Nondurable Goods	231,800	-500	2,000	0.9%	0.7%

Source: Bureau of Labor Statistics, Current Employment Statistics

Service-Providing Jobs

In December 2023, Pennsylvania's service-providing jobs were up 85,500 (1.6 percent) from one year prior and finally surpassed their February 2020 level by 45,300 jobs or 0.9 percent. The largest increase in the volume of jobs over the year (and also since February 2020) was in the education & health services sector and within that sector in the health care & social assistance industry group. The aging of the population in Pennsylvania has probably contributed to the long-term trend of growth in these industries. The increase in service-providing jobs in Pennsylvania since February 2020 was due to a larger increase in private service-providing jobs overcoming a decrease in government jobs.

Service-providing jobs outperformed goods-producing jobs in Pennsylvania and in the nation in 2023 and since February 2020. Pennsylvania's best performing service-providing industry sectors (measured by percent increase) since February 2020 were management of companies and enterprises; professional & technical services; and transportation, warehousing & utilities. Of the service-providing sectors, management of companies & enterprises and educational services were the only two sectors to outperform their U.S. counterparts. Government jobs in Pennsylvania fell while they rose in the nation since February 2020. In Pennsylvania over that interval, only federal government jobs increased, while the losses in state and local government jobs were larger, leading to the decrease in total government jobs. Nationwide, however, jobs in all three branches of government increased since February 2020. In Pennsylvania, the worst performing sector by volume since February 2020 was leisure & hospitality led by accommodations & food services. The growth in jobs in transportation, warehousing & utilities (which had the largest percentage increase in the nation, 12.3 percent, and was among the leaders in Pennsylvania) reflects a long-term trend away from brick-and-mortar retail toward on-line purchasing.

Table 3: Pennsylvania Service-Providing Industries Nonfarm Wage & Salary Employment (Seasonally Adjusted)

Industry	December 2023	OTY Change	PA Change from February 2020 - Volume	PA Change from February 2020 – Percent	US Change from February 2020
Service-Providing Industries	**5,270,300**	**85,500**	**45,300**	**0.9%**	**3.3%**
Trade, Transportation & Utilities	1,135,800	-4,600	13,900	1.2%	4.1%
Wholesale Trade	216,900	1,700	900	0.4%	4.5%
Retail Trade	592,500	-2,400	-7,700	-1.3%	0.6%
Transportation, Warehousing & Utilities	326,400	-3,900	20,700	6.8%	12.3%
Information	92,000	-2,100	2,200	2.4%	3.6%
Financial Activities	341,800	3,900	7,600	2.3%	4.1%
Finance & Insurance	272,800	2,300	5,400	2.0%	3.5%
Real Estate & Rental & Leasing	69,000	1,600	2,200	3.3%	5.5%
Professional & Business Services	837,900	-6,000	25,100	3.1%	6.7%
Professional & Technical Services	392,100	-600	26,600	7.3%	12.7%

Industry	December 2023	OTY Change	PA Change from February 2020 - Volume	PA Change from February 2020 – Percent	US Change from February 2020
Management of Companies &	147,900	1,100	14,200	10.6%	3.0%
Administrative & Waste Services	297,900	-6,500	-15,700	-5.0%	1.5%
Education & Health Services	1,342,100	58,900	33,500	2.6%	5.1%
Educational Services	246,800	11,900	7,700	3.2%	1.2%
Health Care & Social Assistance	1,095,300	47,000	25,800	2.4%	5.8%
Leisure & Hospitality	567,000	18,200	-17,300	-3.0%	-0.5%
Arts, Entertainment & Recreation	96,300	-1,100	-4,500	-4.5%	4.4%
Accommodations & Food Services	470,700	19,300	-12,800	-2.6%	-1.3%
Other Services	259,100	4,000	-5,600	-2.1%	-1.3%
Government	694,600	13,200	-14,100	-2.0%	0.9%
Federal Government	102,600	2900	3600	3.6%	3.9%
State Government	147,600	1600	-8,400	-5.4%	1.6%
Local Government	444,400	8,700	-9,300	-2.0%	0.1%

Source: Bureau of Labor Statistics, Current Employment Statistics

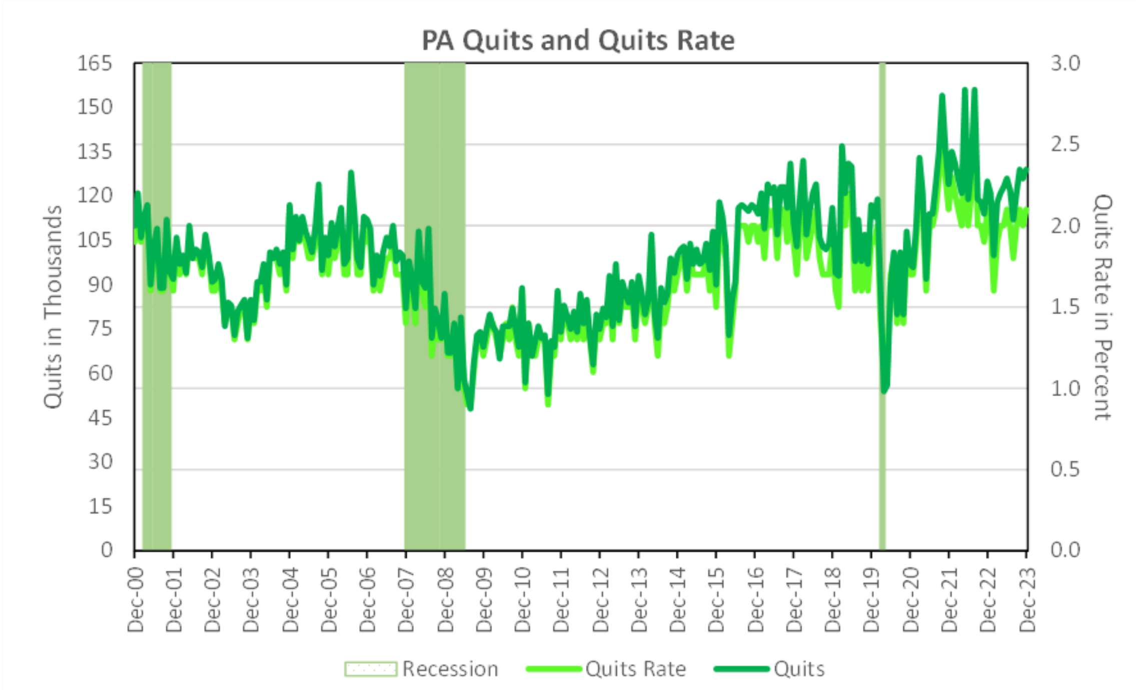
Other Economic Indicators

Quits and the Quits Rate

Quits are a subset of total separations compiled monthly in the Job Openings and Labor Turnover Survey (JOLTS) by the Bureau of Labor Statistics (BLS). Quits are defined as employees who left voluntarily except for retirements or transfers to other locations. The quits rate is the ratio of quits to total employment.

When the labor market is strong, with plentiful jobs and rising wage rates, workers perceiving this are willing to voluntarily leave their jobs in the expectation that they can easily get jobs elsewhere that are better (in pecuniary and nonpecuniary terms). As such, quits tend to rise when labor market conditions are improving and remain high when the labor market remains strong. A decreasing volume of quits indicates that the labor market is weakening and a low volume of quits implies that workers perceive that the outlook of the labor market is weak. The quits rate behaves similarly, but because it adjusts for the level of employment it makes longer term comparisons (where employment levels may vary greatly) possible.

Following the brief recession in 2020, when both the level and rate of quits decreased precipitously, there was a strong increase in both. While both monthly series are volatile, they both stabilized at a relatively high level during 2021 and 2022. During 2023, quits ranged from 100,000 in February to 129,000 in October and December. The quits rate ranged from 1.6 in February to 2.1 in June, October, and December. Both the high and low values of quits and the quits rate were lower in 2023 than they were in 2022. While they were still relatively high, this indicates that workers perceived that the labor market was cooling.



Source: Bureau of Labor Statistics, Job Openings and Labor Turnover Survey

Job Openings and the Openings Rate

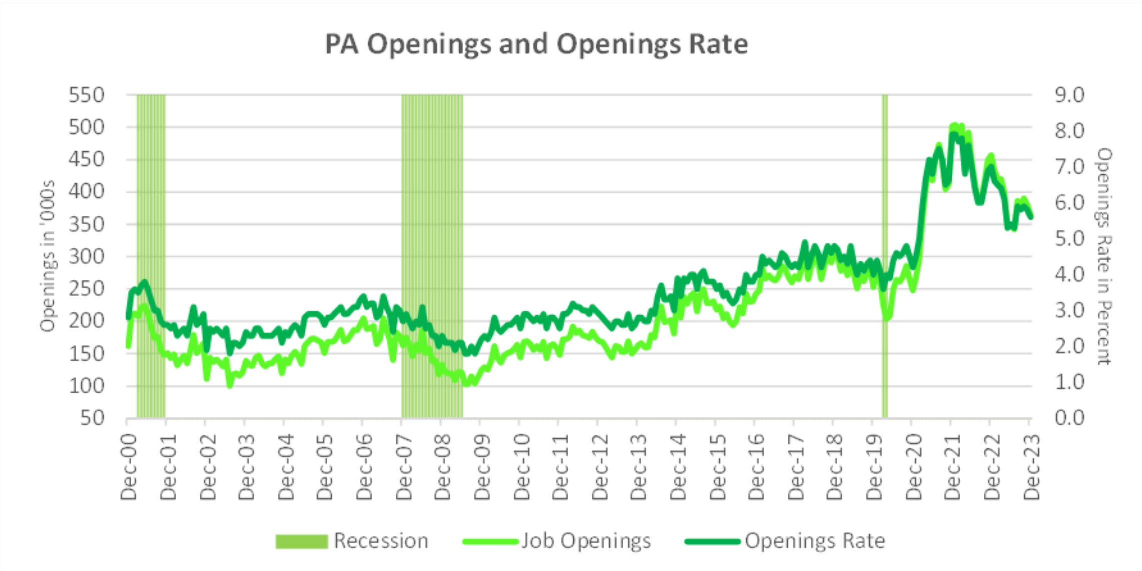
As part of the monthly Job Openings and Labor Turnover Survey, the BLS defines openings as, vacancies including all positions that are open on the last business day of the reference month. An opening may be full-time or part-time and it can be permanent, short-term, or seasonal, but must meet three conditions:

- A specific position exists and there is work available for that position,
- The job could start within 30 days, whether or not the employer can find a suitable candidate during that time, and
- The employer is actively recruiting workers from outside the establishment to fill the position.

The openings rate is the ratio of job openings to employment.

Job openings may be generated by increased demand for labor, by churn (workers changing positions), or by other separations like retirements. In any event, increasing openings are generally a sign that the labor market is strengthening, while a high level of openings indicates that the labor market (and the economy) remains strong. A similar analysis holds for the openings rate.

In the recession period of 2020, the average level of (seasonally adjusted) openings fell to 251,700, and then rose to 407,300 in 2021 and to 448,400 in 2022 as the labor market was recovering. In 2023, the average level of openings fell to 384,300. The average (seasonally adjusted) openings rate during this period went from 4.3 in 2020 to 7.0 in 2022 before falling to 5.9 in 2023. While the openings rate (as well as the level of openings) remains elevated, the decrease in the rate may be symptomatic of a cooling labor market. This may be caused by lower quits (as workers become less optimistic about their prospects) or by decreased demand by employers who are not expanding as rapidly due to concerns of a cooling economy.



Source: Bureau of Labor Statistics, Job Openings and Labor Turnover Survey

Ratio of Unemployed to Job Openings ("Supply/Demand" Analysis)

One measure of the supply of labor is the labor force, which is the sum of the employed and the unemployed. Similarly, a measure of labor demand is the sum of the employed plus vacancies or job openings. Subtracting the volume of the employed from both sides yields that the unemployed are the part of labor supply that is not already employed and that job openings are the part of labor demand not already employed. The ratio of the unemployed to job openings is therefore a rough measure of whether at the macroeconomic level supply exceeds demand or vice versa. It does not address the issue that not all unemployed workers are qualified to fill all the open positions or that some workers may be underemployed.

When the ratio of the unemployed to job openings equals one, the number of the unemployed equals the number of job openings, so "supply" equals "demand" and the economy is at "full-employment" with all unemployment consisting of frictional and some structural unemployment. When the ratio exceeds one, there are more people looking and available for work than there are openings available. During and following recessions as cyclical unemployment is high, the ratio increases and remains high as more slack exists in the labor market. Tight labor markets where jobs are plentiful may be characterized by ratios less than one, where frictional unemployment is lower than normal and much of the unemployment is structural.

From May 2021 through December 2023, the ratio has been under one, indicating that there were more job openings than there were workers willing to fill those positions. This is sometimes referred to as an economy that is "over full-employment".

Source: Bureau of Labor Statistics, Job Openings and Labor Turnover Survey and Local Area Unemployment Statistics

New Hires

The number of New Hires reflects people hired as replacements for job leavers as well as expansions in the firm's complement. Typically, the number of New Hires will rise when labor markets tighten and fall (overall or at the industry level) during a less robust labor market. The number of reported New Hires decreased by 32,000 or 7.0% in the fourth quarter of 2023 from the same quarter in 2022. New Hires in goods-producing industries decreased by 10 percent (4,900) and by 7.0% (27,100) in the service-providing industries. New Hires fell in all sectors and only arts, entertainment & recreation (an industry group) had an increase in New Hires. This was similar to 2022, when most sectors had a decrease in New Hires. Within the goods-producing industries, manufacturing had the largest volume decrease (4,300) and mining, quarrying & oil & gas extraction had the largest percentage decrease (16 percent). Among the service-providing industries, the largest volume decrease was in professional & business services (7,500), while financial activities had the largest percentage decrease (23 percent). With strong employment, the decreases in new hires in 2023 may reflect a decrease in quits. Alternatively, it may foreshadow the beginning of a deterioration of the labor market.

Table 4: Comparison of Reported Pennsylvania New Hires: 4th Quarter 2023 and 2022

Industry Sector	2023 Q4	2022 Q4	Change from 2022 Q4 - Volume	Change from 2022Q4 - Percent
Total New Hires	**410,300**	**442,300**	**-32,000**	**-7%**
Goods-producing Industries	**42,600**	**47,500**	**-4,900**	**-10%**
Agriculture, Forestry, Fishing, Hunting	1,900	1,900	-100	-4%
Mining, Quarrying & Oil & Gas Extraction	700	800	-100	-16%
Construction	13,300	13,700	-300	-2%

Industry Sector	2023 Q4	2022 Q4	Change from 2022 Q4 - Volume	Change from 2022Q4 - Percent
Manufacturing	26,800	31,100	-4,300	-14%
Service-providing Industries	**367,700**	**394,800**	**-27,100**	**-7%**
Trade, Transportation & Utilities	72,200	76,900	-4,700	-6%
Wholesale Trade	9,800	10,700	-900	-9%
Retail Trade	39,700	41,600	-1,900	-5%
Transportation, Warehousing & Utilities	22,600	24,500	-1,900	-8%
Information	2,600	2,900	-200	-8%
Financial Activities	10,600	13,900	-3,200	-23%
Finance & Insurance	6,700	9,700	-3000	-31%
Real Estate & Rental & Leasing	3,900	4,100	-200	-6%
Professional & Business Services	58,500	66,000	-7,500	-11%
Professional & Technical Services	15,700	19,300	-3,600	-19%
Management of Companies & Enterprises	3,200	4,100	-900	-21%
Administrative & Waste Services	39,600	42,700	-3,100	-7%
Education & Health Services	132,100	135,300	-3200	-2%
Educational Services	22,000	22,100	-100	-1%
Health Care & Social Assistance	110,100	113,200	-3100	-3%
Leisure & Hospitality	70,000	76,000	-6,000	-8%
Arts, Entertainment & Recreation	13,200	12,800	400	3%
Accommodations & Food Services	56,800	63,200	-6,400	-10%
Other Services	13,800	15,900	-2000	-13%
Government	3,900	4,000	-100	-3%
Unclassified Industry	3,900	4,000	0	-1%

Computations are performed on unrounded data and the results are rounded, which may not agree with computations on the rounded data. Data from 2021 on refer only to newly hired Pennsylvania residents whose place of work was also Pennsylvania, which differ from prior reports.

Source: Pennsylvania New Hire Reporting Program

Weekly Claims for Unemployment Compensation

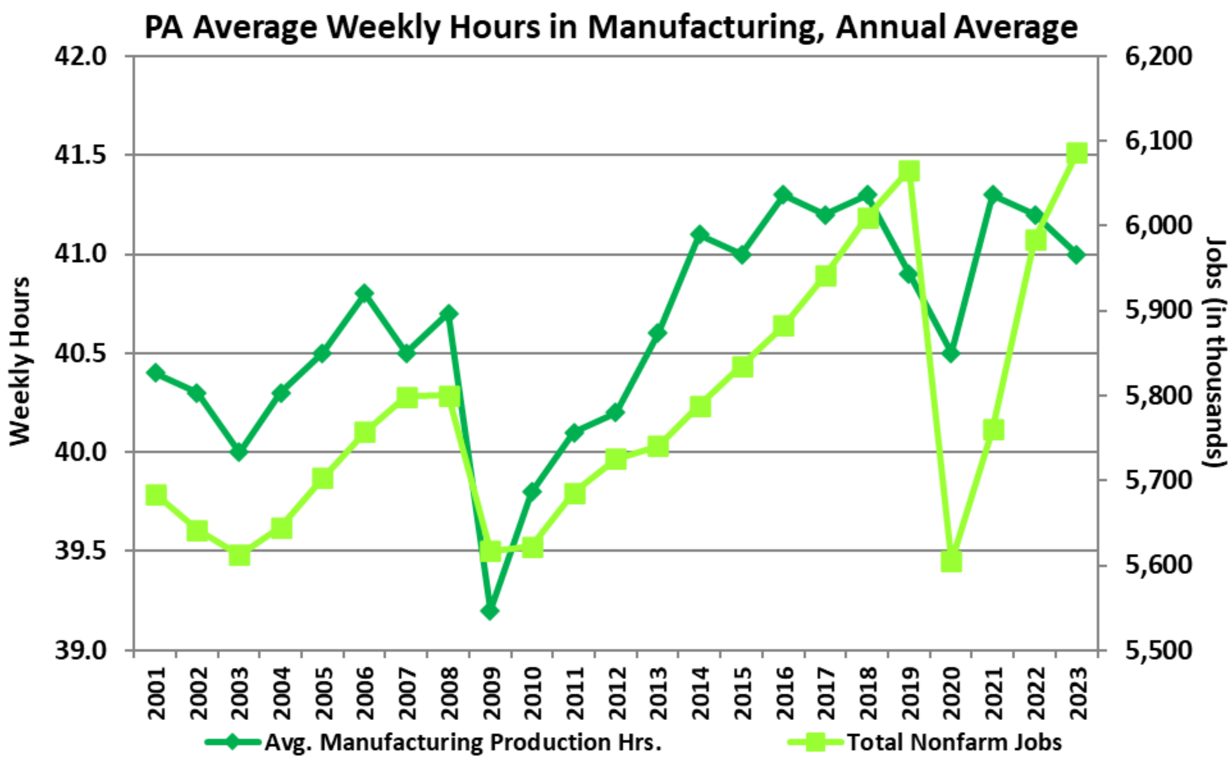
The data below refer only to the regular unemployment compensation claimants and do not include claimants in supplementary programs such as the Pandemic Emergency Unemployment Compensation or the Pandemic Unemployment Assistance programs. Initial claims generally reflect the level of layoffs, while continued claims reflect unemployed individuals remaining out of work for longer periods. Pennsylvania's average weekly number of initial claims were at a maximum in 2020, but only two years later, in 2022, they were at an all-time low. In 2023, initial claims increased a little, but were at their lowest level except for 2022. The state's average weekly number of continued claims behaved similarly during the same period. The small increases in both the averages of initial claims and continued claims from their record lows in 2022 may indicate a slight cooling of a fairly strong labor market.

PA Average Weekly Initial and Continued Claims for Unemployment Compensation

Source: Pennsylvania Unemployment Compensation System

Average Weekly Hours in Manufacturing

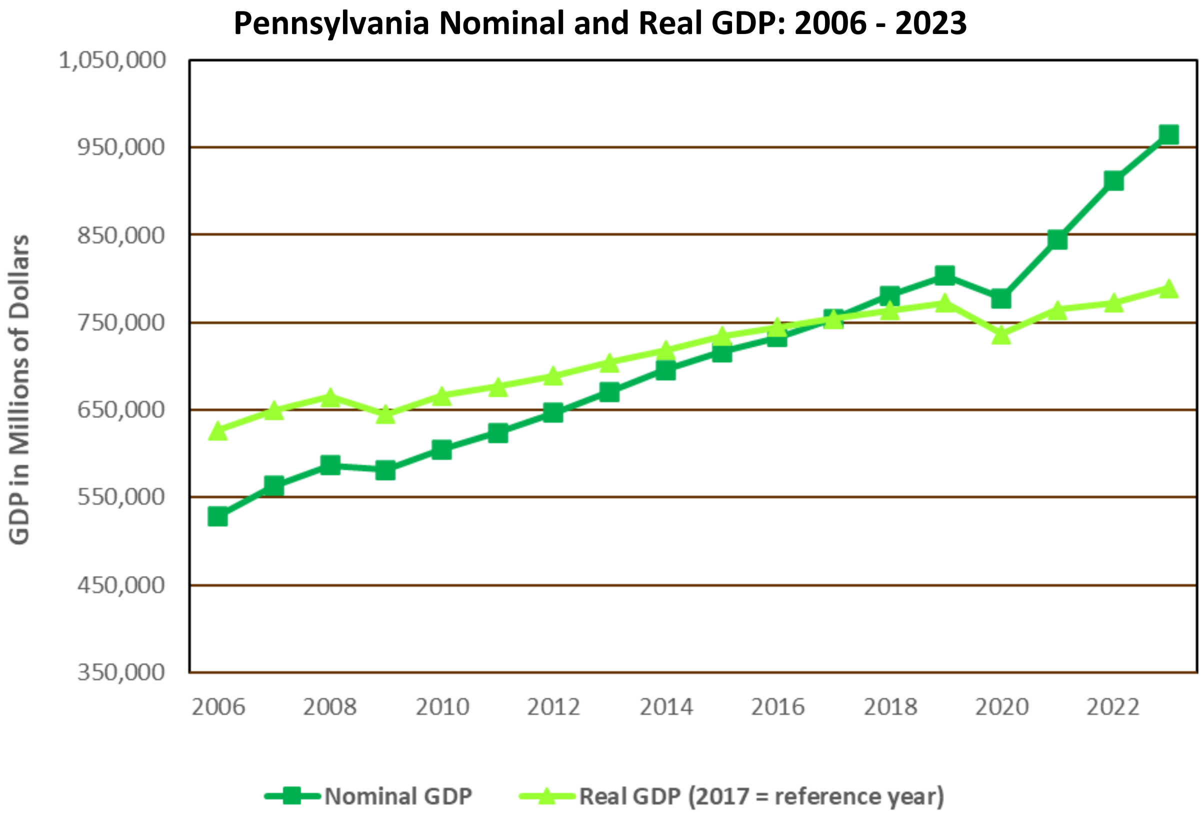
Average weekly hours are a leading indicator, often correctly forecasting the direction of the economy. As the economy begins to grow out of a recession (e.g., in 2004), employers will tend to delay hiring new workers until they are more confident that economic growth is improving and sustainable, and instead will have their existing employees work more hours. Eventually, as the economy continues to improve, businesses will add more workers and this increase in employment will reinforce the positive trend in economic growth (e.g., in 2005 to 2006). In contrast, when the economy is just beginning to slow down or is expected to do so, employers wishing to maintain employee loyalty will retain workers (labor hoarding) by reducing hours worked, rather than immediately laying off workers (e.g., in 2001). If the slowdown deepens, businesses may need to lay off workers, reinforcing the negative trend in economic growth (e.g., in 2002 to 2003). In Pennsylvania, the annual average of weekly hours in manufacturing turned down in 2019 and continued to fall in 2020, while jobs didn't fall until 2020. Both rebounded in 2021 and nonfarm jobs continued to increase through 2023, while average weekly hours fell in 2022 and again in 2023. It is somewhat anomalous for jobs overall and in manufacturing to increase while their average hours decreased; however, that is what occurred in both Pennsylvania and the nation (whose decrease was more severe). A possible explanation is that employers were increasing their part-time employment either to replace (fewer) full-time employees or as additions. An alternative explanation is that hours worked decreased as overtime was reduced, but more workers were hired as a substitute. These interpretations of these explanations give differing views of the projected state of the labor market (particularly manufacturing). Given that the decreasing trend in manufacturing employment, the value of average weekly manufacturing hours as an economic indicator may be diminishing.



Source: Bureau of Labor Statistics, Current Employment Statistics

Nominal and Real Gross Domestic Product (GDP)

The Bureau of Economic Analysis (BEA) produces estimates of each state's gross domestic product (GDP) both nominally and in "real" terms on a quarterly and annual basis. Nominal GDP is the market value of goods and services produced by the labor and property located in a state valued in the prices of the period when the transactions occurred—that is, at "market value". Real GDP, on the other hand, excludes the effects of price changes and are therefore inflation-adjusted values that ideally reflect changes in actual output over time. Typically, although not always, labor markets and output markets move together, although labor markets tend to lag output markets. After falling by 4.7 percent in 2020, real GDP in Pennsylvania grew by 3.8 percent in 2021. GDP growth slowed to 1.0 percent in 2022 but rebounded to 2.2 percent in 2023. Pennsylvania's 2023 percentage growth rate in real GDP ranked 28th in the country and was below the nation's growth rate of 2.5 percent. The other states' growth rates in output over this period ranged from an increase of 0.2 percent to an increase of 5.9 percent. Pennsylvania's nominal GDP has been rising for the last 3 years, but the rate of increase has fallen to 5.8 percent in 2023 from 8.6 percent in 2021. The faster growth in Pennsylvania's nominal GDP was due to a surge in price inflation since 2020, which has been moderating.



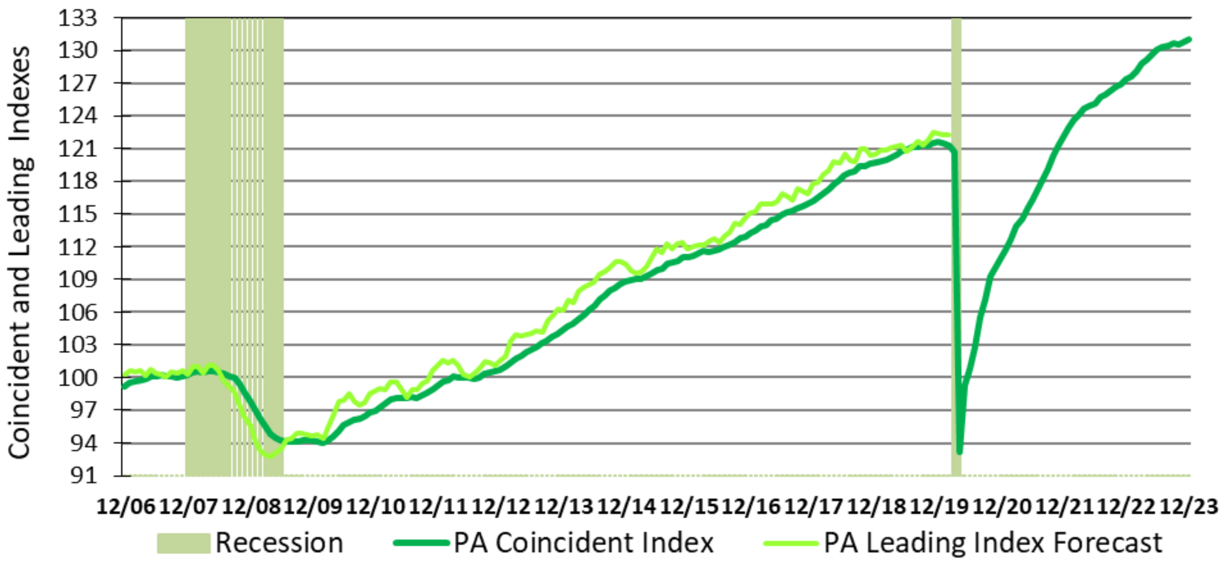
Source: Bureau of Economic Analysis
The BEA utilizes chain-weighted quantity indexes to covert nominal values into real values. The reference year is currently 2012.

Coincident and Leading Economic Indexes[1]

The Federal Reserve Bank of Philadelphia produces a coincident economic index (CEI) and a leading economic index (LEI) for Pennsylvania monthly. The CEI combines four state-level indicators to summarize current economic conditions. The four variables are nonfarm payroll employment, average hours worked in manufacturing, the unemployment rate, and wage and salary disbursements deflated by the consumer price index (U.S. city average). The trend for each state's index is set to the trend of its gross domestic product (GDP), so long-term growth

[1] Material for this section was taken from the Philadelphia Federal Reserve Website. More information on the indexes can be found at The Federal Reserve Bank of Philadelphia - State Coincident Indexes and The Federal Reserve Bank of Philadelphia - State Leading Indexes.

in the state's index matches long-term growth in its GDP. The LEI for each state predicts the six-month growth rate of the state's CEI. In addition to the CEI, the models include other variables that lead the economy: state-level housing permits (1 to 4 units), state initial unemployment insurance claims, delivery times from the Institute for Supply Management manufacturing survey, and the interest rate spread between the 10-year Treasury bond and the 3-month Treasury bill. The sudden and extreme impact of the pandemic on initial claims led to the continuing indefinite suspension of the release of state LEIs that began in March 2020.

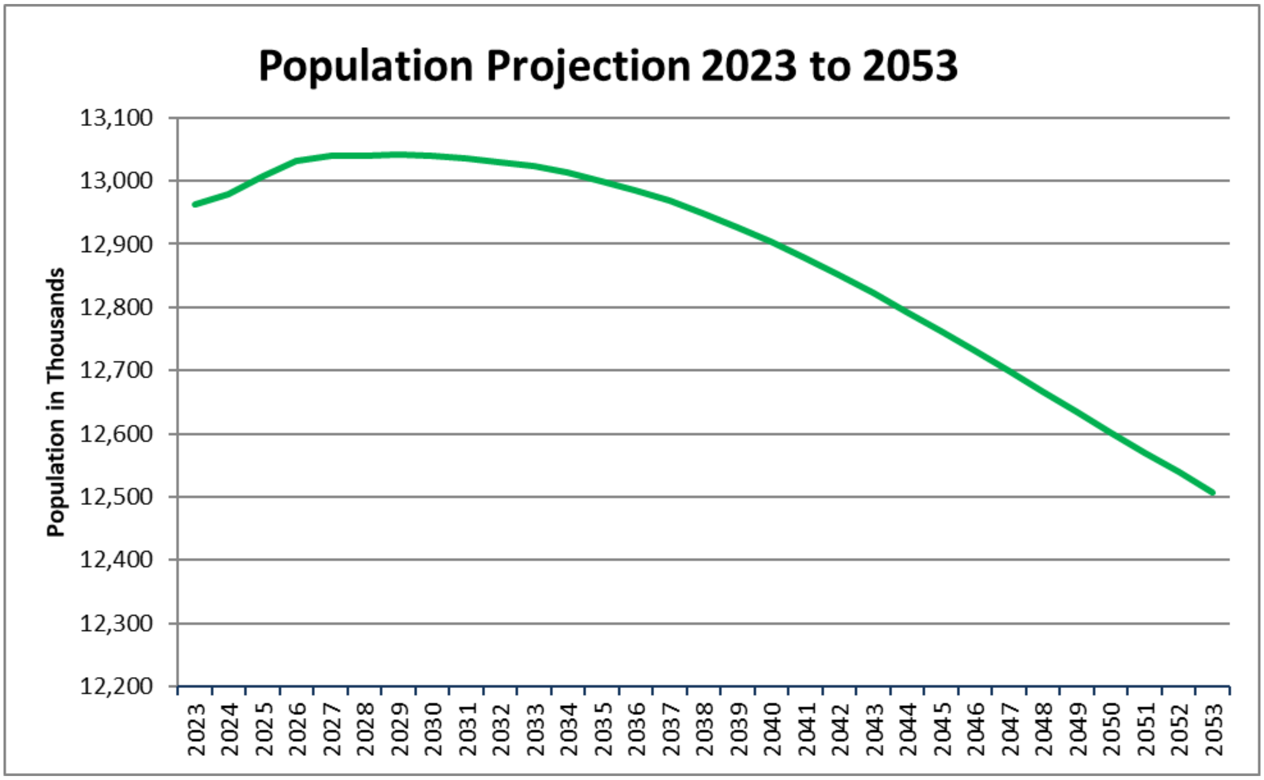


Sustained rises in the CEI indicate recoveries and expansions while sustained decreases indicate contractions. When the leading index forecast exceeds the CEI, growth over the following six months is projected. Such was the case prior to the downturn in March and April 2020, signaling that Pennsylvania was still in a recovery which was anticipated to continue. Following the rapid and severe decline in the economy and the CEI in those two months, the CEI started rebounding in May and continued increasing throughout 2023. The increase was rapid at first but has been leveling off since the end of 2022. This indicates that while the economy was still growing, its rate of growth was slowing.

Demographics

Population

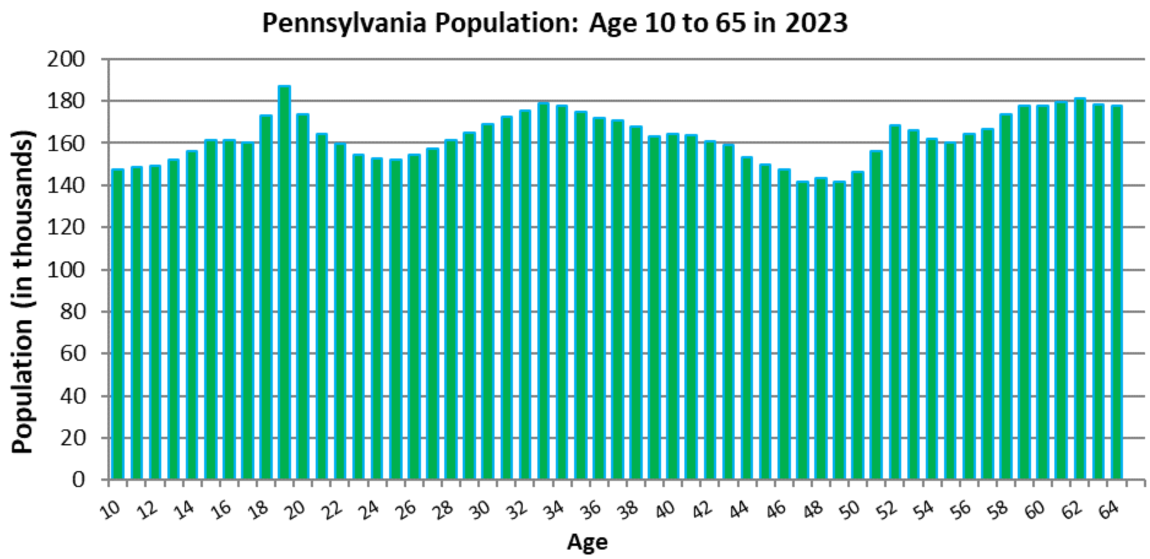
Population change is the underlying force that moves the economy. From 2023 to 2033, Pennsylvania's population is projected to grow by 0.5 percent. In comparison, the nation's population is projected to grow by 5.2 percent by 2033 and continue growing through 2053. Pennsylvania's population is expected to grow slowly through 2029 and then decline at least through 2053. Its age distribution, however, is expected to change more dramatically.



Sources: IHS Economics based on Census Bureau estimates

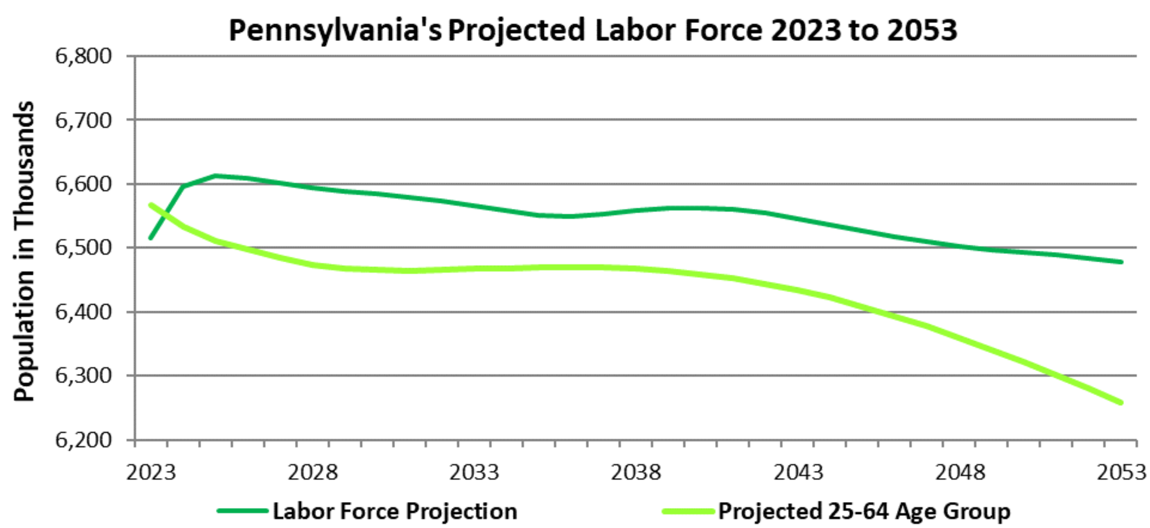
Age

With a median age of 41.1 years, Pennsylvania ranked ninth highest in the nation. The state's percentage of those aged 65 and over (20.03%) was also the ninth highest in the nation– Maine (22.99%), Vermont (22.11%), Florida (21.74%), West Virginia (21.51%), Delaware (21.25%), Hawaii (21.08%), New Hampshire (20.79%), and Montana (20.48%) are higher. The number of Pennsylvanians aged 65 and older was 2.60 million in 2023 and the number and proportion of that age cohort are projected to increase at least through 2053. This is largely a by-product of the aging of those born during the baby-boom period after World War II (1946 to 1964). The oldest of the baby-boom generation turned 65 in 2011 (now age 77) and the youngest will turn 65 in 2029 (now age 59). Thus, a large wave of baby boomers will be leaving the workforce over the next two decades. Since the rate of births from the mid-1960s through the 1990s was lower than that during the baby-boom years, the natural increase in the workforce population (entrants) will be insufficient to replace those leaving it (separations). This will have profound effects on the future distribution of workers across industries and occupations.



Source: U.S. Census Bureau

The modest overall population increase is expected to be accompanied by a greater proportion aged 65 and above and a declining volume of the traditional working age population (25 to 64). From 2023 through 2053, the total working age population is projected to decline annually, except for small increases from 2032 to 2036. The labor force will increase rapidly through 2025 when it peaks and then, except for increases in 2037 to 2040, declines through 2053. This probably will result in worker shortages in the coming years with some areas, industries, and occupations being affected sooner and harder than others. From 2023 through 2053, the labor force is projected to decrease by 0.6 percent while the working age population is expected to decline by 4.7 percent. The smaller decline in the labor force could be due to a substantial international in-migration of workers. The overall labor force participation rate is expected to reach a peak in 2024 and decrease annually through 2035 and then increase for the remainder of the period. Rounded to one decimal place, the labor force participation rate in 2053 is projected to be the same as it was in 2023.



Sources: U.S. Census Bureau, Bureau of Labor Statistics and IHS Economics

Conclusion

On the surface, especially as measured by its headline economic statistics, Pennsylvania's labor markets had a fairly good year in 2023. Record lows were set by the annual average volume of unemployment and the unemployment rate, while average annual employment set a record high. For the fifth consecutive month, December nonfarm payrolls were at a record high. Relative to their levels in February 2020, private sector jobs exceeded that level by 0.8 percent while government jobs fell. There were other signs that the Pennsylvania economy and labor market performed well in 2023. Among these were decreases in other measures of labor market underutilization and in the volume of long-term unemployed, while the labor force and nominal wage rate increased. However, there were signs that we may be at or near a peak and that while a downturn was not imminent, the economy and labor market may have started to cool. Moreover, the markets were beset by uncertainty caused by Federal Reserve policy since inflation was still above the Fed's target and given the lag between policy and its effects. Further, Pennsylvania's continued recovery lagged behind the nation's and there were sectors that still hadn't recovered, probably due to secular trends and the state's industry mix and its age profile.

One indication of potential problems below the surface was the persistent inflation which among other things had caused the real (inflation adjusted) wage rate to decline. In addition, goods-producing and government jobs are still below their February 2020 levels. Quits, job openings, and their rates, while still relatively, high have been declining, indicating a potential cooling of the labor market or at least such a perception by employers and employees. New Hires and average hours in manufacturing have declined, while initial and continued unemployment claims have started to increase.

Notwithstanding the generally positive economic performance in 2023, Pennsylvania faces both short- and long-term challenges. The most immediate challenge to the economy is the Fed's reaction to inflation and whether it will be able to generate a "soft landing" or whether its aggressive tightening might go too far. After raising the target federal funds rate four times in 2023 to 5.50 percent, the Fed paused for the remainder of the year. The market at the close of 2023 was unsure whether the Fed would continue raising rates to lower inflation further or wait to see if the already enacted increases will achieve their objective or may have even overshot their goal and cause a recession. Uncertainty makes it difficult for all economic actors to plan effectively. Longer term, the economy and labor market will continue to adjust to the recent upheaval in the labor market which caused structural changes in the economy, as some industries and occupations continue to get transformed because of it. In addition, demographic trends such as the aging of the population and slow population growth will cause Pennsylvania's projected working age population (age 25 to 64) to decline annually, taking key skills with them. Ultimately, the challenge that needs to be met is to create high-paying jobs by adapting to all of those changes.

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