

# **Economic Review of Pennsylvania**

Center for Workforce  
Information & Analysis  
(CWIA)

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## **Preface**

Pennsylvania's future depends upon the development of a workforce able to compete in today's global economy. Understanding the potential obstacles the future workforce will have to overcome is important in developing policies and strategies for Pennsylvania to remain economically competitive.

Workers from the baby-boom generation will be moving into their 60s, during the decade, and will be retiring in large numbers. They will take with them key skills that kept industry growing and prosperous. Far fewer youth are available to enter the labor market, forcing greater efficiencies and competition for key skills.

This report is the result of an examination of demographic, economic, and labor market developments unfolding in Pennsylvania. While this report contains an analysis of Pennsylvania's entire workforce composition, it also focuses on the future trends of the commonwealth's industries and occupations.

# Recent Trends and Developments

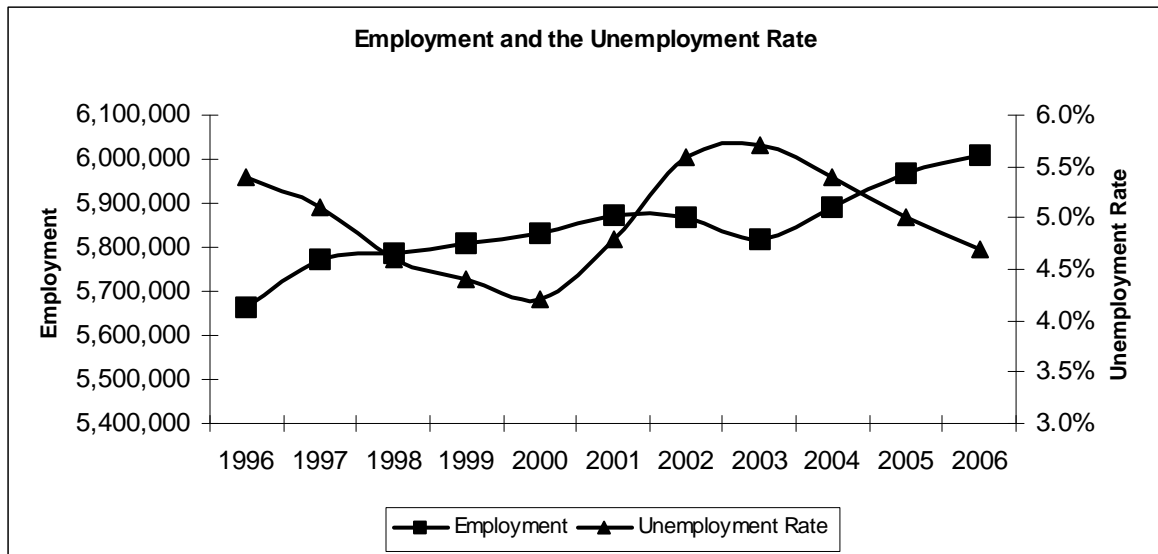
## Labor Force Statistics

### Employment

Pennsylvania's employment surpassed 6 million (to 6,010,000) for the first time in 2006. Over-the-year, employment was up by 44,000. Since the recent 2003 low, the state's employment level increased by 192,000, or over 3 percent, and is up nearly 500,000 from ten years ago, or 8 percent.

### Unemployment Rate

Pennsylvania's unemployment rate clicked down to 4.7 percent in 2006, it's lowest level since 2000, the peak of the last economic expansion. Over-the-year, the rate decreased by three-tenths of a percentage report.

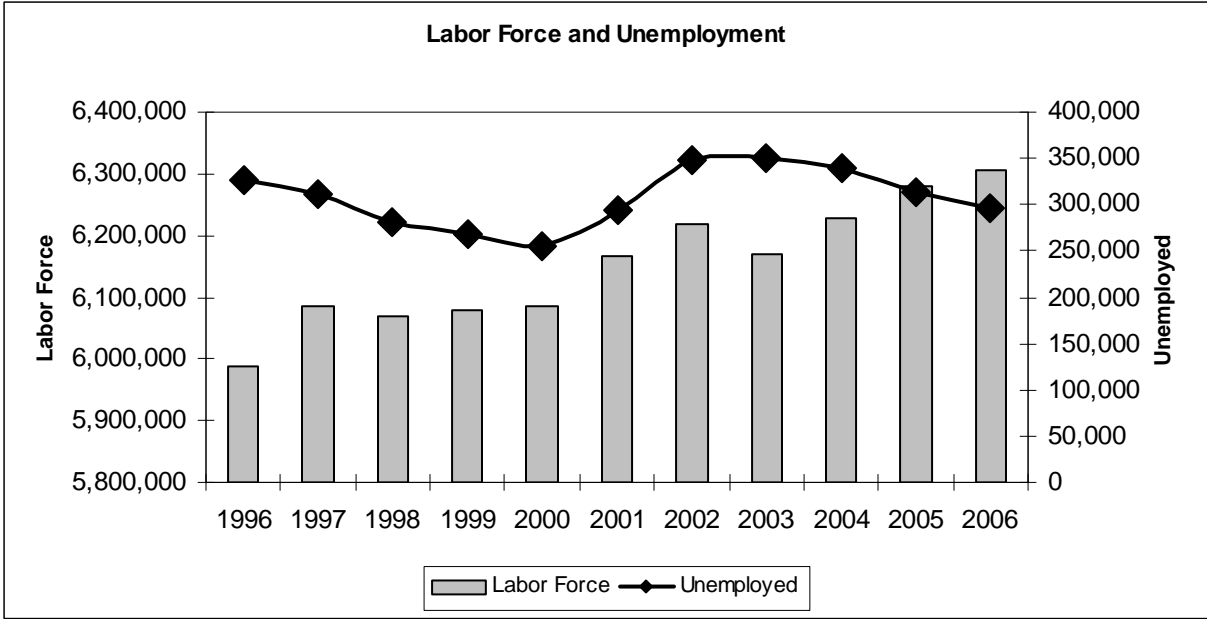


### Labor Force

Pennsylvania's labor force followed a similar pattern to that of employment, reaching an all-time high in 2006 of 6.3 million participants. The state's labor force was up 27,000 over the year, up 137,000 since the 2003 low, and up over 400,000 from 1996.

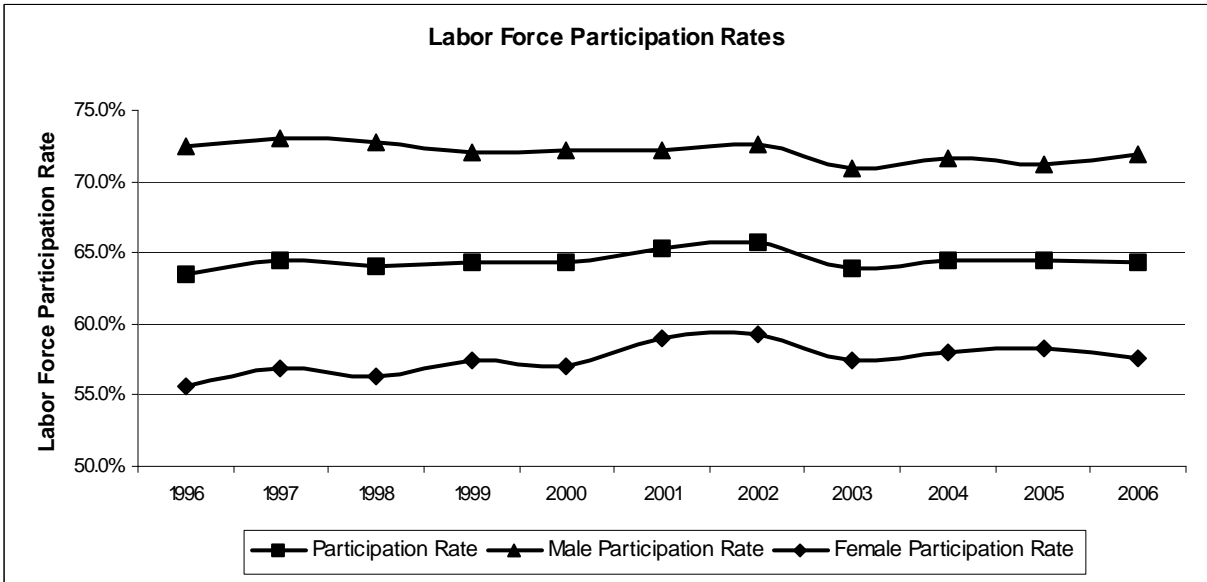
### Unemployed

The number of unemployed Pennsylvanians declined for the third year in a row to 296,000. The over-the-year change was 17,000. The state's unemployment level has remained relatively constant over the past ten years, hovering around 300,000.



**Labor Force Participation**

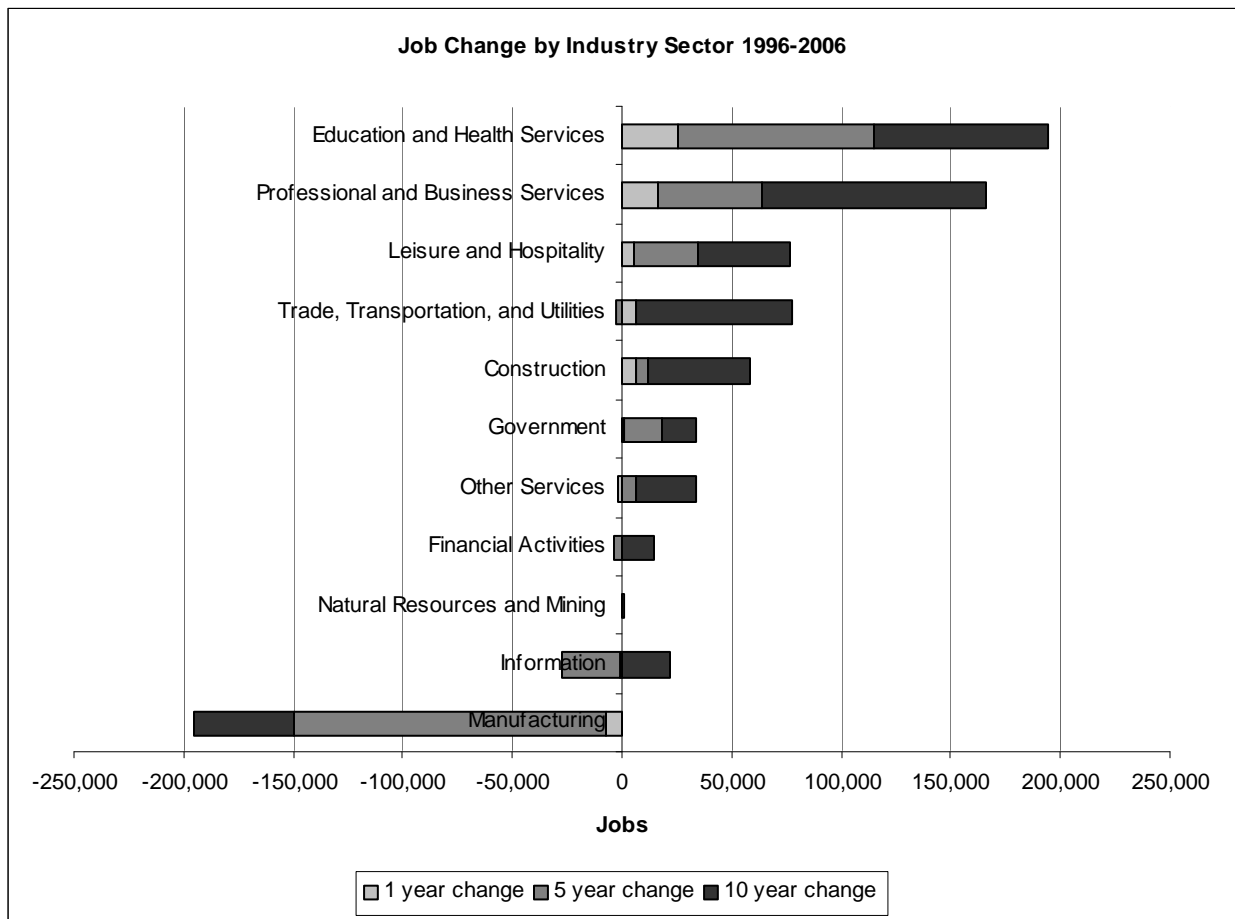
Pennsylvania's labor force participation was 64.4 percent in 2006, essentially unchanged from the previous year and up marginally from 1996. The rate peaked in 2002 at 65.8 percent. The rate is a measure of people who are working or who want to work. It goes up when employment increases and or the perception that there is work increases. In 2006, the male labor force participation rate was nearly 72 percent and the female rate was 57.5 percent, both were also down from their recent peaks in 2002.



# Industry Employment

## Jobs

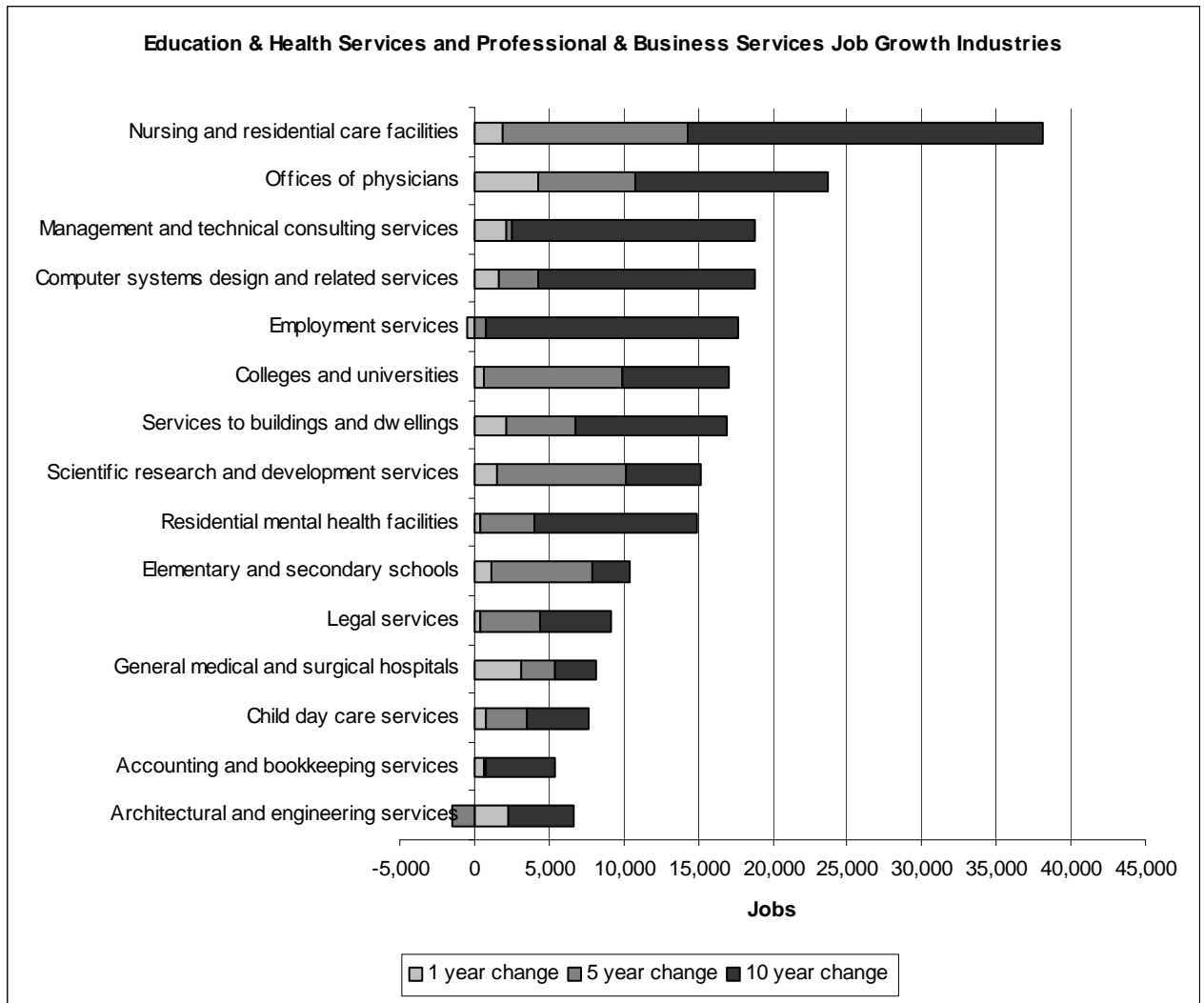
The Education & Health Services and Professional & Business Services industry sectors have had the largest job gains over the past year, tallying nearly 70 percent of all jobs created. In addition, both of these industry sectors have added the most jobs over the past five-year and ten-year time frames. In contrast, Pennsylvania's manufacturing industry shed the most jobs over the past year, accounting for over 70 percent of all jobs lost. The decline in manufacturing is a continuation of the industry's five-year and ten-year trends and beyond. The reason for the decline is threefold: the continued shift of manufacturing jobs to overseas producers; the outsourcing of specialized processes (i.e. accounting and janitorial services); and productivity gains causing a reduction in needed jobs. As a result, the Pennsylvania economy continues to adapt and transform itself from one of goods producing to service producing.





## Jobs Detail

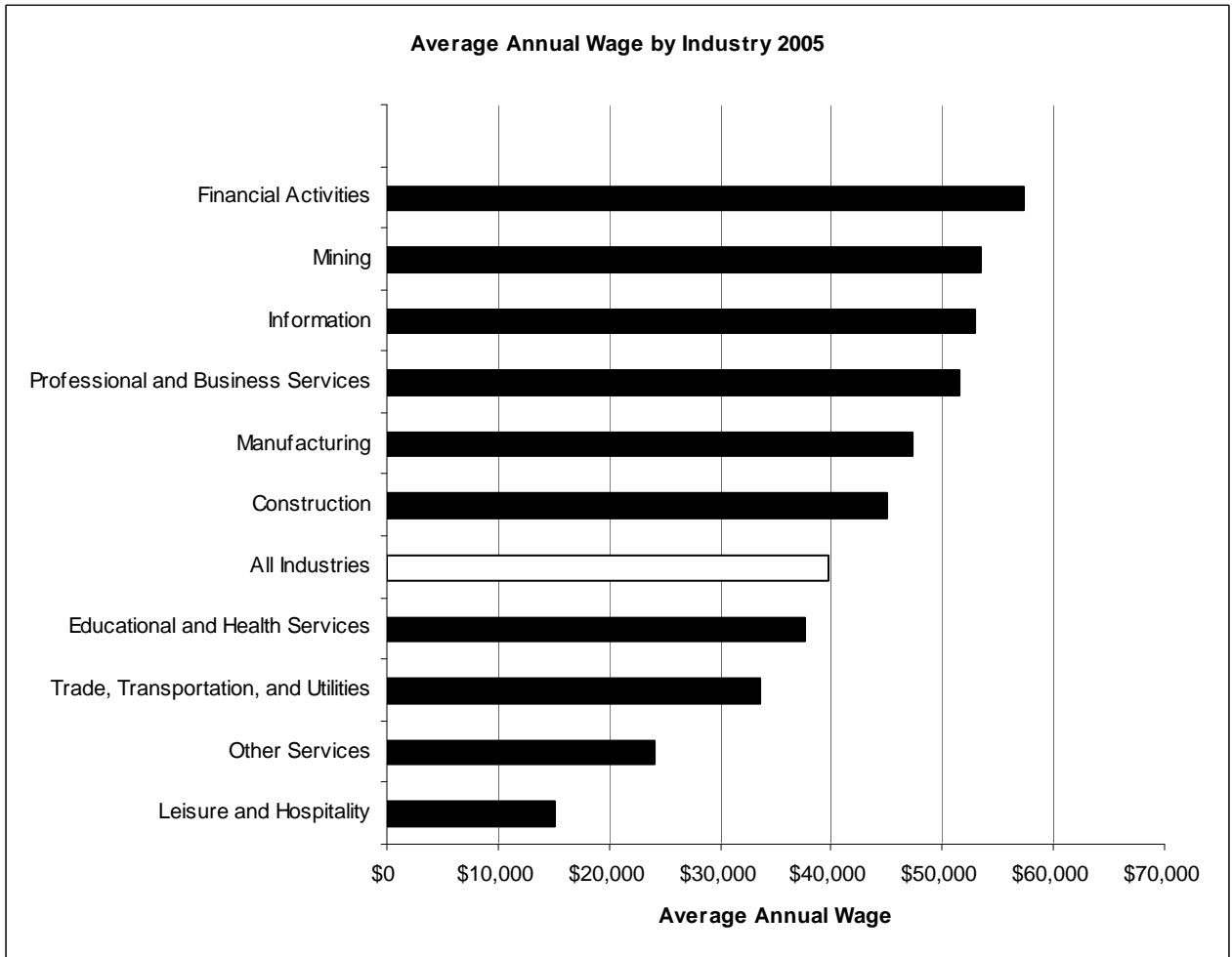
The specific industries in the Education & Health Services and Professional & Business Services sectors seeing the highest volume job growth are: Nursing & Residential Care, Offices of Physicians, Management & Technical Consulting Services, Computer Systems Design & Related Services, Employment Services, and Colleges & Universities. These industries reflect the growing health care needs of an aging population, the ever-increasing importance of technology to the state's economy, and the current and future labor force participants' constant demand for education in order to compete in the global market place.



# Wages

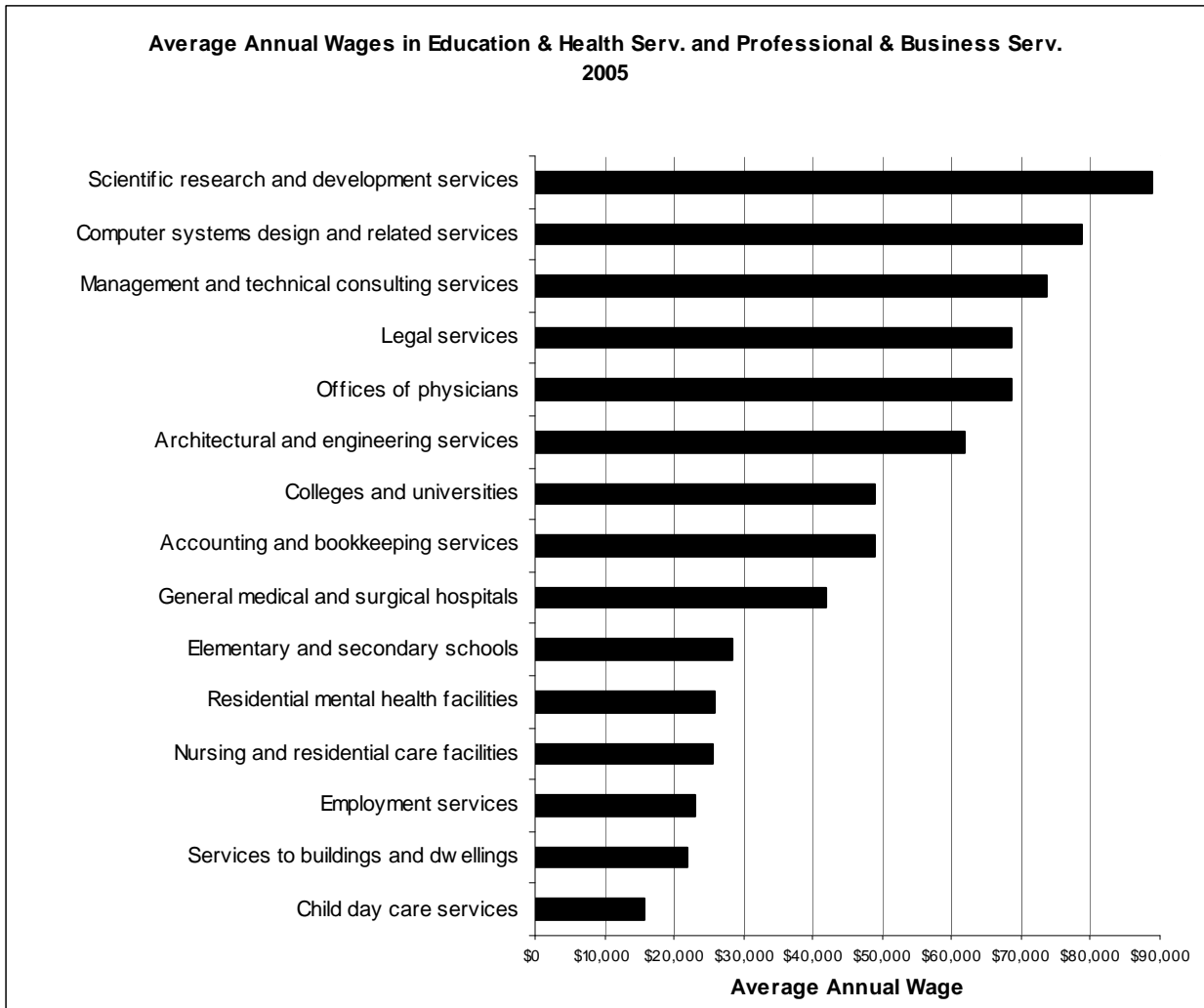
## Industry Wages

The highest wages in Pennsylvania are found in the Financial Activities, Mining, and Information industry sectors. However, over recent years, relatively minor job growth has been created in these industries. The Professional & Business Services Industry, while not the highest paying industry, on average pays more than \$10,000 dollars above the statewide average industry wage (nearly \$40,000) and is seeing rapid job growth. The Manufacturing and Construction industries also pay above average wages. Education & Health Services, another high growth industry sector, on average pays slightly lower wages than the statewide average, but contains many high paying occupations.



## Wages Detail

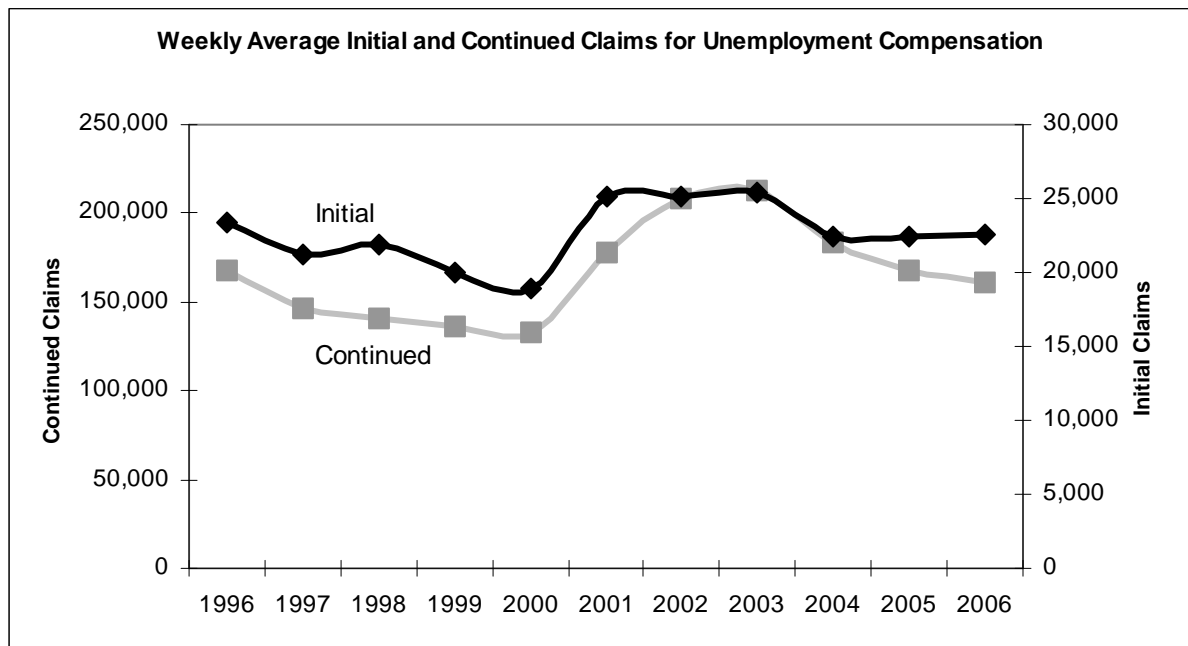
The specific industries in the Education & Health Services and Professional & Business Services sectors seeing the highest average annual wages are: Scientific Research & Development Services, Computer Systems & Related Services, Management & Technical Consulting Services, Legal Services, Offices of Physicians, and Architectural & Engineering Services. Workers in these industries are earning on average in excess of \$60,000 a year. Anyone preparing for a career or a job change would do well to consider occupations in these industries.



## Economic Indicators

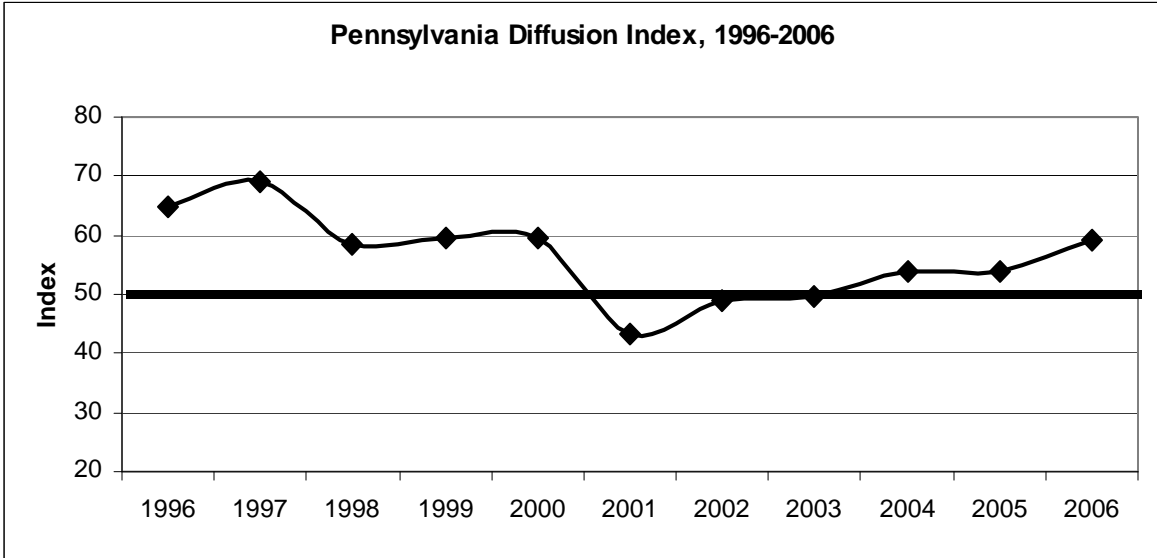
### Weekly Claims

Pennsylvania's average weekly number of continued claims declined for the third year in a row as the state's economic expansion remained steady. Thus, when individuals are laid off they are having an easier time finding employment than the previous year. The number of weekly initial claims has remained fairly constant over the past three years. The reason initial claims have not declined like continued claims is due to reoccurring seasonal layoffs, which prevent the indicator from going much lower.



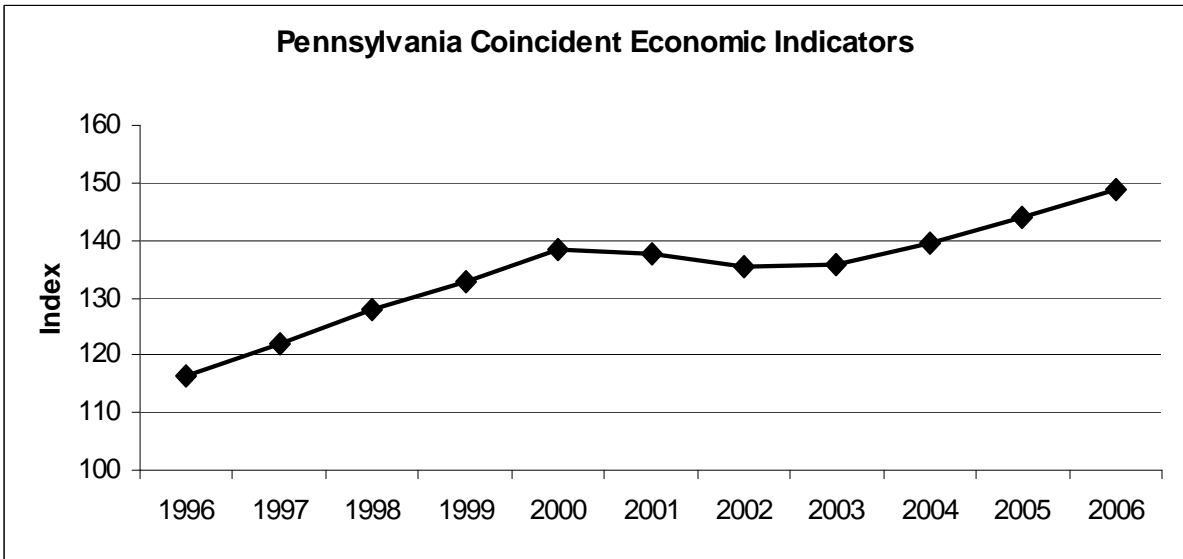
### Diffusion Index

The Diffusion Index is a measure of the proportion of industry types that have higher or lower employment levels over a year period. A value over 50 indicates that the number of industries having higher employment levels is greater than the number of industries having lower employment levels as compared to the previous year. Pennsylvania's diffusion index reached a reading of nearly 60 in 2006, its highest level since 2000. After bottoming in 2001, the low point of the last recession, the index has steadily climbed upwards.



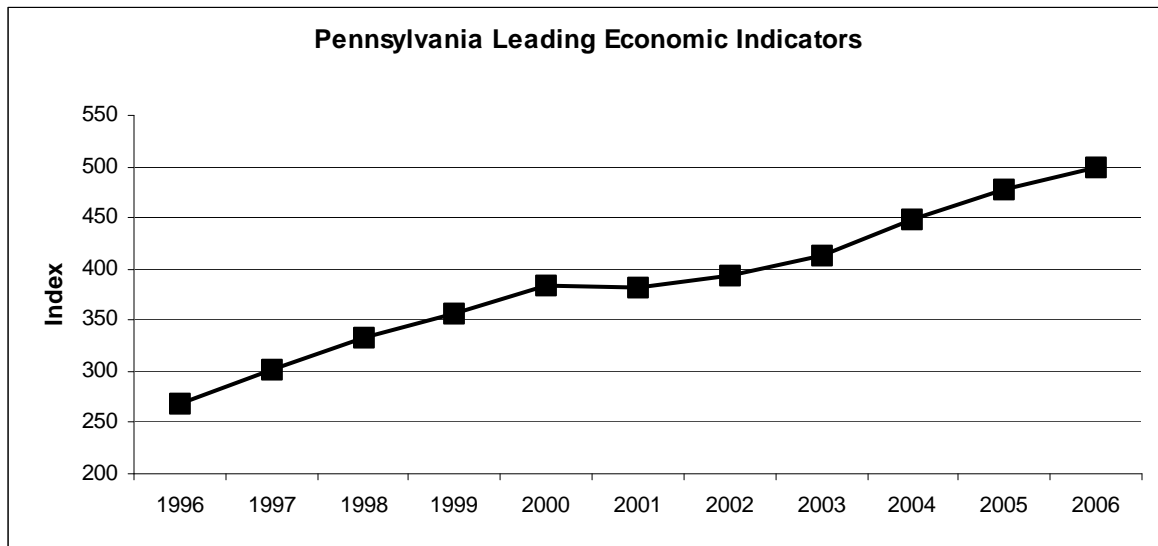
**Coincident Index**

Pennsylvania’s coincident index is a measure of current economic activity. Individual economic indicators often produce conflicting signals on the health of the economy. For example, one indicator can be showing a gain while another reflects a loss. The purpose of the coincident index is to suppress these conflicting signals by combining a set of key measures to reflect the overall economic trend. The index is constructed from three monthly data series (payroll employment, average hours worked in manufacturing, and the unemployment rate) and one quarterly series (wage and salary disbursements). A decline in the index signals a slowdown or possibly a recession. Pennsylvania’s coincident index has shown a steady increase in recent years, reflecting robust economic health and growth.



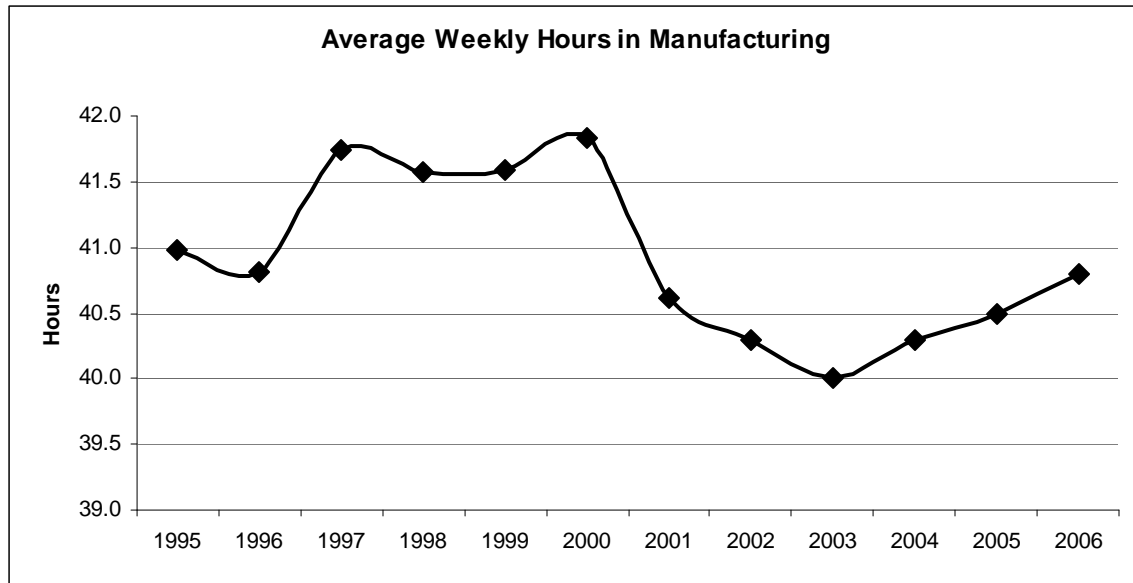
## Leading Index

Pennsylvania's leading index is a forecast of economic activity. The purpose of the index is similar to that of the coincident index (see above), however with an added emphasis on reflecting where the economy is headed. The leading index is constructed from the state's current economic activity index, housing permits, initial unemployment claims, the index of vendor delivery time from the Philadelphia Fed's *Business Outlook Survey*, and the spread between the yields on 10-year Treasury bonds and the fed funds rate. In 2002 the index turned up, signaling that an economic recovery was beginning. While slowing in the last two years, the index has moved steadily upwards from the 2001 low.



## Average Weekly Hours in Manufacturing

Since bottoming in 2003, Pennsylvania's average weekly hours rose for the third year in a row. Average weekly hours is a leading indicator, often providing the direction of the state's economy. As the economy begins to grow out of a recession (in 2004), employers will tend to hold off on hiring new workers until they are more confident that economic growth is improving and will instead have their existing employees work more hours. As the economy continues to improve, eventually businesses will be forced to add more workers, and this increase in employment will reinforce the positive trend in economic growth (occurring in 2005 to 2006). In contrast, if the economy is just beginning to slow down, employers wishing to maintain employee loyalty will try to keep their workers by reducing hours worked, rather than immediately laying-off workers (as occurred in 2001). If the slowdown deepens, then eventually businesses are forced to lay off workers, which reinforces the negative trend in economic growth (2002 to 2003).



### **Minimum Wage Change**

Pennsylvania Minimum Wage Act was amended in 2006, establishing a new minimum wage. In January 2007, the minimum hourly wage was raised from \$5.15 to \$6.25. Furthermore, in July 2007 the minimum wage will be boosted again to \$7.15. The combined minimum wage raises will affect approximately 463,000 Pennsylvania workers.

A minimum wage worker is most likely to be employed in Leisure & Hospitality, Female, White, age 16 to 24, a High School Graduate or less, and working part-time.

The minimum wage is negatively impacted by inflation. The July 2007 minimum wage increase to \$7.15 will be worth \$6.90 in 2008, \$6.77 in 2009, and \$6.64 in 2010; and its percent (on an full-time annual basis) of the federal poverty level for a two-person household will dip below the 100 percent threshold in 2012.

The original level (in 1938) of the minimum wage was set at 50 percent of the average wage. However, in 1969 a gradual decline in the minimum wage as a percent of the average wage began. As of 2006, the minimum wage (then at \$5.15) was at 26 percent of the average wage, an all-time low.

Applying an increase to a minimum wage that has been in place for some time (as was the case for the minimum wage set in 1997 at \$5.15 and then raised to \$6.25 in January 2007) is less likely to have an economic impact than a minimum wage that has been in place for only a short time because inflation and the demand for labor have already caused wages to rise above the minimum wage independent of government intervention.

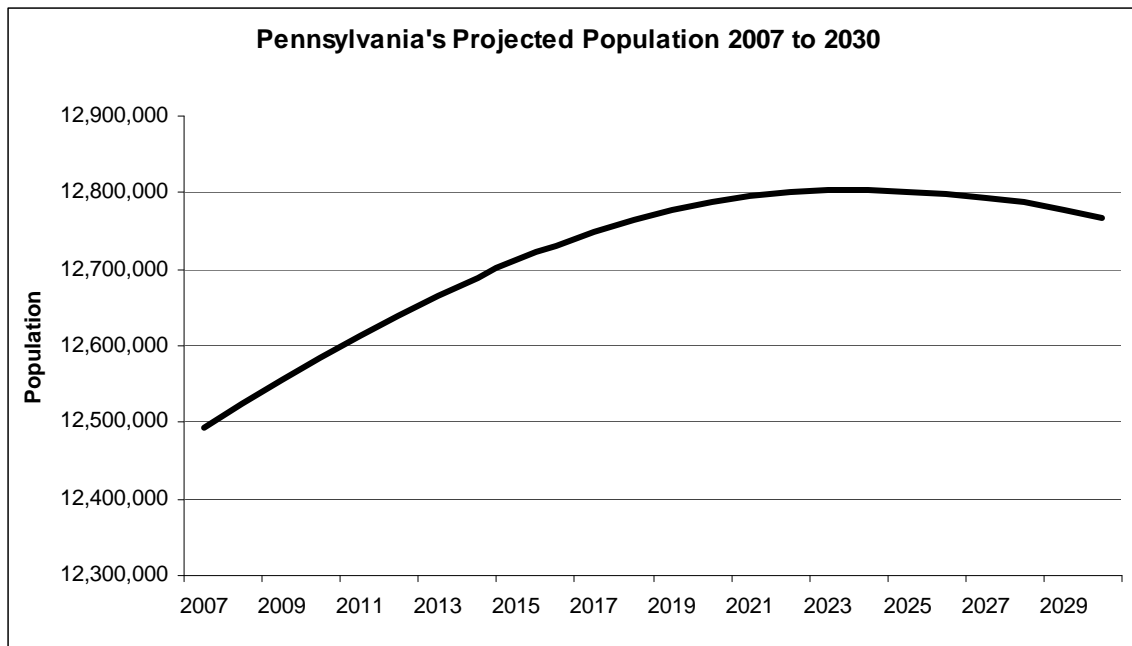
# Long-term Trends and Outlook



# Demographics

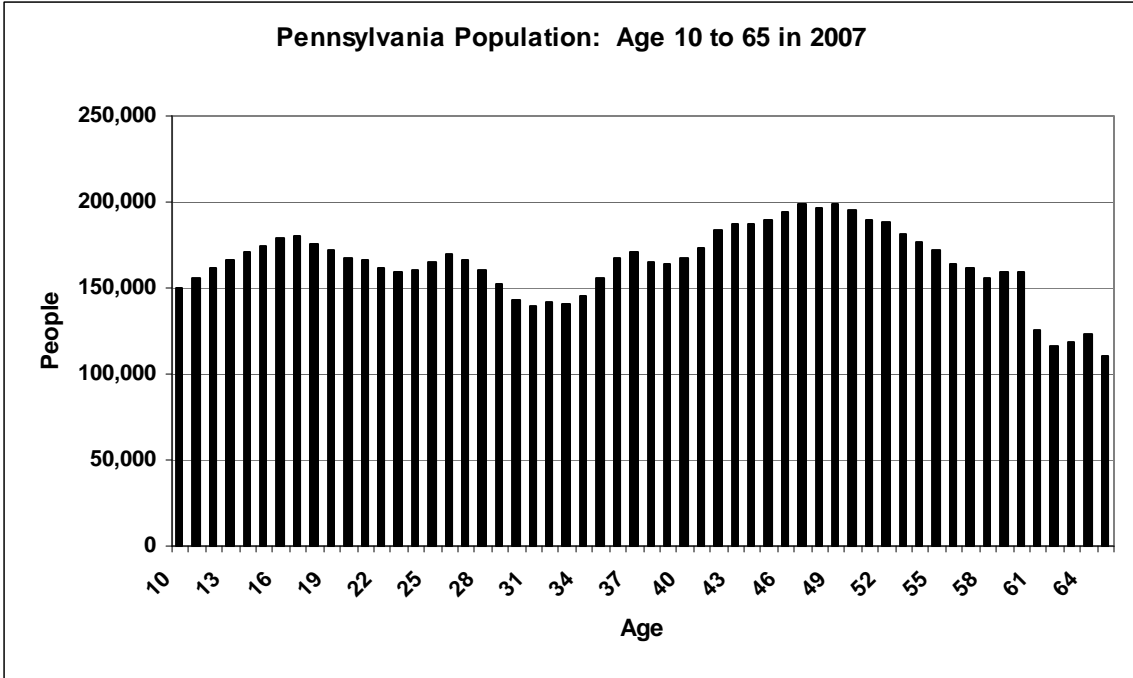
## Population

Population change is the underlying force that moves the economy. Over the next ten years, Pennsylvania's population is projected to grow by just 2 percent. In comparison, the nation's population will grow by nearly 9 percent. While the state's population growth will be relatively static in the years to come, the demographic changes within Pennsylvania's population will be dynamic.

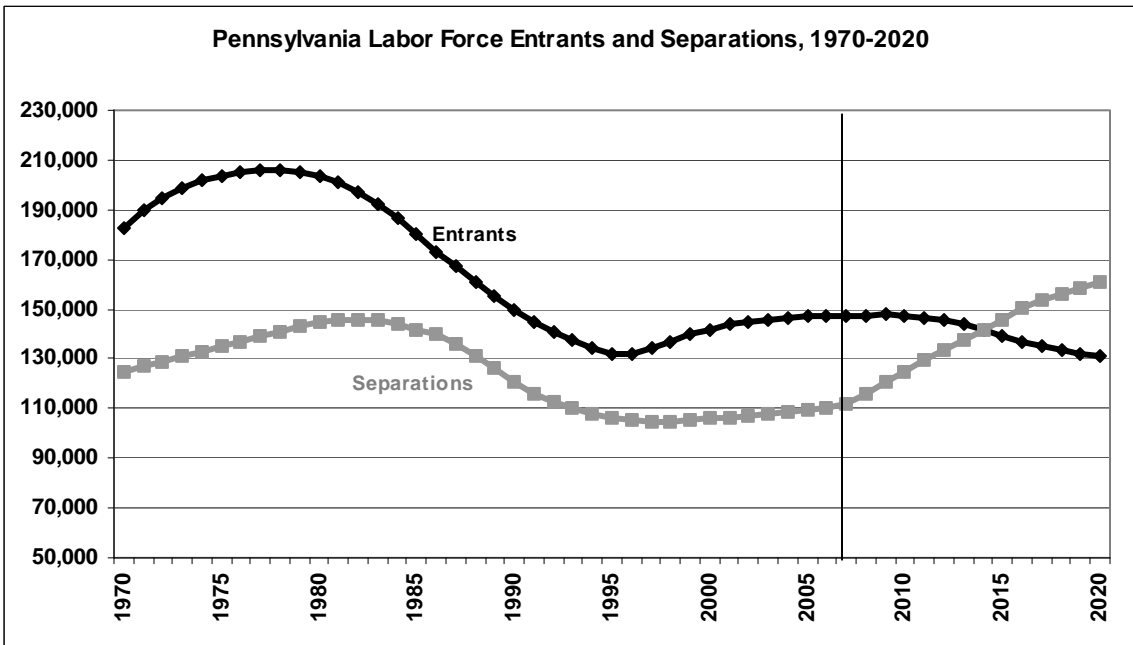


## Age

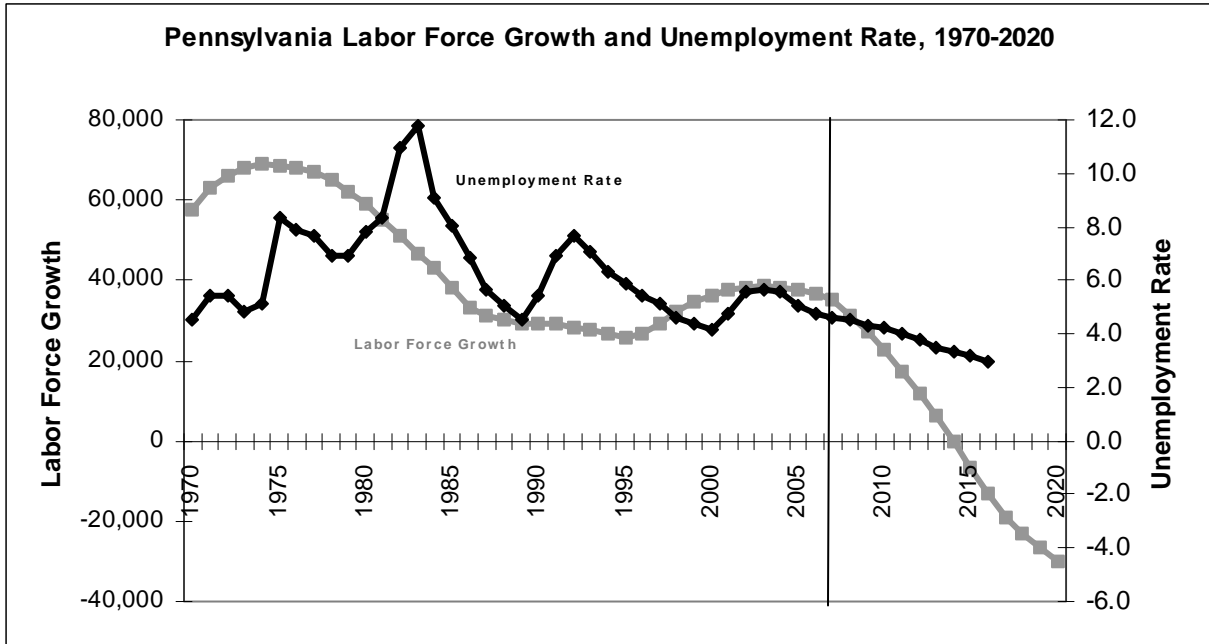
Pennsylvania's population is growing older. In fact, the state's percentage of those age 65 and over is the second highest in the nation. This is largely a by-product of the aging of the population born during the Baby Boom period after World War II (1946 to 1964). The oldest of the baby boom generation will turn 65 in 2011 (now age 61) and the youngest will turn 65 in 2029 (now age 43). Thus a large wave of Baby Boomers will be leaving the workforce over the next few decades. Unfortunately, from the mid- 1960s until the mid-1980s, the number of births was less than that during the Baby Boom years.



Due to this decline in the population, there will not be enough workers (entrants) to replace the Baby Boomers as they leave the workforce (separations). Beginning around 2015, the total working age population (those age 25 to 64) will be less than the year before until at least 2029. Therefore, there will be worker shortages in the coming years and some areas, industries, and occupations will be affected sooner and harder than others.



The gap between labor force entrants and separations will create a growing demand for labor. Thus the unemployment rate will continue to decline and the size of the labor force will steadily shrink because more people will be leaving the workforce than coming in.



**Race**

The proportion of minorities in the labor force will grow because of immigration and higher labor force participation rates. By 2014, the share of minorities in the labor force is expected to grow by approximately 3 percent, while the white portion will decline by 3 percent. This is not surprising since, historically; white labor force participants have been older than the rest of the labor force. Hispanics are projected to comprise nearly 5 percent of the labor force by 2014. The growth in the Hispanic and minority sections in the labor force can largely be attributed to the facts that they are both younger and have higher fertility rates.

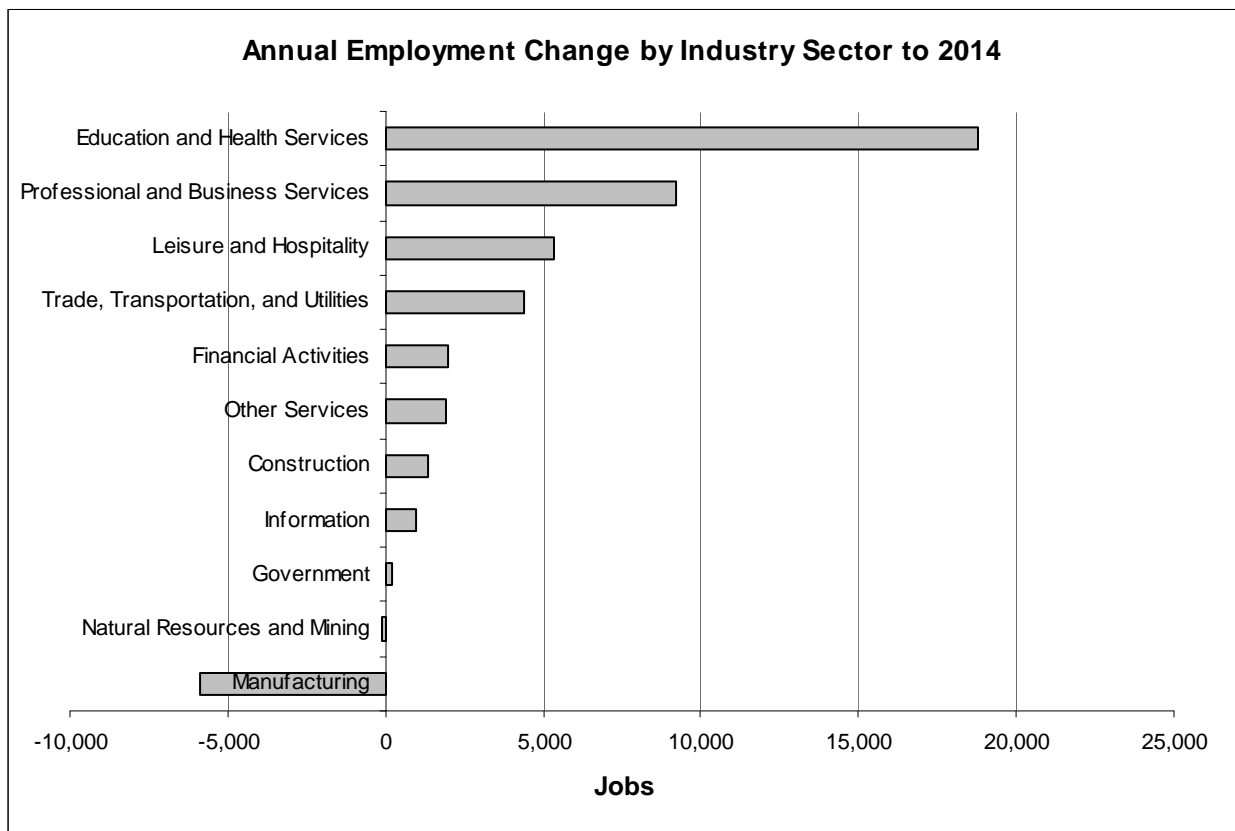
**Gender**

Women will dominate Pennsylvania’s labor force growth through 2014. The presence of women in the labor force will grow by over 8 percent. However, men’s participation in the labor force will remain essentially unchanged. The faster expansion of women into the labor force will also reduce the gap between male and female labor force participation.

# Projections

## Industry

Pennsylvania's Education & Health Services, Professional & Business Services, and Leisure & Hospitality industry sectors will account for nearly 90 percent of all annual employment growth through 2014. The Manufacturing industry sector is forecast to lose over 5,000 jobs annually. These sectors reflect the dynamics of an aging population's need for more health care, the gradual transition of the Baby Boom generation out of the workforce and into an active retirement, and the continued transformation of the state's economy from a goods producer to a service producer.



## **Growing Industries**

The list of growing industries is dominated by education and health care. Other industries forecast to grow are in professional services, business services, leisure, and hospitality.

<b>Top 25 Growing Industries in Pennsylvania through 2014</b>	
<b>Industry</b>	<b>Annual Employment Growth</b>
Elementary & Secondary Schools	3,200
Full-Service Restaurants	2,700
Colleges, Universities & Professional Schools	2,700
Community Care Facilities For The Elderly	2,500
Offices Of Physicians	2,400
Management & Technical Consulting Services	1,900
Warehousing & Storage	1,700
Individual & Family Services	1,700
Employment Services	1,500
Computer Systems Design & Rel. Services	1,300
Services To Buildings & Dwellings	1,100
Home Health Care Services	1,100
Residential Mental Health Facilities	1,000
Religious Organizations	900
Health & Personal Care Stores	800
Insurance Agencies, Brokerages & Support	800
Offices Of Other Health Practitioners	700
Nursing Care Facilities	700
Local Government	700
Other Ambulatory Health Care Services	700
Special Food Services	700
Other Amusement & Recreation Ind.	700
Building Equipment Contractors	700
Other General Merchandise Stores	700
Outpatient Care Centers	600

## **Declining Industries**

The list of declining industries is dominated by manufacturing. Other industries forecast to decline are in trade, government, and financial activities.

<b>Top 25 Declining Industries in Pennsylvania through 2014</b>	
<b>Industry</b>	<b>Annual Employment Loss</b>
Department Stores	-1,300
Grocery Stores	-1,000
General Medical & Surgical Hospitals	-1,000
Cut & Sew Apparel Mfg	-800
Electronic Markets & Agents/Brokers	-600
Power Generation & Supply	-500
Converted Paper Product Mfg	-400
Electronic Instrument Mfg	-400
Federal Government	-400
Insurance Carriers	-300
Shoe Stores	-300
Postal Service	-300
Iron & Steel Mills & Ferroalloys	-300
Basic Chemical Mfg	-300
Other General Purpose Machinery Mfg	-200
Other Electrical Equip. & Component Mfg	-200
Plastics Product Mfg	-200
Printing & Rel. Support Activities	-200
Wired Telecommunications Carriers	-200
Nondepository Credit Intermediation	-200
Glass & Glass Product Mfg	-200
Direct Selling Establishments	-200
Motor Vehicle Parts Mfg	-200
Fabric Mills	-200
Purchased Steel Product Mfg	-200

## **Emerging Industries**

Pennsylvania has forecast a number of emerging industries through 2014. An emerging industry is defined as having statewide employment less than 10,000 and projected to have at least 100 annual openings through 2014. The emerging industries are spread out across nearly all industry sectors, but the information and leisure sectors have the most.

<b>Top Emerging Industries in Pennsylvania through 2014</b>	
<b>Industry</b>	<b>Annual Employment Gain</b>
Activities Rel. To Credit Intermediation	300
Druggists' Goods Merchant Wholesalers	300
Cable & Other Program Distribution	200
Amusement Parks & Arcades	200
Emergency & Other Relief Services	200
Wireless Telecommunications Carriers	200
Other Schools & Instruction	200
Spectator Sports	100
Museums, Parks & Historical Sites	100
Freight Transportation Arrangement	100
Lawn & Garden Equip. & Supplies Stores	100
Software Publishers	100
Jewelry, Luggage & Leather Goods Stores	100
Specialized Design Services	100
Automotive Equip. Rental & Leasing	100
Grantmaking & Giving Services	100
Used Merchandise Stores	100
Motion Picture & Video Ind.	100
Social Advocacy Organizations	100

## Occupations

Jobs in most major occupational groups will be plentiful in the years to come for current and future labor market participants. As mentioned above, modest economic growth coupled with an aging workforce will create opportunities for anyone seeking a job. However, the best paying jobs will go to those achieving more than a high school education. Major occupational groups seeing the best total opportunities will be in Office & Administrative Support; Sales & Related Occupations; Food Preparation & Serving Related; Management, Transportation & Material Moving; Education, Training, & Library; and Healthcare Practitioners & Technical. Major occupational groups not already mentioned and having the best opportunities due to growth will be Personal Care & Service and Healthcare Support. Major occupational groups not already listed and having the best opportunities due to replacements, or those leaving due to mainly retirement, will be Production, Construction & Extraction; and Installation, Maintenance & Repair.

Occupational Title	Annual Change		
	Total	Due to Replacements	Due to Growth
Office & Administrative Support Occupations	2,500	2,300	200
Sales & Related Occupations	2,300	2,100	200
Food Preparation & Serving Related Occupations	2,200	1,700	500
Management Occupations	1,200	800	400
Transportation & Material Moving Occupations	1,200	1,000	300
Education, Training, & Library Occupations	1,000	700	300
Healthcare Practitioners & Technical Occupations	1,000	600	400
Production Occupations	800	1,100	-300
Personal Care & Service Occupations	700	400	300
Construction & Extraction Occupations	700	500	200
Installation, Maintenance, & Repair Occupations	700	500	100
Building & Grounds Cleaning and Maintenance Occupations	600	400	200
Business & Financial Operations Occupations	600	400	200
Healthcare Support Occupations	600	300	300
Protective Service Occupations	400	300	100
Computer & Mathematical Occupations	400	200	200
Community & Social Services Occupations	400	200	200
Architecture & Engineering Occupations	200	200	0
Arts, Design, Entertainment, Sports, & Media Occupations	200	100	100
Life, Physical, & Social Science Occupations	200	100	100
Farming, Fishing, & Forestry Occupations	100	100	0
Legal Occupations	100	100	0



## Occupations Detail

There will be jobs in many different occupations across all industries over the next decade as Baby Boomers retire. Seventy-eight percent of all annual job openings will be due to replacements for workers leaving the workforce. Labor market participants will have their pick of jobs and in what occupation they wish to begin or change a career.

Occupational Title	Annual Change		
	Total	Due to Replacements	Due to Growth
Retail Sales Workers	1,600	1,500	100
Food & Beverage Serving Workers	1,300	1,100	200
Information & Record Clerks	600	500	200
Material Moving Workers	600	500	0
Cooks & Food Preparation Workers	600	400	200
Health Diagnosing & Treating Practitioners	500	400	100
Construction Trades Workers	500	400	100
Secretaries & Administrative Assistants	500	400	100
Primary, Secondary, & Special Education School Teachers	500	400	100
Motor Vehicle Operators	500	300	200
Other Management Occupations	500	300	200
Material Recording, Scheduling, Dispatching, & Distributing Workers	400	500	-100
Financial Clerks	400	400	100
Other Office & Administrative Support Workers	400	400	0
Building Cleaning & Pest Control Workers	400	300	200
Health Technologists & Technicians	400	200	200
Other Personal Care & Service Workers	400	200	200
Business Operations Specialists	400	200	200
Top Executives	400	200	100
Computer Specialists	400	100	200
Other Installation, Maintenance, & Repair Occupations	300	300	100
Other Food Preparation & Serving Related Workers	300	200	100
Sales Representatives, Wholesale & Manufacturing	300	200	100
Vehicle & Mobile Equipment Mechanics, Installers	300	200	0
Nursing, Psychiatric, & Home Health Aides	300	100	200