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Selected Characteristics of Private and Public Sector Workers

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Summary

An issue for Congress and state and local governments is whether the pay and benefits of public workers are comparable to those of workers in the private sector. In addition, among the ways to reduce budget deficits, policy makers are considering the pay and benefits of public sector employees.

The number of people employed in both the private and public sectors has increased steadily as the U.S. economy has grown. However, after increasing to 19.2% of total employment in 1975, the percentage of all jobs that are in the public sector fell to 15.7% in 1999. In 2013, public sector jobs accounted for 16.0% of total employment.

The recession that officially began in December 2007 and ended in June 2009 affected employment in both the private and public sectors. From 2007 to 2010, the number of jobs in the private sector fell by an estimated 7.9 million, while the number of jobs in the public sector increased by almost 272,000. Conversely, from 2010 to 2013, private sector employment grew by approximately 6.7 million jobs, while public sector employment fell by about 626,000 jobs. Reflecting the effects of the 2007-2009 recession on the budgets of state and local governments, from 2010 to 2013, public sector employment as a share of total employment fell from 17.3% to 16.0%.

Among all full-time and part-time workers ages 16 and over, the number of workers covered by a collective bargaining agreement has fallen in both the private and public sectors. The decline has been greater in the private sector. In 2009, for the first time, a majority of workers who were covered by a collective bargaining agreement were employed in the public sector (8.7 million workers in the public sector, compared to 8.2 million private sector workers). By 2013, the situation had reversed; a slight majority of workers covered by a collective bargaining agreement were employed in the private sector (8.1 million private sector workers, compared to 7.9 million public sector workers). In the federal government, except for the Postal Service and some smaller agencies, employees do not bargain over wages.

Among workers ages 18 to 64 who work full-time, differences in characteristics that may affect the relative pay and benefits of private and public sector workers include the following:

- *Age.* Reflecting the aging of the U.S. labor force, workers in both the private and public sectors have become older. Nevertheless, employees in the public sector are older than private sector workers. In 2013, 51.7% of public sector workers were between the ages of 45 and 64, compared to 42.4% of full-time private sector workers. Federal workers are older than employees of state and local governments. In 2013, 56.7% of federal workers were between the ages of 45 and 64, compared to 49.7% of state employees and 52.1% of employees of local governments. Workers who have more years of work experience generally earn more than workers with less experience.
- *Gender.* Reflecting the increased participation of women in the labor force, the share of jobs held by women has increased in both the private and public sectors. In 2013, women held almost three-fifths (57.7%) of full-time jobs in state and local governments. By contrast, women held approximately two-fifths of full-time jobs in the federal government and in the private sector (42.2% and 41.7%, respectively).

- *Education.* On average, public sector employees have more years of education than private sector workers. In 2013, 53.6% of workers in the public sector had a bachelor's, advanced, or professional degree, compared to 34.9% of private sector workers. Generally, workers with more years of education earn more than workers with less years of education.
- *Occupation.* A larger share of public sector than private sector workers are employed in "management, professional, and related occupations." In 2013, 56.2% of public sector workers and 37.8% of private sector workers were employed in these occupations. In part, more public sector workers were employed in these occupations because 25.7% of all public sector workers were employed in "education, training, and library" occupations, compared to 2.3% of all private sector workers. Workers in management and professional occupations generally earn more than workers in other occupations. However, comparisons of the compensation of private and public sector workers that use broad occupational categories may miss differences between detailed occupations. Many detailed occupations are concentrated in either the private or public sectors. Nevertheless, many detailed occupations may require similar skills.
- *Union coverage.* Although the number of workers covered by a collective bargaining agreement is greater in the private sector than in the public sector, the percentage of workers covered by a collective bargaining agreement is greater in the public sector than in the private sector.
- *Metropolitan area.* Private sector workers are more likely than federal workers to live in major metropolitan areas (i.e., areas with 5 million or more people).

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An issue for Congress and state and local governments is whether the pay and benefits of public workers are comparable to those of workers in the private sector.¹ The effect of the recession that officially began in December 2007 and ended in June 2009 on government budgets increased the interest of policy makers in the compensation of public sector employees. According to the Congressional Budget Office (CBO), the federal deficit has fallen since FY2009. But, CBO projects that the deficit for FY2014 will be \$514 billion.² Several state and local governments also face budget shortfalls.³ Among the ways to reduce budget deficits, policy makers are considering the pay and benefits of public sector employees.⁴

This report begins with an analysis of the trends in employment in the private and public sectors. The public sector is separated into employees of the federal government, state governments, and local governments. Next, the report analyzes selected characteristics of private and public sector workers. These characteristics are often used in comparisons of the compensation of different workers. The report does not compare the actual pay or benefits of private and public sector workers or compare the characteristics of workers to try to explain any differences in the pay or benefits of private and public sector workers.⁵

¹ Under the Federal Employees Pay Comparability Act of 1990 (FEPCA), the pay of federal employees should be comparable to the pay of other employees who do the same type of work in the same local area. FEPCA is Section 529 of the Treasury, Postal Service and General Government Appropriations Act, 1991 (P.L. 101-509).

² Congressional Budget Office (CBO), *The Budget and Economic Outlook: Fiscal Years 2014 to 2024*, February 2014, p. 1 and Table E-1, available at <http://www.cbo.gov/sites/default/files/cbofiles/attachments/45010-Outlook2014.pdf>.

³ According to a report by the Center for Budget and Policy Priorities, 30 states and the District of Columbia had to close budget gaps totaling an estimated \$55 billion for FY2013. Elizabeth McNichol, Phil Oliff, and Nicholas Johnson, *States Continue to Feel Recession's Impact*, Center for Budget and Policy Priorities, June 27, 2012, p. 2, available at <http://www.cbpp.org/files/2-8-08sfp.pdf>.

⁴ The pay of federal civilian employees was frozen for three years, from calendar year 2011 through calendar year 2013. In 2010, President Obama proposed, and Congress approved, a two-year pay freeze for federal civilian employees. The pay freeze applied to calendar years 2011 and 2012. The pay freeze was included in the Continuing Appropriations and Surface Transportation Extensions Act, 2011 (P.L. 111-322). The pay freeze was extended to March 27, 2013, by the Continuing Appropriations Resolution, 2013 (P.L. 112-175) and through the end of 2013 by the Consolidated and Further Continuing Appropriations Act, 2013 (P.L. 113-6).

On December 23, 2013, President Barack Obama signed an executive order granting federal civilian employees a 1% pay increase for 2014. The White House, *Adjustments of Certain Rates of Pay*, <http://www.whitehouse.gov/the-press-office/2013/12/23/executive-order-adjustments-certain-rates-pay>. For 2015, the President proposed a 1% pay increase for federal civilian employees. U.S. Executive Office of the President, Office of Management and Budget, *Analytical Perspectives, Budget of the United States Government, Fiscal Year 2015*, p. 11, available at <http://www.whitehouse.gov/sites/default/files/omb/budget/fy2015/assets/spec.pdf>.

President Obama's Fiscal Commission proposed a three-year pay freeze for federal civilian employees and recommended that federal workers contribute more to their health insurance and retirement plans. The National Commission on Fiscal Responsibility and Reform, *The Moment of Truth: Report of the National Commission on Fiscal Responsibility and Reform*, December 2010, pp. 26, 40, 44-45, available at http://www.fiscalcommission.gov/sites/fiscalcommission.gov/files/documents/TheMomentofTruth12_1_2010.pdf.

⁵ For an analysis of the compensation of private and public sector workers, see Congressional Budget Office, *Comparing the Compensation of Federal and Private-Sector Employees*, January 2012, available at <http://cbo.gov/sites/default/files/cbofiles/attachments/01-30-FedPay.pdf>. Also see CRS Report R42636, *Comparing Compensation for Federal and Private-Sector Workers: An Overview*, by (name redacted). For an analysis of changes in employment and compensation of the federal civilian workforce (excluding the Postal Service) from 2004 to 2012, see the U.S. Government Accountability Office, *Federal Workforce: Recent Trends in Federal Civilian Employment and Compensation*, GAO-14-215, January 2014, available at <http://www.gao.gov/assets/670/660449.pdf>.

Trends in Private and Public Sector Employment

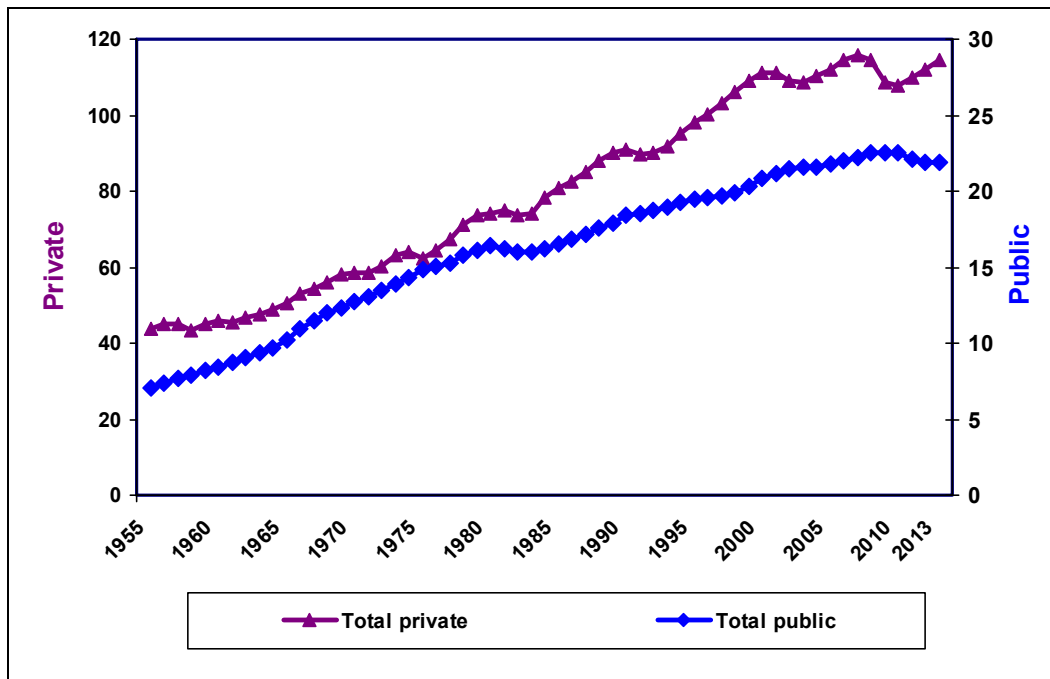
The first part of this report examines the trends in employment in the private and public sectors in the United States. The data are from the Current Employment Statistics (CES) survey, which is an employer survey conducted by the Bureau of Labor Statistics (BLS). Employment includes all full-time and part-time workers of any age. Data are for 1955 to 2013. The beginning year of 1955 is used because that is the first year that the CES survey provides data on the number of employees by level of government (i.e., federal, state, and local governments). In the CES, federal employment includes civilian employees only; the military is not included.

The number of people employed in both the private and public sectors has increased steadily as the U.S. economy has grown. From 1955 to 2013, employment in the private sector increased by 70.8 million jobs (from 43.7 million to 114.5 million), while employment in the public sector grew by 14.8 million jobs (from 7.0 million to 21.9 million after rounding). (See **Figure 1.**)

From 2007 to 2010—during and after the 2007-2009 recession—private sector employment fell by an estimated 7.9 million jobs, while public sector employment increased by almost 272,000 jobs. Conversely, from 2010 to 2013, private sector employment grew by approximately 6.7 million jobs, while public sector employment fell by an estimated 626,000 jobs.

Figure 1. Private and Public Sector Employment, 1955 to 2013

(in millions)

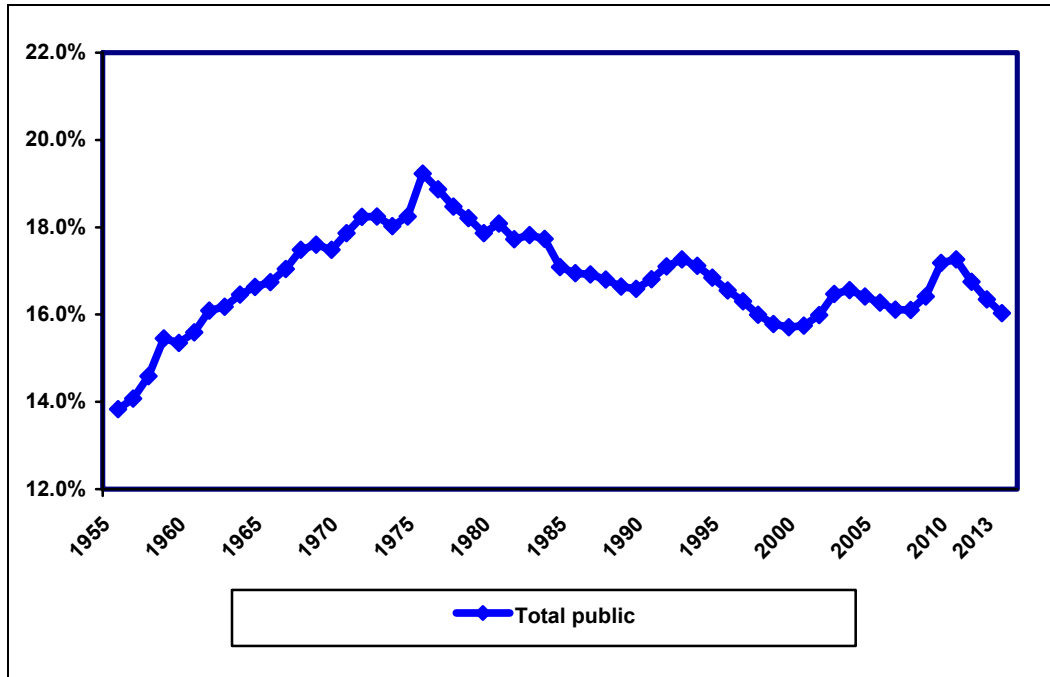


Source: Bureau of Labor Statistics, Current Employment Statistics survey, available at <http://stats.bls.gov/ces/>.

The period from 1955 to 2013 shows that, until 1975, public employment increased as a share of total employment, but has fallen since. In 1955, public sector employment accounted for 13.8% of total employment. This percentage increased to 19.2% in 1975, and then fell to 15.7% in 1999. From 1999 to 2010, public sector employment increased from 15.7% to 17.3% of total

employment. Reflecting the effects of the 2007-2009 recession on the budgets of state and local governments, from 2010 to 2013 public sector employment fell from 17.3% to 16.0% of total employment. (See **Figure 2**.)

Figure 2. Public Sector Employment as a Share of Total Employment, 1955 to 2013



Source: Bureau of Labor Statistics, Current Employment Statistics survey, available at <http://stats.bls.gov/ces/>.

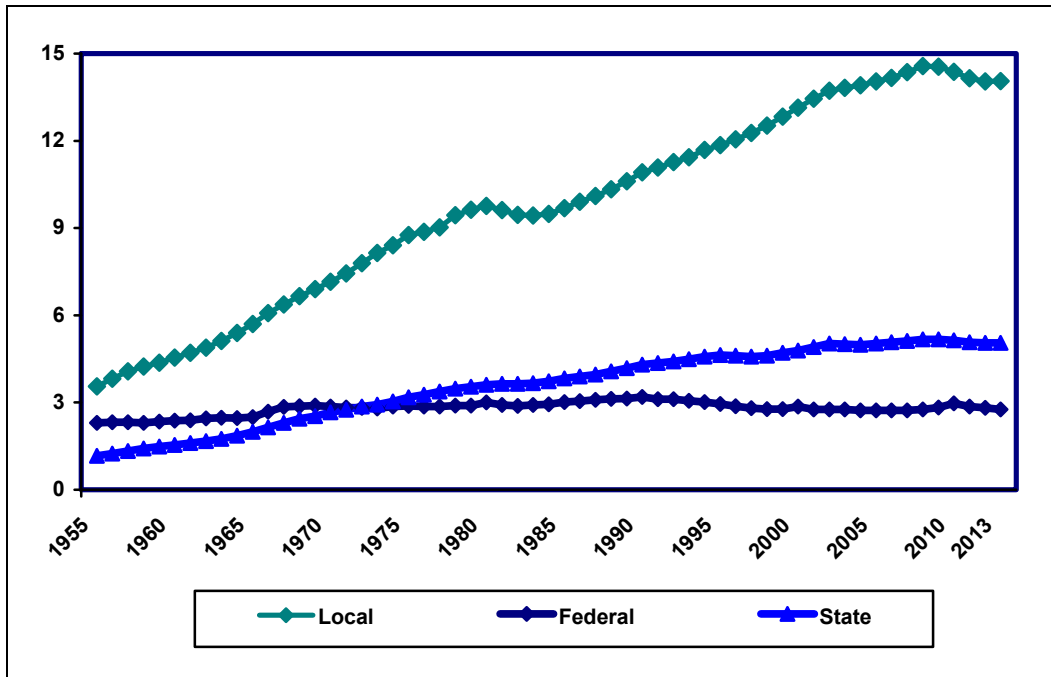
From 1955 to 2013, the growth in public sector employment occurred mainly among local governments. At the local level, employment rose by an estimated 10.5 million jobs (from 3.6 million to 14.1 million). Employment at the state level rose by about 3.9 million jobs (from 1.2 million to 5.0 million after rounding). Employment in the federal government (including the Postal Service) grew by approximately 471,000 jobs (from 2.3 million to 2.8 million). (See **Figure 3**.)

Since the end of the 2007-2009 recession, public sector employment has fallen. In 2013, local governments had 521,000 fewer jobs than in 2008. State governments had 129,000 fewer jobs than in 2008. In 2013, there were approximately 211,000 fewer federal jobs than in 2010.

The share of total employment accounted for by local governments peaked at 11.4% in 1975. This percentage fell through the late 1980s and then rose to 11.1% in 2009. From 2009 to 2013, the share of total employment at the local level fell from 11.1% to 10.3%. (See **Figure 3**.)

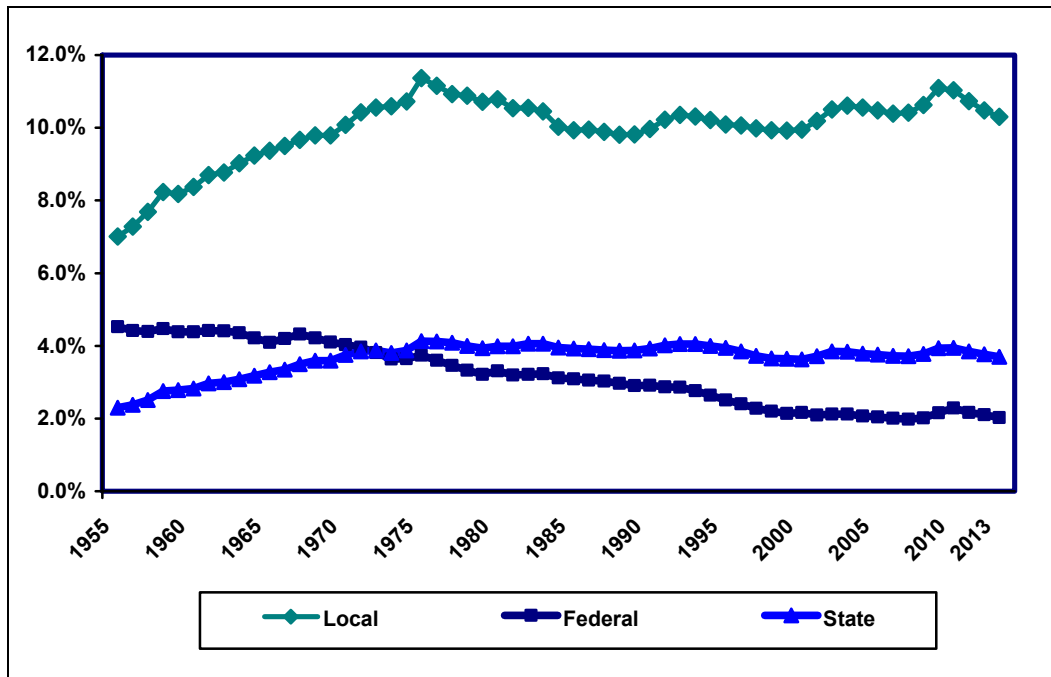
The share of total employment accounted for by state governments also peaked in 1975, at 4.1%. By 2013, this percentage had fallen to 3.7%.

Figure 3. Public Sector Employment, by Level of Government, 1955 to 2013
(in millions)



Source: Bureau of Labor Statistics, Current Employment Statistics survey, available at <http://stats.bls.gov/ces/>.

Figure 4. Public Sector Employment, by Level of Government, as a Share of Total Employment, 1955 to 2013



Source: Bureau of Labor Statistics, Current Employment Statistics survey, available at <http://stats.bls.gov/ces/>.

Including the Postal Service, in 2013 the federal government employed an estimated 471,000 more workers than in 1955 (an increase from 2.3 million to 2.8 million). (See **Figure 3**.) Nevertheless, from 1955 to 2013, federal employment as a share of total employment fell from 4.5% to 2.0% (a decline of 2.5 percentage points). (See **Figure 4**.)

The Number and Percent of Workers Covered by a Collective Bargaining Agreement

Some workers who are represented by a union are dues-paying members of the union. Other workers may be represented by a union but pay reduced, or no, dues. A worker who is covered by a union contract but does not pay dues may work in a right-to-work state, where workers are not required to provide financial support to a union.⁶ Federal workers who are covered by a union contract are not required to pay dues. Some state and local government employees who are covered by a collective bargaining agreement are not required to pay dues.

The data in this section are for workers who are represented by a union (i.e., whether or not they pay dues). The data include all full-time and part-time wage and salary workers ages 16 and over. (The data on union coverage in the section titled “Occupation” later in this report are for wage and salary workers ages 18 to 64 who work full-time.)

The number of American workers covered by a collective bargaining agreement has declined since 1979. In 1979, an estimated 23.5 million workers were covered by a union contract. By 2013, this number had fallen to 16.0 million.⁷ In 2009, for the first time, a majority of workers covered by a collective bargaining agreement were employed in the public sector (8.7 million workers in the public sector, compared to 8.2 million private sector workers). By 2013, the situation had reversed; a slight majority of workers covered by a collective bargaining agreement were employed in the private sector (8.1 million private sector workers, compared to 7.9 million public sector workers).⁸

In the public sector, most workers who are covered by a collective bargaining agreement are employed by local governments (59.0% in 2013). Another 27.2% of covered public sector workers are employed by state governments, 8.0% are employed by the federal government, and 5.8% are employed by the Postal Service.

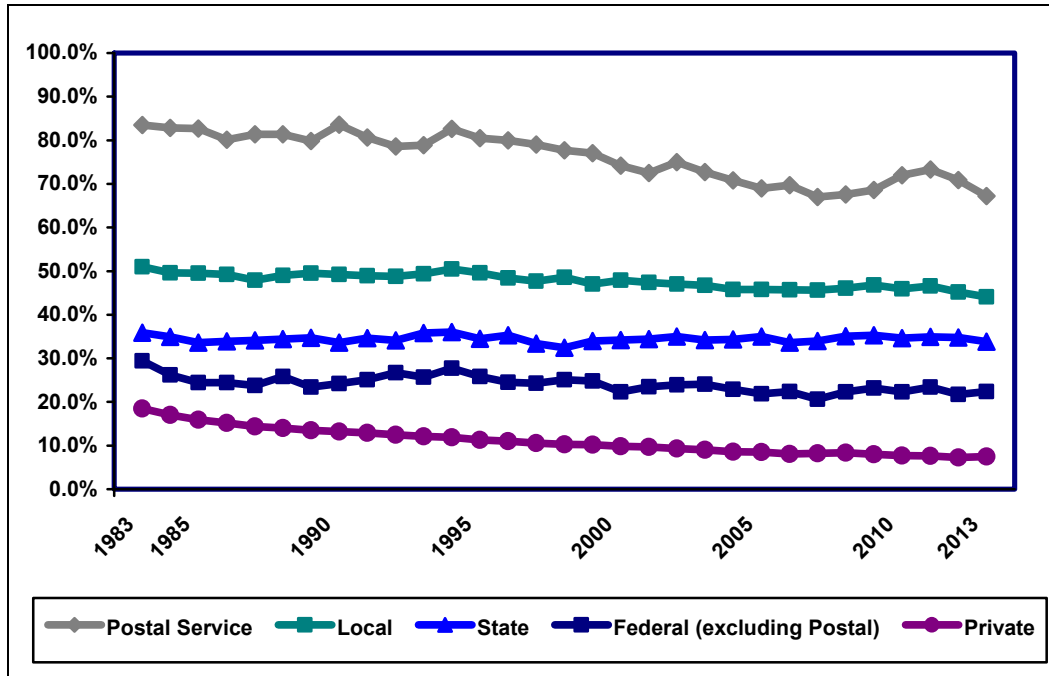
⁶ Section 14(b) of the Taft-Hartley Act (i.e., the Labor Management Relations Act of 1947, P.L. 80-101) allows states to enact right-to-work laws, which do not allow collective bargaining agreements to include union security agreements. A union security agreement may require employees to pay union dues after being hired. An employee who objects to the use of his or her dues for political purposes may pay a reduced agency fee (which covers the cost of collective bargaining and contract administration and enforcement). For a discussion of state right-to-work laws, see CRS Report R42575, *Right to Work Laws: Legislative Background and Empirical Research*, by (name redacted).

⁷ Barry T. Hirsch and David A. Macpherson, *Union Membership and Coverage Database from the Current Population Survey*, available at <http://www.unionstats.com>.

⁸ The National Labor Relations Act (NLRA) governs labor-management relations in most of the private sector. Labor-management relations in the railroad and airlines industries are governed by the Railway Labor Act (RLA) of 1926. In the federal sector, labor management relations are governed by the Federal Service Labor-Management Relations Statute (FSLMRS, Title VII of the Civil Service Reform Act of 1978, P.L. 95-454). Labor-management relations for state and local workers are governed by state and local law. For an explanation of federal labor relations statutes, see CRS Report R42526, *Federal Labor Relations Statutes: An Overview*, by (name redacted). For an explanation of collective bargaining rights in the public sector, see CRS Report R41732, *Collective Bargaining and Employees in the Public Sector*, by (name redacted).

Figure 5 shows the percentage of private and public sector workers who are covered by a collective bargaining agreement. Because union coverage is higher in the Postal Service than in the rest of the federal government, data for the Postal Service and the rest of the federal government are shown separately. The data are for 1983 through 2013. The beginning year of 1983 is used because that is the year when the CPS began to collect monthly data on union coverage.

Figure 5. Percent of Workers Covered by a Collective Bargaining Agreement, 1983-2013



Source: Barry T. Hirsch and David A. Macpherson, *Union Membership and Coverage Database from the CPS*, available at <http://www.unionstats.com>.

The number of workers covered by a collective bargaining agreement is greater in the private sector than in the public sector. However, the percentage of workers covered by a union contract is greater in the public sector. In 2013, 38.7% of all public wage and salary workers were covered by a collective bargaining agreement, compared to 7.5% of private sector wage and salary workers. Nevertheless, since 1983, the percentage of workers represented by a union has fallen in both the private and public sectors. In the private sector, union coverage fell from 18.5% to 7.5% of all wage and salary workers (a decline of 11.0 percentage points). In the public sector, union coverage fell from 45.5% to 38.7% of workers (a decline of 6.8 percentage points).

In the public sector, the largest decrease in union coverage has been in the Postal Service, where coverage fell from 83.5% of workers in 1983 to 67.2% of workers in 2013 (a decline of 16.3 percentage points). In the rest of the federal government, coverage fell from 29.4% to 22.4% (a decline of 7.0 percentage points). Coverage fell from 51.0% to 44.1% among employees of local governments (a decline of 6.9 percentage points after rounding) and from 35.9% to 33.8% among state government workers (a decline of 2.1 percentage points).

Union coverage can affect the relative pay of union and nonunion workers. Workers who are represented by a union generally receive higher wages and more or better benefits than workers

who are not represented by a union.⁹ The percent of workers covered by a collective bargaining agreement is higher in the public sector than in the private sector. To the extent that public sector workers can bargain over pay and benefits, greater unionization in the public sector could raise the pay of public sector workers, compared to the pay of private sector workers.

In the federal government, most employees do not bargain over wages. Salaried employees generally receive an annual pay adjustment and a locality pay adjustment, effective each January. Federal employees who are paid by the hour usually receive pay adjustments equal to those received by salaried workers in the same locality.¹⁰

Some federal workers can bargain over wages. The Postal Reorganization Act of 1970 (P.L. 91-375) gave postal workers the right to bargain over wages and benefits (excluding retirement benefits).¹¹ Air traffic controllers can bargain over wages because the Federal Aviation Administration (FAA) is required to recognize a union chosen by a majority of employees, but is allowed to develop its own pay system.¹² The Tennessee Valley Authority (TVA) has a long-standing policy that allows employees to bargain over wages.¹³

Individual, Occupational, and Employer Characteristics of Private and Public Sector Workers

The second part of this report examines selected characteristics that may affect the relative pay of private and public sector workers.¹⁴ These characteristics include age, gender, educational attainment, and the distribution of employees by occupation. The data are from the monthly Current Population Survey (CPS) and the Annual Social and Economic (ASEC) supplement to the CPS. The CPS is a household survey conducted by the U.S. Census Bureau for BLS. The monthly CPS does not include persons on active duty in the military. The ASEC supplement includes military personnel living in civilian households.

⁹ Several studies have attempted to measure the difference in earnings between union and nonunion workers. The results vary. In general, however, most studies conclude that, after controlling for individual, occupational, and labor market characteristics, the wages of union workers may be 10% to 30% higher than the wages of nonunion workers. See CRS Report RL32553, *Union Membership Trends in the United States*, by (name redacted).

¹⁰ Although the law has never been implemented as enacted, adjustments to federal white-collar pay are based on the Federal Employees Pay Comparability Act of 1990 (FEPCA). See CRS Report RL34463, *Federal White-Collar Pay: FY2009 and FY2010 Salary Adjustments*, by (name redacted). Also see CRS Report RL33245, *Legislative, Executive, and Judicial Officials: Process for Adjusting Pay and Current Salaries*, by (name redacted).

¹¹ U.S. Government Accountability Office (GAO), *Comparison of Collectively Bargained and Administratively Set Pay Rates for Federal Employees*, GAO/FPCD-82-49, July 2, 1982, p. 10, available at <http://archive.gao.gov/d41t14/118922.pdf>.

¹² U.S. Government Accountability Office (GAO), *Human Capital: Selected Agencies' Statutory Authorities Could Offer Options in Developing a Framework for Governmentwide Reform*, GAO-05-398R, April 21, 2005, pp. 8, 31-32, available at <http://www.gao.gov/new.items/d05398r.pdf>.

¹³ The Tennessee Valley Authority (TVA) Act of 1933 does not give TVA employees the right to engage in collective bargaining. However, a policy adopted by the TVA in 1935 allows employees to organize and bargain collectively. U.S. Government Accountability Office (GAO), *Labor-Management Relations: Tennessee Valley Authority Situation Needs to Improve*, GAO/GGD-91-129, September 1991, p. 13, available at <http://archive.gao.gov/d18t9/145065.pdf>.

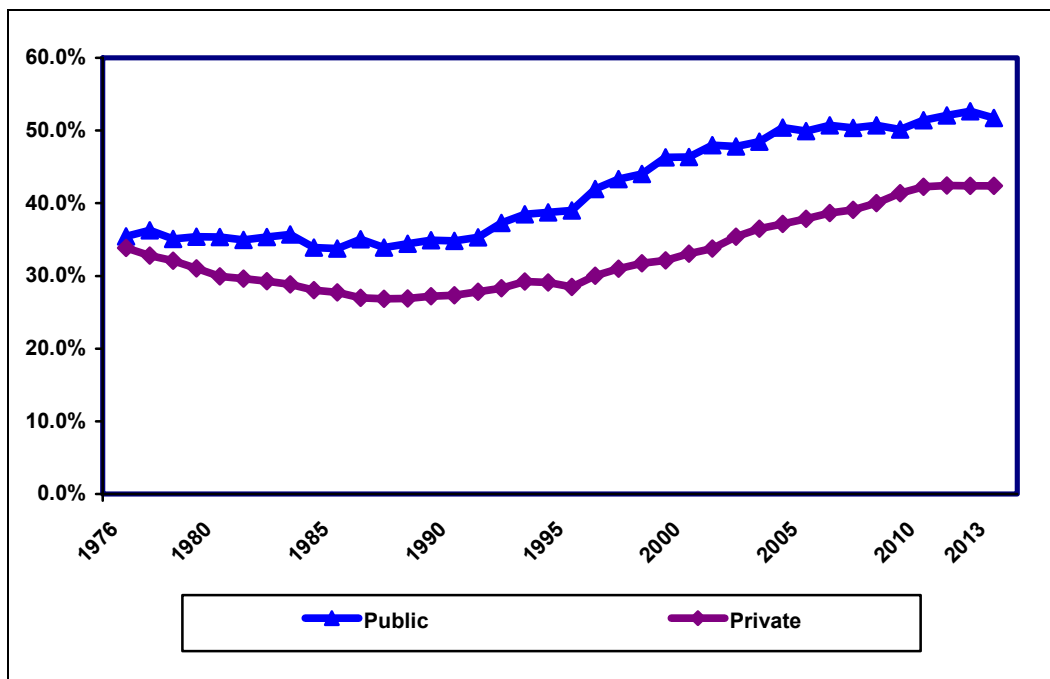
¹⁴ For different views on the pay of federal workers, see U.S. Congress, House Committee on Oversight and Government Reform, Subcommittee on Federal Workforce, U.S. Postal Service and Labor Policy, *Are Federal Workers Overpaid?* 112th Cong. 1st sess., March 9, 2013, available at <http://oversight.house.gov/>.

The analysis in this section covers the period from 1976 to 2013. The national unemployment rates in 1976 and 2013 were roughly comparable (7.7% and 7.4%, respectively).¹⁵ Unlike the analysis of union coverage in the first part of this report, which included all full-time and part-time workers ages 16 and over, the analysis in this section is of working-age adults only. These are workers between the ages of 18 and 64. Because a larger share of workers in the public sector than in the private sector work full-time (87.2% and 80.6%, respectively, in 2013), the analysis in this section is of full-time workers only.¹⁶ Full-time workers are persons who usually work 35 hours or more a week. In 2013, 81.6% of workers ages 18 to 64 were employed full-time.

Age

Reflecting the aging of the U.S. labor force, workers in both the private and public sectors have become older. Nevertheless, employees in the public sector are older than private sector workers. In 2013, 51.7% of full-time public sector workers were between the ages of 45 and 64, compared to 42.4% of full-time private sector workers. (See **Figure 6**.)

Figure 6. Percent of Full-Time Workers Who Are Between the Ages of 45 and 64, 1976 to 2013



Source: CRS analysis of data from the Annual Social and Economic (ASEC) supplement to the Current Population Survey (CPS).

Federal workers are older than employees of state and local governments. In 2013, 56.7% of federal workers were between the ages of 45 and 64, compared to 49.7% of state employees and 52.1% of employees of local governments.

¹⁵ U.S. Department of Labor, Bureau of Labor Statistics, *Labor Force Statistics from the Current Population Survey*, available at <http://stats.bls.gov/cps>.

¹⁶ CRS analysis of data from the monthly Current Population Survey (CPS).

The age gap between private and public sector workers increased from 1976 to 2001, but has fallen since. In 1976, 35.5% of public sector workers were between the ages of 45 and 64, compared to 33.8% of private sector workers (a gap of 1.6 percentage points after rounding). By 2001, the gap had increased to 14.3 points. In 2013, the gap had fallen to 9.3 points.

Older workers typically have more years of work experience than younger workers. Employees with more work experience generally earn more than workers with less experience.¹⁷ Thus, the age difference between private and public sector workers may indicate that public sector workers have more years of experience than private sector workers. In turn, a difference in work experience may be reflected in differences in earnings between private and public sector workers.

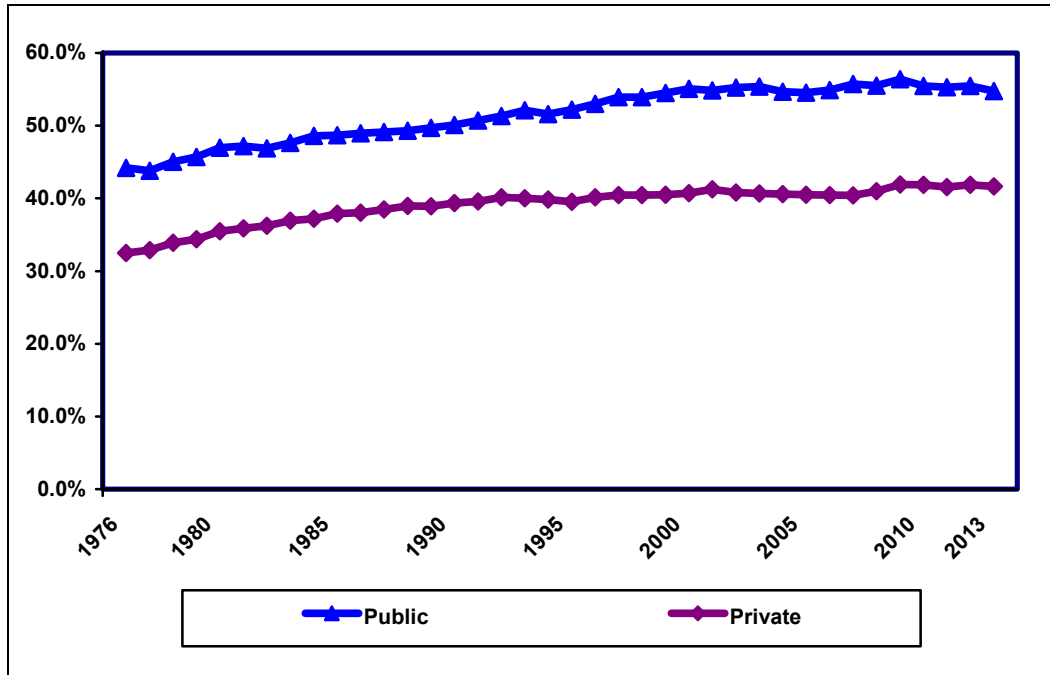
Gender

Reflecting the increased participation of women in the labor force, the share of jobs held by women has increased in both the private and public sectors. However, women hold a higher share of jobs in the public sector than in the private sector, and this difference has increased over time. (See **Figure 7**.) The higher share of jobs held by women in the public sector is due mainly to the higher share of jobs held by women in state and local governments.

In 2013, women held almost three-fifths of full-time jobs in state and local governments (57.7% for both state and local governments). By contrast, women held approximately two-fifths of full-time jobs in the federal government and in the private sector (42.2% and 41.7%, respectively).

The largest increase in the share of jobs held by women has been in state governments. From 1976 to 2013, the share of state jobs held by women increased by 13.7 percentage points (from 44.0% to 57.7%). By contrast, over the same period, the share of jobs held by women in local governments increased by 8.8 points (from 48.9% to 57.7%), in the federal government by 10.7 points (from 31.5% to 42.2%), and in the private sector by 9.2 points (from 32.5% to 41.6% after rounding).

¹⁷ Within occupations, earnings generally increase with years of experience. Ronald G. Ehrenberg and Robert S. Smith, *Modern Labor Economics: Theory and Public Policy*, 7th ed. (Reading, MA, Addison-Wesley, 2000), p. 418.

Figure 7. Percent of Full-Time Workers Who Are Female, 1976 to 2013

Source: CRS analysis of data from the Annual Social and Economic (ASEC) supplement to the Current Population Survey (CPS).

The effect of the increased employment of women on the difference in pay between private and public sector workers may be an empirical question. The share of jobs held by women in the public sector has increased more than the share of jobs held by women in the private sector. Although women, on average, earn less than men, the gap has narrowed.¹⁸ Evidence indicates that the pay gap between men and women is narrower in the public sector than in the private sector.¹⁹

¹⁸ In 2012, the median earnings of women employed full-time, year-round were 76.5% of the median earnings of men who worked full-time, year-round (\$37,791 for women and \$49,398 for men). This percentage was up from 60.2% in 1976 (\$29,717 for women and \$49,369 for men, in 2012 dollars). U.S. Census Bureau, *Income, Poverty, and Health Insurance Coverage in the United States: 2012*, P60-239, September 2013, Table A-4, available at <https://www.census.gov/prod/2013pubs/p60-245.pdf>. For a discussion of explanations of the differences in earnings by gender, see Philip Cohen, "The Persistence of Workplace Gender Segregation in the U.S.," *Sociology Compass*, vol. 7, November 2013, available at <http://www.terpconnect.umd.edu/~pnc/SocComp2013.pdf>; Natalia Kolesnikova and Yang Liu, "Gender Wage Gap May Be Much Smaller Than Most Think," *The Regional Economist*, St. Louis Federal Reserve, October 2011, available at http://www.stlouisfed.org/publications/pub_assets/pdf/re/2011/d/gender_wage_gap.pdf; and CONSAD Research Corporation, *An Analysis of the Reasons for the Disparity in Wages Between Men and Women*, prepared for the U.S. Department of Labor, January 2009, available at <http://www.consad.com/content/reports/Gender%20Wage%20Gap%20Final%20Report.pdf>.

¹⁹ U.S. Government Accountability Office (GAO), *Women's Pay: Gender Pay Gap in the Federal Workforce Narrows as Differences in Occupation, Education, and Experience Diminish*, GAO-09-279, March 2009, p. 9, available at <http://www.gao.gov/new.items/d09279.pdf>. Robert G. Gregory and Jeff Borland, "Recent Developments in Public Sector Labor Markets," *Handbook of Labor Economics*, vol. 3C, ed. by Orley Ashenfelter and David Card (Amsterdam: Elsevier, 1999), p. 3611.

Education

On average, public sector employees have more years of education than private sector workers. In 2013, 53.6% of workers in the public sector had a bachelor's, advanced, or professional degree, compared to 34.9% of private sector workers.²⁰

Among public sector workers, state and local government employees are more likely than federal workers to have a bachelor's, advanced, or professional degree. In 2013, 57.9% of state workers and 53.5% of local government workers had at least a bachelor's degree, compared to 46.9% of federal workers.

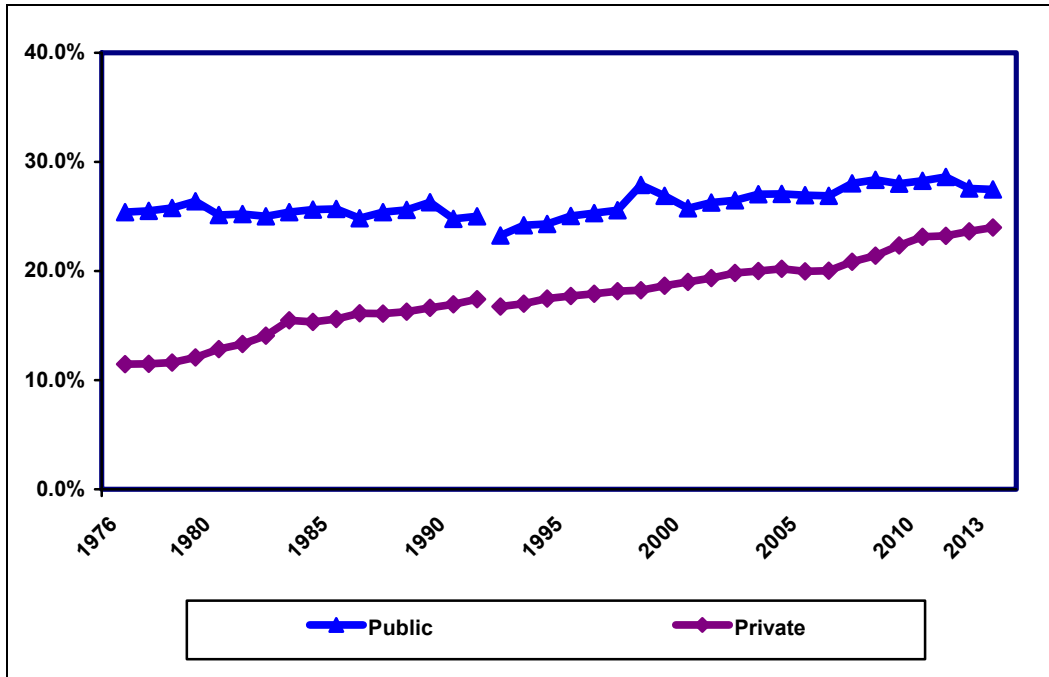
Beginning in 1992, the CPS changed the way educational attainment is coded. For years before 1992, the CPS reported the number of years of education that a person completed, whether or not they received a degree. In 1992, the CPS began to report whether a person received a degree. Therefore, data for the years 1992 and later are not completely comparable to earlier years. (See the discussion of "CPS Values for Educational Attainment" in the **Appendix**.) For private and public sector workers, the percentage point changes in educational attainment discussed in this section are the sum of the percentage point changes over two periods: 1976 to 1991, and 1992 to 2013.

For public sector workers, the CPS began to collect information on employment by level of government (i.e., federal, state, or local) in 1988. Accordingly, for federal, state, and local workers, the percentage point changes in educational attainment discussed in this section are the sum of the percentage point changes from 1988 to 1991 and 1992 to 2013.

Reflecting the general rise in years of education, educational attainment has improved among both private and public sector workers. Educational attainment has improved more in the private sector than in the public sector, however. From 1976 to 2013, the percentage of private sector workers with a bachelor's degree or better increased by 19.9 percentage points, compared to a 15.2-point increase for public workers. Among private sector workers, the largest gain was in the percentage of workers with a bachelor's degree (a gain of 13.2 percentage points for private sector workers, compared to a gain of 3.8 percentage points for public sector workers). (See **Figure 10**.) By contrast, the largest gain among public sector workers was among workers with an advanced or professional degree (a gain of 11.4 percentage points for public sector workers, compared to a gain of 6.6 percentage points for private sector workers). (See **Figure 10**.)

²⁰ Advanced degrees include master's and doctorate degrees. Professional degrees include degrees in law, medicine, and business administration.

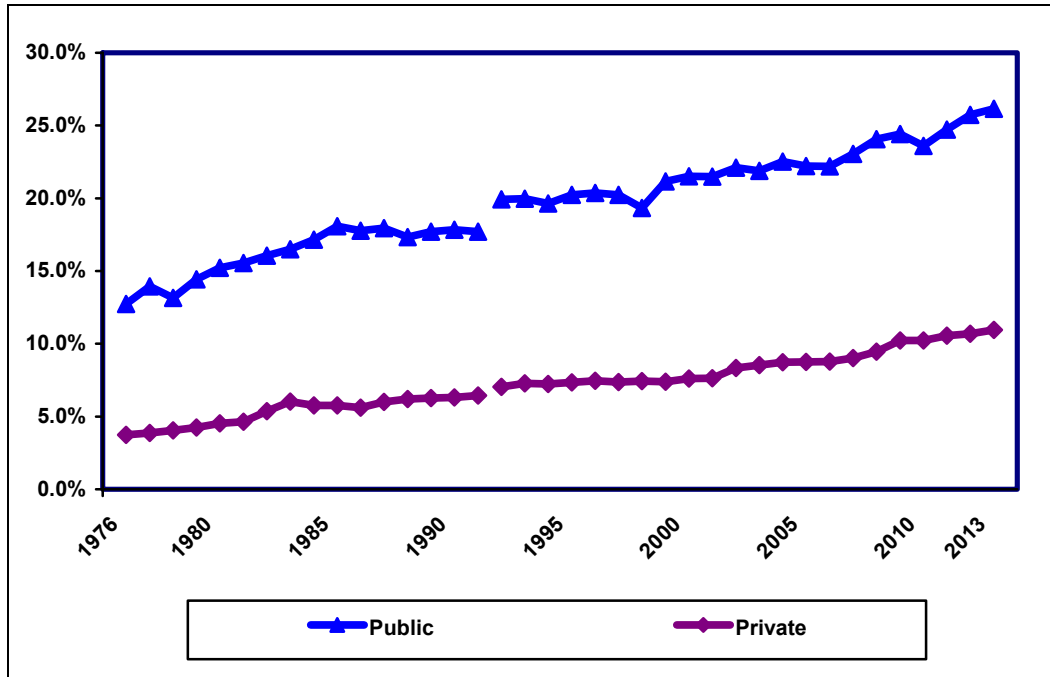
Figure 8. Percent of Full-Time Workers with a Bachelor's Degree, Private and Public Sectors, 1976 to 2013



Source: CRS analysis of data from the Annual Social and Economic (ASEC) supplement to the Current Population Survey (CPS).

Notes: Because of changes in 1992 in the way educational attainment is coded in the CPS, data for the years 1992 and later are not comparable to earlier years. The data for the years 1976 to 1991 are for persons who completed 16 or more years of education. The data for the years 1992 to 2013 are for persons who received a bachelor's, advanced, or professional degree. See the discussion of "CPS Values for Educational Attainment" in the **Appendix**.

Figure 9. Percent of Full-Time Workers with an Advanced or Professional Degree, Private and Public Sectors, 1976 to 2013



Source: CRS analysis of data from the Annual Social and Economic (ASEC) supplement to the Current Population Survey (CPS).

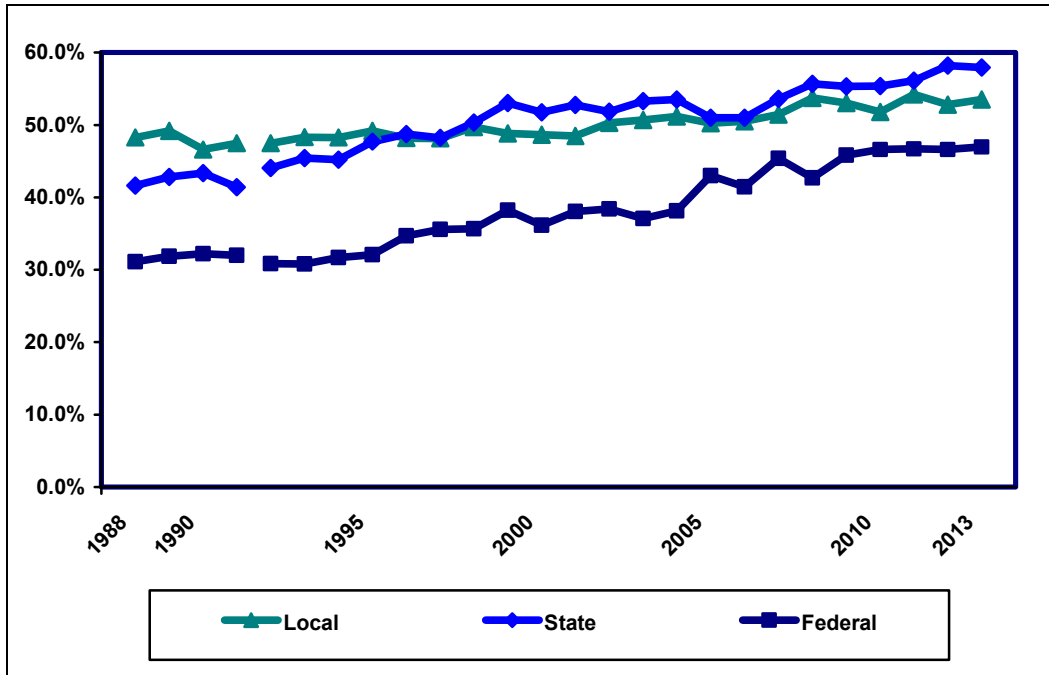
Notes: Because of changes in 1992 in the way educational attainment is coded in the CPS, data for the years 1992 and later are not comparable to earlier years. The data for the years 1976 to 1991 are for persons who completed more than 16 years of education. The data for the years 1992 to 2013 are for persons who received an advanced or professional degree. See the discussion of “CPS Values for Educational Attainment” in the **Appendix**.

Figure 10 shows changes in the level of educational attainment, from 1988 to 2013, for federal, state, and local government employees. The largest gains in educational attainment were among federal workers. The percentage of federal employees with a bachelor’s, advanced, or professional degree increased by 17.0 percentage points, compared to a 13.7 point increase for employees of state governments and a 5.3 point increase for employees of local governments. The percentage of federal employees with a bachelor’s degree increased by 6.4 percentage points, while the percentage with an advanced or professional degree increased by 10.6 points.

Workers with more education generally earn more than workers with less education.²¹ Other things being equal, the higher educational attainment of public sector workers, especially workers with an advanced or professional degree, likely affects the relative pay of private and public sector workers.

²¹ CRS Report R41329, *The Rise in Wage Inequality by Level of Education, 1975 to 2008*, by (name redacted).

Figure 10. Percent of Full-Time Workers with a Bachelor’s, Advanced, or Professional Degree, by Level of Government, 1988 to 2013



Source: CRS analysis of data from the Annual Social and Economic (ASEC) supplement to the Current Population Survey (CPS).

Notes: Because of changes in 1992 in the way educational attainment is coded in the CPS, data for the years 1992 and later are not comparable to earlier years. The data for the years 1988 to 1991 are for persons who completed 16 or more years of education. The data for the years 1992 to 2013 are for persons who received a bachelor’s, advanced, or professional degree. See the discussion of “CPS Values for Educational Attainment” in the **Appendix**.

Occupation

The CPS provides occupational data for both major and detailed occupations. A comparison of private and public sector employment using major occupational categories shows that there are private and public workers in all major occupations. An analysis of detailed occupations, however, shows that many occupations are concentrated in either the private or public sectors.

Continuing with the methodology used in the second part of this report, the analysis in this section is of full-time workers who are between the ages of 18 and 64. Because self-employed workers are not covered by federal labor relations statutes, the analysis is of wage and salary workers only. (The analysis in the first part of this report of the number of workers covered by a collective bargaining agreement was for all full-time and part-time wage and salary workers ages 16 and over.)

Major Occupations

Table 1 shows the distribution of employment in the private and public sectors by five broad occupational categories. These five categories are subdivided into 22 major occupations. The estimates are monthly averages for calendar year 2013.

All of the occupations in **Table 1** are common to both the private and public sectors. However, in 2013, a larger share of public sector than private sector workers were employed in “management, professional, and related occupations” (56.2% of public sector workers, compared to 37.8% of private sector workers).²² In part, more public sector workers were employed in these occupations because 25.7% of all public sector workers were employed in “education, training, and library” occupations, compared to 2.3% of all private sector workers. Public sector employees in these occupations work mainly for state and local governments (25.5% of employees in state governments and 34.4% of employees in local governments). In general, the median weekly earnings of full-time workers employed in management, professional, and related occupations are higher than the earnings of workers in other occupations.²³

A larger percentage of public sector than the private sector workers were employed in “protective service” occupations (11.8% and 0.7%, respectively). On the other hand, more workers in the private sector were employed in “sales and related” occupations (10.9% in the private sector and 0.8% in the public sector). Similarly, more workers in the private sector were employed in “production” occupations (7.9% in the private sector and 1.2% in the public sector).

Union Coverage by Major Occupation

Table 1 also shows the percentage of private and public sector workers in each of 5 sectors and 22 major occupations who were covered by a collective bargaining agreement in 2013. In all major occupations for which data are available (21 of 22 occupations), union coverage was higher in the public sector than in the private sector.

In the private sector, 7.9% of all full-time employees were covered by a collective bargaining agreement. But, only 2.0% of employees in legal occupations and 2.4% of employees in management occupations were represented by a union. By contrast, 18.9% of workers in education, training, and library occupations; 18.6% of workers in construction and extraction occupations; 16.1% of workers in transportation and material moving occupations; 15.9% of workers in installation, maintenance, and repair occupations; and 14.5% of production workers were represented by a union.

In the public sector, 41.3% of full-time employees were covered by a collective bargaining agreement in 2013. Among employees in education, training, and library occupations, 56.5% were represented by a union, as were 52.6% of employees in protective service occupations. A majority of employees in the latter two occupations are employed by local governments. By contrast, 18.8% of public employees employed in legal occupations and 21.6% of employees in management occupations were represented by a union. (See **Table A-1.**)

²² In the CPS, management occupations include executives, managers, and administrators. Supervisors are not covered by the NLRA (29 U.S.C. §152(11)). The FSLMRS does not cover supervisors or managers (5 U.S.C. §7103(a)(2)). These two statutes cover employees who are not supervisors, but who may be classified as managers in the CPS.

²³ U.S. Department of Labor, Bureau of Labor Statistics, *Labor Force Statistics from the Current Population Survey*, available at <http://www.bls.gov/cps/tables.htm>.

Table 1. The Percent of Full-Time Wage and Salary Workers Ages 18 to 64 Employed by Occupation and the Percent of Those Workers Who Are Covered by a Collective Bargaining Agreement, 2013

Occupation	Percent of Workers Employed by Sector and Major Occupation						Percent of Workers Covered by a Collective Bargaining Agreement					
	Total	Private	Public	Federal	State	Local	Total	Private	Public	Federal	State	Local
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	13.3%	7.9%	41.3%	32.2%	36.6%	47.6%
Management, professional, and related	40.8%	37.8%	56.2%	48.8%	62.6%	55.1%	13.3%	5.3%	41.3%	20.1%	35.6%	52.1%
Management	12.0%	12.7%	8.1%	11.6%	8.8%	6.3%	4.5%	2.4%	21.6%	14.9%	25.1%	23.3%
Business and financial operations	5.4%	5.6%	4.5%	9.1%	5.3%	2.4%	6.1%	2.7%	27.9%	25.8%	28.4%	30.0%
Computer and mathematical science	3.5%	3.6%	2.6%	5.7%	2.7%	1.4%	5.4%	2.6%	26.3%	14.3%	35.4%	34.0%
Architecture and engineering	2.4%	2.5%	1.7%	4.0%	1.5%	0.9%	8.4%	5.8%	28.5%	20.5%	39.6%	30.6%
Life, physical, and social science	1.0%	0.8%	2.1%	4.2%	2.9%	0.9%	12.9%	5.9%	26.7%	16.6%	28.0%	42.5%
Community and social service	1.7%	1.3%	4.1%	1.8%	6.2%	3.6%	20.3%	6.5%	43.2%	25.6%	38.8%	50.8%
Legal	1.3%	1.2%	1.8%	2.8%	2.2%	1.3%	5.8%	2.0%	18.8%	19.5%	18.0%	19.1%
Education, training, and library	6.1%	2.3%	25.7%	2.5%	25.5%	34.4%	44.5%	18.9%	56.5%	22.2%	44.0%	63.0%
Arts, design, entertainment, sports, and media	1.5%	1.7%	0.6%	0.8%	0.7%	0.4%	6.8%	5.5%	26.9%	n.a.	31.6%	n.a.
Healthcare practitioner and technical	5.9%	6.1%	5.0%	6.2%	6.7%	3.6%	13.4%	10.3%	33.2%	27.7%	28.6%	41.9%
Service	14.2%	13.2%	19.5%	12.8%	17.5%	23.1%	15.0%	6.6%	44.6%	33.0%	42.6%	47.9%
Healthcare support	2.2%	2.4%	1.1%	1.1%	1.4%	0.8%	11.2%	9.7%	29.6%	n.a.	28.3%	27.0%
Protective service	2.5%	0.7%	11.8%	8.3%	9.2%	14.8%	42.3%	9.5%	52.6%	33.7%	50.9%	57.2%
Food preparation and serving related	3.9%	4.4%	1.3%	0.9%	1.4%	1.5%	5.2%	3.9%	27.9%	n.a.	29.7%	27.9%
Building and grounds cleaning and maintenance	3.2%	3.2%	3.6%	1.4%	3.3%	4.5%	13.5%	8.6%	36.3%	40.4%	37.8%	35.1%
Personal care and service	2.4%	2.5%	1.7%	1.1%	2.3%	1.5%	7.7%	5.0%	29.2%	22.2%	33.6%	27.0%
Sales and office	22.0%	23.2%	15.3%	27.7%	13.3%	12.0%	8.0%	4.2%	38.0%	50.3%	32.0%	31.5%
Sales and related	9.2%	10.9%	0.8%	1.5%	0.8%	0.5%	3.1%	2.9%	20.2%	16.2%	29.6%	15.3%
Office and administrative support	12.7%	12.4%	14.5%	26.3%	12.5%	11.4%	11.4%	5.3%	39.0%	52.3%	32.2%	32.2%
Natural resources, construction, and maintenance	10.0%	11.0%	4.9%	5.4%	4.2%	5.2%	18.2%	16.4%	39.3%	36.1%	37.7%	41.3%
Farming, fishing, and forestry	0.7%	0.8%	0.1%	0.4%	0.1%	0.0%	2.8%	2.2%	n.a.	n.a.	n.a.	n.a.
Construction and extraction	5.3%	5.8%	2.5%	1.7%	2.2%	3.0%	20.3%	18.6%	39.9%	31.5%	45.6%	39.1%
Installation, maintenance, and repair	4.1%	4.4%	2.3%	3.2%	1.9%	2.2%	18.0%	15.9%	39.6%	40.5%	28.9%	44.7%
Production, transportation, and material moving	13.1%	14.8%	4.1%	5.3%	2.3%	4.7%	16.5%	15.2%	41.1%	42.9%	41.1%	40.3%
Production	6.9%	7.9%	1.2%	1.9%	0.7%	1.3%	15.1%	14.5%	34.7%	39.3%	n.a.	35.7%
Transportation and material moving	6.2%	6.9%	2.9%	3.4%	1.7%	3.4%	18.1%	16.1%	43.7%	44.9%	48.1%	42.0%

Source: CRS analysis of monthly data from the Current Population Survey (CPS). Estimates are monthly averages for 2013.

Notes: Following BLS practice, percentages are not shown if the denominator is 35,000 workers or less. These cells are marked as “n.a.” (not available). Details may not sum to totals due to rounding. The estimates used to calculate the percentages in **Table 1** are shown in **Table A-1** in the **Appendix**.

Detailed Occupations

Broad occupational categories may not fully distinguish between detailed occupations that are concentrated in either the private or public sectors. Many detailed occupations may require similar skills, however. The **Appendix** shows the top 100 occupations, by the number of persons employed full-time in the private sector and the top 100 occupations by the number of persons employed full-time in the public sector. In 2013, the top 100 occupations in the private sector accounted for 74.0% of total full-time employment in the sector. The top 100 occupations in the public sector accounted for 83.9% of full-time employment in the sector.

Pay comparisons between the private and public sectors that rely on broad occupational categories may not capture differences in detailed occupations. On the other hand, pay comparisons that use detailed occupations may be difficult if employment in the occupation is concentrated in either the private or public sectors. For example, in 2013, 12.7% of full-time jobs in the private sector and 8.1% of full-time jobs in the public sector were in management. (See **Table 1.**) But, 94.8% of chief executives worked in the private sector. (See line 12 of **Table A-2.**) Similarly, 99.1% of first-line supervisors of retail sales workers and 97.7% of first-line supervisors of nonretail sales workers were employed in the private sector. (See lines 1 and 5 of **Table A-3.**) On the other hand, virtually all (100.0%) first-line supervisors of police officers and detectives were employed in the public sector. (See line 10 of **Table A-4.**)

On average, chief executives likely earn more, and first-line supervisors probably earn less, than mid-level managers. Whether employed in the private or public sectors, management occupations may require similar skills.

Data by detailed occupation also show that union coverage is higher in the public sector than in the private sector. (For example, see **Table A-2** and **Table A-4.**)

Metropolitan Area

Figure 11 shows the percentage of private and public sector workers who live in metropolitan areas with populations of 1 million or more or with populations of 5 million or more. Persons who live in areas with populations of 5 million or more are included with persons who live in areas with populations of 1 million or more. The estimates are for a worker's place of residence at the time of the 2013 ASEC supplement survey.

The cost of living is generally higher in metropolitan than nonmetropolitan areas.²⁴ Thus, earnings across areas may vary because of differences in the cost of living.²⁵ In 2013, private and

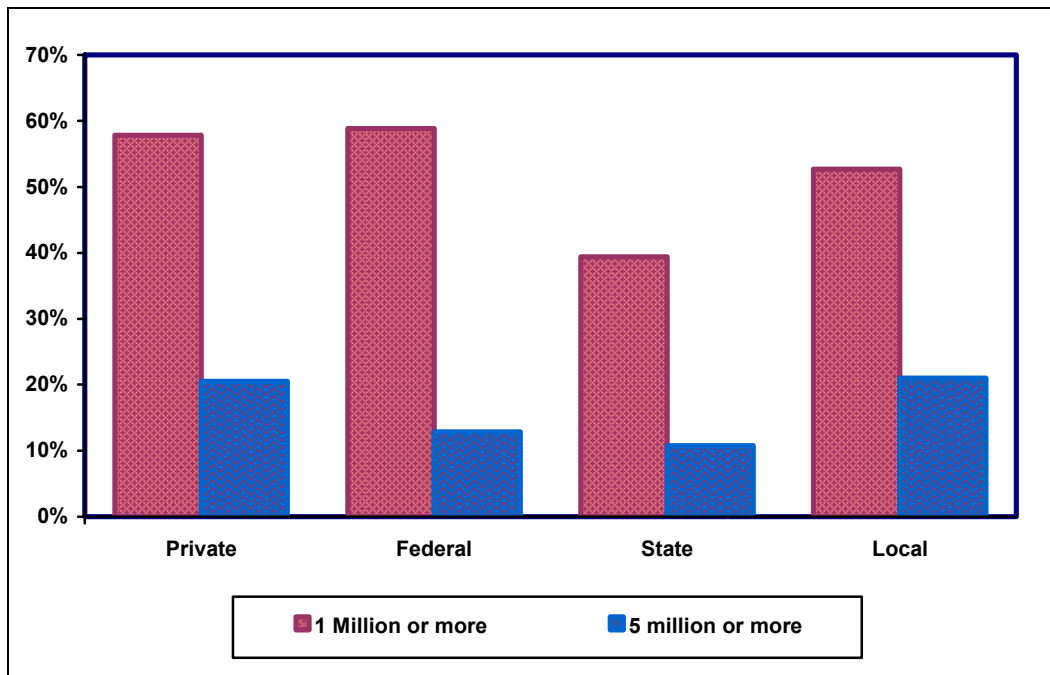
²⁴ A metropolitan statistical area (MSA) consists of at least one urban area with a population of 50,000 or more and adjacent communities that have a high degree of economic and social integration. Executive Office of the President, Office of Management and Budget, *Metropolitan Statistical Areas, Metropolitan Divisions, Micropolitan Statistical Areas, Combined Statistical Areas, New England City and Town Areas, and Combined New England City and Town Areas*, OMB Bulletin No. 13-01, February 28, 2013, p.2 of the Appendix, available at <http://www.whitehouse.gov/sites/default/files/omb/bulletins/2013/b13-01.pdf>.

²⁵ Evidence suggests that when wages across areas are adjusted for differences in the cost of living, part of the difference in observed wages across areas is due to differences in the cost of living. J. Michael DuMond, Barry T. Hirsch, and David A Macpherson, "Wage Differentials Across Labor Markets and Workers: Does Cost of Living Matter?" *Economic Inquiry*, vol. 37, October 1999, pp. 580, 588.

federal employees were as likely to live in metropolitan areas of 1 million or more (57.8% for private sector workers and 58.8% for federal workers). By contrast, state employees were less likely (39.3%) than private or federal workers to live in areas with 1 million people or more.

However, private sector workers were more likely than federal workers to live in areas with 5 million or more people. In 2013, 20.5% of private sector workers lived in the largest metropolitan areas, compared to 12.9% of federal workers. On the other hand, employees of local governments were as likely (21.0%) as private sector workers to live in metropolitan areas of 5 million or more people.

Figure 11. Percent of Full-Time Employees Who Live in Metropolitan Areas With Populations of 1 Million or More or 5 Million or More, 2013



Source: CRS analysis of data from the Annual Social and Economic (ASEC) supplement to the Current Population Survey (CPS).

Note: Workers who do not live in metropolitan areas of a million or more live in metropolitan areas of less than a million or in nonmetropolitan areas.

Appendix. Detailed Data and Description of Data Source and Methodology

This appendix provides detailed information on employment and union coverage by occupation in the private and public sectors. It also describes the survey data and methodology used in the report.

Table A-1 shows the data used to calculate the percentages shown in **Table 1**.

Table A-1. The Number of Full-Time Wage and Salary Workers Ages 18 to 64 Employed by Occupation and the Number of Workers Covered by a Collective Bargaining Agreement by Occupation, 2013

Occupation	Number of Wage and Salary Workers Employed by Occupation (in 1,000s)						Number of Wage and Salary Workers Covered by a Collective Bargaining Agreement (in 1,000s)					
	Total	Private	Public	Federal	State	Local	Total	Private	Public	Federal	State	Local
Total	104,520	87,717	16,804	3,140	5,153	8,510	13,859	6,917	6,943	1,011	1,884	4,048
Management, professional, and related	42,605	33,161	9,444	1,532	3,226	4,686	5,652	1,755	3,896	307	1,147	2,442
Management	12,490	11,133	1,358	365	455	538	560	266	294	54	114	125
Business and financial operations	5,645	4,881	764	286	274	204	343	130	213	74	78	61
Computer and mathematical science	3,619	3,185	433	179	140	115	195	81	114	25	50	39
Architecture and engineering	2,514	2,234	280	127	78	75	210	130	80	26	31	23
Life, physical, and social science	1,050	696	353	132	148	72	135	41	94	22	41	31
Community and social service	1,814	1,131	682	56	318	309	368	74	295	14	123	157
Legal	1,374	1,066	309	88	114	107	80	22	58	17	21	20
Education, training, and library	6,338	2,015	4,323	79	1,315	2,929	2,823	380	2,442	17	578	1,847
Arts, design, entertainment, sports, and media	1,580	1,483	97	25	38	33	107	81	26	3	12	11
Healthcare practitioner and technical	6,181	5,336	845	195	347	303	830	550	280	54	99	127
Service	14,821	11,550	3,272	402	904	1,966	2,220	759	1,461	133	386	942
Healthcare support	2,272	2,095	177	33	75	70	255	203	53	13	21	19
Protective service	2,615	627	1,988	261	472	1,256	1,105	59	1,046	88	240	718
Food preparation and serving related	4,057	3,831	226	29	70	127	211	148	63	7	21	35
Building and grounds cleaning and maintenance	3,378	2,779	599	44	169	387	457	240	217	18	64	136
Personal care and service	2,499	2,218	281	35	118	128	192	110	82	8	40	34
Sales and office	22,960	20,386	2,574	871	685	1,017	1,826	848	978	439	219	320
Sales and related	9,654	9,520	134	47	43	44	304	277	27	8	13	7
Office and administrative support	13,306	10,866	2,440	824	642	974	1,522	571	951	431	207	314
Natural resources, construction, and maintenance	10,468	9,638	830	170	218	442	1,904	1,578	326	61	82	182
Farming, fishing, and forestry	704	682	22	14	6	1	20	15	5	3	2	0
Construction and extraction	5,514	5,088	426	54	115	257	1,118	948	170	17	52	100
Installation, maintenance, and repair	4,250	3,868	382	102	97	183	766	614	151	41	28	82
Production, transportation, and material moving	13,666	12,981	684	165	120	400	2,258	1,977	281	71	49	161
Production	7,166	6,964	202	59	34	109	1,080	1,010	70	23	8	39
Transportation and material moving	6,500	6,017	483	106	86	290	1,178	967	211	48	41	122

Source: CRS analysis of monthly data from the Current Population Survey (CPS). Estimates are monthly averages for 2013.

Note: Details may not sum to totals because of rounding.

Table A-2, **Table A-3**, and **Table A-4** show the largest 100 occupations in 2013 in the private sector and the largest 100 occupations in the public sectors. The tables show the total number of persons employed, the number of workers employed in the private and public sectors, the percentage of total employment that was in the private sector, and the percentage of workers in the private and public sectors who were covered by a collective bargaining agreement.

In 2013, among the top 100 occupations in the private sector and the top 100 occupations in the public sector, 56 occupations were common to both sectors. These 56 occupations are shown in **Table A-2**. The occupations are listed in descending order of the total number of workers employed. To illustrate, of the 2,941,000 workers employed as “managers, all other,” 2,503,000 were employed in the private sector and 438,000 were employed in the public sector. Of the total number of workers employed as “managers, all other,” 85.1% worked in the private sector. Of the 2,941,000 “managers, all other” employed in the private sector, 1.8% were covered by a collective bargaining agreement, while 19.1% of public sector workers in this occupation were represented by a union.

Considering those occupations where less than 90% were employed in either the private or public sectors, occupations that were common to both the private and public sectors include managers; elementary and middle school teachers; registered nurses; secretaries and administrative assistants; accountants and auditors; janitors and building cleaners; managers of office and administrative support workers; and general and operations managers.

A disproportionate share of workers in some occupations common to both the private and public sectors were employed in only one sector. For example, for 21 of the 56 occupations in **Table A-2**, at least 90.0% of workers were employed in the private sector. These occupations include cashiers; laborers and material movers; stock clerks and order fillers; drivers; customer service representatives; chief executives; maids and housekeeping cleaners; financial managers; automotive service technicians and mechanics; software developers; management analysts; cooks; receptionists and information clerks; electricians; and pipelayers, plumbers, pipefitters, and steamfitters.

On the other hand, large shares of workers employed in occupations common to both the private and public sector were employed in the public sector. These occupations include elementary and middle school teachers; postsecondary teachers; education administrators; social workers; counselors; and preschool and kindergarten teachers.

Table A-3 shows the 44 occupations, among the top 100 occupations in the private sector, that were not present among the top 100 occupations in the public sector. These occupations are listed in descending order by the number of workers employed in the private sector. Of the workers employed in these 44 occupations, 97.6% worked in the private sector. These occupations were mainly in sales, food preparation and serving, construction, production, automotive service, real estate, farming, and the clergy.

Table A-4 shows the 44 occupations, among the top 100 occupations in the public sector, that were not present among the top 100 private sector occupations. The occupations are listed in descending order by the number employed in the public sector. Of the workers employed in these 44 occupations, 62.2% worked in the public sector. These occupations were mainly in public safety (e.g., bailiffs, correctional officers, and jailers; police officers; fire fighters; probation officers and correctional treatment specialists; and detectives and criminal investigators); the Postal Service; education (e.g., special education, secondary school teachers, librarians, and

teaching assistants) highway maintenance; eligibility interviewers for government programs; and legal occupations (e.g., court, municipal, and license clerks and legal support occupations).

Table A-2. Wage and Salary Occupations Common to Both the Private and Public Sectors, by Total Number Employed, 2013

Occupation		Number Employed ^a (in 1,000s)			Percentage of Total Employed in the Private Sector	Percent Covered by a Collective Bargaining Agreement	
		Total	Private	Public		Private	Public
1	Managers, all other	2,941	2,503	438	85.1%	1.8%	19.1%
2	Elementary and middle school teachers	2,583	572	2,011	22.1%	30.6%	63.8%
3	Driver, sales workers and truck drivers	2,549	2,435	114	95.5%	13.3%	42.1%
4	Registered nurses	2,228	1,921	308	86.2%	16.3%	36.1%
5	Secretaries and administrative assistants	2,149	1,617	532	75.2%	3.6%	30.2%
6	Customer service representatives	1,572	1,497	76	95.2%	4.3%	27.5%
7	Accountants and auditors	1,519	1,341	179	88.2%	2.3%	27.7%
8	Janitors and building cleaners	1,461	1,052	409	72.0%	12.9%	38.8%
9	Nursing, psychiatric, and home health aides	1,350	1,227	123	90.9%	11.6%	31.2%
10	Cashiers	1,306	1,261	45	96.5%	5.5%	23.6%
11	Laborers and freight, stock, and material movers, hand	1,256	1,208	49	96.1%	12.6%	34.3%
12	Chief executives	1,242	1,177	65	94.8%	1.8%	11.0%
13	First-line supervisors, managers of office and administrative support workers	1,199	983	216	82.0%	2.2%	28.2%
14	Cooks	1,184	1,099	85	92.8%	3.2%	32.6%
15	Financial managers	1,108	1,046	63	94.4%	1.7%	22.5%
16	Software developers, applications and systems software	1,055	988	67	93.6%	2.2%	24.3%
17	General and operations managers	958	857	101	89.5%	1.9%	13.4%
18	Stock clerks and order fillers	891	853	38	95.7%	11.3%	31.0%
19	Receptionists and information clerks	874	808	66	92.4%	2.4%	31.7%
20	Lawyers, judges, magistrates, and other judicial workers	830	630	200	75.9%	2.5%	18.3%
21	Office clerks, general	816	581	235	71.2%	4.9%	31.8%
22	Postsecondary teachers	801	365	436	45.6%	13.7%	27.5%
23	Grounds maintenance workers	787	689	98	87.5%	2.4%	28.0%
24	Bookkeeping, accounting, and auditing clerks	768	692	76	90.1%	4.1%	33.4%
25	Maids and housekeeping cleaners	717	677	40	94.5%	10.4%	32.3%
26	Physicians and surgeons	706	604	102	85.5%	7.6%	16.0%

	Occupation	Number Employed ^a (in 1,000s)			Percentage of Total Employed in the Private Sector	Percent Covered by a Collective Bargaining Agreement	
		Total	Private	Public		Private	Public
27	Education administrators	684	347	337	50.7%	7.5%	32.5%
28	Automotive service technicians and mechanics	682	642	40	94.2%	5.7%	49.2%
29	Electricians	664	613	51	92.3%	32.8%	45.1%
30	Personal and home care aides	618	485	132	78.6%	8.0%	34.0%
31	Social workers	618	331	286	53.7%	5.1%	43.9%
32	Management analysts	585	545	40	93.2%	1.1%	21.4%
33	Computer and information systems managers	571	509	62	89.2%	1.4%	13.2%
34	Counselors	551	321	230	58.3%	12.9%	44.2%
35	First-line supervisors, managers of construction trades and extraction workers	526	477	49	90.7%	17.9%	39.2%
36	Medical and health services managers	522	471	51	90.3%	6.0%	23.5%
37	Human resource workers	494	402	92	81.4%	5.5%	25.2%
38	Preschool and kindergarten teachers	492	301	190	61.3%	6.3%	54.7%
39	Computer support specialists	473	403	70	85.3%	4.1%	34.6%
40	Pipelayers, plumbers, pipefitters, and steamfitters	464	427	37	92.0%	28.8%	40.4%
41	Computer systems analysts	460	419	42	91.0%	1.6%	24.1%
42	Child care workers	447	386	61	86.4%	2.6%	35.0%
43	Computer programmers	433	387	46	89.4%	2.1%	30.4%
44	Licensed practical and licensed vocational nurses	431	376	54	87.4%	8.4%	26.4%
45	First-line supervisors, managers of food preparation and serving workers	426	386	40	90.6%	3.7%	28.2%
46	Office and administrative support workers, including desktop publishers	418	323	95	77.3%	6.0%	25.0%
47	Maintenance and repair workers, general	386	313	72	81.2%	15.9%	35.7%
48	Engineers, all other	364	308	55	84.8%	3.0%	19.1%
49	Engineering technicians, except drafters	355	300	54	84.7%	12.1%	44.6%
50	Computer occupations, all other	349	276	73	79.1%	3.8%	22.4%
51	Other teachers and instructors	335	260	75	77.7%	5.4%	28.0%
52	Paralegals and legal assistants	329	289	41	87.6%	1.3%	18.5%

Occupation		Number Employed ^a (in 1,000s)			Percentage of Total Employed in the Private Sector	Percent Covered by a Collective Bargaining Agreement	
		Total	Private	Public		Private	Public
53	Construction equipment operators, except paving, surfacing, and tamping equipment operators	326	260	66	79.9%	20.3%	31.6%
54	Civil engineers	323	260	63	80.6%	5.5%	25.5%
55	Bus and truck mechanics and diesel engine specialists	302	262	40	86.8%	16.7%	48.6%
56	Clinical laboratory technologists and technicians	295	256	39	86.6%	8.8%	32.7%

Source: CRS analysis of data from the monthly Current Population Survey (CPS) for 2013.

Note: Estimates are for full-time workers ages 18 to 64.

a. Occupations are listed in descending order by the sum of persons employed in the private and public sectors.

Table A-3. Wage and Salary Occupations More Common in the Private Sector, by Number Employed in the Private Sector, 2013

	Occupation	Number Employed ^a (in 1,000s)			Percentage of Total Employed in the Private Sector	Percent of Total Covered by a Collective Bargaining Agreement
		Total	Private	Public		
1	First-line supervisors, managers of retail sales workers	2,508	2,486	22	99.1%	4.0%
2	Retail salespersons	1,761	1,747	14	99.2%	1.9%
3	Sales representatives, wholesale and manufacturing	1,089	1,086	3	99.8%	1.3%
4	Construction laborers	1,096	1,065	31	97.2%	13.4%
5	First-line supervisors, managers of nonretail sales workers	896	876	20	97.7%	2.5%
6	Miscellaneous assemblers and fabricators	876	869	7	99.2%	16.1%
7	Waiters and waitresses	867	854	12	98.6%	2.7%
8	Production workers, including semiconductor processors and cooling and freezing equipment operators	855	836	19	97.8%	16.4%
9	Food service managers	854	834	19	97.7%	2.2%
10	Marketing and sales managers	817	807	10	98.7%	2.1%
11	Carpenters	760	737	23	96.9%	16.1%
12	First-line supervisors, managers of production and operating workers	670	642	28	95.9%	9.0%
13	Inspectors, testers, sorters, samplers, and weighers	637	606	32	95.1%	13.3%
14	Construction managers	552	535	18	96.8%	6.7%
15	Industrial truck and tractor operators	535	525	10	98.1%	17.0%
16	Designers	533	517	16	97.0%	2.9%
17	Welding, soldering, and brazing workers	517	498	19	96.4%	19.7%
18	Miscellaneous agricultural workers, including animal breeders	501	495	6	98.9%	0.6%
19	Shipping, receiving, and traffic clerks	482	476	5	98.9%	10.6%
20	Insurance sales agents	444	439	5	98.9%	2.5%
21	Industrial and refractory machinery mechanics	425	409	16	96.3%	20.4%
22	Property, real estate, and community association managers	410	390	20	95.0%	3.8%
23	Real estate brokers and sales agents	395	388	7	98.2%	1.9%
24	Health diagnosing and treating practitioner support technicians	405	375	30	92.7%	8.6%
25	Machinists	376	375	1	99.7%	13.7%

	Occupation	Number Employed ^a (in 1,000s)			Percentage of Total Employed in the Private Sector	Percent of Total Covered by a Collective Bargaining Agreement
		Total	Private	Public		
26	Billing and posting clerks and machine operators	407	374	33	91.9%	6.2%
27	Food preparation workers	391	372	19	95.2%	4.9%
28	Painters, construction and maintenance, and paperhangers	362	352	9	97.4%	11.4%
29	Medical assistants	365	347	18	95.0%	7.4%
30	Sales representatives, services, all other	353	346	7	97.9%	2.8%
31	Chefs and head cooks	351	342	9	97.5%	4.5%
32	Loan counselors and officers	355	338	17	95.2%	4.0%
33	Metalworkers and plastic workers, all other	340	335	5	98.5%	17.9%
34	Hairdressers, hairstylists, and cosmetologists	337	333	3	99.1%	1.9%
35	Packers and packagers, hand	325	322	2	99.3%	8.0%
36	Heating, air conditioning, and refrigeration mechanics and installers	324	305	20	94.0%	16.6%
37	Clergy	296	293	2	99.2%	1.7%
38	Packaging and filling machine operators and tenders	290	290	0	99.9%	15.1%
39	Personal financial advisors	297	288	9	96.8%	1.1%
40	Mechanical engineers	294	285	9	96.8%	5.1%
41	Butchers and other meat, poultry, and fish processing workers	283	283	0	100.0%	21.0%
42	Claims adjusters, appraisers, examiners, and investigators	296	266	29	90.0%	8.0%
43	Diagnostic related technologists and technicians	281	256	24	91.3%	9.7%
44	Social and community service managers	268	251	17	93.6%	3.7%

Source: CRS analysis of data from the monthly Current Population Survey (CPS) for 2013.

Note: Estimates are for full-time workers ages 18 to 64.

a. Occupations are listed in descending order by the number employed in the private sector.

Table A-4. Wage and Salary Occupations More Common in the Public Sector, by the Number Employed in the Public Sector, 2013

	Occupation	Number Employed ^a (in 1,000s)			Percentage of Total Employed in the Public Sector	Percent of Total Covered by a Collective Bargaining Agreement
		Total	Private	Public		
1	Secondary school teachers	936	192	744	79.5%	59.2%
2	Police officers	671	1	670	99.9%	61.9%
3	Bailiffs, correctional officers, and jailers	409	0	409	100.0%	46.2%
4	Teacher assistants	549	146	403	73.3%	35.3%
5	Fire fighters	293	7	286	97.7%	66.9%
6	Postal service mail carriers	269	0	269	100.0%	76.9%
7	Special education teachers	327	65	263	80.3%	60.5%
8	Bus drivers	307	146	161	52.5%	39.7%
9	Detectives and criminal investigators	157	6	151	96.2%	38.1%
10	First-line supervisors, managers of police and detectives	111	0	111	100.0%	42.5%
11	Dispatchers	242	136	106	43.7%	20.5%
12	Librarians	139	34	105	75.5%	31.8%
13	Probation officers and correctional treatment specialists	105	3	102	97.1%	46.1%
14	Postal service clerks	88	0	88	100.0%	77.4%
15	Highway maintenance workers	92	8	84	91.6%	37.5%
16	Other education, training, and library workers	126	53	73	57.8%	29.3%
17	Postal service mail sorters, processors, and processing machine operators	68	0	68	100.0%	70.5%
18	Compliance officers	175	108	67	38.4%	10.8%
19	Eligibility interviewers, government programs	74	9	65	87.7%	44.1%
20	Court, municipal, and license clerks	73	13	60	82.5%	29.3%
21	Miscellaneous legal support workers	205	145	60	29.2%	7.2%
22	First-line supervisors, managers of firefighting and prevention workers	58	1	57	98.9%	50.3%
23	Tax examiners, collectors, and revenue agents	62	4	57	92.9%	45.8%
24	File Clerks	174	119	55	31.5%	12.4%
25	Emergency medical technicians and paramedics	139	87	52	37.7%	27.1%
26	Purchasing agents, except wholesale, retail, and farm products	255	204	50	19.7%	9.6%
27	Operations research analysts	109	60	49	45.1%	9.6%
28	Speech-language pathologists	98	50	49	49.6%	31.7%
29	First-line supervisors, managers of mechanics,	250	202	48	19.2%	12.2%

Occupation	Number Employed ^a (in 1,000s)			Percentage of Total Employed in the Public Sector	Percent of Total Covered by a Collective Bargaining Agreement
	Total	Private	Public		
installers, and repairers					
30 Medical scientists and life scientists, all other	130	85	45	34.6%	7.4%
31 Data entry keyers	228	183	44	19.5%	10.6%
32 Biological scientists	101	57	44	43.6%	11.6%
33 Psychologists	108	64	44	40.9%	33.4%
34 Water and liquid waste treatment plant and system operators	66	24	42	63.9%	27.6%
35 Construction and building inspectors	74	35	39	52.7%	19.2%
36 Social and human service assistants	95	56	39	40.8%	15.8%
37 Private detectives and investigators	74	38	36	49.1%	16.9%
38 Business operations specialists, all other	174	138	36	20.8%	7.5%
39 First-line supervisors, managers of housekeeping and janitorial workers	203	168	36	17.6%	10.4%
40 Human resources assistants, except payroll and timekeeping	123	89	35	28.2%	9.3%
41 Recreation and fitness workers	205	170	35	17.0%	3.8%
42 Physical scientists, all other	125	90	34	27.6%	3.6%
43 Human resources managers	205	171	34	16.5%	2.5%
44 Miscellaneous life, physical, and social science technicians	108	74	34	31.2%	11.3%

Source: CRS analysis of data from the monthly Current Population Survey (CPS) for 2013.

Note: Estimates are for full-time workers ages 18 to 64.

a. Occupations are listed in descending order by the number employed in the public sector

Data and Methodology

This report analyzes data from the Current Employment Statistics (CES) survey and the Current Population Survey (CPS).

The CES is an employer survey conducted by the Bureau of Labor Statistics (BLS). The CES survey counts the number of persons on employer payrolls for any part of the pay period that includes the 12th day of the month. Persons who are on the payroll of more than one establishment are counted in each establishment. Government employment includes civilian employees only; persons in the military are not included. Also excluded are employees of the Central Intelligence Agency, the National Security Agency, the National Imagery and Mapping Agency, and the Defense Intelligence Agency.²⁶

The CPS is a household survey conducted by the U.S. Census Bureau for BLS. The monthly CPS is the source of the national unemployment rate and other labor market information. The survey is representative of the civilian noninstitutional population. The sample does not include persons living in institutions (such as psychiatric hospitals, nursing homes, or correctional facilities). The monthly survey does not include individuals who are on active duty in the military.²⁷ Approximately 55,500 households are interviewed each month.²⁸ The data for occupations and union coverage (**Table 1** in the text and the tables in the **Appendix**) are from the monthly CPS. Union coverage is for a worker's occupation at the time of the monthly CPS.

Each year, the CPS conducts the Annual Social and Economic (ASEC) supplement to the monthly CPS. The sample for the ASEC supplement is representative of the civilian noninstitutional population of the United States. The sample for the supplement includes members of the Armed Forces living in civilian housing units on a military base or in a household not on a military base, provided that at least one civilian adult lives in the same household.²⁹ The supplement does not ask active members of the Armed Forces the monthly CPS labor force questions. The supplement does not include persons living in military barracks. For the 2013 supplement, 75,500 households were interviewed.³⁰

In this report, data on the characteristics of private and public sector workers are from the ASEC supplement. Data for employment by level of government are for a person's current job.

The data that are available to public users of the CPS may not be the same as the data available to BLS. In order to protect the confidentiality of persons in the survey, the Census Bureau modifies

²⁶ U.S. Department of Labor, Bureau of Labor Statistics, *Current Employment Statistics*, available at <http://stats.bls.gov/ces/home.htm>.

²⁷ Bureau of Labor Statistics, "Labor Force Data Derived from the Current Population Survey," *Handbook of Methods*, pp. 1-2, available at <http://www.bls.gov/opub/hom/pdf/homch1.pdf>.

²⁸ U.S. Department of Labor, Bureau of Labor Statistics, *Employment and Earnings*, February 2006, p. 192, available at http://www.bls.gov/cps/eetech_methods.pdf.

²⁹ U.S. Census Bureau, *Design and Methodology: Current Population Survey, Technical Paper 66*, October 2006, p. 11-8, available at <http://www.census.gov/prod/2006pubs/tp-66.pdf>.

³⁰ U.S. Census Bureau, *Current Population Survey, 2013 Annual Social and Economic (ASEC) Supplement*, pp. 1-1, 2-2, 9-3, G-3, available at <http://www.census.gov/prod/techdoc/cps/cpsmar13.pdf>.

(or “masks”) the age variable in the data available to public users.³¹ As a result, some estimates produced by public users of the CPS may not match estimates published by BLS.

Changes in the Reporting of Educational Attainment in the Current Population Survey (CPS)

In 1992, the CPS changed the way educational attainment is recorded. **Table A-5** shows the values for educational attainment for the years 1975 to 1991 and the values for 1992 to 2013. For 1976 to 1991, the CPS recorded the number of years of school that a person attended. Another variable recorded whether the person finished that year of school. Since 1992, the CPS has reported whether a person graduated from high school or college.

Because of the change in the way the CPS records educational attainment, estimates of the number of high school and college graduates for the years 1992 to 2013 are not comparable to estimates for earlier years. For the earlier period, persons who completed 12 years of high school may or may not have graduated from high school. Similarly, persons who finished 16 or more years of education may or may not have received a bachelor’s, advanced, or professional degree. Because of the change in coding for educational attainment, changes in educational attainment discussed in this report are the sum of changes over two periods: the period to 1991 and the period since 1992.

Table A-5. Values for the Education Variable in the Current Population Survey (CPS), 1976 to 2013

1976 to 1991	1992 to 2013
Elementary school, 1 year	1 st , 2 nd , 3 rd , or 4 th grade
Elementary school, 2 year	5 th or 6 th grade
Elementary school, 3 year	7 th and 8 th grade
Elementary school, 4 year	9 th grade
Elementary school, 5 year	10 th grade
Elementary school, 6 year	11 th grade
Elementary school, 7 year	12 th grade no diploma
Elementary school, 8 year	High school graduate (high school diploma or equivalent)
High school, 1 year	Some college but no degree
High school, 2 year	Associate degree in college (occupation or vocation program)
High school, 3 year	Associate degree in college (academic program)
High school, 4 year	Bachelor’s degree (e.g., BA or BS)
College, 1 year	Master’s degree (e.g., MA, MS, MSW, or MBA)
College, 2 year	Professional school degree (e.g., MD, DDS, DVM, JD)
College, 3 year	Doctorate degree
College, 4 year	
College, 5 year	
College, 6 years or more	

Source: U.S. Department of Commerce, U.S. Census Bureau, *Current Population Survey, March 1992*, Technical Documentation CPS-92-3, September 1992, p. 5-1.

³¹ U.S. Department of Commerce, Census Bureau, *Analysis of Perturbed and Unperturbed Age Estimates: 2008*, available at http://www.census.gov/cps/user_note_age_estimates.html.

Author Contact Information

(name redacted)
Analyst in Labor Policy
/redacted/@crs.loc.gov, 7-....

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