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How are Virginia public-sector workers faring?

State and local government workers in Virginia are underpaid compared with private-sector workers in the state

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Virginia has a highly educated and yet underpaid public-sector workforce: Though a majority of Virginia's public-sector workers have bachelor's or advanced degrees, they earn less on average than private-sector workers, most of whom do not have college degrees.[1] Taking into account education, experience, hours worked, and other factors, we estimate that public-sector workers in Virginia earn somewhere between 18.3% and 20.8% less than their private-sector counterparts.[2]

In general, public-sector benefits are more generous than private-sector benefits, partially mitigating lower pay in the public sector. In Virginia, however, state and local public-sector benefits—while higher than private-sector benefits in the state—are less generous than in many other states. The estimated cost of state and local public-sector benefits in Virginia is equal to 46.9% of earnings, compared with 35.8% of earnings for private-sector workers in the region and 55.8% for state and local government workers nationwide. Factoring in benefits, total compensation for public-sector workers in Virginia is between 11.7% and 14.4% lower than for their private-sector counterparts.

The public-sector workforce in Virginia is majority female (57.5%) and the share of black workers (20.9%) is higher than in the private sector (17.9%). Because women in both sectors are paid less than men, and because the public sector pays less in general, public-sector employment contributes to the gender pay gap in the state. The impact of public-sector employment on workers of color, however, is mixed. For example, while black workers with bachelor's degrees are paid somewhat less in the public sector, those without bachelor's degrees are paid somewhat more.

A likely factor in the low pay of public-sector workers is a state prohibition against collective bargaining by state and local government workers. Low wages and salaries, combined with less generous public-sector benefits relative to other states, hinder the state's ability to attract and retain the skilled and reliable workforce it needs for critical public service jobs.

SECTIONS

Virginia has a highly educated and female-dominated public-sector workforce

Virginia public-sector workers make up 12.1% of the state's workforce, in line with the national average. They are highly educated. A majority (57.5%) have bachelor's or advanced degrees (**Table 1**), more than the national average for public-sector workers (54.0%—not shown). Private-sector workers in Virginia are much less likely to have bachelor's degrees (36.2% do), though this is still above the national average for private-sector workers (31.5%—not shown).

Table 1

Educational attainment of full-time, full-year workers in Virginia, by sector, 2014–2018

Sector	Less than high school	High school diploma/GED	Some college	B.A. degree	Advanced degree
Private	7.8%	26.0%	30.0%	23.5%	12.7%
Public	2.7%	15.2%	24.6%	27.0%	30.4%

Source: EPI analysis of U.S. Census Bureau 2014–2018 American Community Survey microdata

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As seen in **Table 2**, the state's public-sector workforce is majority women (57.5%), in contrast with the private-sector workforce (41.8% women). The share of women in the workforce would likely be even higher if teachers who do not work year-round were included in the sample,[3] given that women make up 79.2% of the teaching workforce in Virginia. The average public-sector worker is 45 years old, roughly three years older than the average private-sector worker in Virginia.

Table 2

Demographics of full-time, full-year workers in Virginia, by sector, 2014–2018

	Mean age	Women	White*	Black*	Asian/ other*	Hispanic	Immigrant
Private	42	41.8%	62.1%	17.9%	9.7%	10.4%	17.7%
Public	45.1	57.6%	69.6%	20.9%	5.4%	4.1%	7.8%

*Non-Hispanic

Source: EPI analysis of U.S. Census Bureau 2014–2018 American Community Survey microdata

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Virginia public-sector workers are slightly more likely to be black (20.9% vs. 17.9%) and are less likely to be Hispanic (4.1% vs. 10.4%) than private-sector workers in the state.[4] Public-sector workers are also less likely than private-sector workers to be Asian or to belong to another non-Hispanic ethnic or racial group (5.4% vs. 9.7%).[5] They are less likely to be immigrants of any race or ethnicity: Immigrants make up 17.7% of the private-sector workforce but only 7.8% of the public-sector workforce.

The underrepresentation of Hispanics in the public sector is partly due to their lower likelihood of having a four-year college degree. However, Hispanic workers with four-year degrees are also less likely to work in the public sector than their white and black non-Hispanic counterparts.

Despite being better educated, public-sector workers earn less than private-sector workers

Public-sector workers earn less than private-sector workers in Virginia, despite a much greater likelihood of having bachelor's or advanced degrees. The average public-sector worker earns $54,940 annually, versus $65,113 for his or her private-sector counterpart.

In many states, a higher wage floor in the public sector pulls up the average wage for workers without college degrees. In Virginia, however, public-sector workers earn less whether or not they have college degrees. Virginia public-sector workers without four-year college degrees earn $42,224 on average, a bit less than the $44,275 earned by their private-sector counterparts. The earnings gap is much larger for public-sector workers with bachelor's or advanced degrees, who earn $64,343 on average vs. $101,876 for their private-sector counterparts (**Table 3**). The large earnings gap for college-educated public-sector workers exists despite the fact that these workers are much more likely to have advanced degrees (30.4% of public-sector workers do) than their private-sector counterparts (12.7%).

Table 3

Mean annual earnings of full-time, full-year workers in Virginia, by sector and educational attainment, 2014–2018

Sector	No B.A.	B.A. or advanced degree	All education levels
Private	$44,275	$101,876	$65,113
Public	$42,224	$64,343	$54,940

Source: EPI analysis of U.S. Census Bureau 2014–2018 American Community Survey microdata

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Virginia public-sector workers earn somewhat less than the national average for public-sector workers ($54,940 vs. $56,568), despite being somewhat more likely to have a college degree (57.5% vs. 54.0%).

Apples-to-apples comparisons show a large earnings gap for public-sector workers

A regression analysis adjusting for education, age, hours worked, and survey year finds that public-sector workers in Virginia earn 20.8% less than their private-sector counterparts.[6] This gap is much larger than the nationwide public-sector earnings gap of 13.3%. Looking separately at workers with and without four-year college degrees, the public-sector worker earnings gap in Virginia is -4.6% for workers without four-year college degrees and -32.4% for workers with four-year college or advanced degrees.

An analysis adjusting for the above plus demographic factors (race, ethnicity, gender, marital status, and immigrant status) finds that public-sector workers in Virginia earn 18.3% less than their private-sector counterparts. While it is conventional to control for demographic differences in pay comparisons, this can minimize earnings gaps for women and people of color, who tend to earn less than white men with the same education, age, and work hours. The argument for including demographic controls is that they may be proxies for unobserved differences, such as work experience or education quality. For example, women may have less work experience than men of the same age due to years spent outside the workforce raising children. However, including demographic controls also explains away earnings gaps due to discrimination and tends to minimize the public-sector earnings gap to the extent that discriminated-against groups gravitate toward the public sector. Thus, the "true" earnings gap probably lies somewhere between -18.3% and -20.8%.

Disaggregating by educational attainment while still adjusting for demographic factors, the public-sector worker earnings gap shrinks slightly—to -3.9% for workers without bachelor's degrees and -29.1% for those with bachelor's or advanced degrees.

The earnings gap cannot be explained by occupational differences

Many occupations in the public sector, such as firefighters, have few or no equivalents in the private sector. Focusing on occupations with substantial representation in both sectors[7] shows that in most cases earnings are higher in the private sector (see **Table 4**, where the sector with higher earnings is indicated in bold type).

Table 4

Mean private-sector and public-sector earnings in Virginia, and share of workers who have a bachelor's degree, by occupation, 2014–2017

	Private sector		Public sector	
	Mean earnings	Share with B.A.	Mean earnings	Share with B.A.
Education administrators	$68,565	68%	**$84,989**	89%
Misc. managers	**$116,303***	68%	$76,659	69%
Human resource workers	**$75,074**	64%	$61,465	55%
Accountants & auditors	**$88,431***	81%	$59,965	73%
Computer occupations [not classified elsewhere]	**$94,169***	60%	$63,123	63%
Counselors	**$51,353**	81%	$50,958	89%
Social workers	$47,049	71%	**$49,063**	83%
Lawyers, judges, magistrates & other judicial workers	**$234,453***	100%	$92,853	94%
Postsecondary teachers	$68,117	87%	**$83,803***	96%
Elementary & middle school teachers	$46,601	89%	**$52,004***	97%
Veterinarians	**$63,030**	55%	$60,875	64%
Janitors & building cleaners	**$30,464**	3%	$28,946	3%
First-line supervisors of office & admin. support workers	$58,052	36%	**$58,365**	48%
Bookkeeping, accounting & auditing clerks	**$45,009**	21%	$40,635	20%
Customer service representatives	**$40,765**	26%	$36,448	30%
Dispatchers	**$44,232**	15%	$37,161	19%
Secretaries & admin. assistants	**$43,827***	24%	$37,700	24%

Table 4 (cont.)

	Private sector		Public sector	
	Mean earnings	Share with B.A.	Mean earnings	Share with B.A.
Office clerks, general	**$40,415**	24%	$37,618	27%
Misc. office & admin. support workers	**$48,013**	25%	$43,257	47%
Bus drivers	**$36,801**	12%	$34,285	5%

Notes: For each occupational category, the earnings for the sector with the higher earnings are in boldfaced type. An asterisk (*) next to the boldfaced earnings indicates that the difference between earnings in the two sectors is statistically significant for this occupation. Results shown are for 2014–2017 because occupational codes changed in 2018.

Source: EPI analysis of U.S. Census Bureau 2014–2018 American Community Survey microdata

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As shown in Table 4, private-sector workers earn more than public-sector workers in 15 out of 20 occupations with substantial numbers of both public- and private-sector workers, and the difference is statistically significant for five of those 15 occupations. Educational differences may be a factor in a few of these occupations—human resource workers, accountants and auditors, lawyers and judicial workers, and possibly bus drivers—where four-year college attainment is higher.[8] For most occupations, however, earnings are higher in the private sector despite roughly equal or greater educational attainment in the public sector.

Conversely, in all five occupations where public-sector workers appear to have higher earnings, they are more likely to have four-year-college or advanced degrees. For example, 53.2% of elementary and middle-school teachers in the public sector have advanced degrees, compared with 37.5% of private-sector teachers (advanced degrees not shown in table).

In the two occupations where public-sector earnings are higher and the difference is statistically significant—"Postsecondary Teachers" and "Elementary and Middle School Teachers"—it is worth keeping in mind that comparisons in this report are between government and private (for-profit) industry, in this case between public school teachers and public college or university professors and teachers and professors at for-profit schools and universities. In the education sphere in Virginia as in other states, many teachers and professors in the for-profit sector work for companies—such as K–12 Inc., Proximity Learning, and Stratford University—that offer distance learning. In addition to attracting a less-educated teaching workforce, the for-profit education sector may attract more people who prefer the convenience of working from home and are willing to accept lower salaries in exchange for that convenience.

One caveat is that the analysis is restricted to full-time, full-year workers and is based on annual earnings from all jobs, the only earnings measure available in the American Community Survey. As a result, four in 10 public school teachers (43.4%) are dropped from the sample, and it is likely that many who remain in the sample are working second jobs in

the summer. To the extent that wages and salaries in these summer jobs are lower, the teacher gap in annual earnings (including second jobs) may be larger than the gap in hourly earnings based on primary jobs alone. It is also possible that some teachers who have summers off but are paid year-round are misclassified as full-year workers. While these factors could exaggerate the gap between public school teachers and those in the for-profit sector as shown in Table 1, the fact that a large share of teachers are excluded from the sample will have the opposite effect on the regression analysis since teachers as a group are highly underpaid for their level of education, and most work in the public sector (Allegretto and Mishel 2019).

Though wages and salaries are lower, workers of color face less discrimination in the public sector

Nationally, wages and salaries tend to be lower but more equal in the public sector, which has often been a haven for workers who have faced discrimination in the private sector (Hoffnar and Greene 1996; Heywood 1989; Lewis, Boyd, and Pathak 2018). For example, a 2008 study found that in states where women, African Americans, and Hispanics faced larger earnings gaps in the private sector, they were more likely to find work in state government (Llorens, Wenger, and Kellough 2008).

This appears to be true in Virginia as well, at least for black, Hispanic, and immigrant workers. The estimated regression-adjusted earnings gap for black workers is smaller in the public sector (-5.3%) than in the private sector (-16.7%).[9] Similarly, the earnings gap for Hispanic workers in the public sector (-3.8%) is less than in the private sector (-7.3%). In contrast to the private sector, there is no statistically significant earnings gap for immigrant workers in the public sector. The female earnings gap, on the other hand, is large in both sectors and is not significantly smaller in the public sector (-20.4%) than in the private sector (-21.6%).

Among black and Hispanic workers, only those with college degrees earn less in the public sector. Black workers without four-year college degrees earn 4.4% more in the public sector, and Hispanic workers appear to earn 5.0% more, though the sample size is small and the difference is not statistically significant. Women without college degrees earn 4.5% less in the public sector, though as with other groups, the public-sector earnings gap is much larger for women with four-year degrees.

Public-sector benefits do not make up for lower wages and salaries

Nationally, benefits tend to be more generous in the public sector, partly making up for lower earnings. The cost of employer-provided benefits for state and local government workers in the United States on average equaled 55.8% of earnings in 2014–2018, compared with 36.8% for private-industry workers and 44.7% for private-industry workers employed in large (500+ employee) establishments.

For private-industry workers in the U.S. Census Bureau's South Atlantic Division, which includes Virginia, the cost of benefits equaled 35.8% of earnings. The U.S. Bureau of Labor Statistics (BLS) does not publish regional breakdowns for state and local government workers, nor for private-industry workers in large establishments.[10] However, we were able to obtain unpublished estimates from BLS of state and local government employee benefits in the South Atlantic Division for the third quarter of 2018 that show that the cost of public-sector benefits in the South Atlantic Division was somewhat lower than the national average—55.0% of earnings, compared with a national average of 57.7% for that quarter.[11]

Substituting the employer cost of public-sector pensions (5.9% of payroll) and Social Security (6.2% of payroll) in Virginia in place of BLS national averages for state and local government employees, and adding the cost of public-sector retiree health and other post-employment benefits (1.0% of payroll) not included in BLS measures, the estimated cost of benefits for public-sector workers in Virginia is 46.9% of earnings, versus 35.8% of earnings for private-sector workers in the South Atlantic Division.[12] These benefits— which are relatively stingy when compared with the 55.8% average for public-sector benefits nationwide—are not enough to close the compensation gap between public- and private-sector workers in Virginia, which we estimate to be between 11.7% and 14.4%, factoring in both earnings and benefits (as compared with 18.3%–20.8% when looking at earnings only).[13]

These are conservative estimates because they do not take into account that public-sector benefits in the South Atlantic Division appear to be lower than the national average and that some private-sector employers provide retiree health and other post-employment benefits. A comparison between public-sector and large private-sector employers would also show a larger compensation gap. Including all teachers in the sample would also likely show a larger compensation gap, even when adjusting for part-year employment.

Lower pay and benefits negatively affects schools and other public services

Virginia is one of only three states to explicitly prohibit state and local government workers from bargaining over wages and benefits, though some other states also do not recognize public-sector collective bargaining rights. Workers' inability to negotiate keeps wages, salaries, and benefits low, affecting the state's ability to attract and retain teachers and other public-sector workers.

While public-sector workers in the United States tend to be paid less than private-sector workers with similar educational attainment and years of experience, state and local government employees in Virginia are underpaid even by public-sector standards. Research on teacher pay corroborates this finding. A 2016 report from the Learning Policy Institute ranked Virginia in the bottom fifth of states for teacher pay, based on the ratio of teacher to nonteacher wages (Sutcher, Darling-Hammond, and Carver-Thomas 2016). Likewise, a 2019 report from the Economic Policy Institute found Virginia had the third highest teacher wage penalty in the country (Allegretto and Mishel 2019).

Virginia has fallen behind other states at a time when school districts around the country are confronting teacher shortages and as teachers in many states are striking for better pay and working conditions (García and Weiss 2019a, 2019b; Weiss and García 2019; Sutcher, Darling-Hammond, and Carver-Thomas 2016). An advisory committee report on the teacher shortage in Virginia noted that the number of unfilled positions had increased by 40% in 10 years and had reached crisis levels in some high-poverty districts (ACTS 2017). Some districts have resorted to hiring for-profit companies, such as Proximity Learning, to provide "virtual teachers" (Pope 2019).

While public-sector workers are often drawn to public service for nonfinancial reasons, they need to support themselves and their families. Shortchanging these workers hurts public services and hinders Virginia's ability to compete in a modern global economy.

Appendix

In all regression results reported here, the dependent variable is the natural logarithm of annual earnings, and the baseline (the omitted category—not shown) is the earnings of private-sector workers without high school diplomas. In regressions that include demographic controls, the baseline is the earnings of male, white, non-Hispanic, non-immigrant private-sector workers without high school diplomas.

A log-linear model is used to estimate percentage differences from baseline earnings. While the coefficients shown in the appendix figures serve as approximations, the more precise estimates cited in the text are calculated using the $e^{(b)} - 1$ formula, where e is the base of the natural logarithm and b is the coefficient estimate. For example, in Appendix Figure A, applying this formula to the coefficient estimate for public-sector workers (−0.2325867, shown rounded to two digits in the figure) results in an estimated public-sector earnings gap of 20.8% since $e^{(-0.2325867)} - 1 \approx 0.208$.

In the figures, 95% confidence intervals are indicated by lines extending from point estimates, which are not always visible. Confidence intervals that do not cross the zero line indicate statistically significant differences in earnings from the baseline. In Appendix Figure A, for example, each additional year of age, a proxy for work experience, is associated with approximately 7% higher earnings, an effect that is statistically significant. However, the negative coefficient on "age squared," which allows for each additional year of experience to have a smaller effect on earnings over time, is close to zero and is not statistically significant.

The appendix figures can be viewed in the online version of this report at epi.org/185301.

Endnotes

1. When we refer to "public-sector workers" in this analysis, we are referring exclusively to state and local government workers, not federal workers. "Private sector," as used in this analysis, excludes self-employed and nonprofit employees. All averages shown are means.

2. Differences in earnings highlighted in the text are statistically significant unless otherwise noted, and "significant" simply means that differences are unlikely to be the result of chance, whether or not these differences are also large. Unless otherwise noted, statistics in this fact sheet refer to full-time (35+ hours), full-year (50+ weeks) workers based on an EPI analysis of 2014–2018 microdata from the U.S. Census Bureau's American Community Survey accessed via IPUMS-USA. Years refer to survey years: Earnings reported in the survey are for the previous 12 months. Survey respondents reporting full-time, full-year work and annual wage and salary incomes below $1,750 were dropped from the sample as these are likely to be reporting or recording errors (hourly wage below $1 for 35-hour, 50-week workers). Other workers who appear to be earning a subminimum wage were not dropped because some may not be protected by minimum wage laws and some employers illegally pay less than the minimum wage. Since these very-low-paid workers are mostly in the private sector, dropping them from the sample would show an even larger earnings gap between public-sector and private-sector workers.

3. As described later in this report, 43.4% of public school teachers are excluded from the sample because they work less than 50 weeks per year.

4. The four nonoverlapping racial and ethnic categories are white non-Hispanics (69.6% of the public-sector workforce); black non-Hispanics (20.9%); Hispanic, any race (4.1%); and Asian/other non-Hispanic (5.4%).

5. The "Asian/other non-Hispanic" group includes "Asians," "Pacific Islanders," "American Indians," and all other survey respondents who do not identify as "White," "Black/African American," or "Hispanic." Nearly three-fourths of respondents in the sample who are in this group are of Asian ancestry, and the second largest subgroup is respondents who identify as biracial or multiracial.

6. Regression results for estimates reported in this section are shown in **Appendix Figures A–F**. See the appendix for methodological notes.

7. We focus on occupations that make up 0.5% or more of the workforce in both sectors.

8. Though private-sector bus drivers are more likely to have a college degree, they are also *less* likely to have a high school diploma, which is more relevant (high school attainment not shown in table).

9. Regressions in this section are similar to those without demographic controls discussed earlier, but are run separately for each demographic group cited. Complete results are not shown for space reasons.

10. BLS publishes statistics on benefits, including supplemental pay, as a share of total compensation. To compute benefits as a share of earnings, we subtract supplemental pay from the numerator, add it to the denominator, and subtract benefits from the denominator. Thus, for example, the BLS measure of total benefits as a share of compensation for state and local government employees averaged 36.7% over this period, including 0.9% from supplemental pay. This translates into 55.8% of earnings according to our measure, because (36.7% − 0.9%)/(1 −

36.7% + 0.9%) ≈ 55.8%.

11. Author's estimate based on unpublished data received via email from BLS staff, September 10, 2019.

12. Author's analysis of BLS Employer Cost for Employee Compensation data and data from Virginia Retirement System 2019. The service cost of state and local government pension benefits accrued in 2014–2018 came to 5.9% of payroll, much less than half the BLS estimate of the cost of retirement benefits for the state and local government sector in the United States (16.8%). Some of the difference is due to the fact that the BLS measure includes catch-up contributions from past underpayments, whereas the service cost measure used in this analysis reflects only the cost of benefits earned in 2014–2018. But the difference also reflects the fact that Virginia retirement benefits are certainly not generous by public-sector standards. Unlike some public-sector workers in other states, however, state and local government employees in Virginia are covered by Social Security, so the full employer contribution (6.2%) is included in these estimates. The BLS measure does not include retiree health and "other post-employment benefits" (OPEBs) in either sector, but these are usually more generous in the public sector. Based on available data for 2017 and 2018 (comparable data for earlier years is not available), the service cost of OPEBs in Virginia averaged 1% of earnings.

13. If public-sector workers earn 79.2% as much as comparable private-sector workers in Virginia based on the regression analysis without demographic controls, then (79.2% x 146.9%)/135.8% ≈ 85.7%, where 146.9% is the public-sector benefit multiplier, 135.8% is the private-sector benefit multiplier, and 85.7% is public-sector total compensation as a share of private-sector total compensation. Similarly, (81.7% x 146.9%)/(135.8%) ≈ 88.4%, where public-sector earnings as a share of private-sector earnings is 81.7%, based on an analysis that includes demographic controls. Note that these estimates differ slightly from those in the text due to rounding.

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