



## THE REAL DEAL ON K-12 STAFFING

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When it comes to solid data on jobs in K-12 education, federal and state policymakers are flying blind. Currently there is no valid dataset that can tell us definitively what is happening to K-12 staffing levels across the country. In that absence, media reports of considerably reduced staffing in some locales have created a narrative of drastic overall cuts since the start of the Great Recession in 2008.

To address this lack of data, we built a better—though still imperfect—dataset by combining information from multiple sources and correcting for time lags and outright errors. Our analysis finds that 2008-09 was actually a peak after several decades of staffing growth. This means that student-staff ratios after the Great Recession are now equivalent to those that were the norm a decade ago—a far cry from historic lows.

Setting 2008-09 as the benchmark staffing level created an artificially high watermark compared to historical patterns. That makes it hard for journalists to see the real deal when it comes to education sector jobs. And it's not just the media who are affected by the lack of data. Policymakers at federal and state levels are making huge financial decisions in the dark. When the federal government allocated \$100 billion in education stimulus funds in 2009, and then another \$10 billion for the Education Jobs Fund in 2010, lawmakers were doing so to stem the recession's effects on public schooling. Both allocations, however, were made in the absence of solid data on historical staffing trends.

That information gap persists: We don't know if the Jobs Fund worked, or if it was needed in the first place. We don't know whether new state investments being proposed—such as hiring more teachers to reduce class size—make sense, because we don't know the actual size of staff-student ratios in schools. When policymakers want to know how public pension or public health care costs are affecting education budgets, they'll continue to operate in the dark without up-to-date, “real deal” numbers on key staffing indicators.

This study attempts to address the need for information on K-12 education jobs by building a longitudinal dataset from several data sources. We merged and scrubbed the different data series to assemble the best possible picture of what's happening to K-12 public education nationally, and by state.

Here's what the improved dataset shows:

1. To the best of our knowledge, staff-student ratios nationally are the same as they were a decade ago. The number of public K-12 staff per 1,000 students peaked at 129 in 2009-10 and has now dipped to 123, which is the same ratio as in 2003-04.
2. Staffing ratios vary tremendously by state. For every thousand students, some states have up to three times as many staff as other states.

### Strong growth, then a dip

The data sources typically cited lag by a couple of years, contain errors, or include industry sectors that aren't related to K-12 public education staffing (see box). To produce a more reliable and up-to-date estimate of public education staffing trends, we merged, smoothed, and extended the best information from each dataset to create a better—although not perfect—measure of K-12 public school employment. We began with state- by-state figures from the National Center for Education Statistics (NCES) for both employment and enrollment, and then applied the year-to-year percentage shifts in Bureau of Labor Statistics (BLS) data, to smooth NCES trends from years that contain conspicuous errors. (See explanation of NCES data in box.) NCES data lag by two years.<sup>1</sup> In order to produce extended estimates for 2012-13 and 2013-14, we applied percentage changes to the NCES national staffing figures based on the percentage changes derived in the most recent two years of BLS employment data and NEA student enrollment data.<sup>2</sup>

### Existing datasets fall short of providing useful information on total K-12 staffing:

- **NCES figures lag by several years, and contain conspicuous errors.**<sup>3</sup> The National Center for Education Statistics staffing dataset relies on a state education agency survey to report total employees. Even after NCES's extensive data-scrubbing process, troublesome errors persist for some states, where values are either improbable or contradict figures published by the state.
- **BLS figures include more than just K-12 education and have gaps across some states.**<sup>4</sup> The Bureau of Labor Statistics provides employer-reported figures for an industry sector called "local government education," of which only 75 percent or so<sup>5</sup> reflects K-12 public education. Furthermore, not all states are covered in all years.
- **NEA<sup>6</sup> reports only on instructional staff.** The National Education Association uses surveys to produce an annual "Rankings & Estimates" report that lists instructional staff but not other school system employees.
- **States report different variables.** Data reporting by state education agencies is highly variable and prevents aggregation or comparison across states.

<sup>1</sup> Figures for the 2011-12 school year were not released until April 2014

<sup>2</sup> Because BLS figures include more than just K-12 (see box), the accuracy of these percentage changes in our model will be adversely affected by, say, a big change in community college employment relative to K-12 employment. As a practical matter, BLS and NCES figures at both the state and national level have tracked each other quite closely over at least the last 25 years.

<sup>3</sup> "Elementary/Secondary Information System," National Center for Education Statistics, last accessed August 1, 2014, <http://nces.ed.gov/ccd/elsi/>.

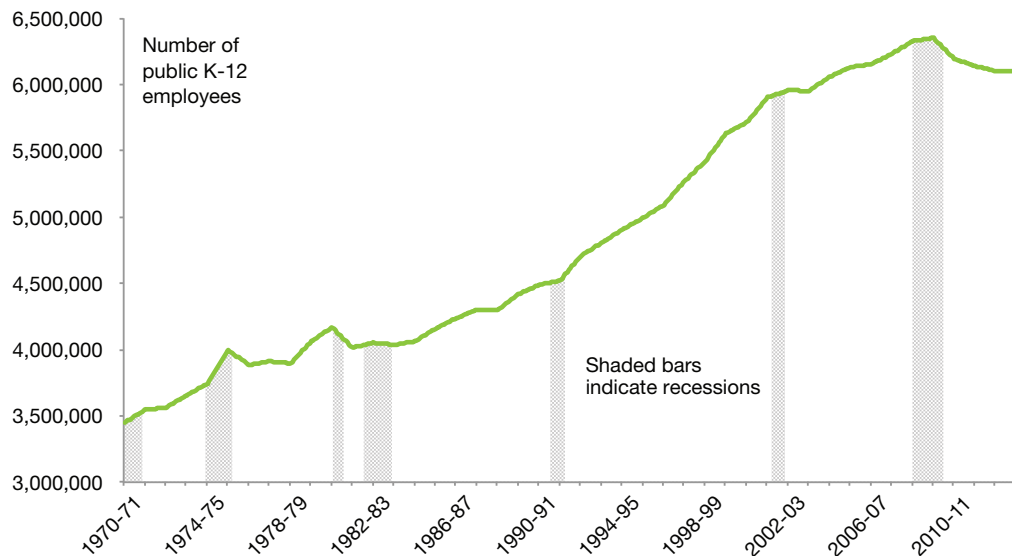
<sup>4</sup> "Current Employment Statistics," Bureau of Labor Statistics, last accessed August 1, 2014, <http://www.bls.gov/ces/>. The narrowest data series, "local government education", includes employers as diverse as community colleges and schools of cosmetology.

<sup>5</sup> As a rule of thumb, about 75% of local government education workers are in K-12, but this percentage ranges from 59% (in Oregon and California) to 96% in Alabama.

<sup>6</sup> "Rankings of the States 2013 and Estimates of School Statistics 2014," National Education Association, last accessed August 1, 2014, <http://www.nea.org/home/rankings-and-estimates-2013-2014.html>.

The resulting dataset estimates longitudinal K-12 staffing trends on a state-by-state basis over several decades and into the 2013-14 school year. The data show that public K-12 education experienced substantial growth over two decades, peaked in 2009-10, and then shed 248,000 workers in the years since (totaling 3.9%). Today's work force is about the same size as it was in 2005-06 (see Figure 1).

**Figure 1:** Public K-12 staffing rose through previous decades, and then shrank by 248,000 (or 3.9%) since the start of the recession.



Source: Authors' calculations based on merging NCES (2011-2012) and BLS (2014) datasets.

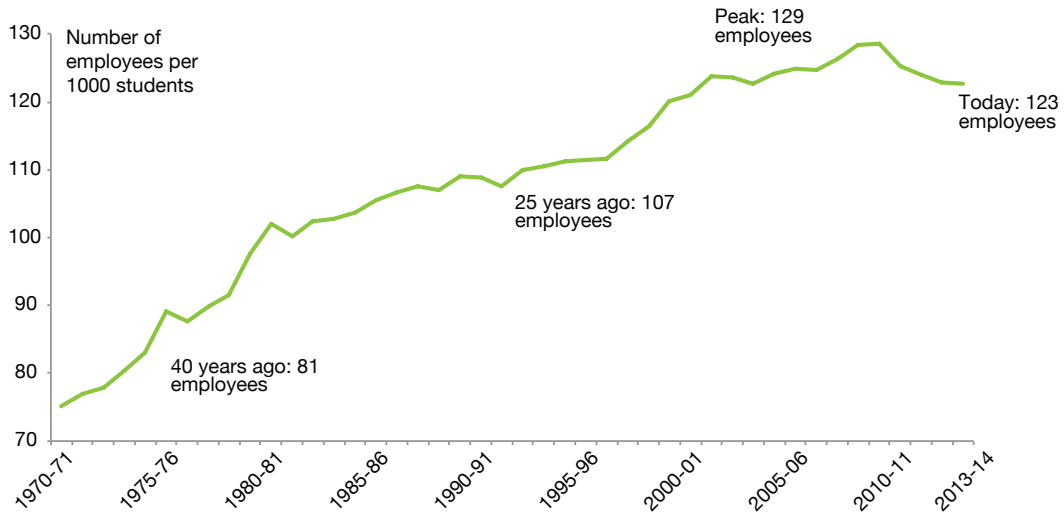
### “Staff per 100 students” puts employment figures into context

The total employment trend, while important to understanding the size of the sector, does not take into account changes in student enrollment, so it can't by itself tell us whether staff growth is paralleling student growth, exceeding it, or lagging it. Staffing ratios depend on both the number of staff and the number of students. To better understand how these numbers are affecting staffing ratios in schools, we computed the number of staff per 1,000 students over the same time period.

Figure 2 shows that, in the United States today, 123 public school employees are employed to serve 1,000 students, down from a peak of 129 employees in 2009-10. Even though staffing ratios have dipped, they climbed so much before the recession that staffing ratios today are still higher than those of previous decades and appear comparable to the ratios of 2003-04. In 1995-96, for instance, there were only 111 staff members for every 1,000 students. Despite the recessionary dip in total staffing, the system still employs 12 more adults today for every 1000 students than the average in 1996.

The 2009-10 staffing levels are often cited as the baseline for all staffing trends—but that does not capture the historical perspective showing that 2009-10 was also the peak. While 2009-10 is an important year in that it preceded the dip associated with the recession, it also followed staffing increases that outpaced growth in student enrollment.

**Figure 2:** Nationally, public K-12 staff-student ratios are now averaging those of 2004 levels.



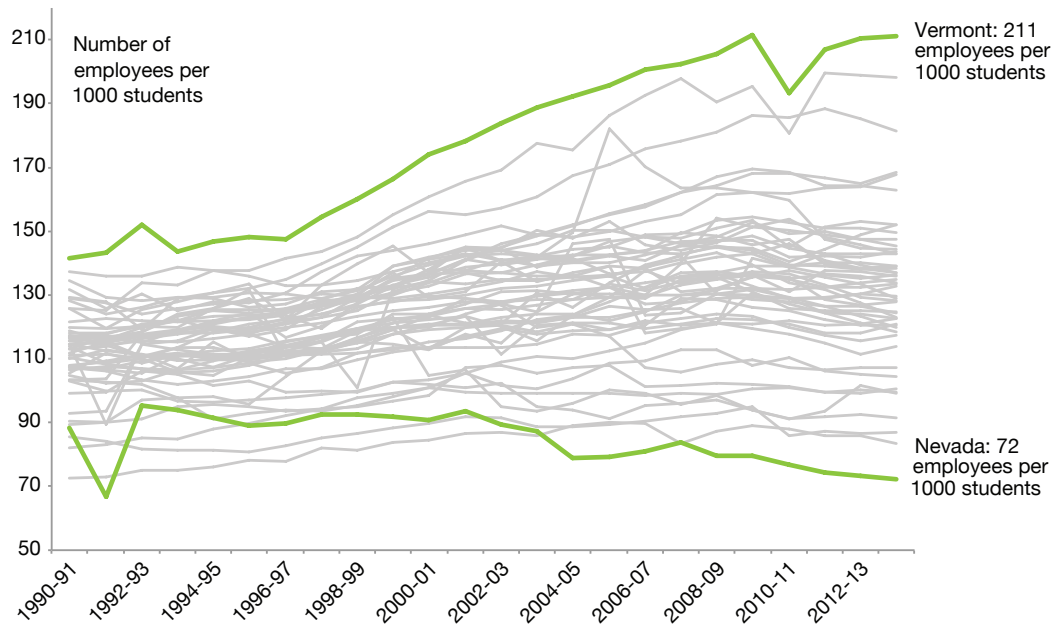
Source: Authors' calculations based on merging NCES (2011-2012), BLS (2014) datasets and NEA (2013-2014).

### Striking differences by state

States differ in resource levels, finance formulae, staffing requirements, and their general approach to delivery of public education. While staffing has been increasing nationally, Figure 3 reveals dramatically different staffing ratios from state to state, and also how those differences have widened since 1990-91.

Today, Vermont employs 211 workers per 1,000 students (about one adult for every 5 students), whereas Nevada employs 72 (about one adult for every 14 students). Hence, it takes almost three times as many employees to run Vermont's public school system as it would if Vermont operated with Nevada's staffing ratios.

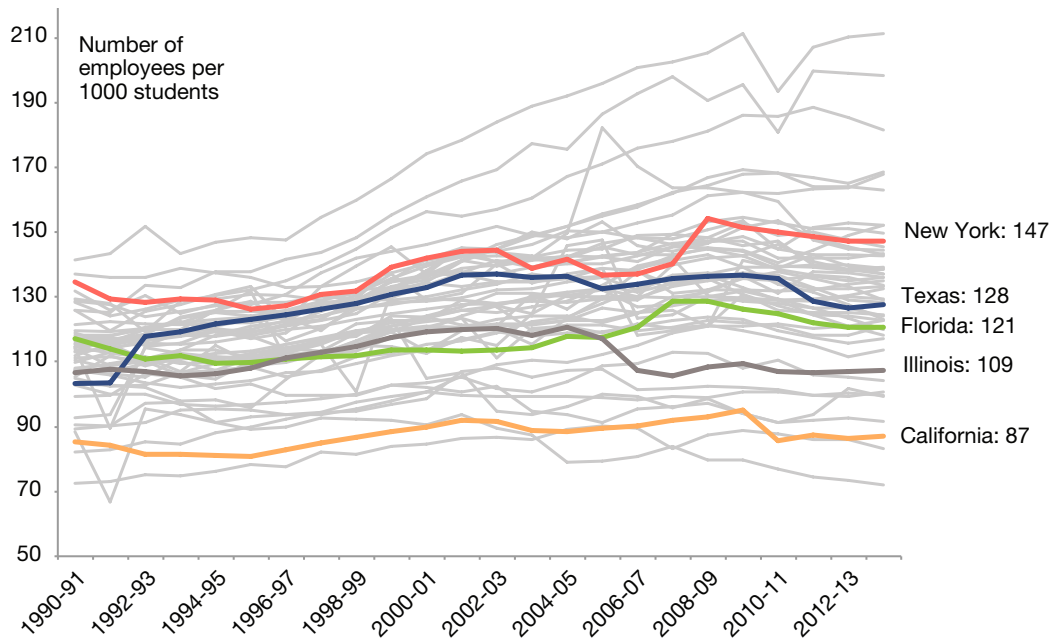
**Figure 3:** Staff-student ratios vary widely across states, a disparity that has grown over time.



Source: Authors' calculations based on merging NCES (2011-2012), BLS (2014) datasets and NEA (2013-2014).

Figure 4 highlights how staffing profiles vary across the largest states, with California notable for having consistently lower staff-student ratios.

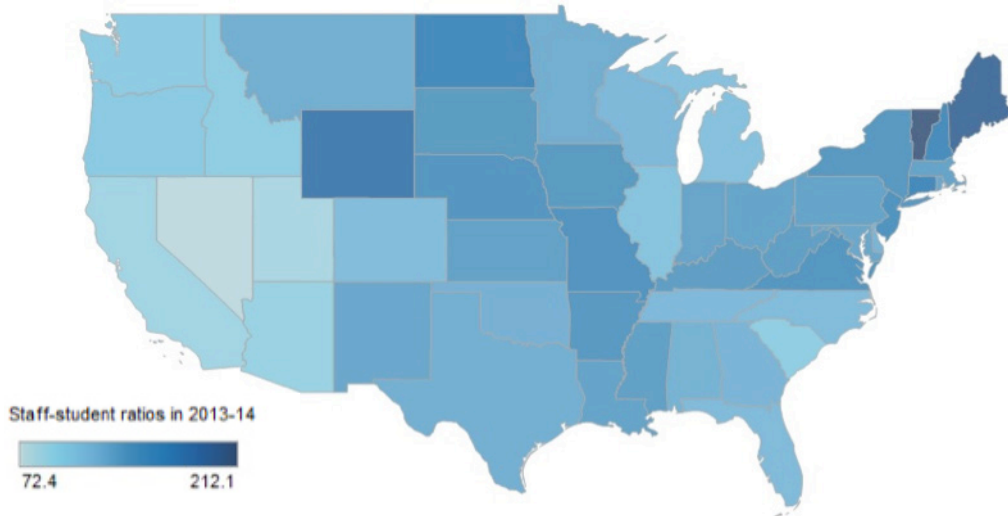
**Figure 4:** Among the five largest states, California has by far the leanest staffing.



Source: Authors' calculations based on merging NCES (2011-2012), BLS (2014) datasets and NEA (2013-2014).

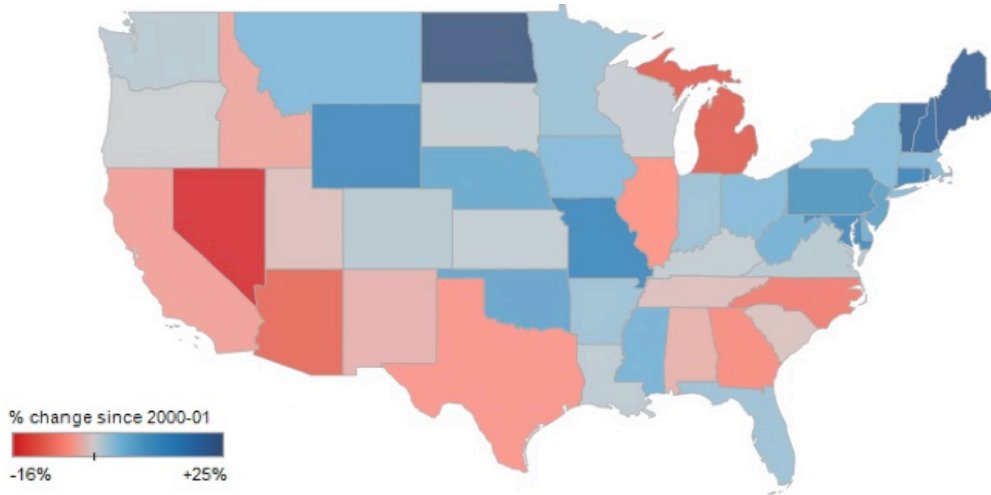
In general, northeastern and midwestern states have higher staffing ratios than southern and western states (see Figure 5). Since 2000-01, as Figure 6 shows, staff-student ratios have decreased in southwestern states and increased in most other states.

**Figure 5:** In general, states in the Northeast and Midwest are more heavily staffed in 2013-14 than Western states.



Source: Authors' calculations based on merging NCES (2011-2012), BLS (2014) datasets and NEA (2013-2014).

**Figure 6:** In general, Northeastern states have increased staffing ratios since 2000-01, while Southwestern states have become leaner.



Source: Authors' calculations based on merging NCES (2011-2012), BLS (2014) datasets and NEA (2013-2014).

### Better data are a must

Big changes are underway in our country's public education system, and better data will be critical in monitoring the effect of these changes on our education system. For both state and federal policy, understanding macroeconomic cycles in staffing is crucial. The trends can tell us how state finance policies affect staffing ratios, highlight changes in delivery across states, and clarify the changing role of technology on staffing policies in schools. As the evidence here shows, any averages used at the national level are unlikely to capture the dramatic variations in staffing ratios in place from state to state. In fact, as long as federal efforts such as the Education Jobs Fund rely on national estimates of staffing, these blunt levers may be effectively subsidizing one state with twice the available staffing of another.

Today's data tools simply are not suitable for a sector of this size and significance to public priorities. To address this information challenge, NCES and BLS should team up to determine the best way to capture more relevant school staffing information, rather than continue to each produce data with such obvious shortcomings. Otherwise, policymakers and education leaders will continue to make decisions based on misperceptions—like the idea that school staffing levels are at a longtime low, when really they are the same as they were a decade ago.

Appendix: Staff per 1000 students since 1990, by state					
Note	State	1990-91	2000-01	2013-14	% change from 2000-01
	Alabama	112.6	128.3	124.8	-3%
2	Alaska	117.0	119.9	129.0	8%
	Arizona	99.2	101.6	91.7	-10%
1	Arkansas	117.4	140.7	144.9	3%
	California	87.9	91.0	87.3	-4%
	Colorado	111.4	115.5	117.3	2%
	Connecticut	131.7	146.1	167.5	15%
	Delaware	111.4	116.0	123.3	6%
1	District of Columbia	126.4	155.4	152.1	-2%
1	Florida	122.2	116.0	119.5	3%
	Georgia	118.4	130.8	123.0	-6%
1	Hawaii	94.4	103.8	123.0	19%
	Idaho	84.3	102.8	99.2	-3%
	Illinois	102.7	114.8	108.8	-5%
	Indiana	115.4	131.2	135.1	3%
	Iowa	123.6	137.7	143.9	4%
1	Kansas	117.3	136.7	137.9	1%
	Kentucky	114.3	138.9	140.1	1%
1	Louisiana	113.1	135.0	136.6	1%
2	Maine	125.8	160.9	196.8	22%
	Maryland	113.8	118.2	133.6	13%
	Massachusetts	117.9	130.7	136.4	4%
	Michigan	116.6	126.0	112.6	-11%
	Minnesota	112.8	125.4	129.2	3%
	Mississippi	116.8	131.1	138.7	6%
1	Missouri	123.2	133.3	152.2	14%
	Montana	96.1	122.5	128.3	5%
2	Nebraska	128.2	139.5	149.9	7%
1	Nevada	83.2	86.1	72.4	-16%
2	New Hampshire	118.8	134.6	162.2	20%
	New Jersey	139.3	140.6	152.6	9%
	New Mexico	111.0	136.8	133.5	-2%
1	New York	133.4	140.1	146.4	4%
	North Carolina	120.2	128.1	118.5	-7%
	North Dakota	112.5	133.9	167.9	25%
	Ohio	115.7	129.9	135.7	4%
1	Oklahoma	110.6	116.6	125.8	8%
	Oregon	101.0	103.5	103.9	0%
2	Pennsylvania	114.6	123.4	136.2	10%
2	Rhode Island	114.0	112.7	132.1	17%
	South Carolina	95.4	98.8	97.6	-1%
	South Dakota	116.0	141.7	142.7	1%
	Tennessee	105.0	121.3	119.6	-1%
	Texas	107.7	134.3	127.7	-5%
	Utah	72.5	84.6	83.3	-1%
2	Vermont	141.4	174.2	212.1	22%
1	Virginia	135.4	146.6	148.8	1%
	Washington	92.3	99.8	101.2	1%
1	West Virginia	115.4	131.8	139.6	6%
	Wisconsin	106.2	120.5	121.2	1%
	Wyoming	132.3	159.3	180.7	13%

Source: Authors' calculations based on merging NCES (2011-2012), BLS (2014) datasets and NEA (2013-2014).

Notes:

- 1: BLS "local government education" not available; we used "local government" for scale factor
- 2: BLS figures available for less than ten consecutive years





THIS SERIES OF RAPID RESPONSE BRIEFS IS DESIGNED TO BRING RELEVANT FISCAL ANALYSES TO POLICYMAKERS AND EDUCATION LEADERS AMIDST THE CURRENT ECONOMIC ENVIRONMENT.

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*Edunomics Lab is a university-based research center dedicated to exploring and modeling complex education fiscal decisions and growing the capacity of education leaders on the topic of education finance. The Edunomics Lab is affiliated with McCourt School of Public Policy at Georgetown University.*