

# The Teacher Pay Gap

On going research by Allegretto & Mishel

Teaching: A Profession in Transition  
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 @Sly21



# Official NCES statistics



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**Table 211.60. Estimated average annual salary of teachers in public elementary and secondary schools, by state: Selected years, 1969-70 through 2016-17**

State	Current dollars							Constant 2016-17 dollars <sup>1</sup>							Percent change, 1999-2000 to 2016-17
	1969-70	1979-80	1989-90	1999-2000	2009-10	2015-16	2016-17	1969-70	1979-80	1989-90	1999-2000	2009-10	2015-16	2016-17	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<b>United States</b>	<b>\$8,626</b>	<b>\$15,970</b>	<b>\$31,367</b>	<b>\$41,807</b>	<b>\$55,202</b>	<b>\$58,353</b>	<b>\$58,950</b>	<b>\$55,411</b>	<b>\$49,917</b>	<b>\$59,944</b>	<b>\$59,924</b>	<b>\$61,804</b>	<b>\$59,426</b>	<b>\$58,950</b>	<b>-1.6</b>
Alabama	6,818	13,060	24,828	36,689	47,571	48,518	48,868	43,797	40,821	47,448	52,588	53,260	49,410	48,868	-7.1
Alaska	10,560	27,210	43,153	46,462	59,672	67,443	68,138	67,834	85,050	82,468	66,597	66,809	68,684	68,138	2.3
Arizona	8,711	15,054	29,402	36,902	46,952	47,218	47,403	55,957	47,054	56,189	52,894	52,567	48,087	47,403	-10.4
Arkansas	6,307	12,299	22,352	33,386	46,700	48,218	48,616	40,514	38,443	42,716	47,854	52,285	49,105	48,616	1.6
California	10,315	18,020	37,998	47,680	68,203	77,179	78,711	66,261	56,325	72,616	68,342	76,360	78,599	78,711	15.2

# All numbers need context

## Estimated increase in annual salary of teachers

- 2000 to 2017: \$41,807 to \$58,950 (+17,143)
- Ask good questions of all numbers
  - How were these data calculated?
  - Are the figures nominal or real?
  - How to interpret large state variation?
  - Economically and/or statistically significant?
- Data must be made meaningful
  - Need context & easy to understand context
- Visualization works too
  - Simple figures & charts are effective
  - More creative stuff can be great

# Data and methods

- **Current Population Survey**

- Teachers: elementary, middle & secondary
- Non-imputed data only
  - Imputed wages: too high for teachers, too low for other college graduates. Gaps 1994-94.
- 1994 redesign

- **Methodology**

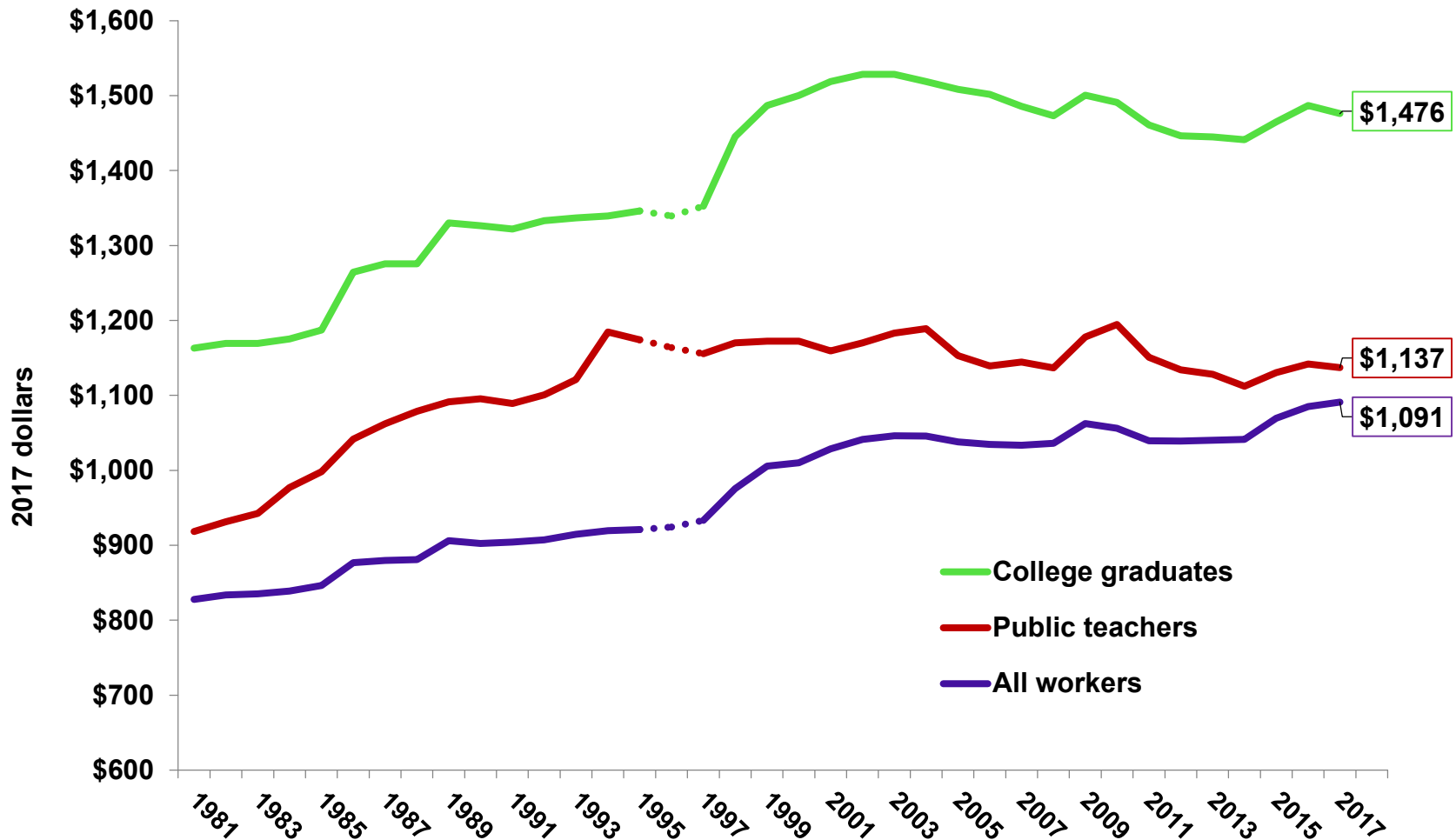
- Mincer wage equation for regression adjusted analysis
  - Controls: education, race, ethnicity, age, region, marital status
  - $\ln W_i = \beta_{0i} + \beta_{1i} * Teacher + \beta_2 * \mathbf{X} + \varepsilon_i$

# Ongoing challenges and issues

- **Use of weekly wages**
- **Teacher hours & weeks worked**
  - Summers off issue: positive or negative?
    - Many teacher work or want to work
    - Weekly hours for teachers & comparable workers are about the same
- **Teachers may have less freedom on the job**
  - Compared to other professionals
  - Very little free time during the work day
  - Almost no vacation/time off during school year
- **Benefits**
  - Teacher and other professional benefits differ

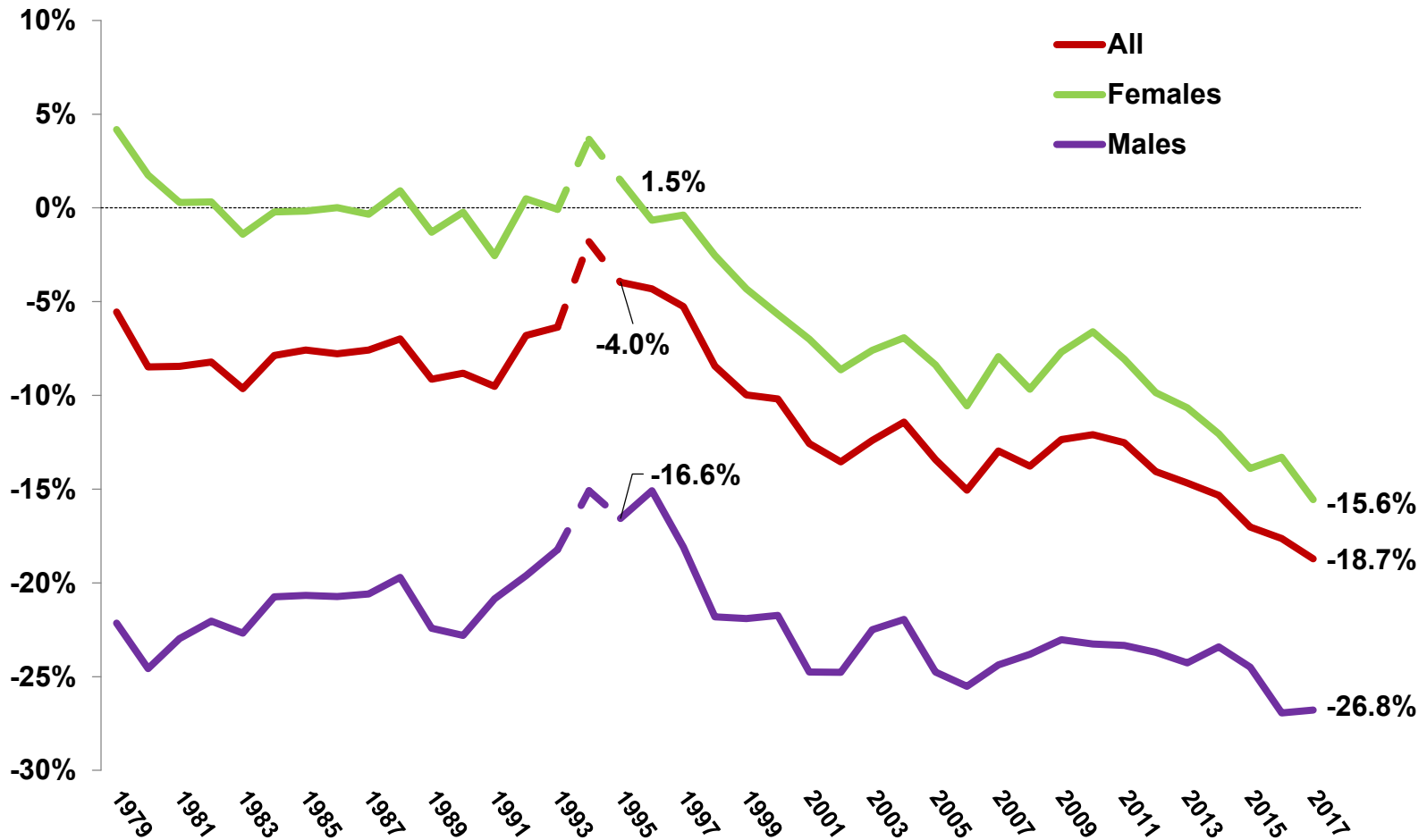
**Regardless of issues—the trends matter!**

# Trends in (real) average weekly wages



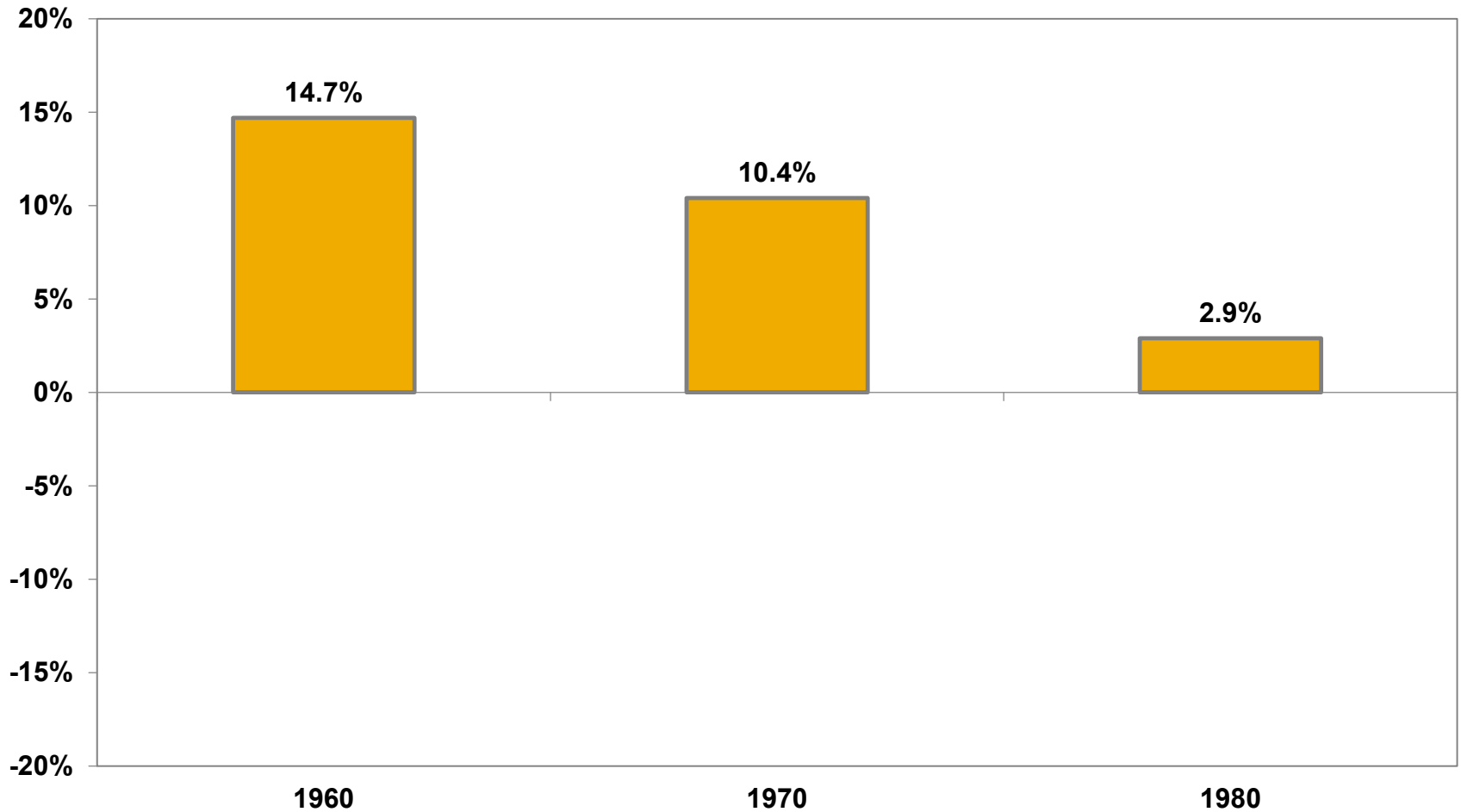
Source: Allegretto & Mishel's analysis of CPS-ORG data on full-time (working at least 35 hours per week) workers with positive wages (excluding self-employed workers and imputed data) ages 18-64.

# Public school teacher pay gap, 1979-2017



Source: Allegretto & Mishel 2018.

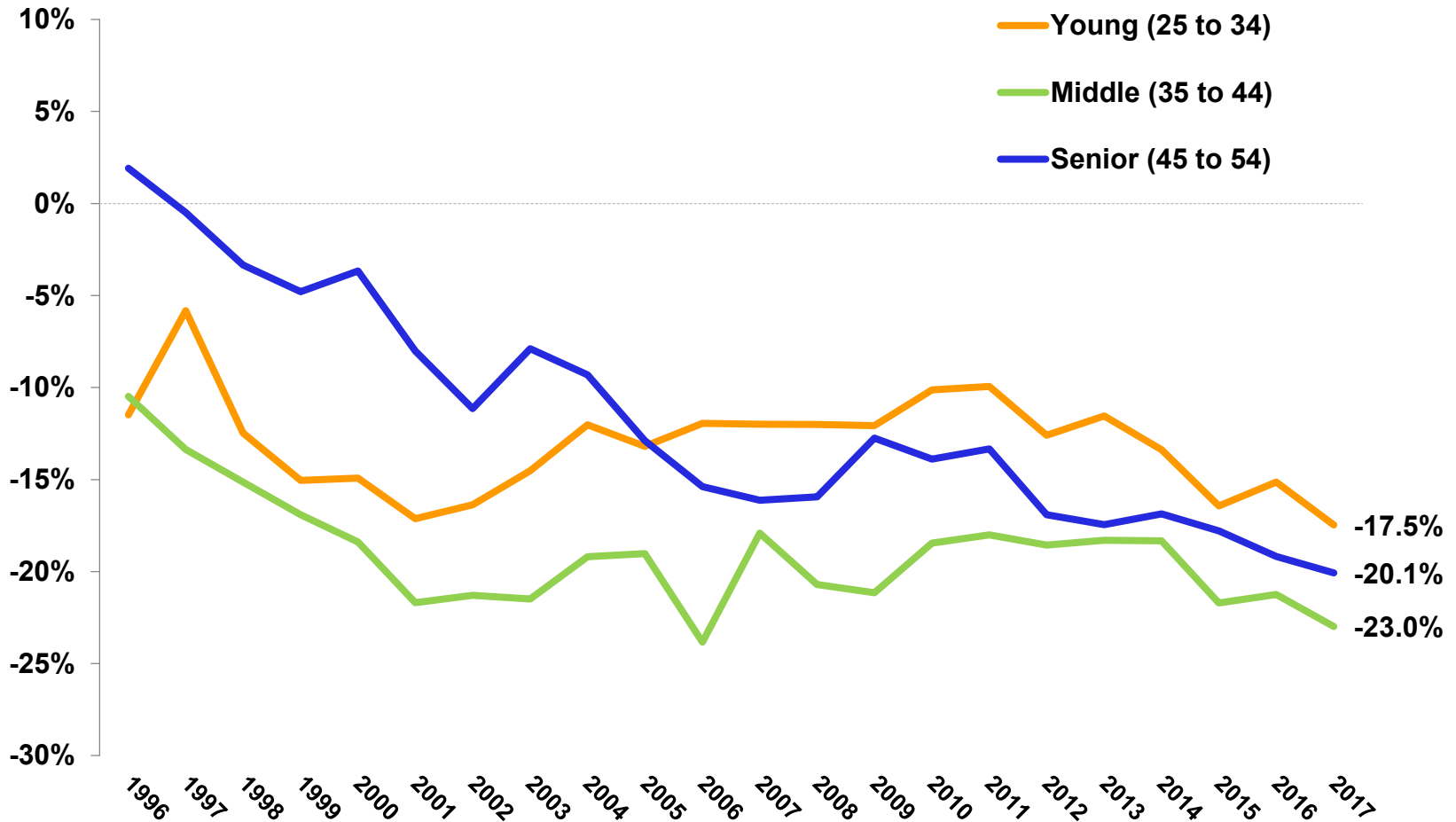
# Historical context—female teacher pay *premium!*



Source: Allegretto, Corcoran & Mishel 2008. U.S. decennial Census data.

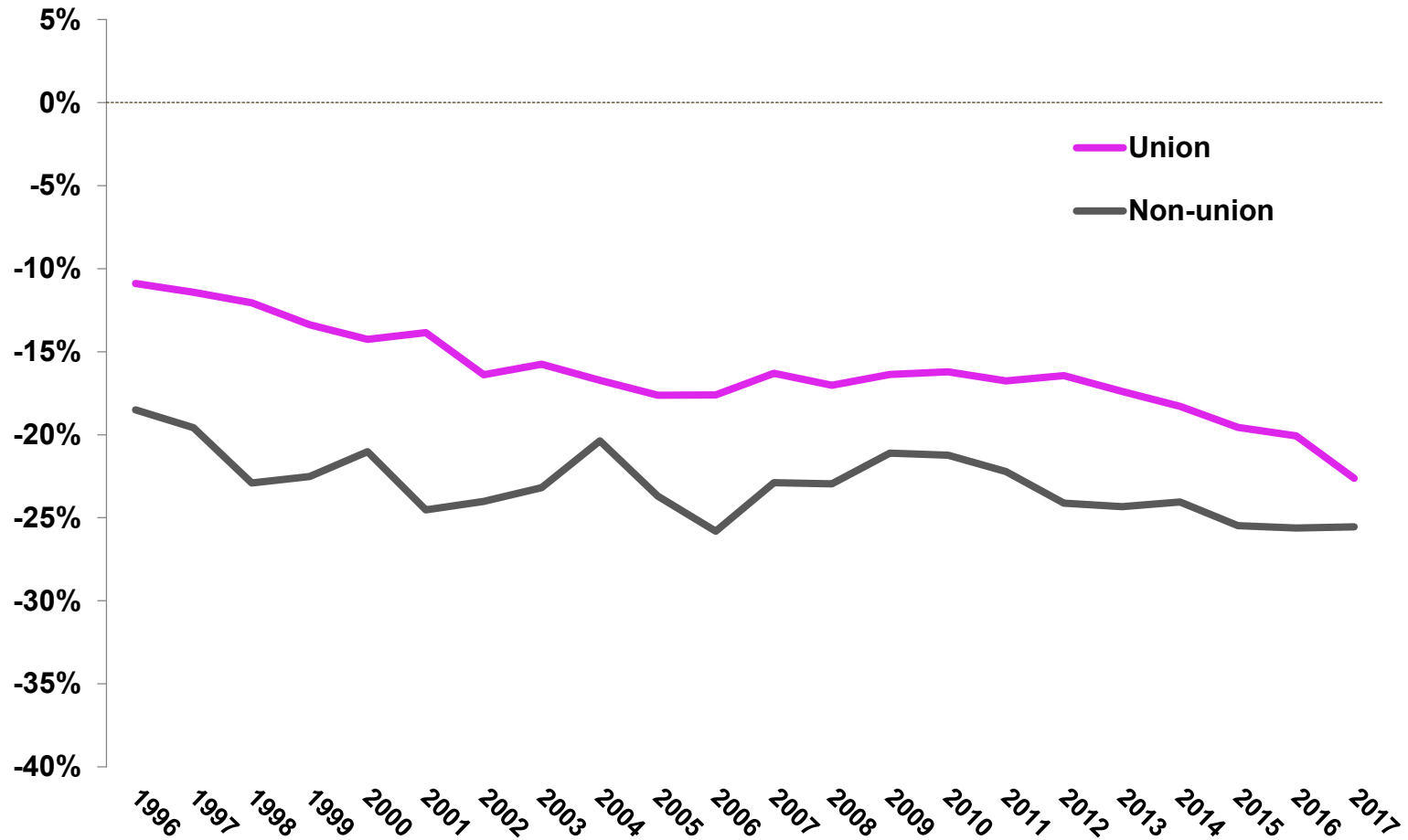


# Pay gap for all teachers by age range



Source: Allegretto & Mishel's analysis of CPS-ORG data on workers with positive wages (excluding self-employed workers) ages 18-64.

# Teacher pay gap by union status



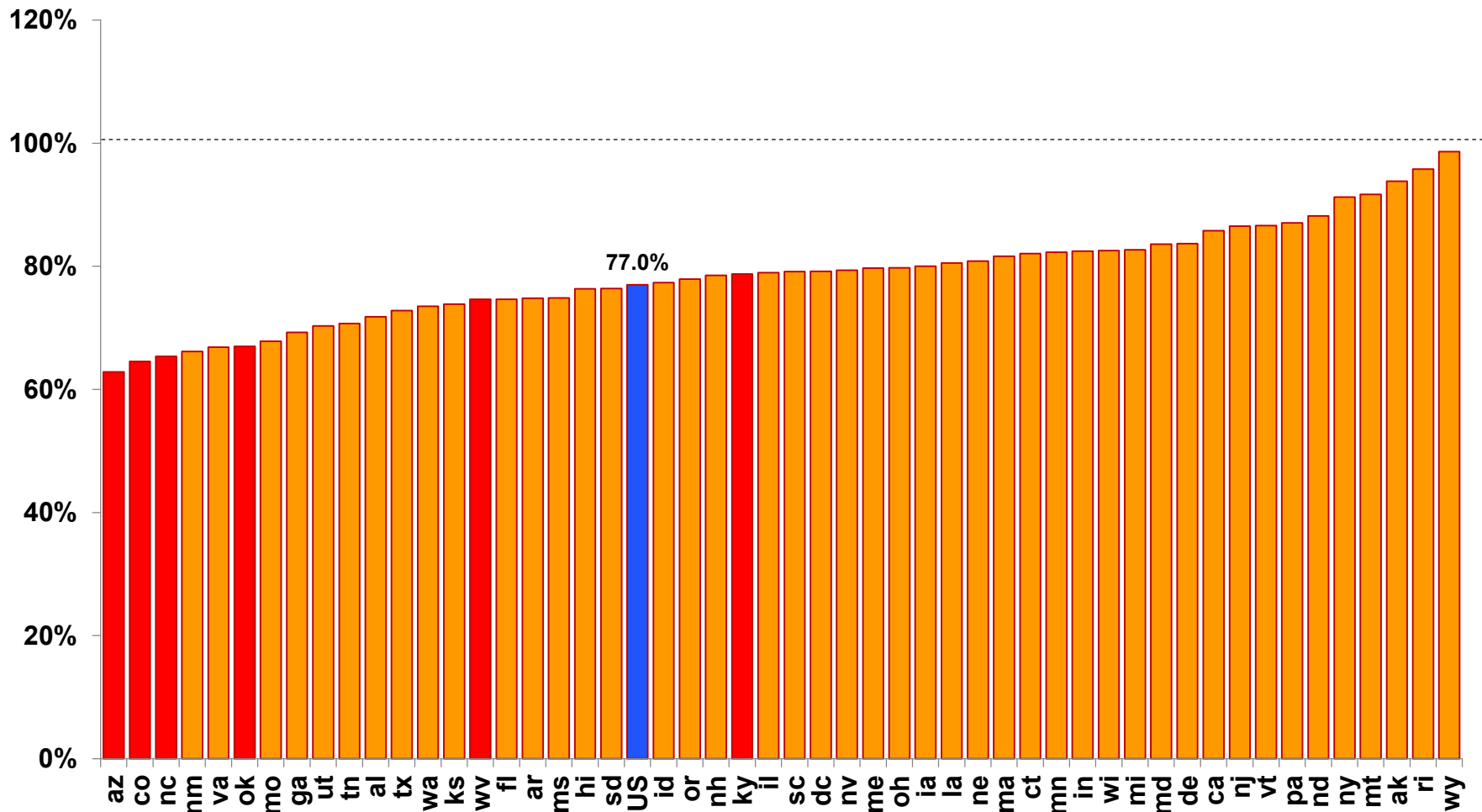
Source: Allegretto & Mishel's regression analysis of CPS-ORG data on workers with positive wages (excluding self-employed workers) ages 18-64.

# Total compensation: wages and benefits

	Compensation to W-2 wage ratio:		Teachers*		
	Professionals	Teachers*	Wage penalty	Benefit advantage**	Compensation penalty
<b>1994***</b>	n.a.	n.a.	-1.8%	2.1%	0.3%
<b>2004</b>	1.230	1.260	-11.4%	2.2%	-9.2%
<b>2007</b>	1.239	1.295	-13.0%	3.9%	-9.1%
<b>2010</b>	1.253	1.314	-12.1%	4.9%	-7.2%
<b>2015</b>	1.275	1.375	-17.0%	6.5%	-10.5%
<b>2017</b>	1.280	1.401	-18.7%	7.6%	-11.1%
<b>Percentage-point change</b>					
<b>1994–2004</b>	n.a	n.a	-9.6 ppt.	0.1 ppt.	-9.5 ppt.
<b>2004–2007</b>	0.010	0.035	-1.6 ppt.	1.7 ppt.	0.1 ppt.
<b>2007–2010</b>	0.014	0.019	0.9 ppt.	1.0 ppt.	1.9 ppt.
<b>2010–2017</b>	0.027	0.086	-6.6 ppt.	2.7 ppt.	-3.9 ppt.
<b>2004–2017</b>	0.051	0.140	-7.3 ppt.	5.4 ppt.	-1.9 ppt.
<b>2015–2017</b>	0.005	0.026	-1.7 ppt.	1.2 ppt.	-0.5 ppt.
<b>1994–2017</b>	n.a.	n.a.	-16.9 ppt.	5.5 ppt.	-11.4 ppt.

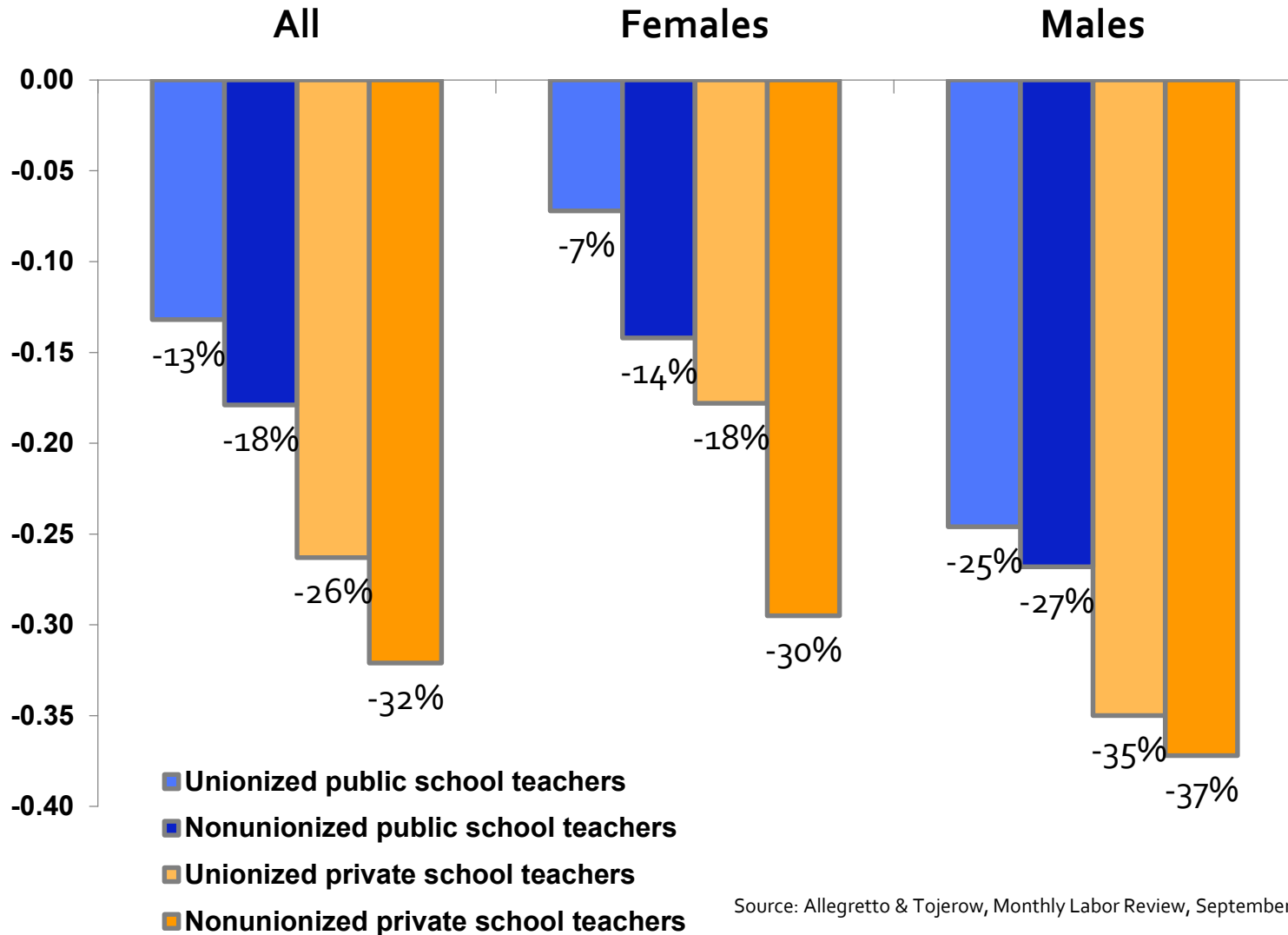
Source: Current Population Survey Outgoing Rotation Group data and Bureau of Labor Statistics Employer Costs for Employee Compensation data

# State pay ratios: teachers-to-other college graduates



Source: Allegretto & Mishel's analysis of CPS-ORG pooled data 2011-2015 on workers with positive wages (excluding self-employed workers & imputed data) ages 18-64.

# Teacher gaps by sector & union status



Source: Allegretto & Tojerow, Monthly Labor Review, September 2014.

# In sum

- **The pay gap for teachers is growing**
  - It is growing & the worst it has ever been
  - It has implications for recruitment as the opportunity costs are huge
  - Retention is becoming a bigger problem
  - Gender make up of teachers hasn't changed much for decades and it won't with such large disparities for males
- **The smartest countries tend to be those that have acted to make teaching more prestigious and selective**

# Thank You!

**“The Teacher Pay Penalty Has Hit A New High”  
Center on Wage & Employment Dynamics**

**Economic Policy Institute**

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**Sylvia Allegretto and Larry Mishel**