

# Expenditure and Student Achievement (NAEP) Data State Comparisons December 2014

# State and Local Tax Burden

Since the largest line-item expenditure of state appropriations is typically PK-12 education and the largest line-item property tax collection is typically K-12 education, a look at change in relative tax burden is one indicator of capacity for support of PK-12 expenditures.

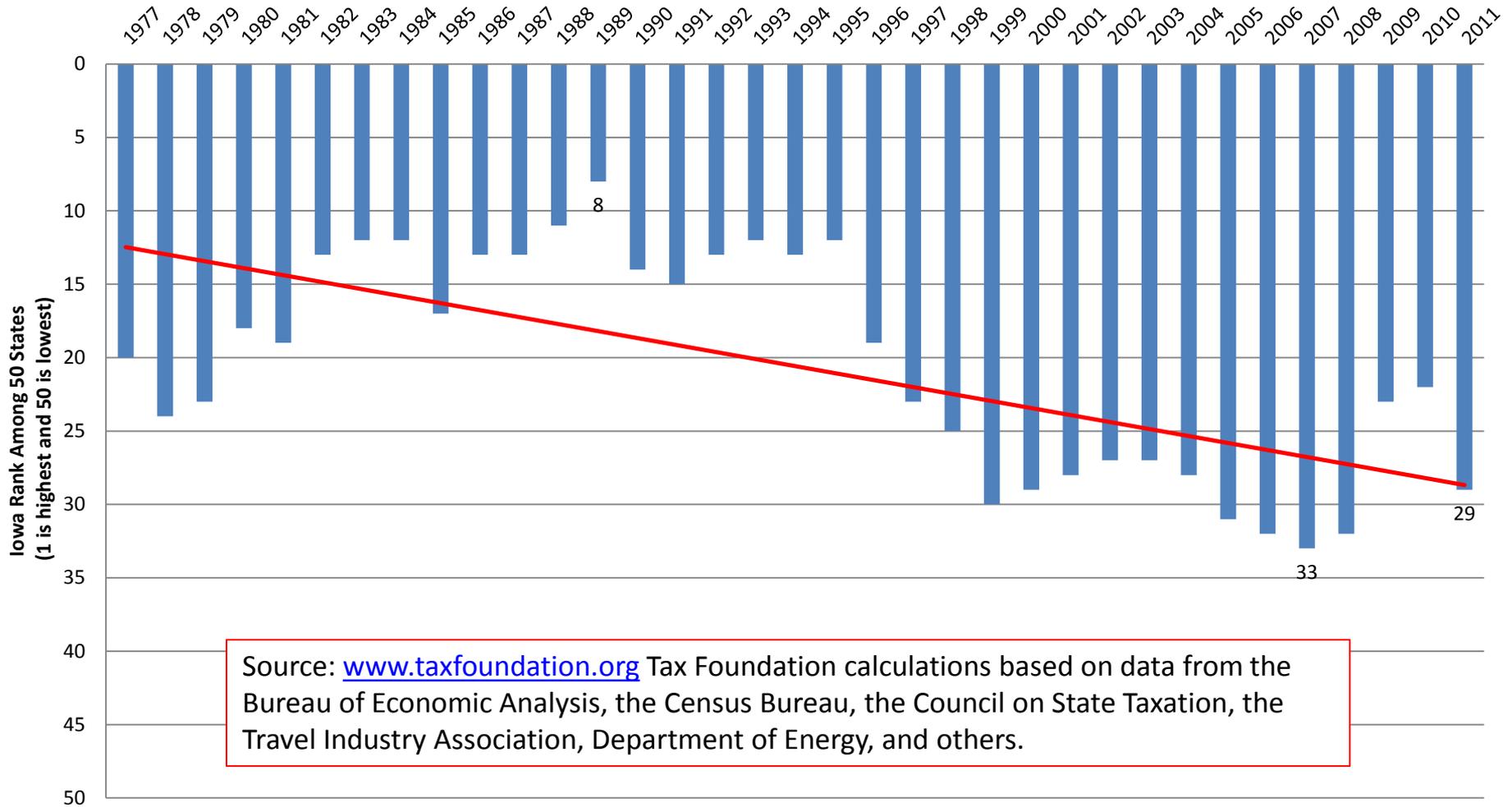
The following map and data come from:



<http://taxfoundation.org/>

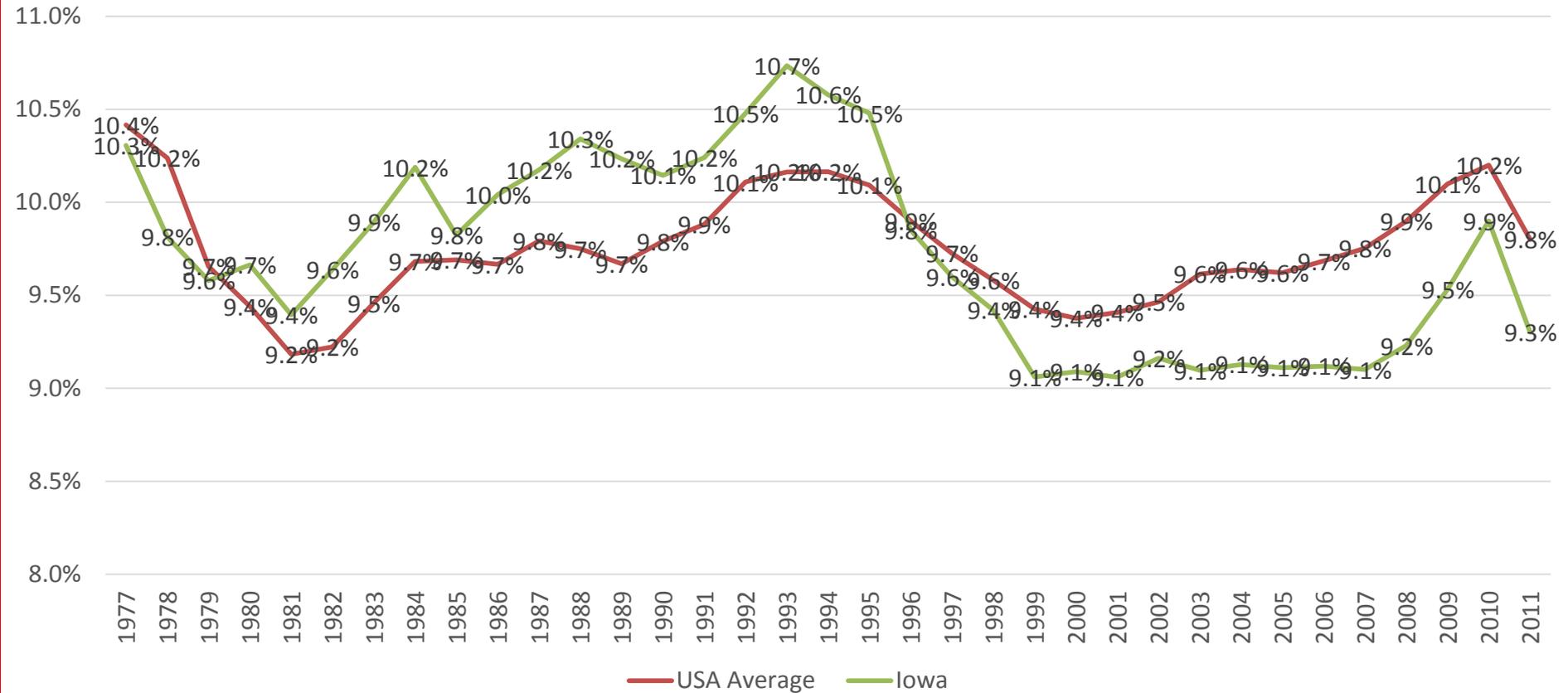


# Iowa State and Local Total Tax Burden Per Capita as a Percentage of Per Capita Personal Income



Source: [www.taxfoundation.org](http://www.taxfoundation.org) Tax Foundation calculations based on data from the Bureau of Economic Analysis, the Census Bureau, the Council on State Taxation, the Travel Industry Association, Department of Energy, and others.

## Iowa State-Local Tax Burden Compared to U.S. Average



Hypothesis: Prior to early 2000s, Iowa invested a greater percentage of it's wealth in state and local government compared to the nation. Public Education is the greatest portion of both state and local government expenditure. What has happened to achievement? Is there a relationship?

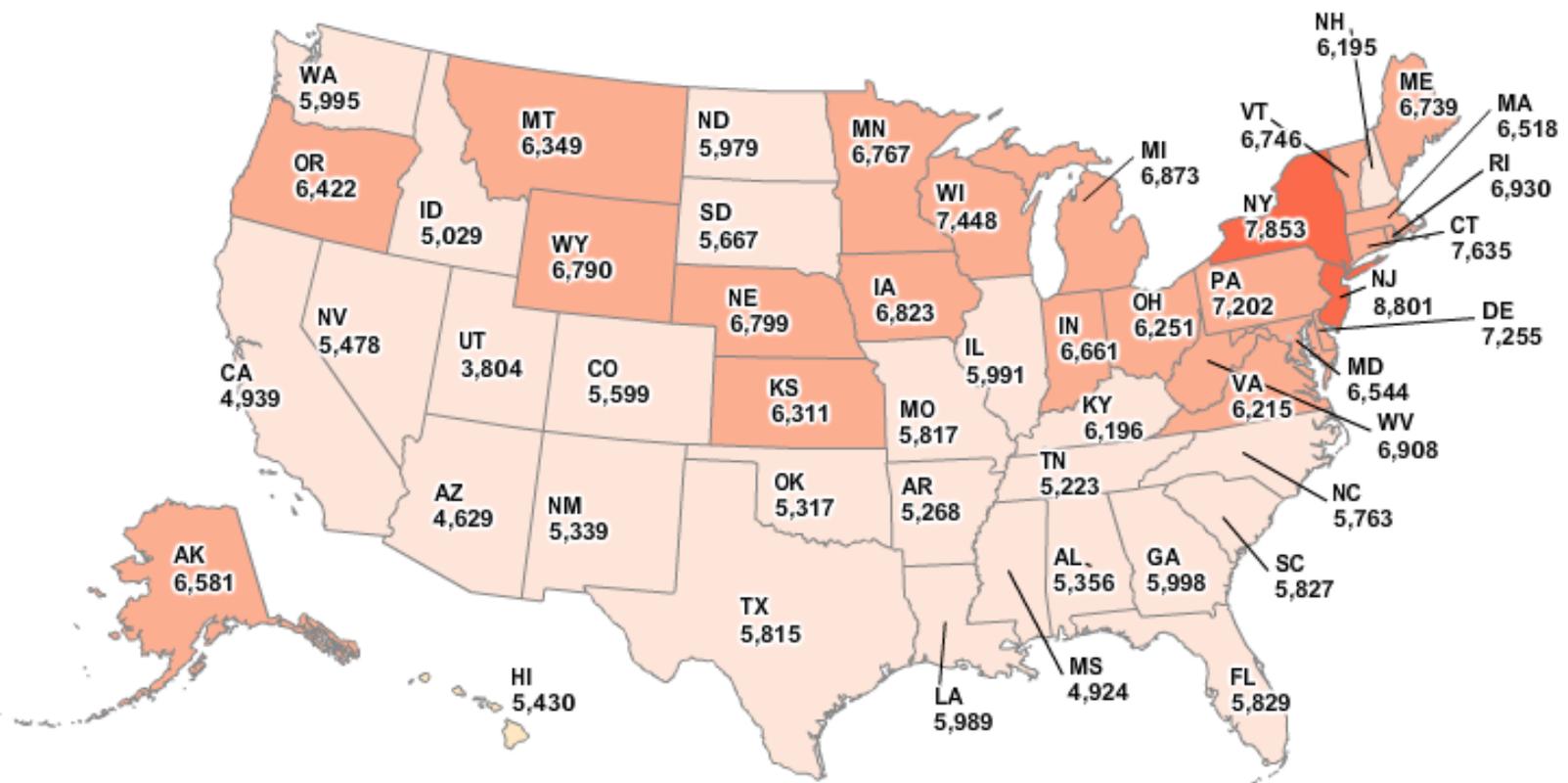
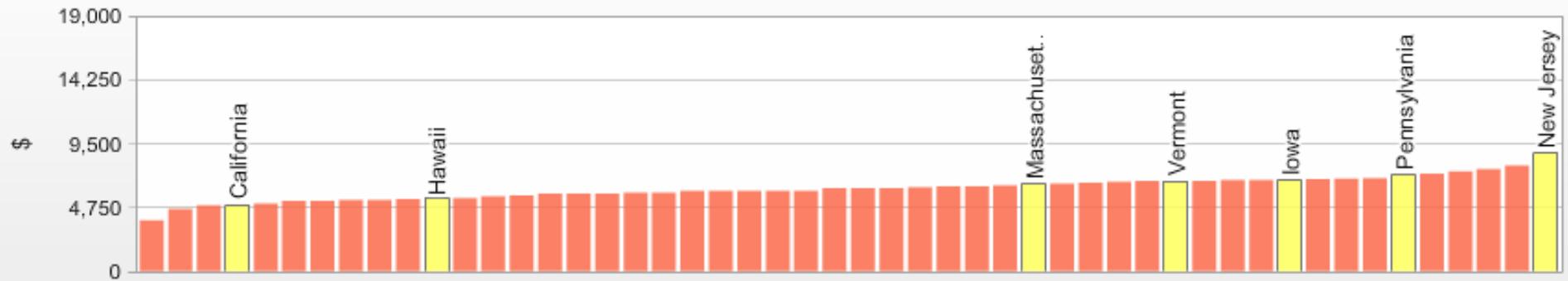
# Expenditures

- Cost of living and wages vary across the nation
- Apples to apples comparison requires adjusting for cost of living
- Expenditures per pupil in the following maps are obtained from the National Center for Education Statistics (NCES). This figure includes all spending, not just General Fund, and is controlled for relative state cost of living indexes as calculated by the Bureau of Labor Statistics.

# Benchmark States

- Consider expenditures, adjusting for cost of living, over time: CA, HI, PA, VT, NJ, MA relative change in expenditure over time are highlighted, to point out the range in expenditure change that is later indicative of NAEP score changes.
- IA is highlighted for comparison purposes.

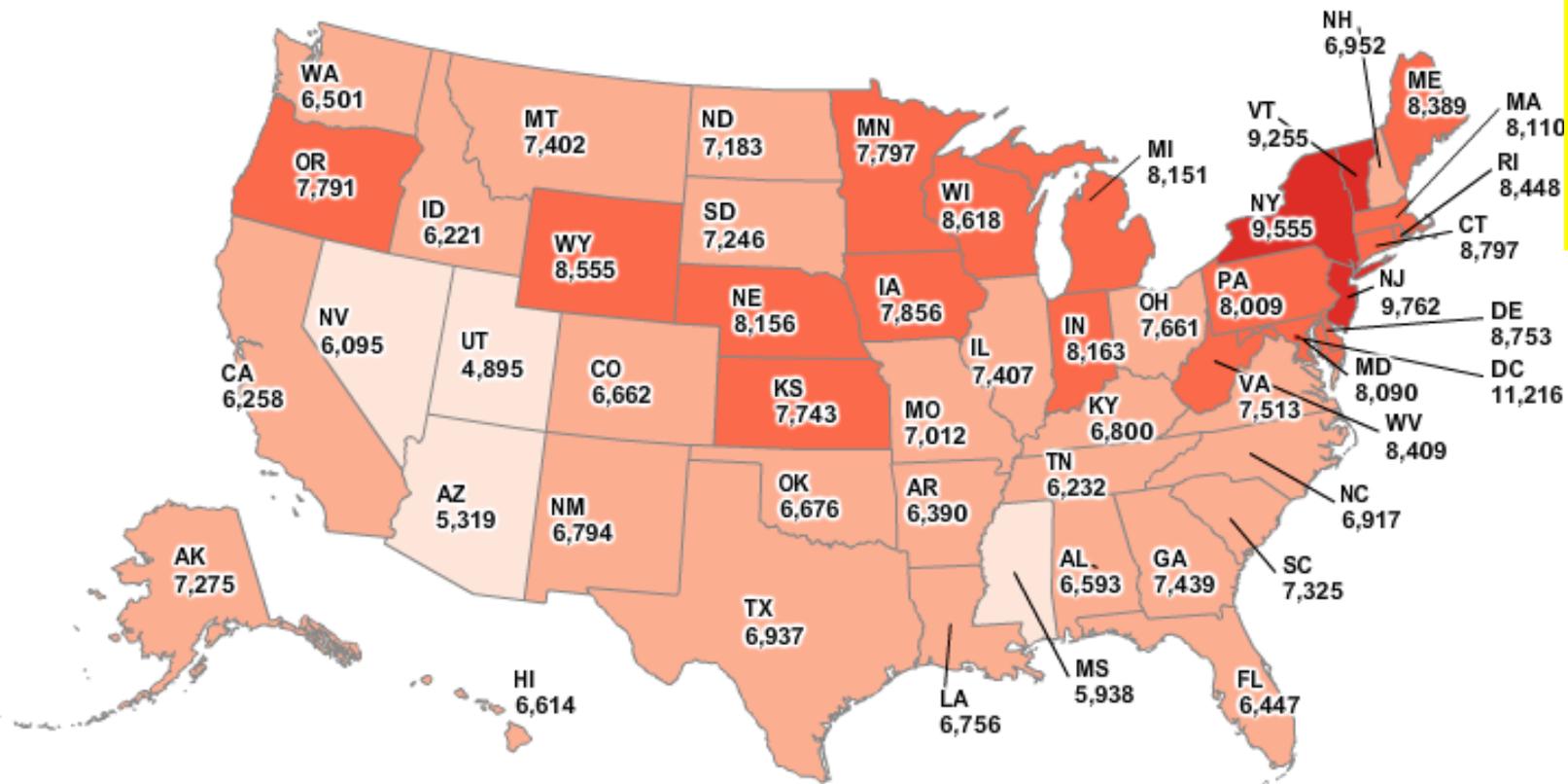
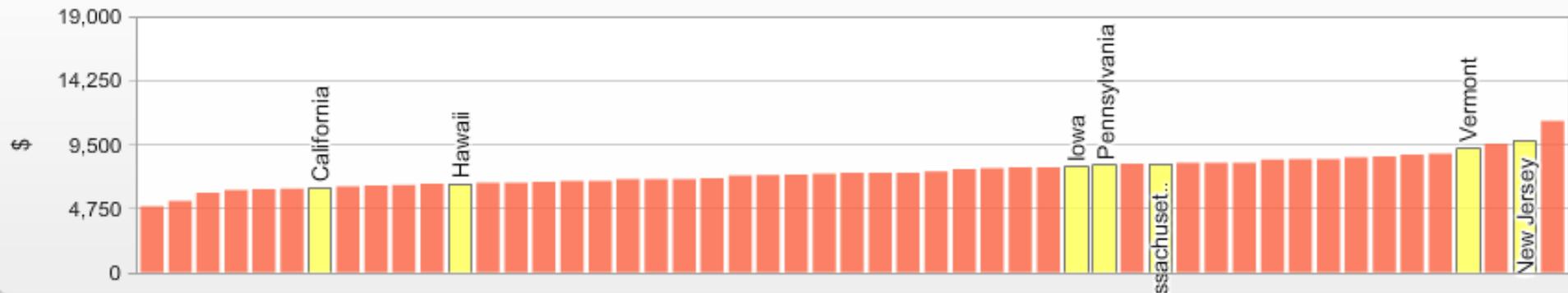
Expenditures per Student (1998)



1998, Iowa ranked 10<sup>th</sup> in expenditures per pupil controlled for cost of living.

2010



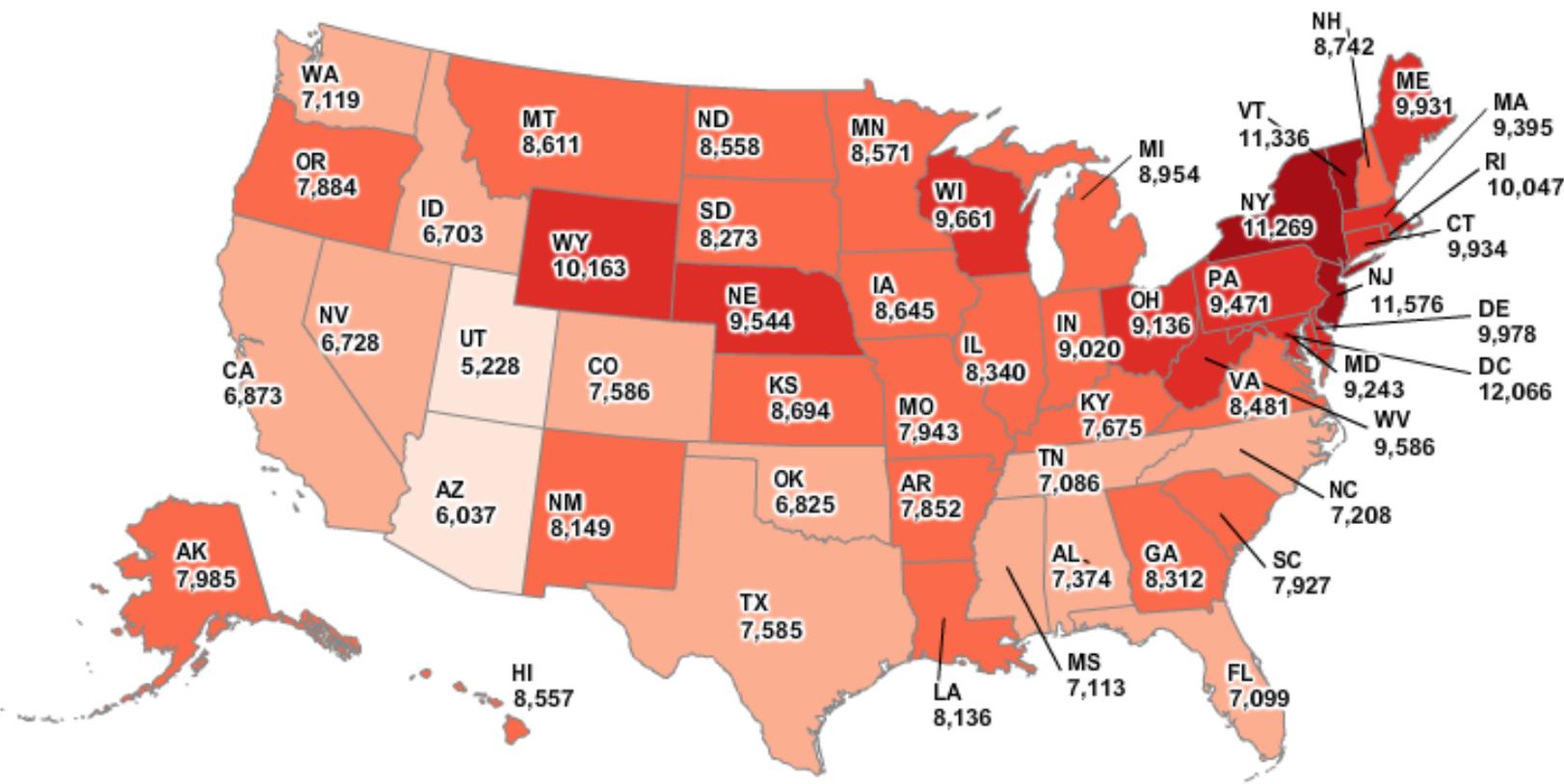


2001, Iowa ranked 18<sup>th</sup> in expenditures per pupil controlled for cost of living.

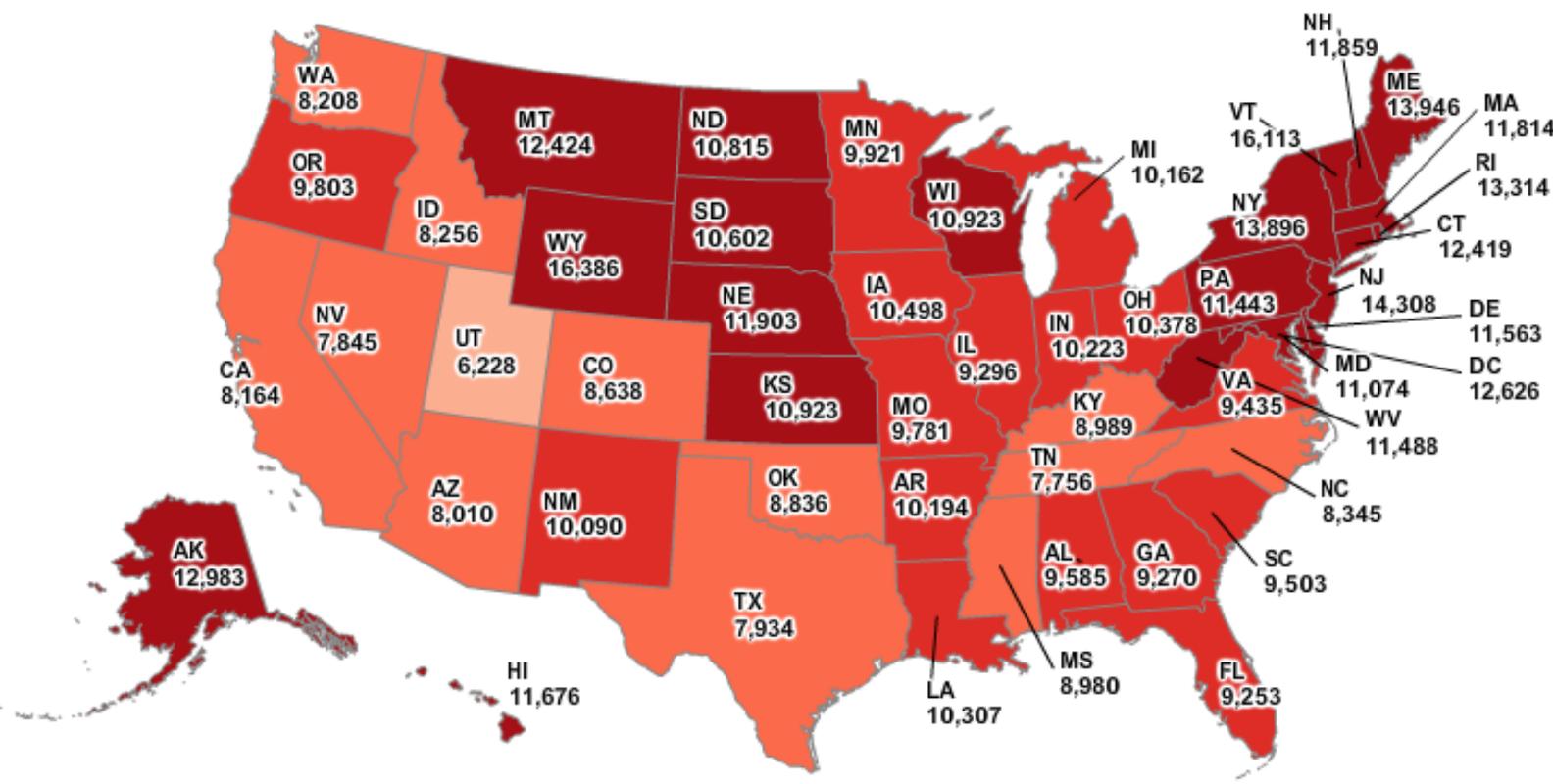
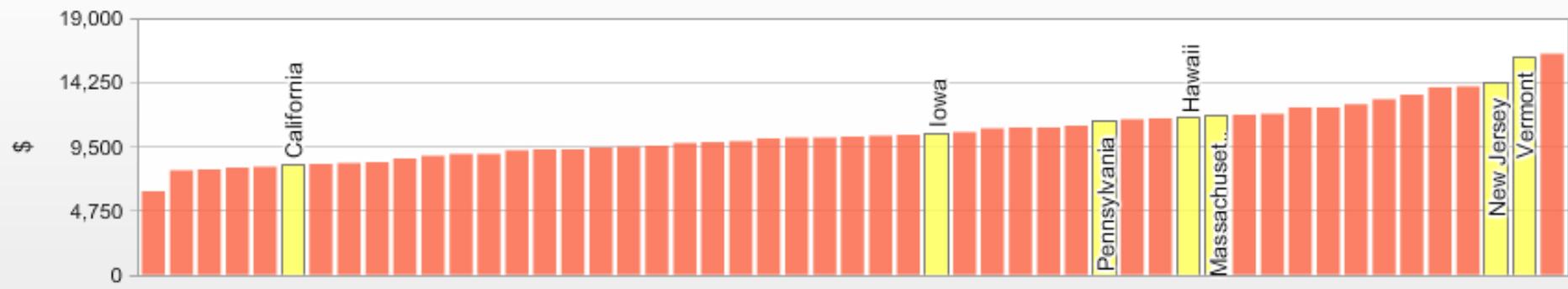
# Expenditures per Student (2004)



2004, Iowa ranked 21st in expenditures per pupil controlled for cost of living.

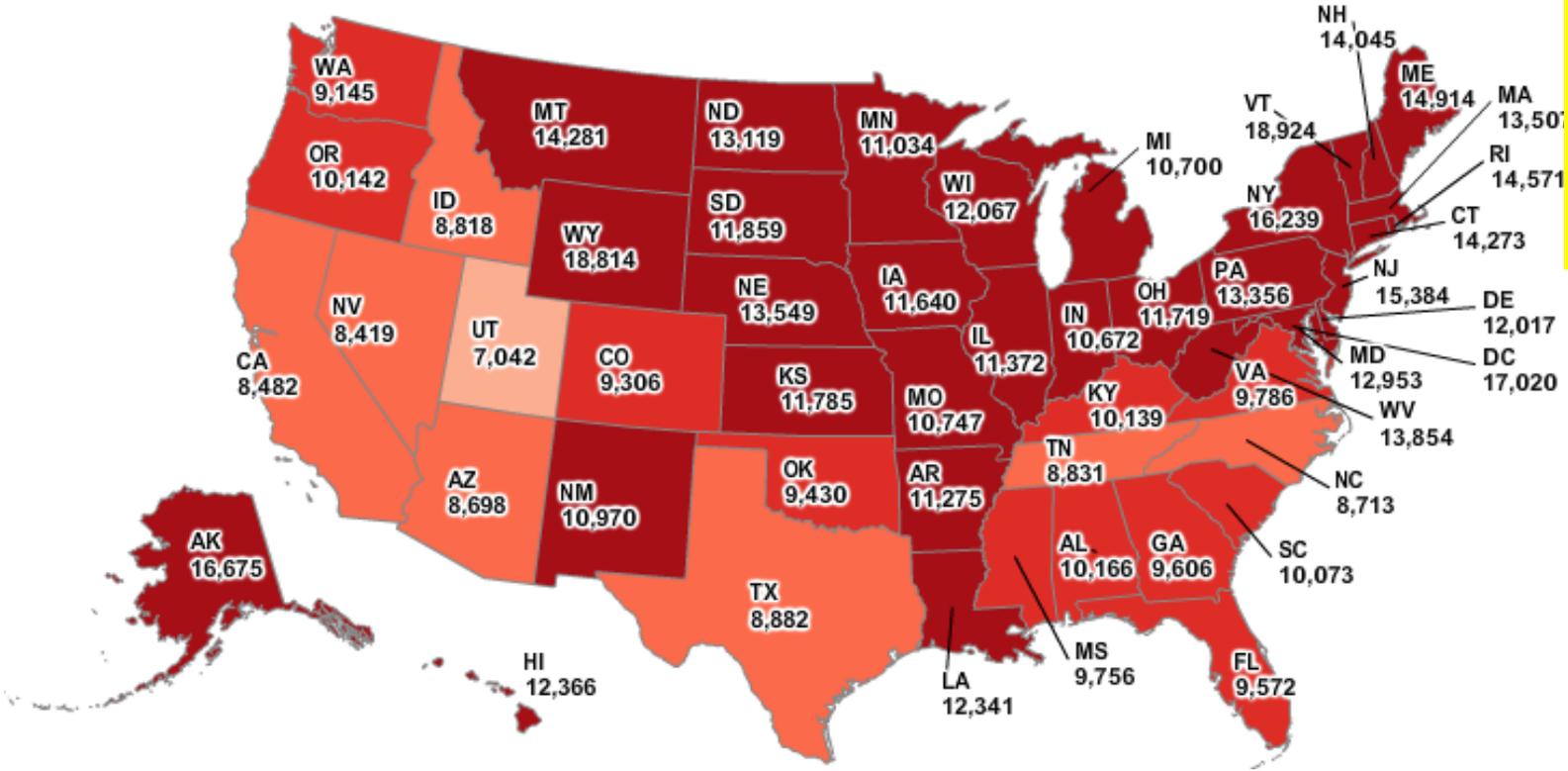
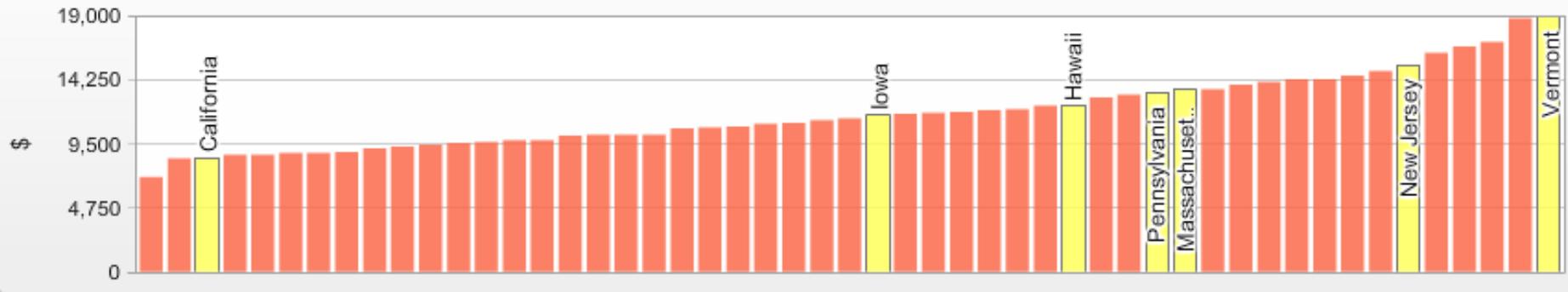


Expenditures per Student (2007)



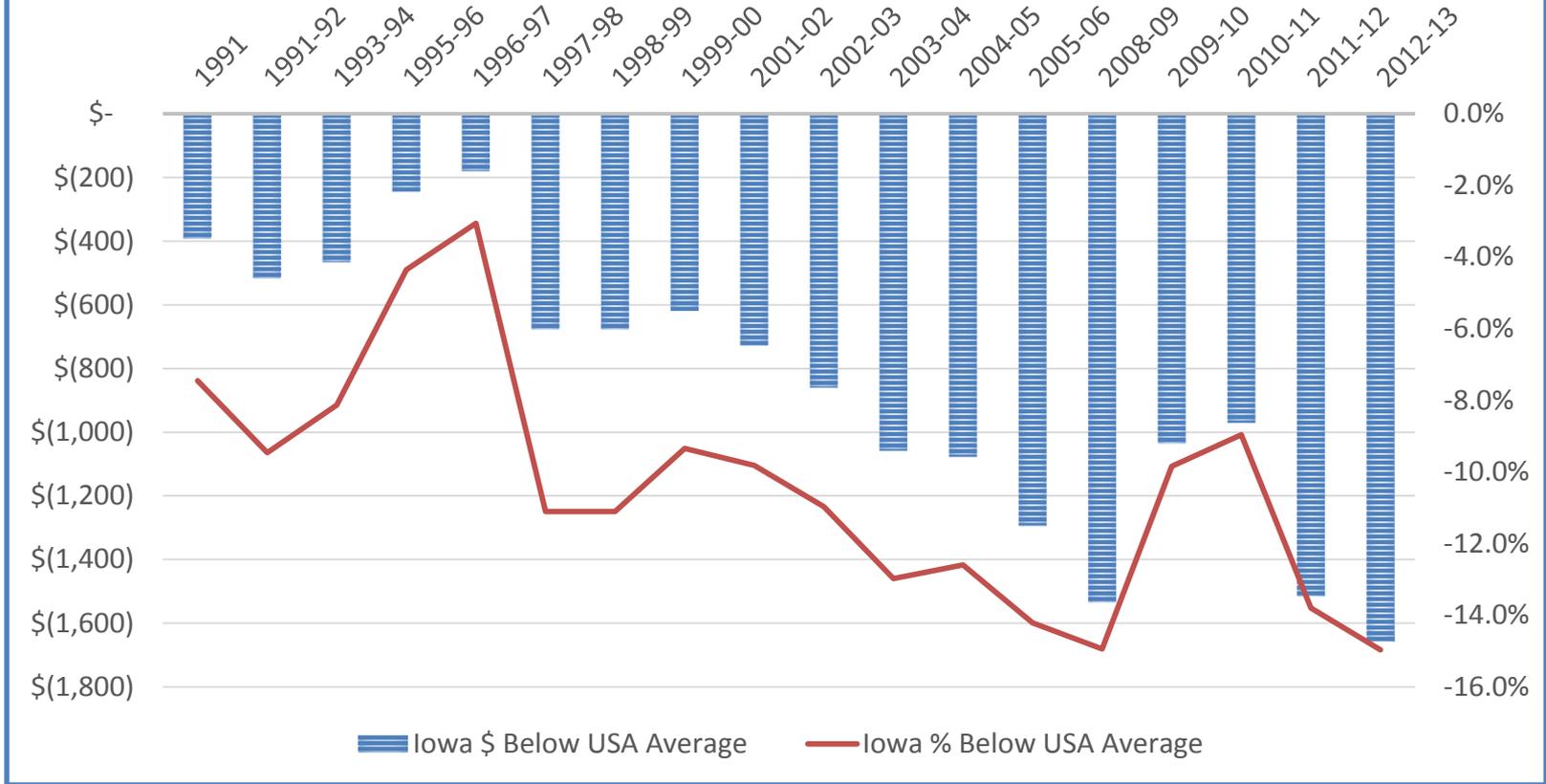
2007, Iowa ranked 23rd in expenditures per pupil controlled for cost of living.

Expenditures per Student (2010)



2010, Iowa ranked 25<sup>th</sup> in expenditures per pupil controlled for cost of living.

## USA AND IOWA EXPENDITURES PER PUPIL



Source data: Iowa Legislative Services Agency 1990 - 2013 FACTBOOK  
<https://www.legis.iowa.gov/publications/fiscal/factbook>



## • What Is NAEP?

- The National Assessment of Educational Progress (NAEP), otherwise known as the Nation's Report Card, informs the public about the academic achievement of elementary and secondary students in the United States. Report cards communicate the findings of NAEP, a continuing and nationally representative measure of achievement in various subjects over time. The Nation's Report Card compares performance among states, urban districts, public and private schools, and student demographic groups. NAEP is sponsored by the U.S. Department of Education and has been conducted since 1969.
- <http://www.nagb.org/naep/what-naep.html>
- <http://nces.ed.gov/nationsreportcard/about/>

# NAEP History

- Iowa was traditionally among the top states early on (caveat – NAEP was voluntary, different applications of accommodations, etc. Since 2001, all states must and districts chosen must participate.)
- 1996 Iowa ranked 6<sup>th</sup> in 4<sup>th</sup> grade math and tied for 1<sup>st</sup> in 8<sup>th</sup> grade math (did not have an Iowa reading score/rank in 1996). In 1998, ranked 8<sup>th</sup> in 4<sup>th</sup> grade reading.
- More recent picture:

# Iowa 2013 NAEP rankings

- 4<sup>th</sup> grade reading 21
- 4<sup>th</sup> grade math 14
- 8<sup>th</sup> grade reading 20
- 8<sup>th</sup> grade math 25

<http://nces.ed.gov/nationsreportcard/statecomparisons/>

Summary of NAEP results for **Iowa**

Assessment		Average Scale Score				Achievement Level						
Subject	Grade	Year	State		National public		at or above Basic		at or above Proficient		at Advanced	
			Avg.	SE	Avg.	SE	Pct.	SE	Pct.	SE	Pct.	SE
<b>Mathematics</b>	<b>4</b>	2013	246	(0.9)	241	(0.2)	87	(0.9)	48	(1.6)	9	(0.9)
		2011	243	(0.8)	240	(0.2)	86	(0.8)	43	(1.5)	6	(0.6)
		2009	243	(0.8)	239	(0.2)	87	(0.8)	41	(1.8)	5	(0.5)
		2007	243	(0.8)	239	(0.2)	87	(1.0)	43	(1.3)	5	(0.7)
		2005	240	(0.7)	237	(0.2)	85	(1.0)	37	(1.3)	4	(0.4)
		2003	238	(0.7)	234	(0.2)	83	(1.0)	36	(1.2)	3	(0.5)
		2000	231	(1.2)	224	(1.0)	75	(1.8)	26	(1.4)	2	(0.4)
		2000 <sup>1</sup>	233	(1.3)	226	(1.0)	78	(1.9)	28	(1.9)	2	(0.4)
		1996 <sup>1</sup>	229	(1.1)	222	(1.0)	74	(1.4)	22	(1.4)	1	(0.4)
		1992 <sup>1</sup>	230	(1.0)	219	(0.8)	72	(1.5)	26	(1.2)	2	(0.4)
	<b>8</b>	2013	285	(0.9)	284	(0.2)	76	(0.9)	36	(1.3)	7	(0.6)
		2011	285	(0.9)	283	(0.2)	77	(1.2)	34	(1.3)	8	(0.7)
		2009	284	(1.0)	282	(0.3)	76	(1.0)	34	(1.4)	7	(0.9)
		2007	285	(0.9)	280	(0.3)	77	(1.1)	35	(1.4)	7	(0.6)
		2005	284	(0.9)	278	(0.2)	75	(1.1)	34	(1.2)	6	(0.6)
		2003	284	(0.8)	276	(0.3)	76	(1.1)	33	(1.2)	5	(0.5)
		1996 <sup>1</sup>	284	(1.3)	271	(1.2)	78	(1.4)	31	(1.8)	4	(0.6)
		1992 <sup>1</sup>	283	(1.0)	267	(1.0)	76	(1.3)	31	(1.3)	4	(0.7)
		1990 <sup>1</sup>	278	(1.1)	262	(1.4)	70	(1.2)	25	(1.4)	3	(0.5)
			<b>12</b>	2013	156	(0.6)	152	(0.5)	71	(1.0)	26	(0.8)
2009	156			(0.9)	152	(0.8)	71	(1.4)	25	(1.2)	1	(0.3)

IA Up 8  
USA up 7  
since 2003

IA up 1  
USA up 8  
since 2003

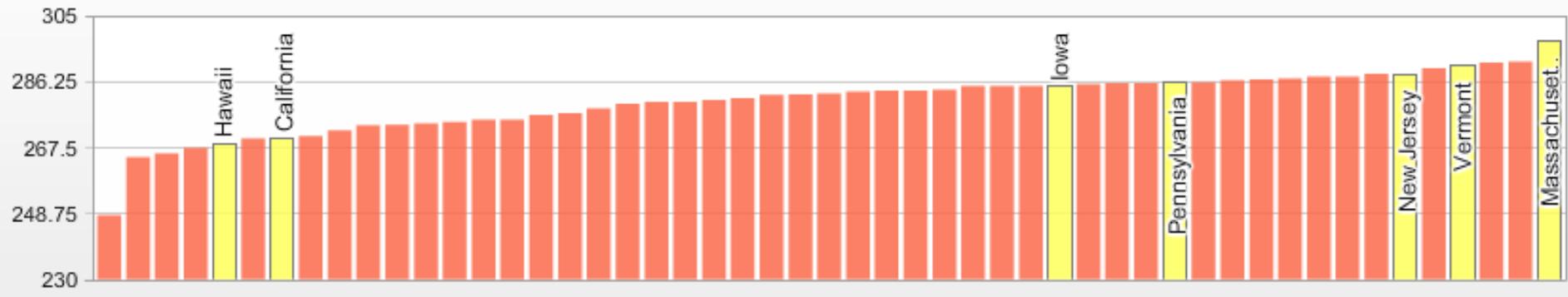
Summary of NAEP results for **Iowa**

Assessment		Average Scale Score				Achievement Level						
Subject	Grade	Year	State		National public		at or above Basic		at or above Proficient		at Advanced	
			Avg.	SE	Avg.	SE	Pct.	SE	Pct.	SE	Pct.	SE
Reading	4	2013	224	(1.1)	221	(0.3)	72	(1.3)	38	(1.4)	9	(0.9)
		2011	221	(0.8)	220	(0.3)	69	(0.9)	33	(0.9)	6	(0.6)
		2009	221	(1.2)	220	(0.3)	69	(1.3)	34	(1.4)	7	(0.8)
		2007	225	(1.1)	220	(0.3)	74	(1.6)	36	(1.4)	7	(0.8)
		2005	221	(0.9)	217	(0.2)	67	(1.3)	33	(1.2)	7	(0.5)
		2003	223	(1.1)	216	(0.3)	70	(1.3)	35	(1.5)	7	(0.6)
		2002	223	(1.1)	217	(0.5)	69	(1.4)	35	(1.6)	7	(0.9)
		1998	220	(1.6)	213	(1.2)	67	(1.6)	33	(1.7)	7	(1.0)
		1998 <sup>1</sup>	223	(1.2)	215	(0.8)	70	(1.8)	35	(1.6)	7	(0.7)
		1994 <sup>1</sup>	223	(1.3)	212	(1.1)	69	(1.6)	35	(1.5)	8	(1.0)
		1992 <sup>1</sup>	225	(1.1)	215	(1.0)	73	(1.4)	36	(1.6)	7	(0.7)
Reading	8	2013	269	(0.8)	266	(0.2)	81	(0.9)	37	(1.3)	3	(0.5)
		2011	265	(1.0)	264	(0.2)	77	(1.1)	33	(1.5)	2	(0.4)
		2009	265	(0.9)	262	(0.3)	77	(1.0)	32	(1.4)	2	(0.5)
		2007	267	(0.9)	261	(0.2)	80	(1.0)	36	(1.4)	2	(0.6)
		2005	267	(0.9)	260	(0.2)	79	(1.0)	34	(1.5)	3	(0.4)
		2003	268	(0.8)	261	(0.2)	79	(0.9)	36	(1.4)	3	(0.4)
Reading	12	2013	291	(0.9)	287	(0.6)	80	(1.0)	40	(1.4)	4	(0.5)
		2009	291	(1.0)	287	(0.8)	79	(1.0)	39	(1.2)	4	(0.5)

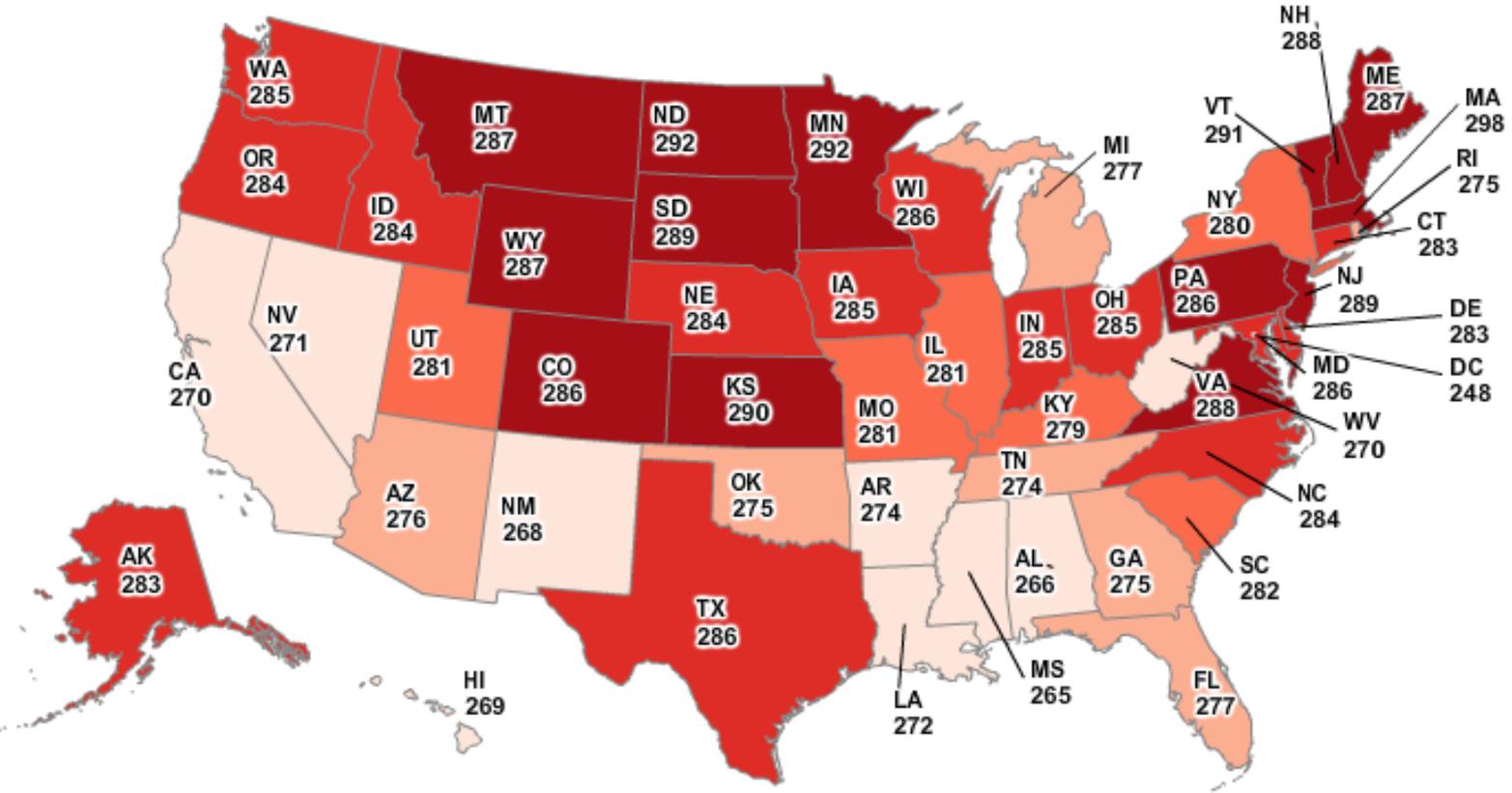
IA Up 1  
USA up 5  
since 2003

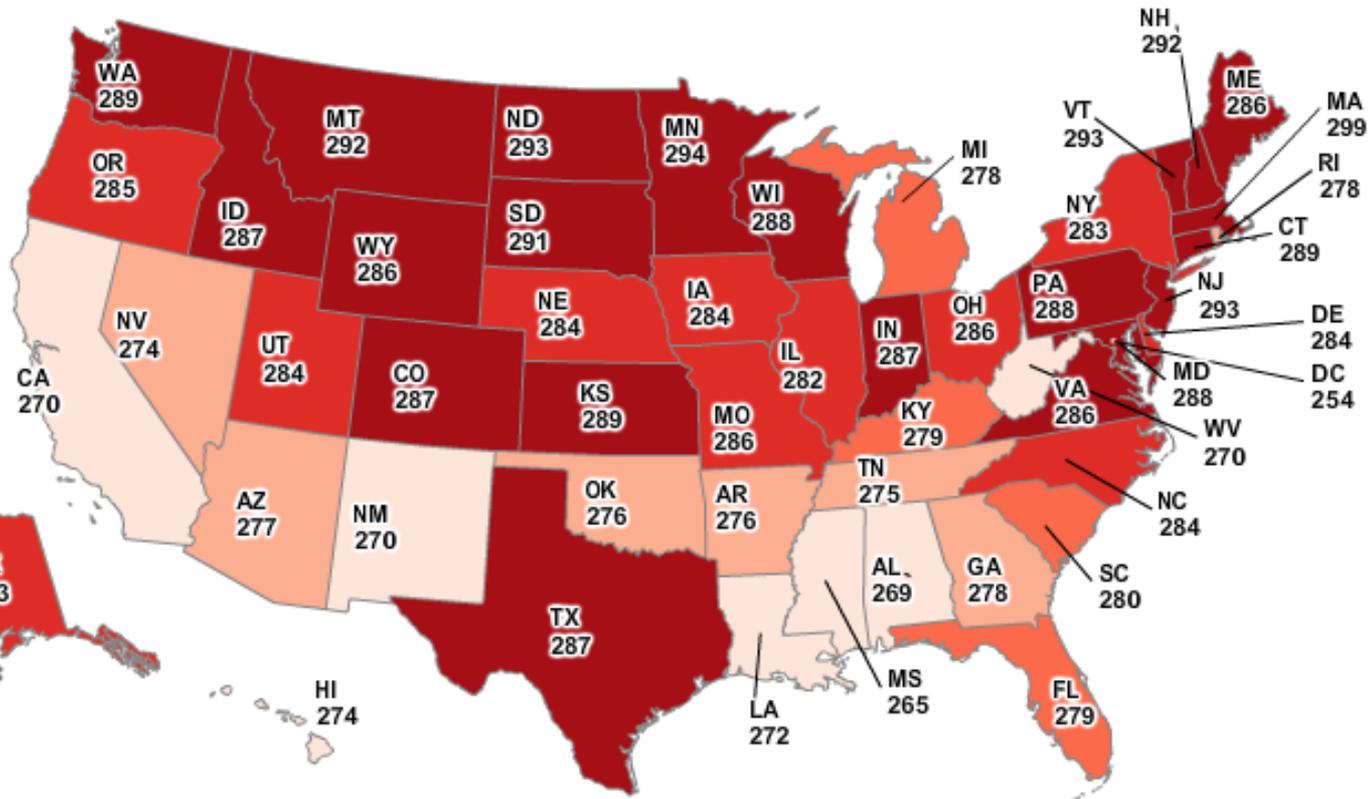
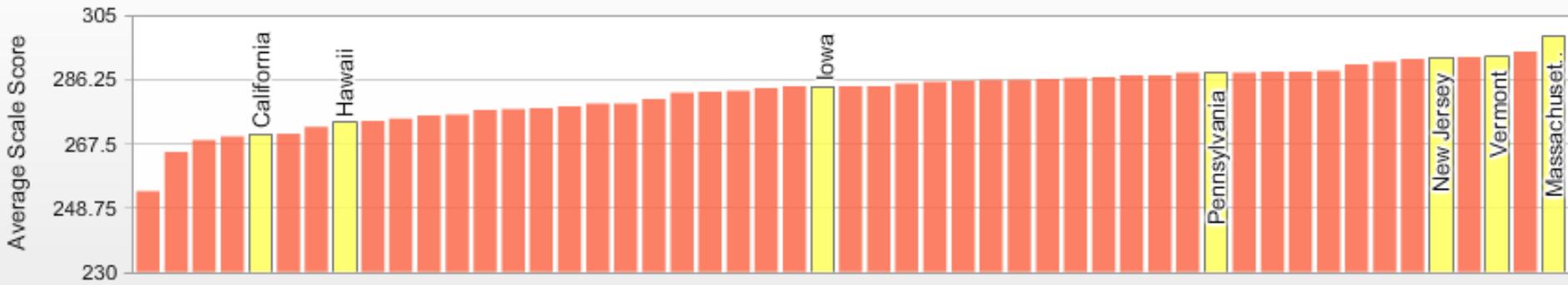
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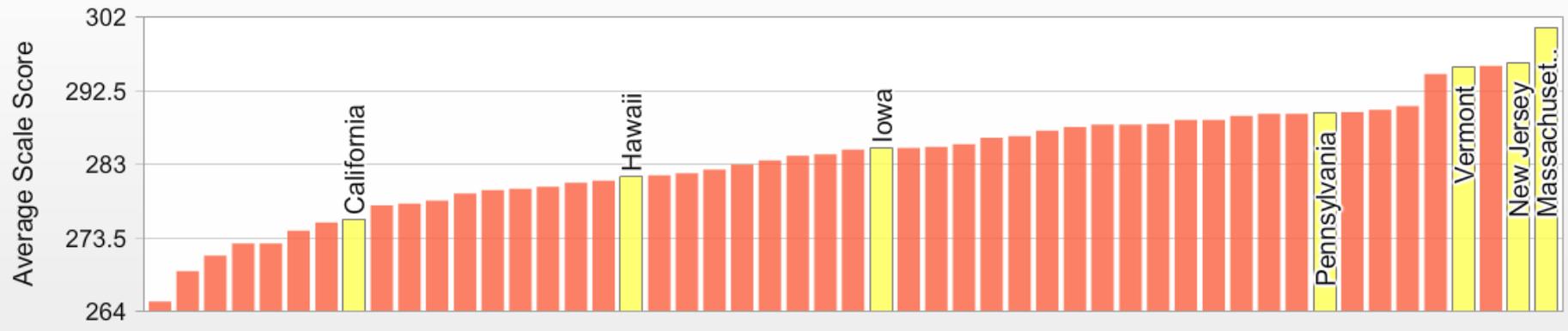


2007, Iowa ranked 18<sup>th</sup> in 8<sup>th</sup> grade math NAEP scores.

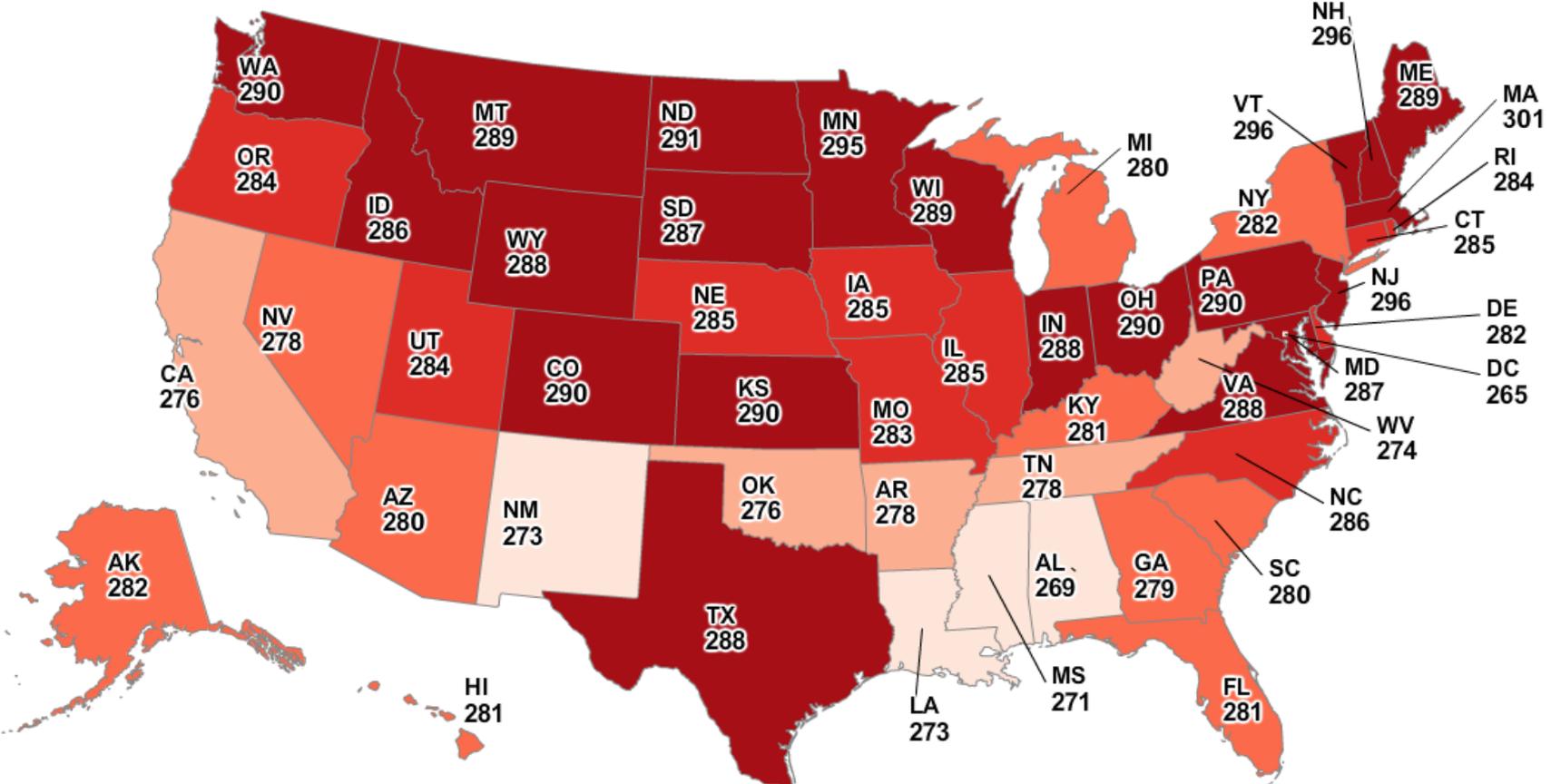




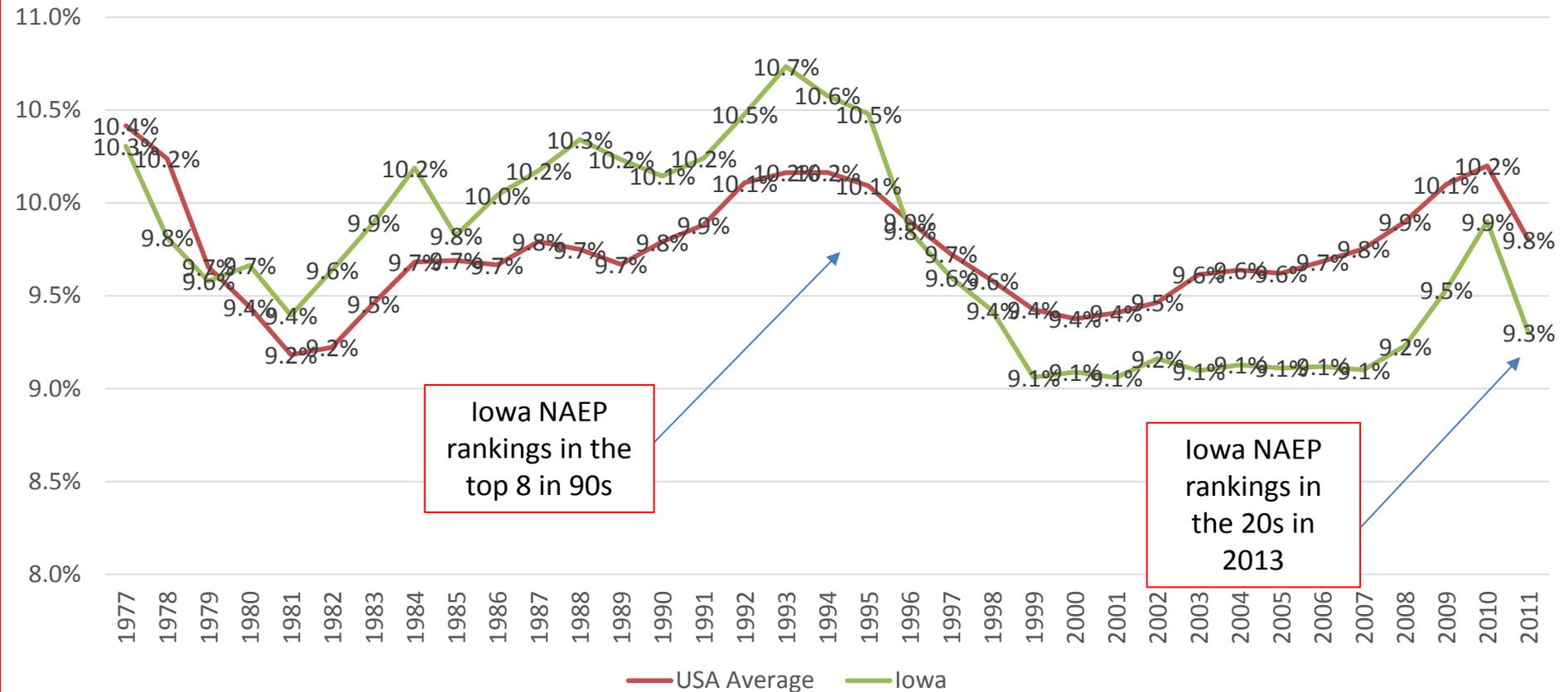
2009, Iowa ranked 27<sup>th</sup> in 8<sup>th</sup> grade math NAEP scores.



2013, Iowa ranked 25<sup>th</sup> in 8<sup>th</sup> grade math NAEP scores.



## Iowa State-Local Tax Burden Compared to U.S. Average



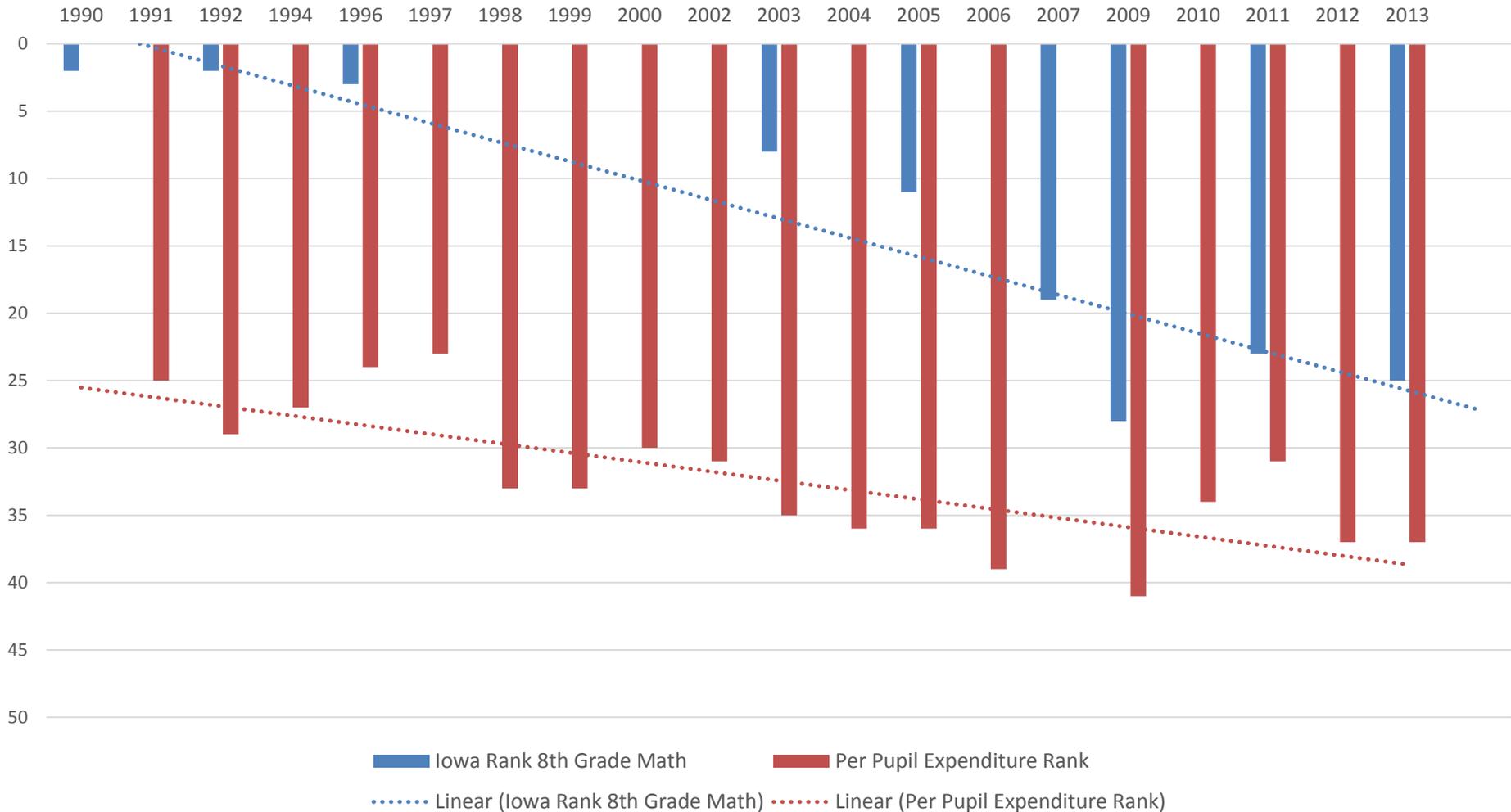
Hypothesis: Prior to early 2000s, Iowa invested a greater percentage of it's wealth in state and local government compared to the nation. Public Education is the greatest portion of both state and local government expenditure.

***Achievement trends mirror investment trends.***

# Expenditures and NAEP Scores

- Consider the trends together
- Compare relative ranks Iowa vs. the Nation
- Trend lines are very similar
- Looked at 4<sup>th</sup> grade reading and 8<sup>th</sup> grade math:

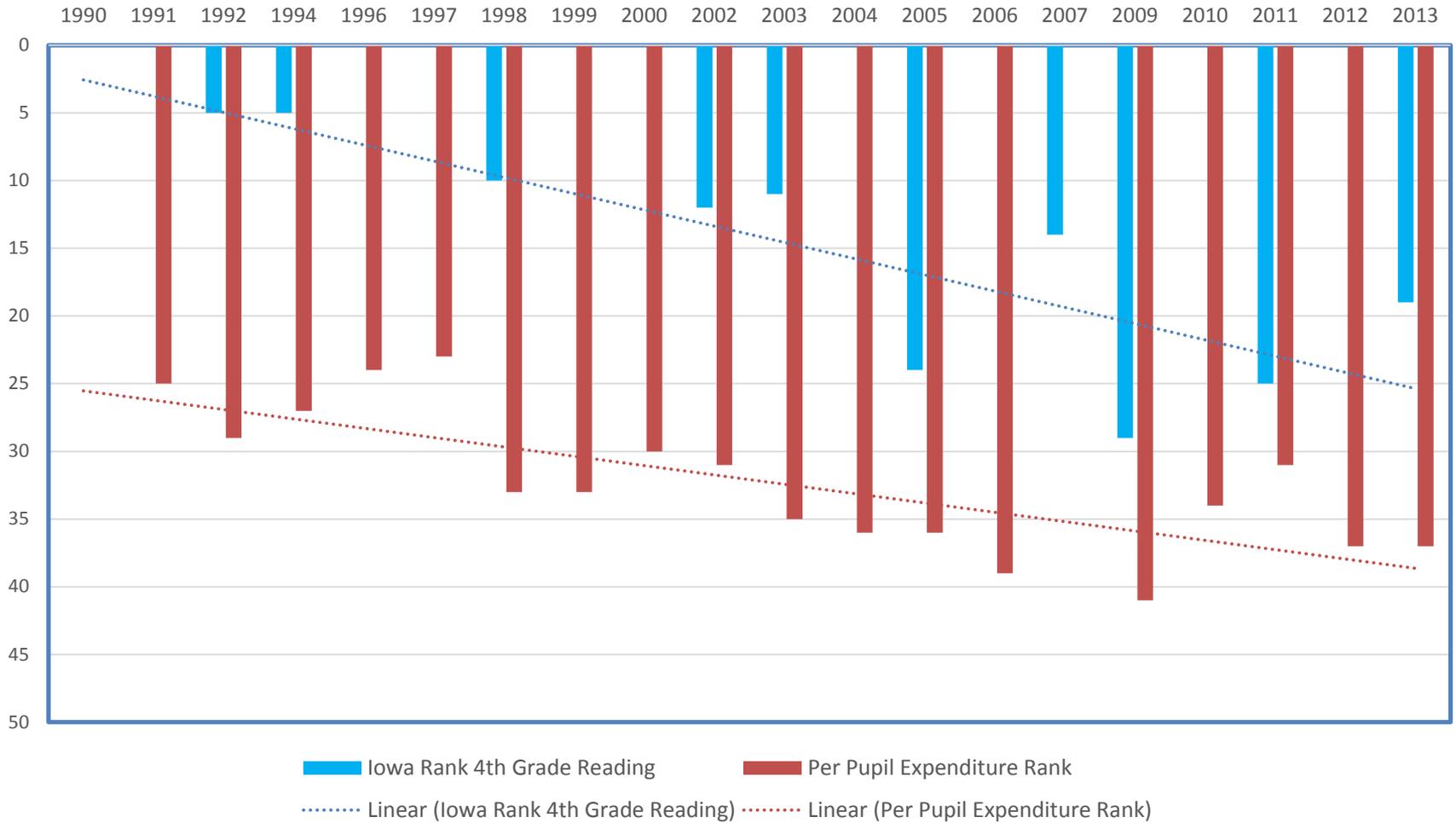
## Per Pupil Expenditure and 8th Grade NAEP Math Ranks



NAEP data source:

<http://nces.ed.gov/nationsreportcard/naepdata/report.aspx>

# Per Pupil Expenditure and 4th Grade NAEP Reading Ranks



NAEP data source:

<http://nces.ed.gov/nationsreportcard/naepdata/report.aspx>

## Questions or Comments?

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