About the WP (Working Paper) series on the Math Stagnation Nations (& what MMU1 can do about this quickly)

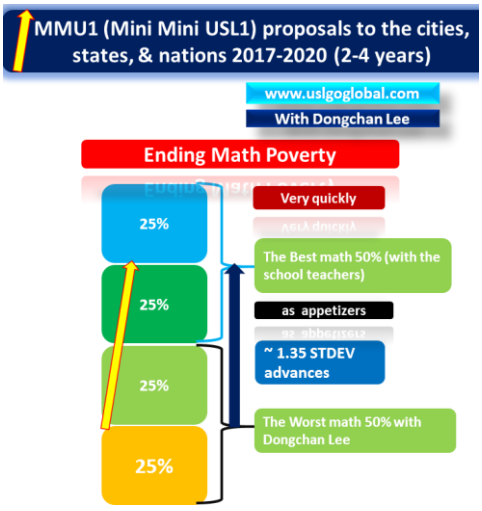
By Dongchan Lee

This paper is a part of the WP (Working Paper) series by Dongchan Lee about the math stagnations in the OECD, all the developed English-speaking or the majority of the Latin American countries.

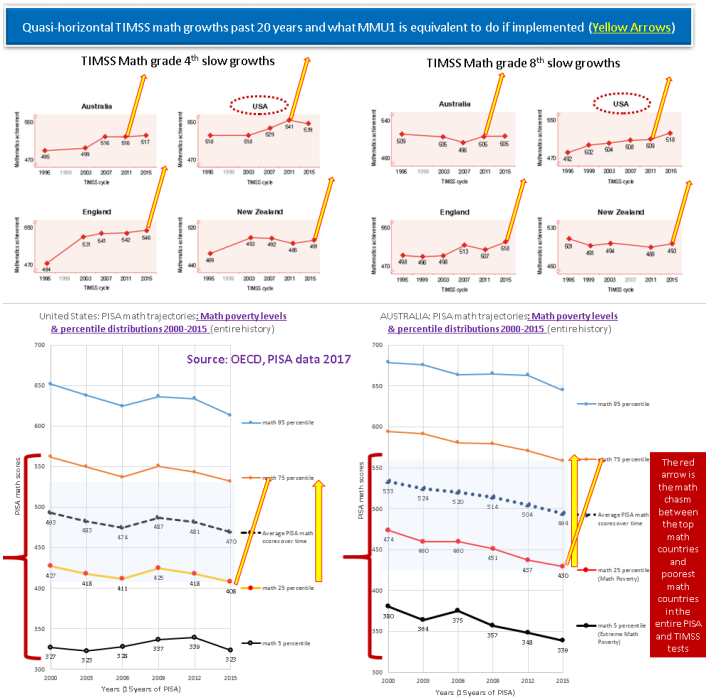
<u>In the WP series on the math stagnation nation series, for the USA</u>, we observed and analyzed the following in part 1-5 in the USA series:

1) the math stagnations of the USA internationally (from the PISA 2000-2015, TIMSS 1995-2015);
2) the math stagnations of the 50 USA states;
3) the math stagnations of at least 85-90% of the big cities (or school districts) that have participated in the TUDA program of NAEP;
4) the math stagnations impacted by the Common Core math or not;
5) Key summaries of this series.

NOTE: throughout the math stagnation nations series, we use the yellow arrows for the MMU1 impacts.



To boost the math poverty (math poorest 25 percentile) to the math prosperity (math richest 25 percentile)



Math saturations of all English-speaking countries

WP series: Mathematics Stagnation Nation series: for the USA (Part 2)

NAEP (National Report Cards) Math Grade 4 & 8 stagnations 1992-2015 of the 50 states of the United States: national, regional, and the past growth compared to the projected MMU1 impacts on math growths if fully implemented in 3-4 years

By Dongchan Lee (Date: January 27, 2017, draft 1)

Abstract

In this short, visual timeline-driven observational report on the math grades 4 and 8 of the NAEP (the National Report Card) of the USA 1992-2015 (during 23 years), we demonstrate that the following: 1) for the 50 USA states, the math stagnations are real, not something to wisp away as the stagnations kicked in around 2003-2007 to the majority of the USA states for the math grade 4; 3) the math stagnations seemed to kick in a bit of time lag for the math grade 8 some years after the math stagnations kicking in for the math grade 4; 4) we observed this for the entire 50 states against the national (public) average timelines; 5) the math stagnations even for the fastest math growing states out of the 50 states; 6) outside the 50 USA states, DC and DoDEA haven't had full-blown math stagnations yet, but their growths have slowed down significantly around 2013-2015; 7) all their timeline math growths plotted against the expect MMU1 impacts if implemented in short 3-4 years for each state or 2-3 years for cities or DC, DoDEA. To distinguish the expected impacts of the MMU1 over the traditional USA math education reforms, the yellow arrow was estimated to be roughly equivalent to about NAEP math 40 points. For the math grade 4, we added the timelines of 75 percentile – 25 percentile table and chart in Appendix. For the math grade 8, it is about the same and we shared in other paper by the author. The readers need to observe that the size of the yellow arrows (MMU1 size) are roughly 50-90% larger than the difference between the math best states vs. the math worst states of the grades 4 and 8 by 2011-2015: for the math grade 4, almost twice as large, for the math grade 8, about 50% larger than the gamut between the math best vs. the worst state math averages of the entire 50 USA states.

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Lee's other Working Papers will be released at …. ☺

Key words: Math stagnations, math crisis, USL, MMU1, math education innovation. Education reforms

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Critical Note: Throughout in this observational report with timelines from the NAEP math scores, all the data were gathered from NAEP's The National Report Card data. As such, all the data 1990-1996 had "Accommodations Not Permitted" while the data from 2000 on, I used the data with the Accommodations Permitted.

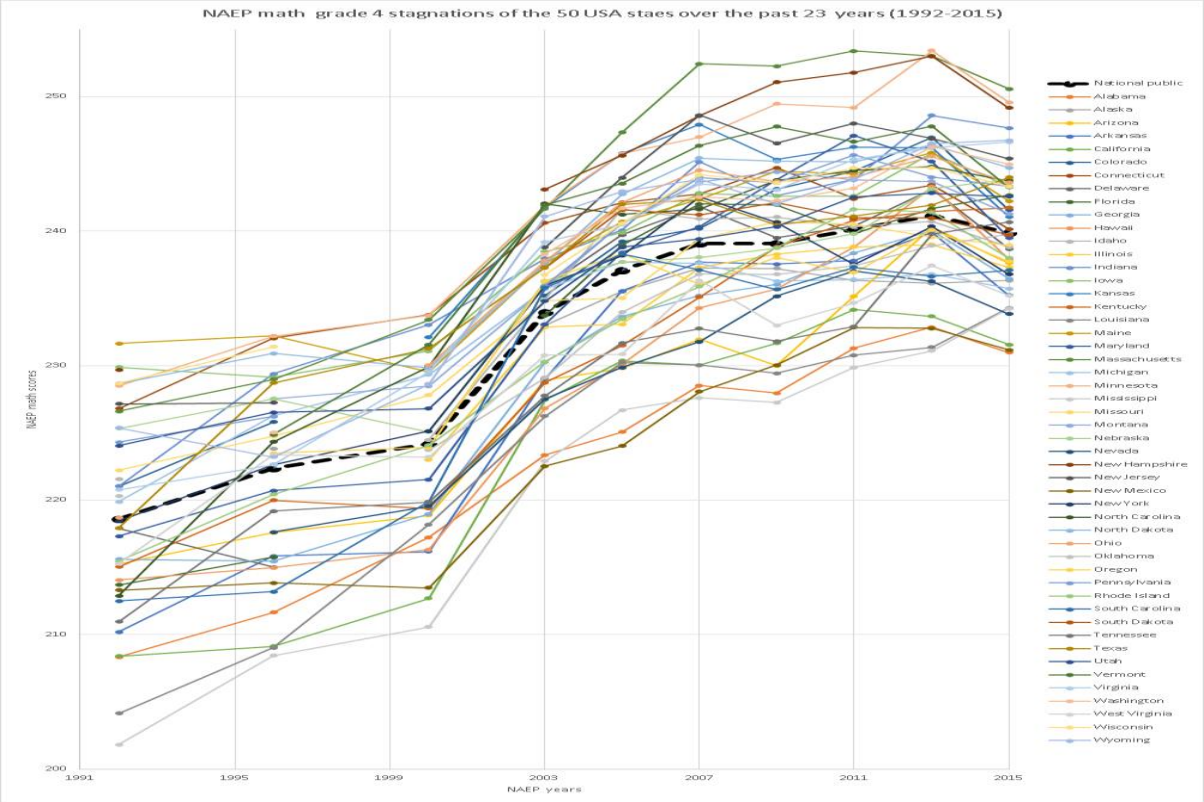
Introduction

In the previous WP papers by the author (Dongchan Lee), we demonstrated that math stagnations in the vast majority of the OECD nations, especially in all English-speaking developed nations as well as most of the PISA-TIMSS participating Latin American countries' are real and not something that we wish to go away. In the Math Stagnation Nations for the USA Part 1, we demonstrated[1] that according to the 15-20 years of timelines of the PISA and TIMSS math, the USA math saturations have arrived already. In this Part 2, we will focus on the individual timelines of the USA. In the part 3, we will focus on the 20-22 big cities (or districts) of the USA. The overall conclusion is that the USA is officially a Math Stagnation Nation internationally, nationally, in at least 85 plus % of the states, and in most of the big cities of the USA.

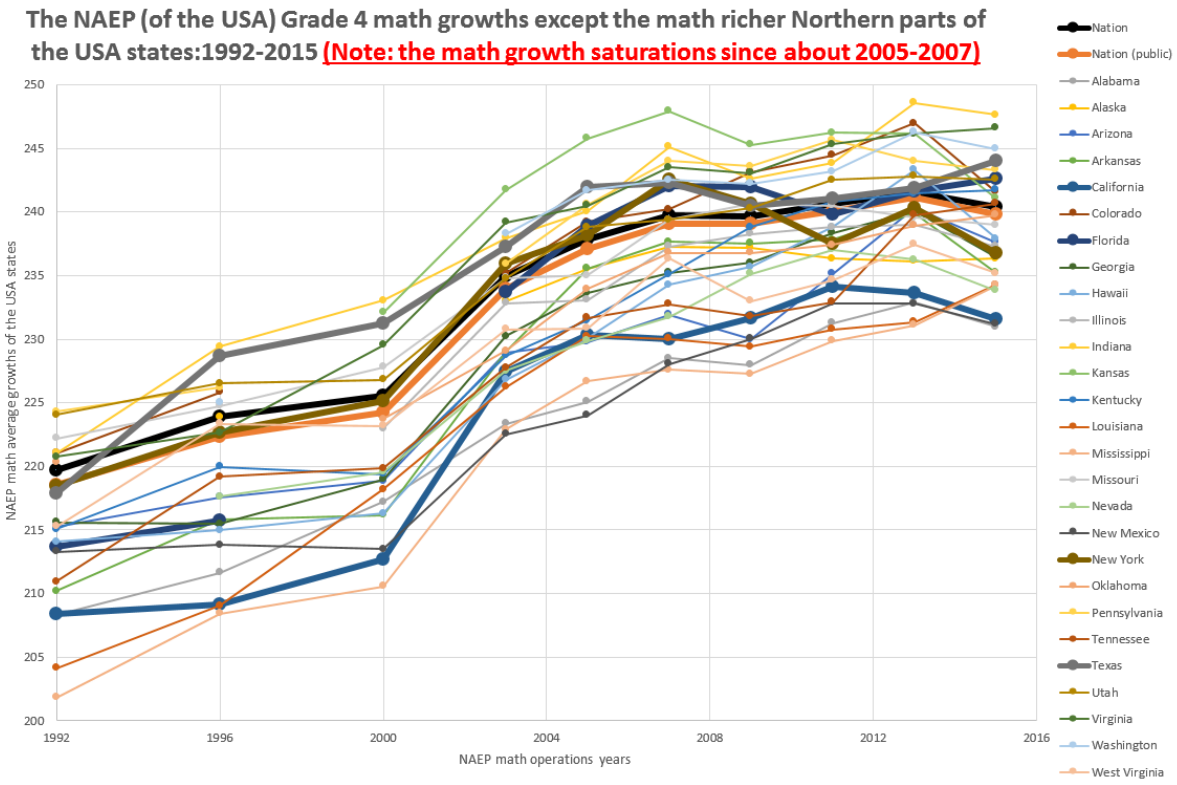
[1] You can refer to our Part 1 of the Math Stagnation nation series for the USA part 1.

Grade 4 Math timeline

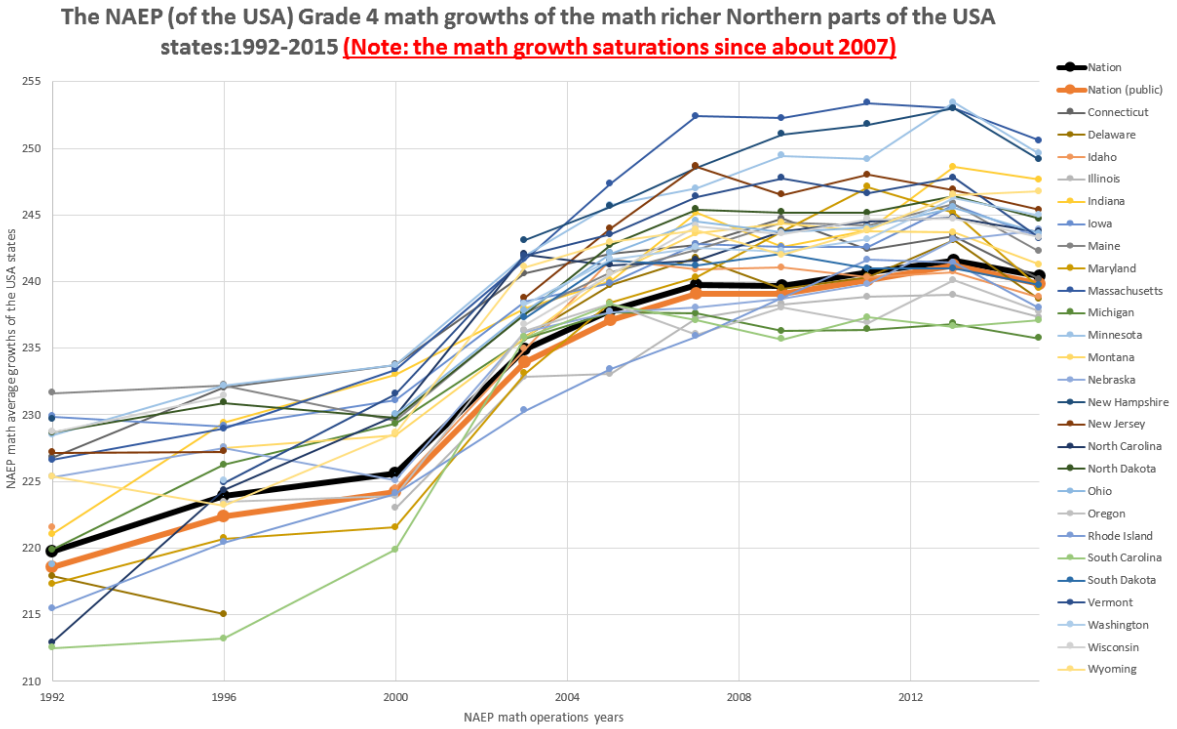
Showing the math saturations after around 2005-2007



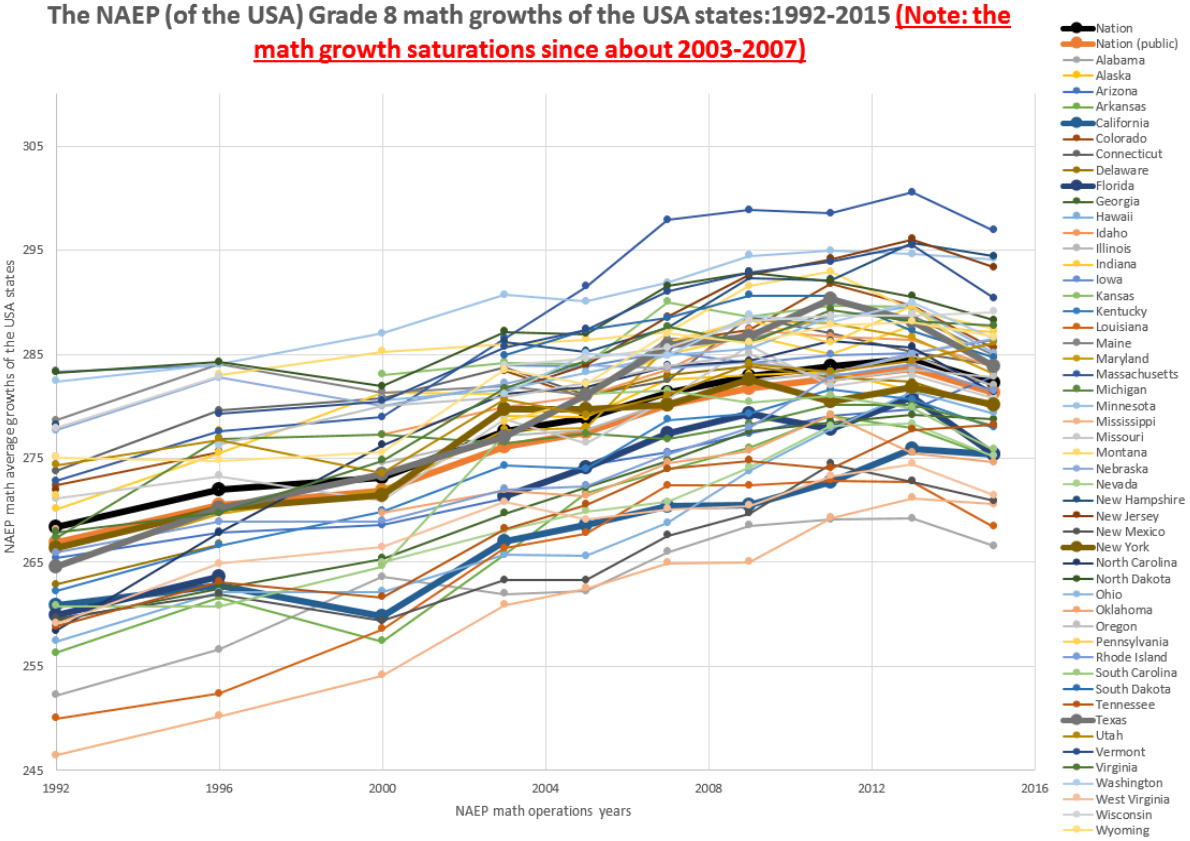
Except the math richer Northern USA states



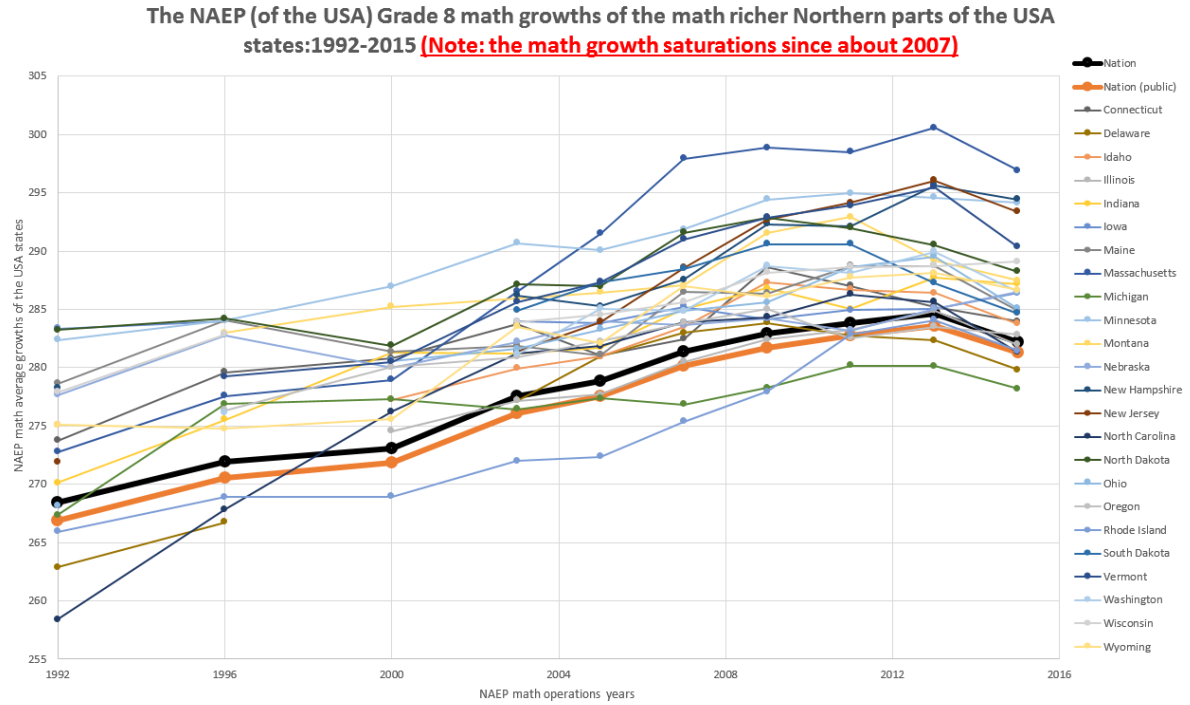
Primarily for the math-richer Northern USA states



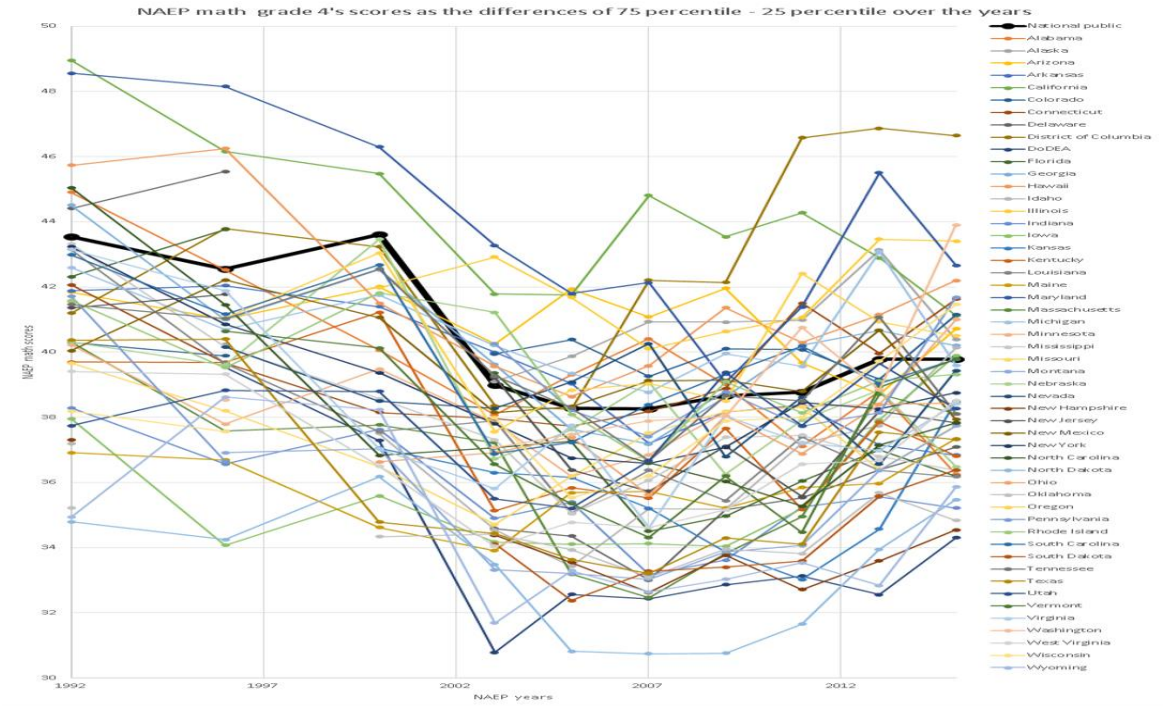
NAEP Grade 8 math



Math-richer northern USA states

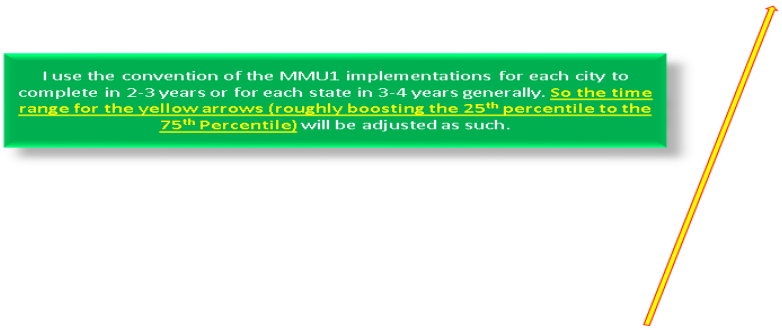


Timeline of the math grade 4's differences between the 75th percentile – 25th percentile (which is the expected math poverty reduction or math worst half to the math best half equivalently)



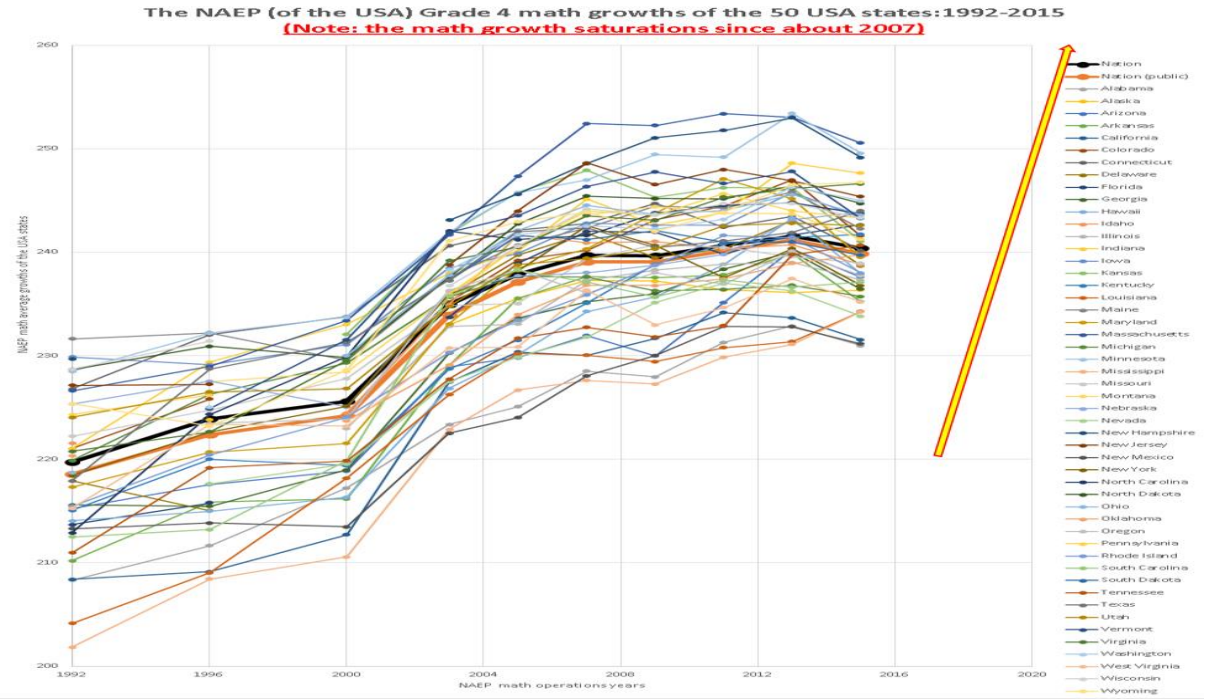
The source data of the 25th and 75th percentile timelines for the NAEP math grade 4 is given in Appendix.

The math grade 4 & 8 timelines of NAEP math (Nation's Report Card) of the USA till 2015 vs. the expected math growth magnitude if the MMU1 is fully implemented for each state for 3-4 years of reform timelines (indicated by the yellow arrows)

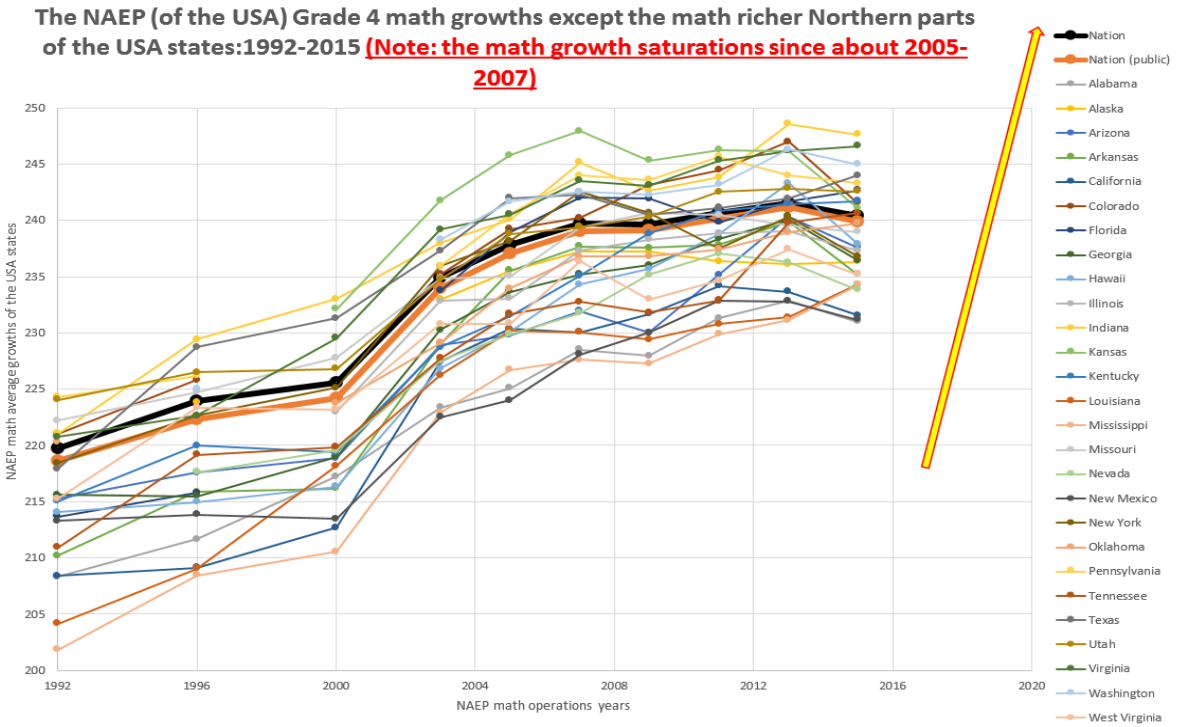


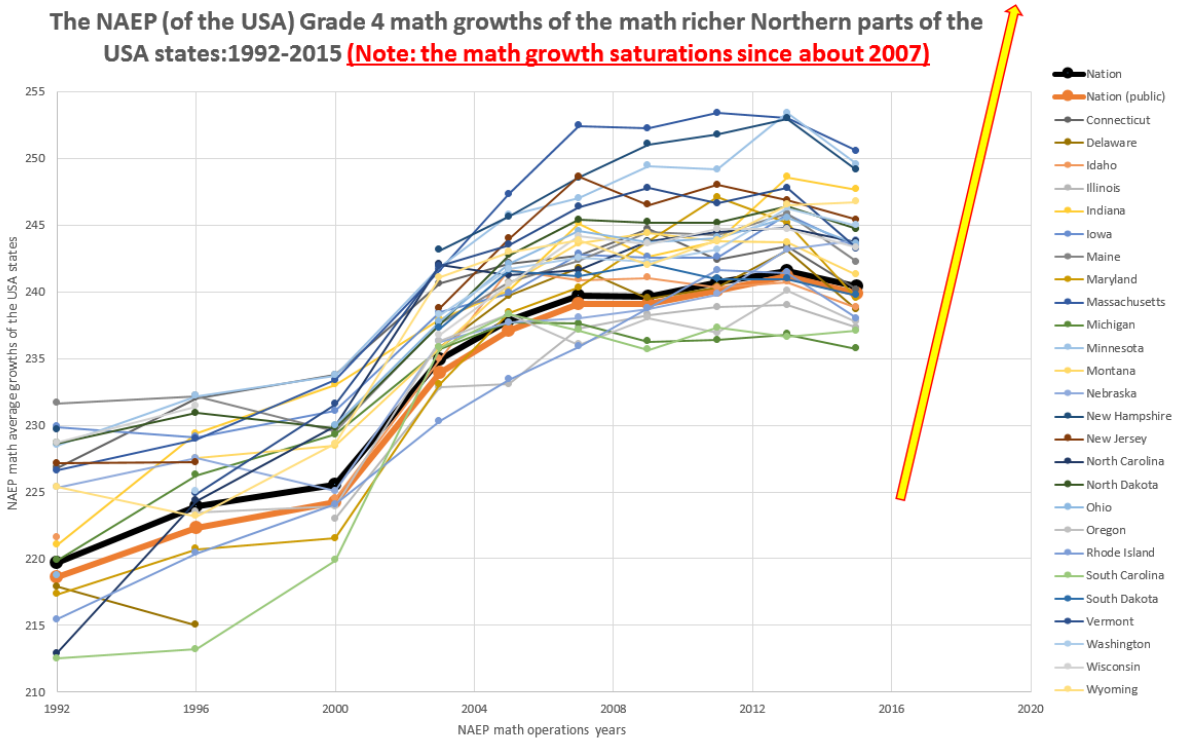
The readers need to observe that the size of the yellow arrows (MMU1 size) are roughly 50-90% larger than the difference between the math best states vs. the math worst states of the grades 4 and 8 by 2011-2015: for the math grade 4, almost twice as large, for the math grade 8, about 50% larger than the gamut between the math best vs. the worst state math averages of the entire 50 USA states.

Grade 4 math

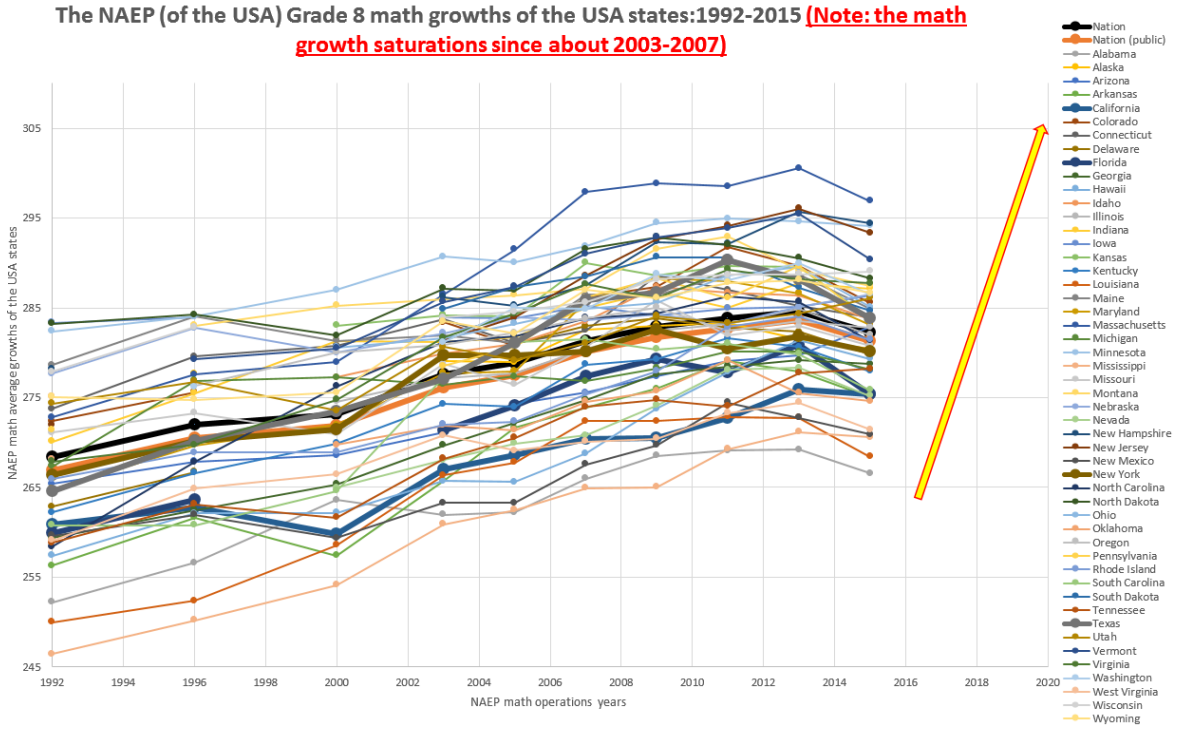


In the following, you may notice that the math richer states had saturated a bit earlier than the math poorer states (usually outside the northern states).

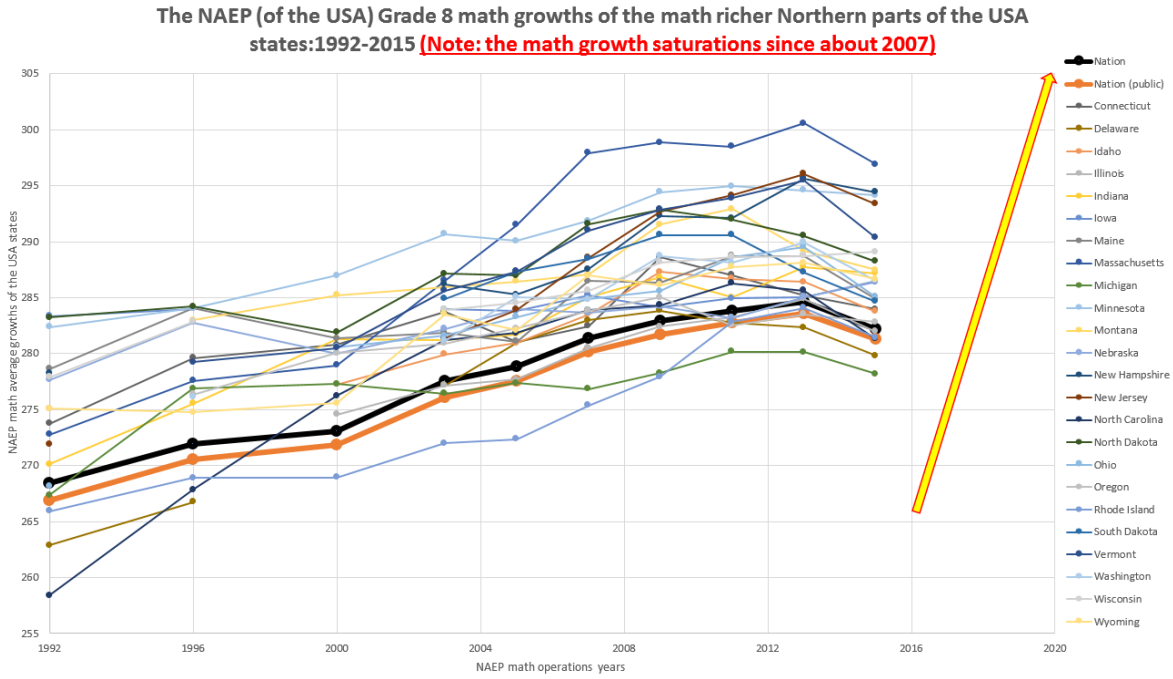



The NAEP (of the USA) Grade 4 math growths of the math richer Northern parts of the USA states:1992-2015 (Note: the math growth saturations since about 2007)
NAEP math average growths of the USA states
NAEP math operations years
Nation
Nation (public)
Connecticut
Delaware
Idaho
Illinois
Indiana
Iowa
Maine
Maryland
Massachusetts
Michigan
Minnesota
Montana
Nebraska
New Hampshire
New Jersey
North Carolina
North Dakota
Ohio
Oregon
Rhode Island
South Carolina
South Dakota
Vermont
Washington
Wisconsin
Wyoming

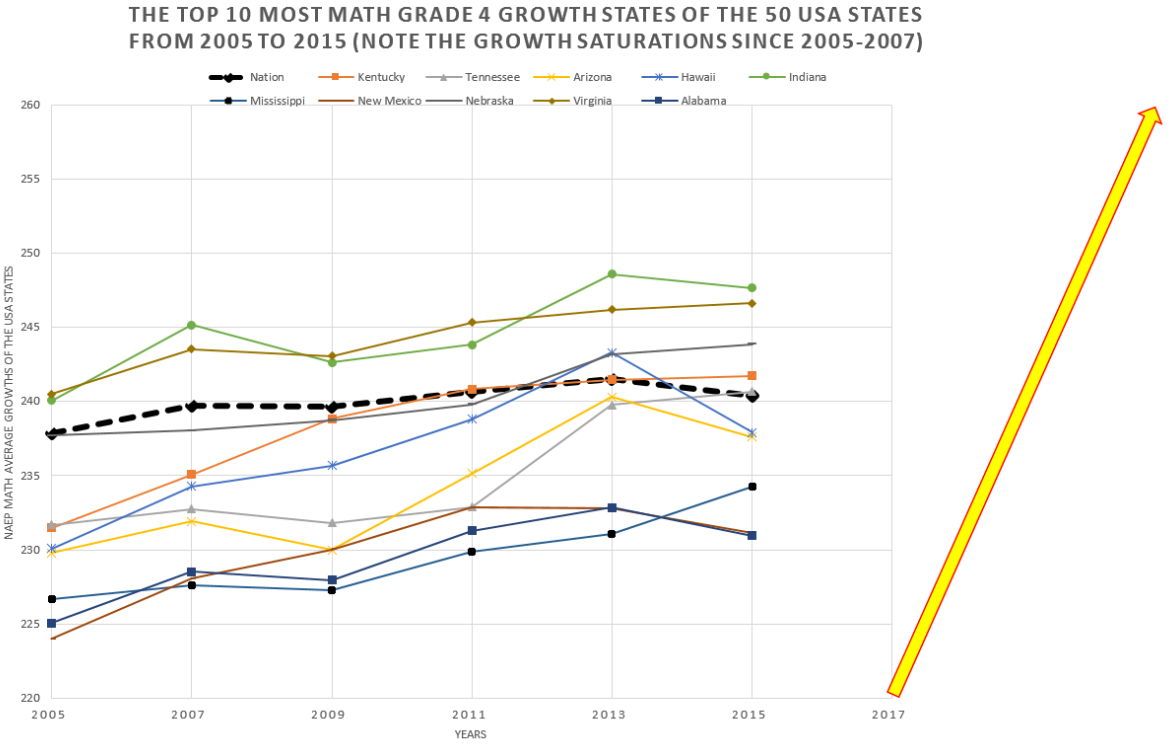
Grade 8 math

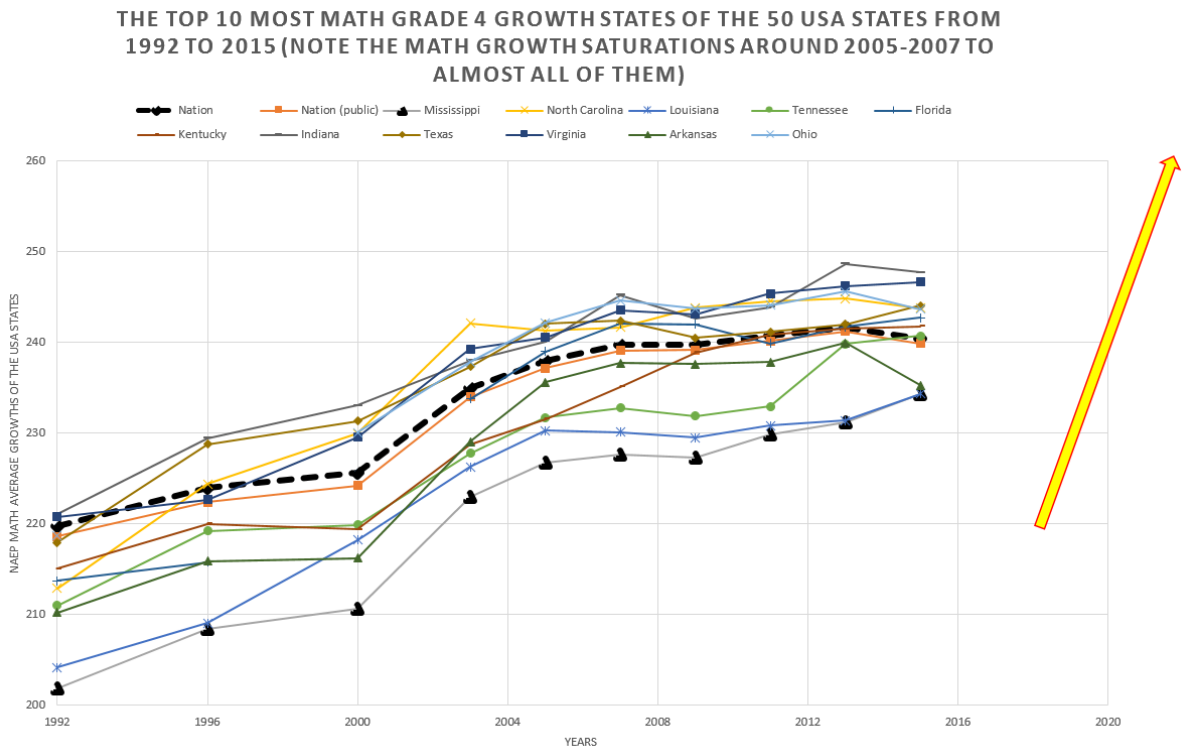

The NAEP (of the USA) Grade 8 math growths of the USA states:1992-2015 (Note: the math growth saturations since about 2003-2007)
NAEP math average growths of the USA states
NAEP math operations years
Nation
Nation (public)
Alabama
Alaska
Arizona
Arkansas
California
Colorado
Connecticut
Delaware
Florida
Georgia
Hawaii
Idaho
Illinois
Indiana
Iowa
Kansas
Kentucky
Louisiana
Maine
Maryland
Massachusetts
Michigan
Minnesota
Mississippi
Missouri
Montana
Nebraska
Nevada
New Hampshire
New Jersey
New Mexico
New York
North Carolina
North Dakota
Ohio
Oklahoma
Oregon
Pennsylvania
Rhode Island
South Carolina
South Dakota
Tennessee
Texas
Utah
Vermont
Virginia
Washington
West Virginia
Wisconsin
Wyoming

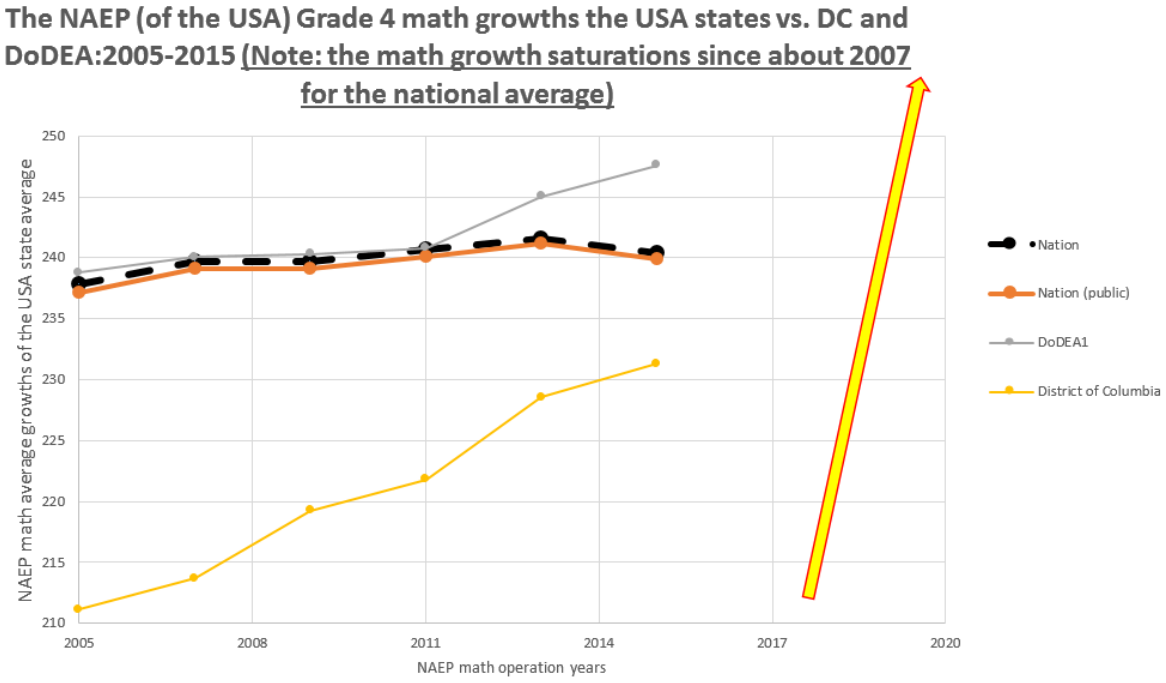
Grade 8 math for the math richer Northern parts of the USA



MMU1 expected projections vs. the top 10 most math growth USA states of the 50 USA states







Conclusion

The conclusion we draw here is that same. In almost all 50 USA states, the math stagnations have been around for the past 5-10-15-20 years or so depending on your focuses, be it PISA, TIMSS, or

NAEP and its variations. Regardless, the USA is officially a math stagnation nation in almost all scale. As such, the math growths have almost saturated and no longer of rapid growths are expected. With regard to the Common Core math impacts on the math growths in the USA, we will deal with this issue in the part 4 of this WP series for the USA.

APPENDIX

Grade 4 math timeline source data

2015 Mathematics Grades 4 and 8 Assessment Report Cards: Summary Data Tables for National and State Average Scores and Achievement Level Results

Average scores in NAEP mathematics for fourth-grade public and nonpublic school students, by state/jurisdiction: Various years, 1992–2015

State/jurisdiction	Accommodations not permitted			Accommodations permitted							
	1992	1996	2000	2000	2003	2005	2007	2009	2011	2013	2015
Nation	**220** *	**224** *	**228** *	**226** *	**235** *	**238** *	**240** *	**240** *	**241**	**242** *	**240**
Nation	219 *	222 *	226 *	224 *	234 *	237 *	239 *	239 *	240	241 *	240
Alabama	208 *	212 *	218 *	217 *	223 *	225 *	229	228 *	231	233	231
Alaska	—	224 *	—	—	233 *	236	237	237	236	236	236
Arizona	215 *	218 *	219 *	219 *	229 *	230 *	232 *	230 *	235	240	238
Arkansas	210 *	216 *	217 *	216 *	229 *	236	238	238	238 *	240 *	236
California	208 *	209 *	214 *	213 *	227 *	230	230	232	234	234	232
Colorado	221 *	226 *	—	—	235 *	239	240	243	244 *	247 *	242
Connecticut	227 *	232 *	234 *	234 *	241	242	243	245 *	242	243 *	240
Delaware	218 *	215 *	—	—	236 *	240	242 *	239	240 *	243 *	239
Florida	214 *	216 *	—	—	234 *	239 *	242	242	240 *	242	243
Georgia	216 *	215 *	220 *	219 *	230 *	234	238	236	238	240 *	236
Hawaii	214 *	215 *	216 *	216 *	227 *	230 *	234 *	236	239	243 *	238
Idaho	222 *	—	227 *	224 *	235 *	242 *	241	241	240	241	239
Illinois	—	—	226 *	223 *	233 *	233 *	237	238	239	239	237
Indiana	221 *	229 *	234 *	233 *	238 *	240 *	245	243 *	244 *	249	248
Iowa	230 *	229 *	233 *	231 *	238 *	240 *	243	243	243	246	243
Kansas	—	—	232 *	232 *	242	246 *	248 *	245 *	246 *	246 *	241
Kentucky	215 *	220 *	221 *	219 *	229 *	231 *	235 *	239	241	241	242
Louisiana	204 *	209 *	218 *	218 *	226 *	230 *	230 *	229 *	231 *	231	234
Maine	232 *	232 *	231 *	230 *	238 *	241	242	244	244	246 *	242
Maryland	217 *	221 *	222 *	222 *	233 *	238	240	244 *	247 *	245 *	239
Massachu	227 *	229 *	235 *	233 *	242 *	247 *	252	252	253	253	251
Michigan	220 *	226 *	231 *	229 *	236	238	238	236	236	237	236
Minnesota	228 *	232 *	236 *	234 *	242 *	246 *	247	249	249	253 *	250
Mississipp	202 *	208 *	211 *	211 *	223 *	227 *	228 *	227 *	230 *	231 *	234
Missouri	222 *	225 *	229 *	228 *	235 *	235 *	239	241	240	240	239
Montana	—	228 *	230 *	228 *	236 *	241	244 *	244 *	244 *	244 *	241
Nebraska	225 *	228 *	226 *	225 *	236 *	238 *	238 *	239 *	240 *	243	244
Nevada	—	218 *	220 *	220 *	228 *	230 *	232	235	237 *	236	234
New Hamp	230 *	—	—	—	243 *	246 *	249	251	252 *	253 *	249
New Jerse	227 *	227 *	—	—	239 *	244	249	247	248	247	245
New Mexi	213 *	214 *	214 *	213 *	223 *	224 *	228 *	230	233	233	231
New York	218 *	223 *	227 *	225 *	236	238	243 *	241 *	238	240 *	237
North Caro	213 *	224 *	232 *	230 *	242	241	242	244	245	245	244
North Dak	229 *	231 *	231 *	230 *	238 *	243 *	245	245	245	246 *	245
Ohio	219 *	—	231 *	230 *	238 *	242	245	244	244	246	244
Oklahoma	220 *	—	226 *	224 *	229 *	234 *	237 *	237 *	237	239	240
Oregon	—	223 *	227 *	224 *	236	238	236	238	237	240	238
Pennsylva	224 *	226 *	—	—	236 *	241	244	244	246	244	243
Rhode Isla	215 *	220 *	226 *	224 *	230 *	233 *	236	239	242 *	241 *	238
South Car	212 *	213 *	220 *	220 *	236	238	237	236	237	237	237
South Dak	—	—	—	—	237 *	242 *	241	242 *	241	241	240
Tennessee	211 *	219 *	220 *	220 *	228 *	232 *	233 *	232 *	233 *	240	241
Texas	218 *	229 *	233 *	231 *	237 *	242	242	240 *	241	242	244
Utah	224 *	227 *	227 *	227 *	235 *	239 *	239 *	240	243	243	243
Vermont	—	225 *	232 *	232 *	242	244	246 *	245 *	247 *	248 *	243
Virginia	221 *	223 *	230 *	230 *	239 *	240 *	244	243 *	245	246	247
Washingto	—	225 *	—	—	238 *	242 *	243	242	243	246	245
West Virgi	215 *	223 *	225 *	223 *	231 *	231 *	236	233	236	237	235
Wisconsin	229 *	231 *	—	—	237 *	241	244	244	245	245	243
Wyoming	225 *	223 *	229 *	229 *	241 *	243 *	244 *	242 *	244 *	247	247

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), various years, 1992–2015 Mathematics Assessments.

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Grade 8 math timeline source data

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Average scores in NAEP mathematics for eighth-grade public and nonpublic school students, by state/jurisdiction: Various years, 1992–2015

Average scores in NAEP mathematics for eighth-grade public and nonpublic school students, by state/jurisdiction: Various years, 1990–2015

	Accommodations not permitted				Accommodations permitted						
State/jurisdiction	1990	1992	1996	2000	2000	2003	2005	2007	2009	2011	2013	2015
Nation	**263 ***	**268 ***	**272 ***	**275 ***	**273 ***	**278 ***	**279 ***	**281 ***	**283**	**284 ***	**285 ***	**282**
Nation	262 *	267 *	271 *	274 *	272 *	276 *	278 *	280 *	282	283 *	284 *	281
Alabama	253 *	262 *	257 *	262 *	264	262 *	263 *	266	269	269	269	267
Alaska	—	—	278	—	—	279	279	283	283	283 *	282	280
Arizona	260 *	265 *	268 *	271 *	269 *	271 *	274 *	276 *	277 *	279 *	280	283
Arkansas	256 *	256 *	262 *	261 *	257 *	266 *	272	274	276	279 *	278	275
California	256 *	261 *	263 *	262 *	260 *	267 *	269 *	270 *	270 *	273	276	275
Colorado	267 *	272 *	276 *	—	—	283	281 *	286	287	287 *	290 *	286
Connecticut	270 *	274 *	280 *	282	281	284	281	282	289 *	287	285	284
Delaware	261 *	263 *	267 *	—	—	277 *	281	283 *	284 *	283 *	282 *	280
Florida	255 *	260 *	264 *	—	—	271	274	277	279 *	278	281 *	278
Georgia	259 *	259 *	262 *	266 *	265 *	270 *	272 *	275 *	276	278	279	279
Hawaii	251 *	257 *	262 *	263 *	262 *	266 *	266 *	269 *	274 *	276	281	279
Idaho	271 *	275 *	—	276 *	277 *	280 *	281 *	284	287 *	287 *	286 *	284
Illinois	261 *	—	—	277 *	275 *	277 *	278 *	280	282	283	285	282
Indiana	267 *	270 *	276 *	283 *	281 *	281 *	282 *	285	287	286	288	287
Iowa	276 *	283	284	—	—	284	284	285	284	286	285	286
Kansas	—	—	—	284	283	284	284	290 *	289 *	290 *	290 *	284
Kentucky	257 *	262 *	267 *	272 *	270 *	274 *	274 *	279	279 *	282 *	281 *	278
Louisiana	246 *	250 *	252 *	259 *	259 *	266	268	272 *	272	273 *	273 *	268
Maine	—	279 *	284	284	281 *	282 *	281 *	286	286	289 *	289 *	285
Maryland	261 *	265 *	270 *	276 *	272 *	278 *	278 *	286	286	286 *	287 *	283
Massachusetts	—	273 *	278 *	283 *	279 *	287 *	292 *	296	299	299	301 *	297
Michigan	264 *	267 *	277	278	277	276	277	277	278	280	280	278
Minnesota	276 *	282 *	284 *	286 *	287 *	291 *	290 *	292	294	295	296	294
Mississippi	—	246 *	250 *	254 *	254 *	261 *	262 *	265 *	265 *	269	271	271
Missouri	—	271 *	273 *	274 *	271 *	279	276 *	281	286 *	282	283	281
Montana	280 *	—	283 *	287	285	286	286	287	292 *	293 *	289	287
Nebraska	276 *	278 *	283 *	281 *	280 *	282 *	284	284 *	284	283 *	285	286
Nevada	—	—	—	268 *	265 *	268 *	270 *	271 *	274	276 *	276 *	275
New Hampshire	273 *	278 *	—	—	—	286 *	285 *	288 *	292	292 *	296	294
New Jersey	270 *	272 *	—	—	—	281 *	284 *	288 *	293	294	296	293
New Mexico	256 *	260 *	262 *	260 *	259 *	263 *	263 *	268 *	270	274 *	273	271
New York	261 *	266 *	270 *	276	271 *	280	280	280	283	280	282	280
North Carolina	250 *	258 *	268 *	280	276 *	281	282	284	284	286 *	286 *	281
North Dakota	281 *	283 *	284 *	283 *	282 *	287	287	292 *	293 *	292 *	291 *	288
Ohio	264 *	268 *	—	283	281	282	283	286	286	289	290 *	285
Oklahoma	263 *	268 *	—	272	270 *	272	271	275	276	279 *	276	275
Oregon	271 *	—	276 *	281	280	281	282	284	285	283	284	283
Pennsylvania	266 *	271 *	—	—	—	279 *	281	286	286 *	286	290 *	284
Rhode Island	260 *	266 *	269 *	273 *	269 *	272 *	272 *	275 *	276 *	283	284 *	281
South Carolina	—	261 *	261 *	266 *	265 *	277	281 *	282 *	280 *	281 *	280 *	276
South Dakota	—	—	—	—	—	285	287 *	288 *	291 *	291	287 *	285
Tennessee	—	259 *	263 *	263 *	262 *	268 *	271 *	274	275	274	278	278
Texas	258 *	265 *	270 *	275 *	273 *	277 *	281	286	287	290 *	288 *	284
Utah	—	274 *	277 *	275 *	274 *	281 *	279 *	281 *	284	283 *	284	286
Vermont	—	—	279 *	283 *	281 *	286 *	287 *	291	289 *	294 *	295 *	290
Virginia	264 *	268 *	270 *	277 *	275 *	282 *	284	288	286	289	288	288
Washington	—	—	276 *	—	—	281 *	285	285	289	288	290 *	287
West Virginia	256 *	259 *	265 *	271	266 *	271	269	270	270	273	274 *	271
Wisconsin	274 *	278 *	283 *	—	—	284 *	285 *	286 *	286	289	289	289
Wyoming	272 *	275 *	275 *	277 *	276 *	284 *	283 *	287	286	288	288	287

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), various years, 1990–2015 Mathematics Assessments.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), various years, 1990–2015 Mathematics Assessments.

Order	Jurisdiction	All students 2015 Scale Score	75th percentile 2015 Scale Score	25th percentile 2015 Scale Score	75th percentile - 25th percentile difference 2015 Scale Score
52	District of Columbia	231.3075251	254.9434998	208.2989998	46.64449997
51	Washington	244.9814222	267.6264999	223.7250008	43.90149918
50	Illinois	237.3078138	259.7060028	216.2970009	43.40900192
49	Maryland	239.4997509	261.3859985	218.7265022	42.65949631
48	Hawaii	237.8958068	260.3240021	218.130999	42.19300308
47	Pennsylvania	243.3122399	264.9125	223.2274994	41.68500061
46	Connecticut	240.1594689	261.6125	219.9894997	41.62300034
45	Wisconsin	243.3102113	264.6925003	223.2294998	41.46300049
44	Colorado	241.5635756	263.0579987	221.9170021	41.14099655
43	California	231.549345	252.5980003	211.4800011	41.11799927
42	Minnesota	249.575847	271.3165024	230.3229996	40.99350281
41	Arizona	237.6117554	258.6669998	217.9500008	40.71699905
40	Oregon	237.7467089	258.7570038	218.2599998	40.49700394
39	Alaska	236.328417	257.2465027	216.8599998	40.38650284
38	Georgia	236.4525193	256.824498	216.6275002	40.19699783
37	Idaho	238.7996247	259.5275009	219.393499	40.13400192
36	Iowa	243.3399119	264.2695023	224.3749992	39.89450302
35	Vermont	243.2503992	263.6300003	223.8459999	39.7840004
34	South Carolina	237.0895715	258.0185013	218.2399994	39.77850189
?	National public	239.8544644	260.3925003	220.6144997	39.77800064

In 2015 NAEP math for the grade 4, the "75th percentile – 25th percentile" ~ 40 Math points in NAEP (ranging from 47 to 34 math points). So I will use this as the benchmark gap for the MMU1 as its target is to boost the 25th percentile to the 75th percentile.

→ So for NAEP math for the grade 4, MMU1's expected math boost ~ roughly equivalent to boost 40 points in the NAEP math for the Grade 4.

→ To illustrate the expected math growths induced by MMU1, we will use the Yellow Arrows (to show the size and drastic efficiency gains as slopes).

Source: This report was generated using the NAEP State Comparisons Tool.
http://nces.ed.gov/nationsreportcard/statecomparisons/

Order	Jurisdiction	All students 2015 Scale Score	75th percentile 2015 Scale Score	25th percentile 2015 Scale Score	75th percentile - 25th percentile difference 2015 Scale Score
?	National public	239.8544644	260.3925003	220.6144997	39.77800064
33	Michigan	235.7288937	256.2369972	216.6409996	39.59599762
32	Nevada	233.8270162	254.3604996	214.9294998	39.43099976
31	Rhode Island	238.0017297	258.7539978	219.4415009	39.31249695
30	New York	236.796927	256.6980019	217.9450005	38.7530014
29	West Virginia	235.2046615	255.1829994	216.661499	38.5215004
28	Kansas	241.0672085	261.1630005	222.6799995	38.48300095
27	Ohio	243.5985912	263.6734985	225.2344994	38.43899918
26	Virginia	246.6126217	266.1175003	227.7055	38.41200027
25	Utah	242.5627871	262.7464981	224.4805008	38.26599731
24	Massachusetts	250.5657778	269.9	231.7919998	38.10800018
23	Tennessee	240.6673957	260.5069992	222.4024994	38.10449982
22	New Mexico	231.167236	250.5740005	212.643	37.93100052
21	North Carolina	243.7422668	263.4804977	225.6515007	37.82899704
20	New Jersey	245.3832201	264.9664978	227.1385002	37.82799759
19	Missouri	238.9649225	259.062001	221.3160004	37.74600067
18	Montana	241.2870483	260.9400009	223.2104988	37.72950211
17	Maine	242.2446541	261.4990021	224.1574989	37.34150314
16	Texas	244.002472	263.3934998	226.0774994	37.31600037
15	Delaware	238.6780188	258.0760025	220.9855003	37.09050217
14	Arkansas	235.2154697	254.3409996	217.5015015	36.83949814
13	Kentucky	241.7277619	260.3789978	223.568499	36.81049881
12	Nebraska	243.8636669	263.1105011	226.6319992	36.47850189
11	South Dakota	239.7230949	259.2499985	222.8700005	36.37999802
10	Mississippi	234.2430531	252.6765007	216.3119995	36.36450119
9	Alabama	230.9774227	249.8789993	213.6265015	36.25249786
8	Florida	242.6643209	261.2145035	225.0240005	36.19050293
7	Louisiana	234.2819018	252.6145012	216.4344986	36.18000259
6	Wyoming	246.7597645	265.4034973	229.5424988	35.86099854
5	North Dakota	244.7138306	263.1800034	227.7084999	35.47150345
4	Indiana	247.6521836	265.9095016	230.6915009	35.21800079
3	Oklahoma	239.7604814	257.6924988	222.8544998	34.83799896
2	New Hampshire	249.1506214	267.0145004	232.4739998	34.54050064
1	DoDEA	247.5751354	265.1995026	230.8970001	34.30250244

NOTE: National public is included for reference only and is not included in sorting the jurisdictions. Score differences are calculated based on differences between unrounded average scale scores.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2015 Mathematics Assessment.

Source: This report was generated using the NAEP State Comparisons Tool.

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

The original data from these 25th and 75th percentiles of the NAEP math grade 4

Category	25 percentile	25 percentile	25 percentile	25 percentile	25 percentile	25 percentile	25 percentile	25 percentile	25 percentile	25 percentile	25 percentile
Year	1992	1992	1996	2000	2003	2005	2007	2009	2011	2013	2015
National public	197.4239979	197.4239979	201.4899994	202.9300018	215.073999	218.6099976	220.823999	220.3540008	221.3099976	221.9879008	220.8144897
Alabama	186.1880005	186.1880005	190.1180084	197.373999	208.1540009	206.0759978	209.270012	209.3519989	213.5919983	214.0359993	213.6280518
Alaska			204.7500031		213.8200012	216.1399994	218.2859985	218.2519989	217.1279999	215.6750008	216.8599998
Arizona	194.6220001	194.6220001	197.9160004	198.4079987	209.1920044	209.4439972	212.6100006	209.726004	216.4639984	221.9773017	217.9500008
Arkansas	189.5419983	189.5419983	193.2859967	196.3019989	210.0039978	216.8940002	220.3800018	219.2880005	219.6779999	222.2219012	217.5018315
California	184.3940002	184.3940002	186.4839966	190.4660034	206.9640015	209.873999	208.4700012	210.6580017	212.7120026	212.7029999	211.4800011
Colorado	201.4480011	201.4480011	206.6220001		216.0880005	219.8820007	221.6800018	224.0679993	223.1019958	228.3270012	221.9170021
Connecticut	206.4139984	206.4139984	213.7420013	215.4919989	222.3440002	224.2240021	224.9720001	226.1099976	222.6700012	224.3674995	219.9894897
Delaware	195.6820007	195.6820007	193.3759979		218.0839996	222.6940033	225.823999	222.1820038	223.3720001	225.4185005	220.9835023
District of Columbia	170.7040039	170.7040039	163.9100037	169.9019989	188.2960022	191.4660004	192.2280035	197.742013	198.3839989	205.4014999	208.2899998
DoDEA			204.2519958	208.5720032	222.1539978	223.0200012	224.9879974	224.3720001	224.852002	228.4215004	230.8970001
Florida	193.0700012	193.0700012	194.8899994		214.6119995	220.8059998	223.3679993	224.8100006	222.2679993	223.8544891	225.0240003
Georgia	193.7440002	193.7440002	195.3820007	198.402002	210.9100006	214.8920013	217.176001	217.2300018	218.8940002	220.1120018	216.6275002
Hawaii	191.7960022	191.7960022	192.5419983	196.6399963	207.8680023	211.7779999	216.0980011	217.0440033	220.4039978	224.0249985	218.130999
Idaho	203.5280029	203.5280029		207.1140045	218.487998	225.7419983	224.226001	224.2399994	222.4740021	222.512999	219.393499
Illinois				202.447995	211.9080017	212.9019989	217.897998	218.802002	219.0919983	217.9319002	216.2970009
Indiana	201.7560028	201.7560028	211.4800018	215.3540009	221.1220001	222.9099976	228.4899994	226.3399994	226.95	231.9939999	230.6953009
Iowa	211.7379987	211.7379987	212.9840027	214.2099976	221.9800018	223.3380005	226.6620026	225.9380005	223.8700012	227.4689996	224.3749992
Kansas				214.847998	224.6939972	228.2279999	231.3519958	229.3060028	230.4099976	229.5524896	222.6799995
Kentucky	195.2160034	195.2160034	200.6399994	199.3920013	211.6319989	213.8700012	218.0200012	220.276001	223.7120026	223.3214989	223.568499
Louisiana	183.2620026	183.2620026	189.5639984	200.1700012	207.5779999	213.0679993	212.0819977	211.7860016	212.3459991	213.643499	216.4364986
Maine	213.9019989	213.9019989	214.3360016	212.73	221.2779999	223.7640015	225.1580017	227.4560028	227.2840027	228.6959016	224.1574989
Maryland	193.4040009	193.4040009	197.4380035	199.2579987	211.5779999	218.0240021	219.7819977	224.6199982	226.5200012	222.862001	218.7265022
Massachusetts	207.2000031	207.2000031	210.7920013	215.7660034	223.5240021	231.1600037	236.9900024	236.2859985	236.7339985	234.698999	231.7919998
Michigan	199.9319977	199.9319977	206.6700012	209.3100006	216.1439972	219.1420013	219.2920013	217.3960022	217.1859985	215.9434998	216.6409996
Minnesota	209.4800018	209.4800018	214.602002	215.4259979	223.776001	228.6160004	228.6640015	231.4480011	231.2679993	235.3959009	230.3229996
Mississippi	180.4920013	180.4920013	188.2299988	191.6659912	204.5540009	209.226001	209.8179993	209.0799988	211.6440022	213.1470001	216.3119965
Missouri	203.073999	203.073999	206.176001	210.7779999	217.8039998	217.2099976	221.2720001	222.4939991	222.5339966	222.3874992	221.3160004
Montana			209.8579987	211.0300018	219.9860016	224.6639984	227.7619995	228.15	228.0420013	226.4343001	223.2104988
Nebraska	205.7200012	205.7200012	208.8679993	204.1799988	218.8600006	219.7039978	219.8440002	221.7300018	221.7119965	224.7563002	226.6319992
Nevada			198.4420013	201.2720032	209.1639973	210.9180023	212.623996	217.473999	218.2880005	219.0154991	214.9294998
New Hampshire	211.6540009	211.6540009			226.6680023	229.43	233.2720001	234.8640015	236.1980011	237.2075005	232.4739998
New Jersey	207.3719971	207.3719971	207.176001		220.2960022	226.6940009	231.3880005	228.6199982	231.3139984	228.6899994	227.1385002
New Mexico	193.2540039	193.2540039	193.326001	193.2320007	203.8839996	205.1720032	209.4100006	210.9959991	213.9339996	212.9960007	212.643
New York	197.6820007	197.6820007	203.1880005	205.9519989	217.5180023	220.4220032	223.1779999	222.9960022	218.9140004	222.048999	217.9430008
North Carolina	190.4540009	190.4540009	203.9489991	213.3140015	223.7700012	222.6460004	224.0840027	226.2599976	227.3899994	226.8433005	225.4818007
North Dakota	211.923999	211.923999	214.2019989	212.4860016	221.3879974	227.9619995	230.552002	230.223999	229.9640015	230.0800003	227.7084999
Ohio	198.2179993	198.2179993		212.0319977	220.1399963	224.326001	227.2880005	225.4320007	226.4440002	227.1709991	225.2344994
Oklahoma	202.8259979	202.8259979		207.4099976	212.6540009	217.3480011	220.923999	220.1499991	221.1579987	221.6369995	222.8544998
Oregon			203.6859985	203.8380005	218.0780029	219.4140015	217.7180023	219.3340027	216.1799988	220.2894997	218.2599998
Pennsylvania	204.3720001	204.3720001	208.3620026		216.7539978	222.573999	226.3439972	224.8619965	227.9719971	225.6019989	223.3274994
Rhode Island	195.2439972	195.2439972	201.5300018	204.4380035	210.4980011	215.2600006	218.7919922	220.6199982	224.0320007	223.1385017	218.4415009
South Carolina	191.1799988	191.1799988	192.6920044	198.8940002	217.7600006	220.0279999	219.0380005	216.8279999	217.8140004	217.8874988	218.2399994
South Dakota					220.9939995	224.3180023	228.826001	226.9639984	225.1799988	224.1570007	222.8700012
Tennessee	190.3040009	190.3040009	199.2920013	199.3820038	208.6460022	212.9320007	215.0280029	213.1299982	214.3060028	219.8269989	222.4024994
Texas	198.3279968	198.3279968	208.7780029	214.4699982	220.4840027	223.3940002	226.2160004	223.8620026	224.4279968	223.8584991	226.0774994
Utah	205.6319977	205.6319977	208.1359985	208.2119965	217.8679993	221.802002	222.2659973	221.4600006	224.6439972	223.8750013	224.4850008
Vermont			203.9619965	212.3540009	224.1419983	226.6660004	230.3579987	230.6279999	230.4799988	229.3464996	223.8439999
Virginia	199.3619995	199.3619995	202.0489991	211.2	221.3239979	222.1600006	226.4339996	224.45	226.976001	228.0789986	227.7059
Washington			206.7599998		220.4200012	223.5519989	224.8100006	224.0579987	223.8820007	227.4359993	223.7250008
West Virginia	195.7940002	195.7940002	204.0980011	205.5339996	214.1860016	214.2839996	219.9439991	216.1620026	216.8940002	219.8110001	216.661499
Wisconsin	210.3940002	210.3940002	213.1880035		218.6639984	223.7240021	227.4480011	225.6200012	226.8679993	225.913501	223.2284988
Wyoming		208.573999	204.5439972	210.5779999	223.776001	227.2019989	228.2279968	226.3299976	227.6839985	230.6049988	229.5434988

Category	75 perc - 25 p	75 perc - 25 p	75 perc - 25 p	75 perc - 25 p	75 perc - 25 p	75 perc - 25 p	75 perc - 25 p	75 perc - 25 p	75 perc - 25 p	75 perc - 25 p	75 perc - 25 p
Year	1992	1996	2000	2003	2005	2007	2009	2011	2013	2015
National public	43.54000549	42.54798889	43.80860171	38.98200073	38.28200073	38.25799561	38.65000305	38.77800293	39.76199844	39.77800064
Alabama	44.90799561	42.82199707	40.06399841	38.67200012	39.31000061	40.4039978	39.01000061	37.10801171	38.80299988	36.23249786
Alaska		40.24199924		39.08599609	39.87000427	40.92799683	40.91800842	40.97799988	43.12999649	40.38650284
Arizona	41.84199829	41.00799866	42.00799866	40.2499939	41.92800293	41.07600098	41.95599976	39.67400208	38.70249557	40.71699905
Arkansas	41.87800293	42.03600139	41.3960022	39.99000244	39.03000183	37.197998	38.15400391	38.37399597	37.13149841	36.8394814
California	48.95799866	46.152005	45.47399597	41.78200073	41.75200195	44.8019989	43.53599854	44.27199402	42.89599991	41.11799927
Colorado	40.3019989	39.88199768		39.94599609	40.38000488	39.2339906	40.1	40.07800903	39.16899643	41.14099655
Connecticut	42.06800232	39.66799927	38.1460022	37.96400146	37.73199768	38.17601013	38.88800659	41.5	39.93949936	41.62300034
Delaware	44.40400085	45.53999939		34.58200073	34.3359967	33.00401001	35.15999451	35.52599792	36.3929983	37.09050217
District of Columbia	41.11999324	43.73999634	43.22800293	38.33400085	38.23399834	42.20799561	42.13999329	46.57399902	46.87100143	46.64449997
DoDEA		39.84000549	37.28399658	30.78200073	32.56199646	32.42999573	32.86200256	33.13200073	32.55299911	34.30250244
Florida	42.31000061	43.75999758		39.35400085	37.25	34.50599976	34.96599426	36.04000244	37.00599899	36.19050293
Georgia	44.51000061	40.99799805	42.32399597	39.62200012	37.62199707	37.18000183	38.63000183	40.21003666	40.6640007	40.19699783
Hawaii	45.73999658	46.2480011	41.90400391	39.56199646	38.63200378	39.57600403	41.36000061	40.29599609	41.1480011	42.19300308
Idaho	37.18999939		37.5039978	34.5480011	33.42399902	33.19400024	35.17399597	37.1940033	37.73850098	40.13400192
Illinois			41.97000427	42.91799622	41.67400813	40.10200195	40.63200073	41.06399536	43.46400146	43.40900192
Indiana	38.28999634	36.56199951	37.62799683	34.8980011	35.4	33.18199768	33.61800232	35.24200439	35.55100327	35.21800079
Iowa	37.93600281	34.07000122	39.38600464	34.17599182	34.10199585	34.12199402	34.03599243	35.19599609	37.91499615	39.89400302
Kansas			37.05000305	36.30000305	36.14999695	39.20800781	33.86999817	33.01800537	34.6699996	38.48300095
Kentucky	39.69199524	39.68399583	41.21799622	35.12999878	35.83800049	35.52399597	37.65999756	35.17399597	37.83750198	36.81049881
Louisiana	43.14999693	39.65800476	37.5339967	37.90003052	39.03799866	36.37600403	38.44199524	37.40400085	36.37399902	36.18000239
Maine	36.91399841	36.68999939	34.61600037	33.90599976	35.68800049	35.72399902	35.21399841	35.84199219	35.971986	37.34150314
Maryland	48.55999756	48.14799805	46.29600525	43.27399902	41.79999304	42.13000183	39.07200012	41.38200073	43.50250092	42.65949631
Massachusetts	40.31799622	37.87599792	37.76599426	37.21800232	33.18399658	32.46199341	33.81599731	34.94800415	38.70750122	38.10800018
Michigan	42.59600525	40.68999939	41.74599915	40.1980072	39.33600159	38.76599426	39.9499939	39.59600342	43.0835022	39.59599762
Minnesota	40.22399902	37.78999939	39.48400269	37.83800049	36.19199324	36.84400024	38.15799866	38.34200439	38.38649826	40.99330281
Mississippi	43.32600098	40.16600037	38.97000427	37.30799561	35.03799744	36.06999817	37.38800049	37.45199585	36.79700012	36.36450195
Missouri	39.66400146	38.17799805	36.48799744	34.70799561	36.19000244	37.51999817	38.17999573	38.31399231	36.38300095	37.74600067
Montana		36.91199951	37.03599854	33.31199731	33.19999695	33.02600098	33.86600342	34.04600037	36.34600037	37.72950211
Nebraska	40.32000122	39.6019989	43.45999756	36.72199707	37.62000122	39.07000122	36.2480011	37.90400085	38.84300385	36.47850189
Nevada		40.16000061	38.49399719	38.37000122	39.08399963	40.25800476	36.79000244	38.62199707	36.55950317	39.43099976
New Hampshire	37.3019989			34.37999573	33.54000244	32.62200623	33.76399536	32.71199646	33.39499899	34.54050064
New Jersey	41.36000671	41.77999683		39.21799927	36.38399963	35.73200073	37.11199646	35.56800232	38.18800278	37.82799759
New Mexico	40.04399719	42.21199646	41.06199951	38.14400024	38.33199463	39.12200012	39.13399963	38.78999939	40.67399902	37.93100032
New York	43.23399963	40.85399976	39.36200256	37.79999695	36.79	36.58799744	37.08200073	38.45400085	38.2585022	38.7530014
North Carolina	45.0440033	41.44800415	38.83400269	37.06399536	37.26199646	36.60199585	36.02800903	35.27199402	37.14150162	37.82899704
North Dakota	34.7940033	34.2460022	36.17199707	33.48600159	30.81600342	30.74200439	30.76000366	31.65200195	33.94350018	39.47130348
Ohio	41.54200134		36.63000183	36.92000122	37.39400024	35.60999756	36.04199829	36.88399658	38.3950017	38.43899918
Oklahoma	35.21200256		34.33850049	34.42399902	33.93200073	33.08400269	33.96000366	33.81800232	35.6769989	34.83799896
Oregon		41.0440033	43.04199829	37.53599976	38.83199463	39.03399963	38.80200195	42.40800171	40.93350143	40.49700394
Pennsylvania	41.71400452	36.64599609		40.23599976	38.20999756	37.41200867	38.78400574	37.72200317	38.1390007	41.68500061
Rhode Island	41.58600464	39.32000122	41.81199646	41.22200317	38.08399854	36.65400391	39.09200134	38.13800659	39.11549911	39.31249695
South Carolina	42.98000183	41.15999451	42.67400208	36.88200073	37.22799988	38.35601074	39.32200623	40.18400574	39.03149796	39.7750189
South Dakota				34.11000061	32.37400208	33.27399902	33.40000916	33.5899933	36.37999802	36.37999802
Tennessee	41.45599976	41.02799683	42.8539967	39.21999646	38.28799744	36.66999817	38.66199951	38.3039978	41.07099915	38.10449982
Texas	40.36600342	40.4019989	36.78399963	34.43999634	33.63400269	32.21400452	34.29999695	34.10600586	37.64100009	37.31600037
Utah	37.74200134	38.83001953	38.79400635	35.4980011	35.22999756	36.66600342	36.3720012	37.7440033	39.55699997	38.26599731
Vermont		40.63800049	40.13000183	36.53800171	35.34999915	34.31600037	36.19999915	34.46800037	38.93299957	39.7840004
Virginia	43.14599915	41.88000183	37.02799988	35.80799866	37.75000305	34.61999426	38.04000244	37.21599121	36.98050461	38.41200027
Washington		38.33799744		37.06800537	37.47399997	37.88800354	38.02799988	40.75999976	38.8463004	43.90149918
West Virginia	39.4019989	39.31999817	36.49799803	34.03999634	34.77600098	34.62199707	35.18799866	36.56200256	36.67700195	38.3215004
Wisconsin	38.18999634	37.56999817		37.98600159	35.53199768	36.19999695	37.89199829	38.00200195	39.71899872	41.46300049
Wyoming	34.93999834	38.61600342	38.22599792	31.68400269	33.2940033	32.63600464	33.02999878	33.53800049	32.83800201	33.86099854

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