

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

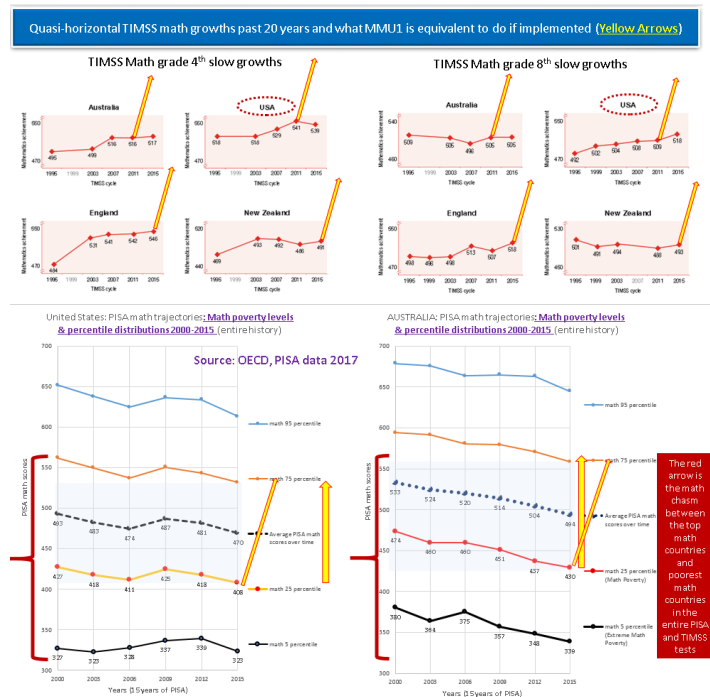
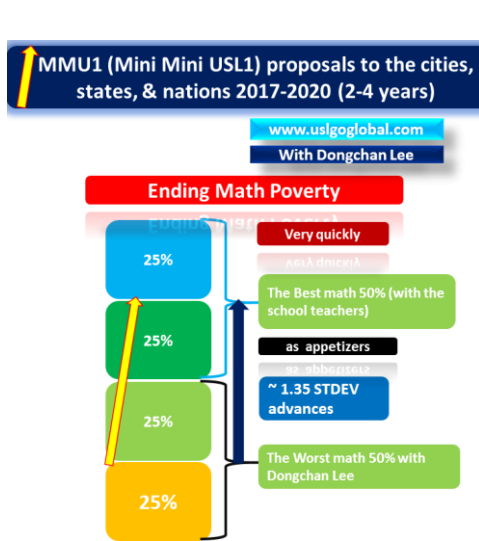
By Dongchan Lee

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.

**In the WP series on the math stagnation nation series, for the USA**, 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 4)

### **Math Education stagnations in the USA played more roles than the Common Core math standards impacts for the stagnations on the NAEP 2015, but the math dipping (especially the grade 8) were most likely were due to the Common Core math**

By Dongchan Lee (Date: February 5, 2017, Version 1)

#### **Abstract**

This paper is an extension of the previous paper by the author on the theme of the math stagnations in almost all developed (OECD) nations internationally, for all developed English-speaking and most of the Latin American countries. The author has covered this theme for the USA math stagnations in the international math assessments, national NAEP's national math growth stagnations, most of the states' math stagnations, and at least 90-95% of the large districts' (or cities') math stagnations over the past 5-10-15-20 years. In this paper, the author observes and demonstrates the following: 1) the longer the states had stayed with the Common Core math standards, the math grade 4 average and 25 percentile had declined more than the USA states that had never participated in the Common Core math or those that had opted out by the end of 2014 or so before the NAEP 2015 math dipping happened for both the grade 4 and 8; 2) The similar pattern was also observed for the grade 4, however, with much less effect; 3) Although the negative impacts of the Common Core math on the NAEP 2015 was not negligible for the grade, the dips for the grade 8 was more likely caused by the Common Core more so than for the grade 4<sup>th</sup> math. Regardless, the math stagnations are persistent with or without the Common Core math's overall negative effects for math for both grades will be as such. There were math dips in the grade 8 math for the states that had been out of the Common Core math, which means that the math stagnations in the USA may enter a worse phase in 2017 on even if the negative effect of the Common Core math is overcome.

Author: Dongchan Lee

Email: [dongchanlee11@uchicago.edu](mailto:dongchanlee11@uchicago.edu)

Website: [www.uslgoglobal.com](http://www.uslgoglobal.com)

**Key words:** Math stagnations, math crisis, USL, MMU1, math education innovation, Education reforms, math crisis in the United States, Common Core Math



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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

The 2015 years were a tricky or catastrophic year for the math stagnations or collapses to most of the developed countries, be it English-speaking countries or the top tier math countries from the Eastern Asian countries. For the USA, the PISA 2015 math declined further and the TIMSS 2015 math grade 4 declined. For the NAEP 2015 math, it dropped for both of the grades 4 and 8 for the first time since more than 20 years. There have been various wild controversies to find out what had causes this and many have speculated that the Common Core Math standards had caused this. Although the Common Core math started around 2011, many states started joining around 2012 or 2013 and more than 10 pulled out of it by 2013 and 2014. This paper focused on which may have caused the math average declines more: simply that natural math stagnations that seemed to have

happened all across most of the developed countries or in the case of the USA, was it the Common Core math?

## Part 1. The USA states that pulled out of the Common Core math before the NAEP math 2015

Section 1. The USA states that had opted out of the Common Core math standards by the end of 2014 so that they had less or minimal impacts on their performance of math in NAEP 2015.

No	13 States effectively out of the CCSS math by 2015 NAEP math	Adoption stance	Notes (from <a href="https://en.wikipedia.org/wiki/Common_Core_State_Standards_Initiative">https://en.wikipedia.org/wiki/Common_Core_State_Standards_Initiative</a> )	Author's notes for the CCSS math relevance for NAEP math 2015
1	Alaska	Non-member		
2	Florida	Non-Member	<a href="#">Dropped in favor of "Florida State Standards", which are based on Common Core standards.</a> [83]	
3	Nebraska	Non-member	[91]	
4	Texas	Non-member		
5	Virginia	Non-member	[97]	
6	Minnesota	Partially Adopted	English standards only, <b>math standards rejected.</b>	
7	Indiana	Repealed	Implementation paused by law for one year in May 2013 and under public review. <sup>[m]</sup> formally withdrew in March 2014, but retained many of the standards. <sup>[m]</sup>	basically out of CCSS math in 2013-2014
8	Oklahoma	Repealed	<a href="#">Legislation restoring state standards signed June 5, 2014</a> [94]	June, 2014
9	Alabama	Formally adopted	State school board voted to rescind the agreement that commits the state to adoption. However, state standards are still aligned with Common Core State Standards. [81]	November, 2013
10	Louisiana	Formally adopted	<a href="#">Governor signed executive order to withdraw state from PARCC assessment program. (June 2014)</a> [80]	June, 2014
11	Massachusetts	Formally adopted	Delayed Common Core testing for two years in November 2013. <sup>[m]</sup> Ballot question on future of standards in 2016 has been ruled against by Massachusetts Supreme Judicial	delayed CCSS for 2 years in November, 2013
12	New York	Formally adopted	<a href="#">Full implementation of assessment delayed until 2022</a> [92]	February, 2014
13	Pennsylvania	Formally adopted	<a href="#">Paused implementation in May 2013</a> [95]	May, 2013
	Mississippi	Formally adopted	<a href="#">Withdrew from PARCC testing on January 16, 2015</a> [90]	January, 2015
	South Carolina	Repealed	A bill to repeal the Standards beginning in the 2015-2016 school year was officially signed by Governor Nikki Haley in June 2014 after deliberation in the state legislature. <sup>[m]</sup>	repeals starting 2015-2016
	Arizona	Formally adopted	<a href="#">The Arizona State Board of Education voted to reject Common Core on October 26, 2015. The vote was 6-2 in favor of repeal.</a> [82]	October, 2015

Source: based on the Wikipedia article on CCSS (the author adjusted the states to simplify the appearances here.) [https://en.wikipedia.org/wiki/Common\\_Core\\_State\\_Standards\\_Initiative](https://en.wikipedia.org/wiki/Common_Core_State_Standards_Initiative), Lee found out about these 13 states that effectively hadn't really participated on CCSS for math at least by the end of 2014 as the NAEP math took place.

Thus, out of the 51 jurisdictions of the USA (50 states and DC), 13 were not really involved with CCSS math assessments till the end of 2014. So these 13 states' math stagnations or declines in NAEP 2015 math should have nothing to do with the Common Core impacting the math scores.

For PARCC

PARCC test participations by states. Source: taken from Wikipedia article.

No	States from the PARCC of the CCSS	Current Participation Status	dropped yr before NAEP 2015 math	References [ edit ]
1	Alabama	dropped February, 2013[12]	2013	1. **** "About PARCC" <a href="#">Partnership for Assessment of Readiness for College and Careers</a> . Retrieved March 1, 2015.
2	Kentucky	dropped January, 2013[13]	2014	2. **** "Partnership for Assessment of Readiness for College and Careers Web site (October 11, 2011).
3	Oklahoma	dropped July 2013[26]	2014	3. * Hain, Bonnie (2011) "PARCC Consortium - A Five Component Assessment Model." <i>Reading Today</i> , 28(1): 24. Academic Search Premier. Web. Available on-line at: <a href="#">Rox</a>
4	Georgia	dropped July, 2013[16]	2013	4. * [1] <a href="#">parcc</a> selects open source platform for nonsummative assessments
5	North Dakota	dropped July, 2013[24]	2014	5. * Web site of Governor of Florida: Florida withdraws from PARCC <a href="#">[6]</a>
6	Indiana	dropped June, 2014[18]	2013	6. * Cory Turner and Robert Siegel (July 25, 2013) "Common Core Could Be Disrupted As States Drop Out Of PARCC", NPR (National Public Radio). Available on-line at: <a href="#">NPR</a>
7	Pennsylvania	dropped June, 2013[27]	2013	7. * Strauss, Valerie (January 16, 2015). "Mississippi withdrawing from Common Core PARCC consortium" <a href="#">[6]</a> . <i>Washington Post</i> . Retrieved March 1, 2015.
8	Tennessee	dropped June, 2014[28]	2014	8. * <a href="http://www.cleveland.com/metro/index.ssf/2015/08/ohio_dumps_the_parcc_common_core_tests_after_worful_first_year.html">http://www.cleveland.com/metro/index.ssf/2015/08/ohio_dumps_the_parcc_common_core_tests_after_worful_first_year.html</a> <a href="#">[6]</a>
9	Arizona	dropped May, 2014[13]	2014	9. * "Department of Defense Education Activity Joins PARCC" <a href="#">[6]</a> . <a href="#">www.parcconline.org</a> . Retrieved 2016-07-05.
10	Florida	dropped September 2013[15]	2013	10. * "Bureau of Indian Education Strategic Plan" <a href="#">[6]</a> (PDF).
1	Arkansas	dropped July, 2015[14]	2015	11. * <a href="http://www.chicagotribune.com/news/local/breaking/ct-parcc-test-high-school-mat-20160711-story.html">http://www.chicagotribune.com/news/local/breaking/ct-parcc-test-high-school-mat-20160711-story.html</a> <a href="#">[6]</a>
2	Mississippi	dropped January, 2015[23]	2015	12. * "Alabama Withdraws From Both Testing Consortia" <a href="#">[6]</a> . <i>Education Week</i> . Retrieved December 7, 2015.
3	Ohio	dropped June 2015[25]	2015	13. * "Arizona withdraws from PARCC testing group" <a href="#">[6]</a> . <i>The Arizona Republic</i> , May 30, 2014. Retrieved December 7, 2015.
1	District of Columbia	current user		14. * "UPDATED: State Board of Education votes to change school test from PARCC to ACT" <a href="#">[6]</a> . <i>Arkansas Times</i> , July 9, 2015. Retrieved December 7, 2015.
2	Maryland	current user		15. * "Gov. Rick Scott calls for Florida to drop out of PARCC" <a href="#">[6]</a> . <i>Tampa Bay Times</i> , September 23, 2013. Retrieved December 7, 2015.
3	New Jersey	current user		16. * "Georgia The Latest State To Back Out Of K-12 PARCC Tests" <a href="#">[6]</a> . <a href="#">http://npr.org</a> , Updated July 25, 2013. Retrieved December 7, 2015.
4	New Mexico	current user		17. * "Answer Sheet - Two more states pull out of Common Core" <a href="#">[6]</a> . <i>Washington Post</i> , June 5, 2014. Retrieved December 7, 2015.
5	Illinois	current user grades 3-8[17]		18. * "Illinois ends much-debated PARCC test for high school students" <a href="#">[6]</a> . <i>Chicago Tribune</i> , July 11, 2016. Retrieved July 11, 2016.
6	Colorado	current user grades 3-9		19. * "Kentucky Withdraws From PARCC Testing Consortium" <a href="#">[6]</a> . <i>Education Week</i> , January 31, 2014. Retrieved December 7, 2015.
7	Rhode Island	current user grades 3-9		20. * "Louisiana To Try Blend of PARCC and State-Developed Assessments - THE JOURNAL" <a href="#">[6]</a> . <i>THE JOURNAL</i> . Retrieved 2016-07-05.
8	Louisiana	uses hybrid PARCC/state test <sup>[24]</sup>		21. * "PARCC Is Down to DC Plus Ten States, and Louisiana Isn't One of Them" <a href="#">[6]</a> . <i>Huff Post Education</i> , December 8, 2014. Retrieved December 7, 2015.
9	Massachusetts	current user <sup>[22]</sup>		22. * "Next-Generation MCAS - Massachusetts' Comprehensive Assessment System" <a href="#">[6]</a> . <a href="#">www.doe.mass.edu</a> . Retrieved 2016-07-05.
				23. * "State withdraws from testing consortium" <a href="#">[6]</a> . <a href="#">journal.com</a> , January 17, 2015. Retrieved December 7, 2015.
				24. * "North Dakota Drops Out of PARCC, Commits to Smarter Balanced" <a href="#">[6]</a> . <i>Education Week</i> , May 17, 2013. Retrieved December 7, 2015.
				25. * "Ohio dumps the PARCC Common Core tests after worful first year" <a href="#">[6]</a> . <i>The Plain Dealer</i> , June 30, 2015. Retrieved December 7, 2015.
				26. * "Oklahoma Pulls Out of PARCC" <a href="#">[6]</a> . "Truth in American Education," July 2013. Retrieved February 6, 2016.
				27. * "A July 21, 2014, Update on Common Core, PARCC, and Smarter Balanced" <a href="#">[6]</a> . <i>deutsch29 Blog</i> , July 21, 2014. Retrieved December 7, 2015.
				28. * "Who will develop Tennessee's next standardized test? Here are some contenders" <a href="#">[6]</a> . <i>Chalkbeat Tennessee</i> , September 17, 2014. Retrieved December 7, 2015.
				29. * **** "Elementary and Secondary Education Act" <a href="#">[6]</a> , Office of Superintendent of Public Instruction, OSPI, n.d. Web (October 11, 2011).
				30. * "California Department of Education." Adequate Yearly Progress. N.p., n.d. Web. 11 Oct 2011. Available on-line at: <a href="#">California Dept. of Education</a> <a href="#">[6]</a>
				31. * Au, Wayne (June 2007) "High-Stakes Testing and Curricular Control: A Qualitative Meta-synthesis", <i>Educational Researcher</i> , 36(5), 256-267. Available on-line at: <a href="#">Sage P</a> <a href="#">[6]</a>
				32. * Adams, Mastra, Lyons, Julie (2014). <i>PARCC Guidebook: Success Strategies for Teachers</i> . Lumen Learning. pp. 3-4. ISBN 1940464553

Source: Wikipeda on PARCC. <https://en.wikipedia.org/wiki/PARCC> (the author adjusted the states to simplify the appearances here.)

According to the PARCC article from the Wikipedia, there seem to be 10 states (in grey color) that had been out of the Common Core math by 2013-2014.

So, the 10 states that dropped out of PARCC effectively 1-2 years before 2015 NAEP math declines:

Section 2. Merged list of the 6-13-18 USA states that had spent much less time on the Common Core math standards before the NAEP 2015 math took place  
When I combined these 2 tables from Wikipedia data about CCSS, I got this merged table.

No	13 States effectively out of the CCSS math by 2015 NAEP math	Adoption stanc e	Notes (from <a href="https://en.wikipedia.org/wiki/Common_Core_State_Standards_Initiative">https://en.wikipedia.org/wiki/Common_Core_State_Standards_Initiative</a> )	Author's notes for the CCSS math relevance for NAEP math 2015	No	States from the PARCC of the CCSS	Current Participation Status	dropped yr before NAEP 2015 math
1	Alaska	Non-member						
2	Florida	Non-Member	Dropped in favor of "Florida State Standards", which are based on Common Core standards.[83]			Florida	dropped September	2013
3	Nebraska	Non-member	[91]					
4	Texas	Non-member						
5	Virginia	Non-member	[97]					
6	Minnesota	Partially Adopted	English standards only, math standards rejected.					
7	Indiana	Repealed	Implementation paused by law for one year in May 2013 and under public review. <sup>[84]</sup> formally withdrew in March 2014, but retained many of the standards. <sup>[84]</sup>	basically out of CCSS math in 2013-2014		Indiana	dropped June 2014[18]	2014
8	Oklahoma	Repealed	Legislation restoring state standards signed June 5, 2014.[94]	June, 2014		Oklahoma	dropped July 2013[26]	2013
9	Alabama	Formally adopted	State school board voted to rescind the agreement that commits the state to adoption. However, state standards are still aligned with Common Core State Standards.[81]	November, 2013		Alabama	dropped February	2013
10	Louisiana	Formally adopted	State school board voted to rescind the agreement that commits the state to adoption. However, state standards are still aligned with Common Core State Standards.[81]	June, 2014				
11	Massachusetts	Formally adopted	Delayed Common Core testing for two years in November 2013. <sup>[86]</sup> Ballot question on future of standards in 2016 has been ruled against by Massachusetts Supreme Judicial	delayed CCSS for 2 years in November, 2013				
12	New York	Formally adopted	Full implementation of assessment delayed until 2022.[92]					
13	Pennsylvania	Formally adopted	Paused implementation in May 2013.[95]	February, 2014		Pennsylvania	dropped June 2013[27]	2013
14	Arizona	Formally adopted	The Arizona State Board of Education voted to reject Common Core on October 26, 2015. The vote was 6-2 in favor of repeal.[82]	October, 2015		Arizona	dropped May 2014[13]	2014
15	Georgia	Formally adopted				Georgia	dropped July 2013[16]	2013
16	Kentucky	Formally adopted				Kentucky	dropped January	2014
17	Tennessee	Under review	[73]			Tennessee	dropped June 2014[28]	2014
18	North Dakota	Formally adopted				North Dakota	dropped July 2013[24]	2013
1	Mississippi	Formally adopted	withdrew from PARCC testing on January 16, 2015.[90]	January, 2015		Mississippi	dropped January 2015[23]	2015
2	Ohio	Formally adopted	There is currently legislation in progress to repeal Common Core from the state.[93]			Ohio	dropped June 2015[25]	2015
3	Arkansas	Formally adopted				Arkansas	dropped July 2015[14]	2015
4	South Carolina	Repealed	A bill to repeal the Standards beginning in the 2015-2016 school year was officially signed by Governor Nikki Haley in June 2014 after deliberation in the state legislature. <sup>[85]</sup>	repeals starting 2015-2016				

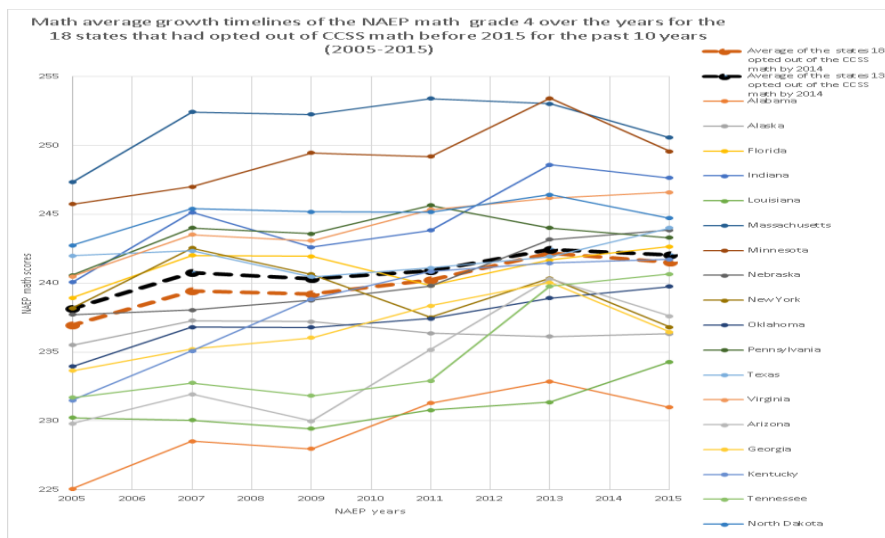
Source: the author merged the data together from the Wikipedia article on Common Core Standards Initiative and PARCC, focusing only on the CCSS implementation substantially before the NAEP 2015 tests for math.

In summary, according to this merged table, there were 6 states that had never been with the Common Core Math, other 7 states that had been out of it by 2013-2014, and another 5 states that dropped out according to the list from the PARCC (Wikipedia).

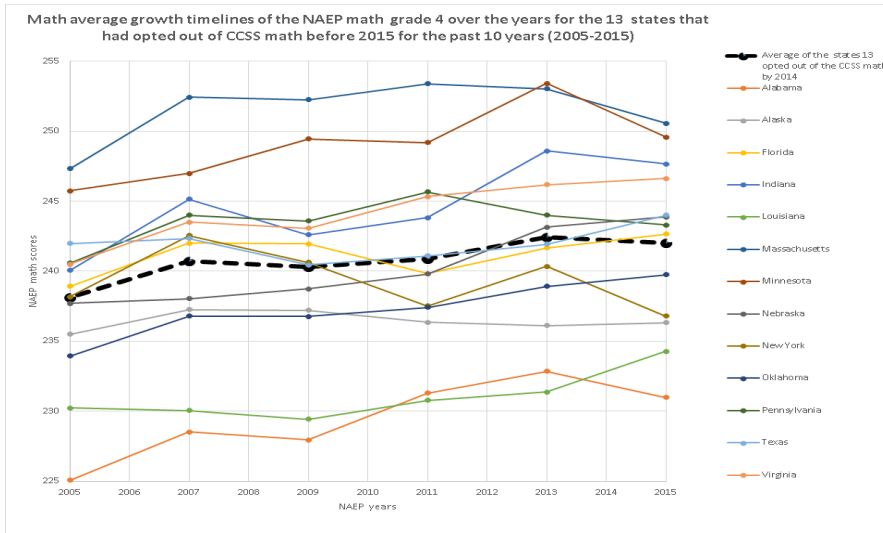
## Part 2. Math stagnations of the grade 4

### Section 3. NAEP math scores of the grade 4 for the states that had opted out of the Common Core math standards before the NAEP 2015 math took place.

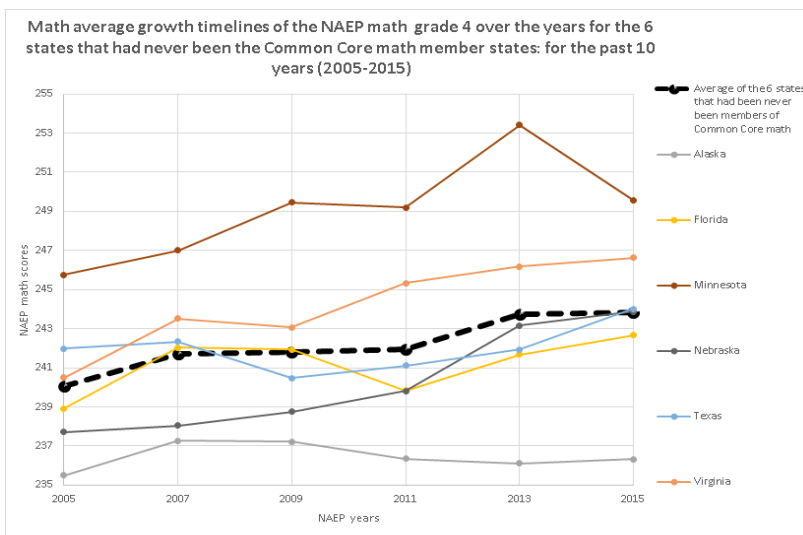
Math average growth timelines of the NAEP math grade 4 over the years for the 18 states that had opted out of CCSS math before 2015 for the past 10 years (2005-2015)



**Math average growth timelines of the NAEP math grade 4 over the years for the 13 states that had opted out of CCSS math before 2015 for the past 10 years (2005-2015)**

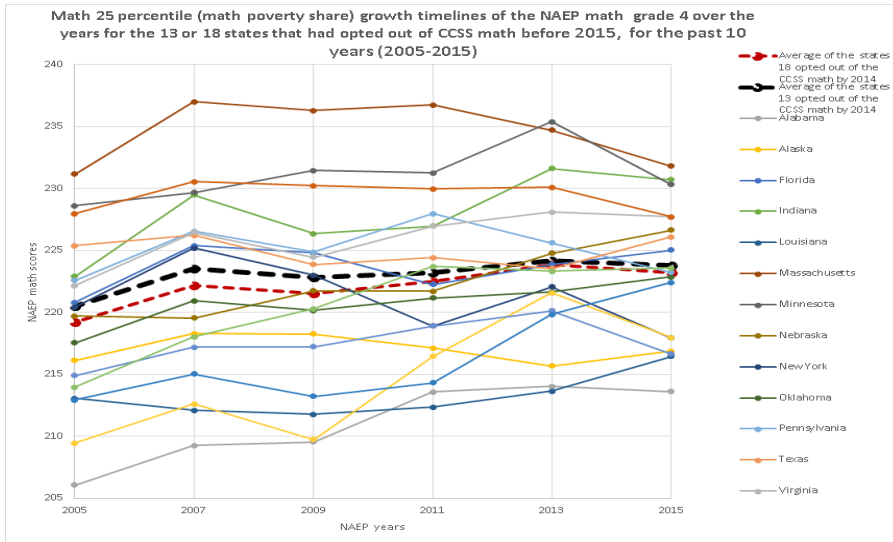


**Math average growth timelines of the NAEP math grade 4 over the years for the 6 states that had never been the Common Core math member states: for the past 10 years (2005-2015)**

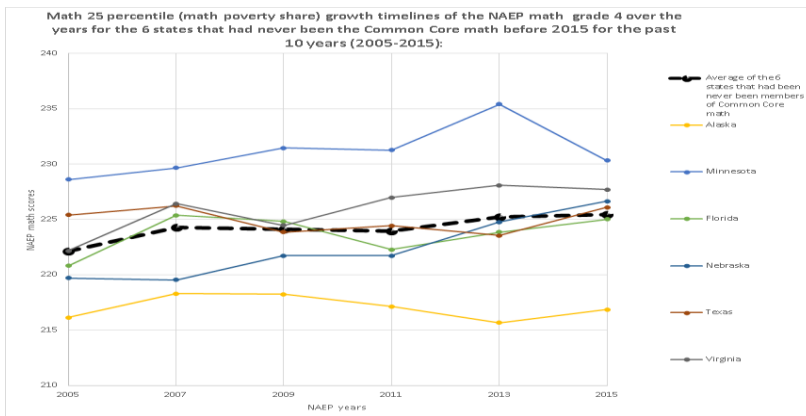


25 percentile of math growth trajectories

**Math 25 percentile (math poverty share) growth timelines of the NAEP math grade 4 over the years for the 13 or 18 states that had opted out of CCSS math before 2015, for the past 10 years (2005-2015)**



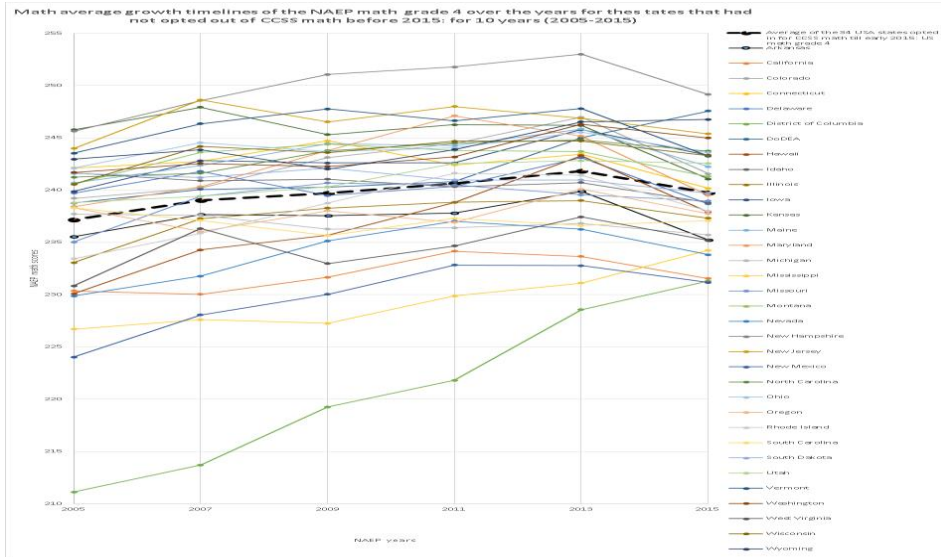
**Math 25 percentile (math poverty share) growth timelines of the NAEP math grade 4 over the years for the 6 states that had never been the Common Core math before 2015 for the past 10 years (2005-2015)**



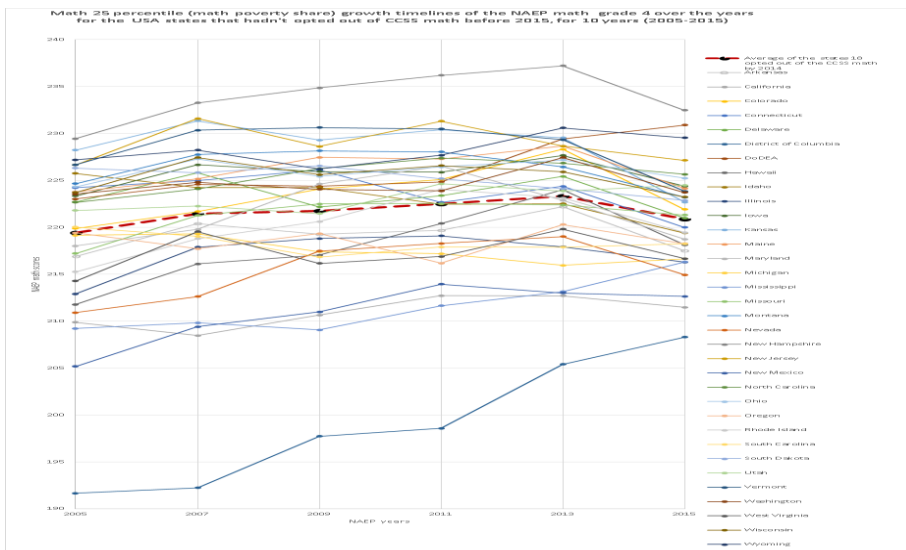
Section 4. For the USA states that had not opted out of the Common Core math grade 4 by the end of 2014

**Math average growth timelines of the NAEP math grade 4 over the years for these states that had not opted out of CCSS math before 2015: for 10 years (2005-2015)**





**Math 25 percentile (math poverty share) growth timelines of the NAEP math grade 4 over the years for the USA states that hadn't opted out of CCSS math before 2015, for 10 years (2005-2015)**



Section 5. An undeniable pattern: the more and longer the states stayed with the Common Core math standards, their average math score declined more for the grade 4 math in NAEP 2015.

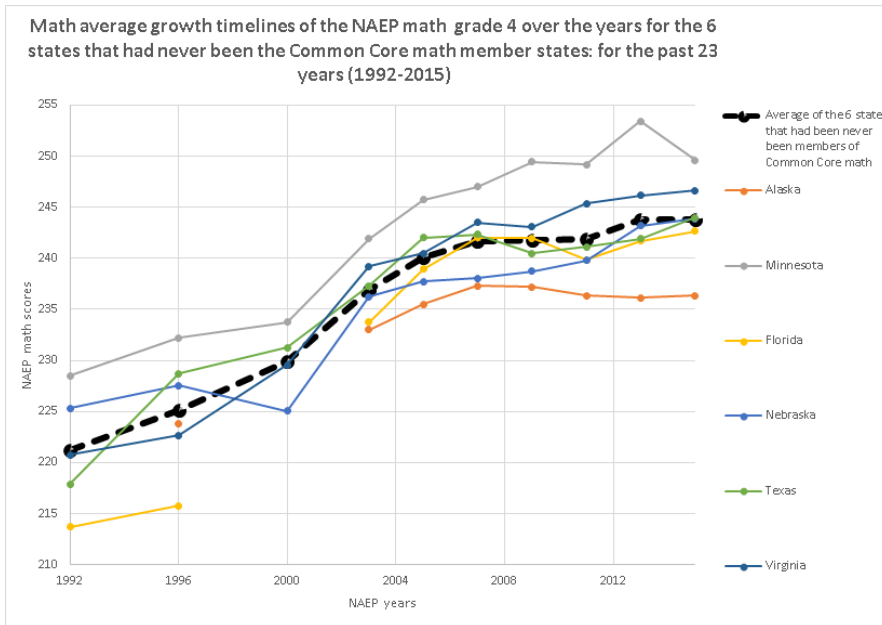
As we can see below in the table, the difference between the states that had opted out by the end of 2014 or never embraced the Common Core Math before the NAEP 2015 math is about 0.5-2 points in NAEP math grade 4, which are roughly 1.6-6.5% of a Standard Deviation differences. 3-7% of Standard Deviation is not a negligible effects although we can dismiss a few 5 of a standard deviations. So for the grade 4 math, the Common Core Math apparently impacted the math education negatively.

Math Grade 4 Average for states	2013	2015	Grade 4 math average difference 2015 - 2013
Average of the 6 states that had been never been members of Common Core math	243.7467417	243.8412242	0.094482589
Average of the states 13 opted out of the CCSS math by 2014	242.432536	242.0303292	-0.402206776
Average of the states 18 opted out of the CCSS math by 2014	242.2024792	241.5315302	-0.670948988
Average of the 34 USA states opted in for CCSS math till early 2015: US math grade 4	241.8179747	239.762545	-2.055429699

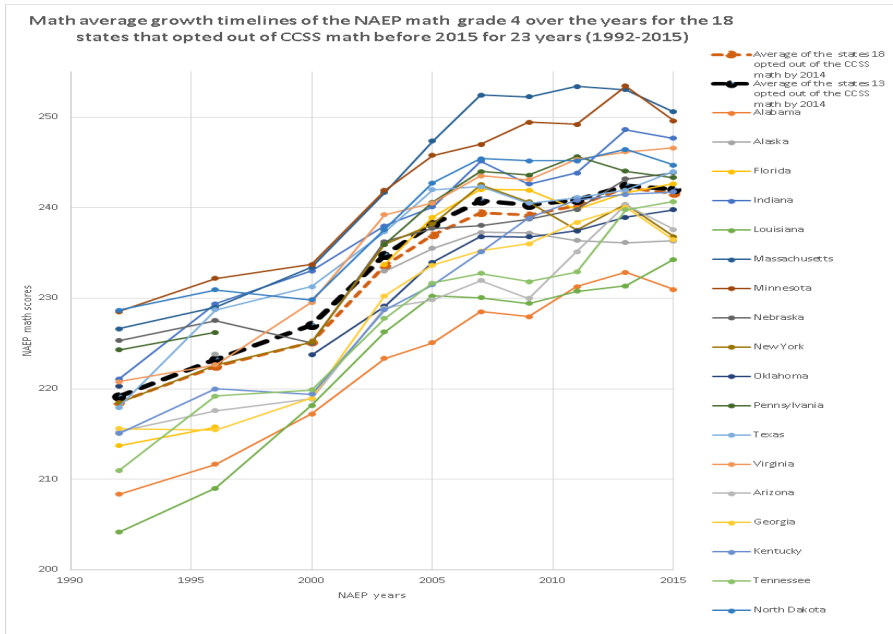
Section 6. Regardless of the impacts of the Common Core math on NAEP 2015 math's dipping, the undeniable fact is that the math stagnations nationwide in the USA over the past a decade or so already.

For the states that had opted out of the Common Core Math by the end of 2014, sufficiently before the NAEP 2015 math was administered, the black or red dotted lines are their average scores and they have reached their math saturations, but not the declines.

For the 6 states that had never joined the Common Core math standards:

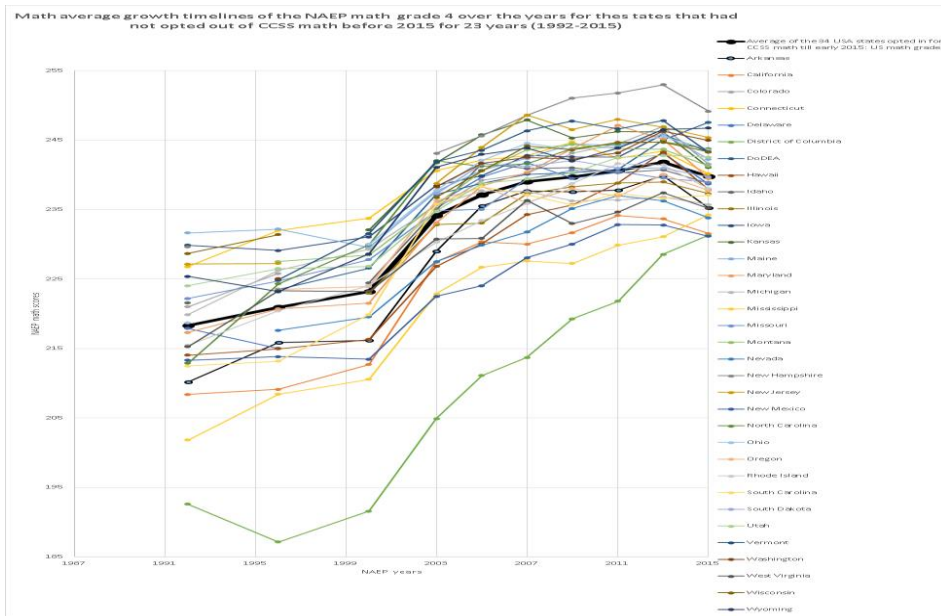


For the 13-18 states that had never joined or had joined the Common Core math standards but had opted out earlier before the NAEP math 2015:

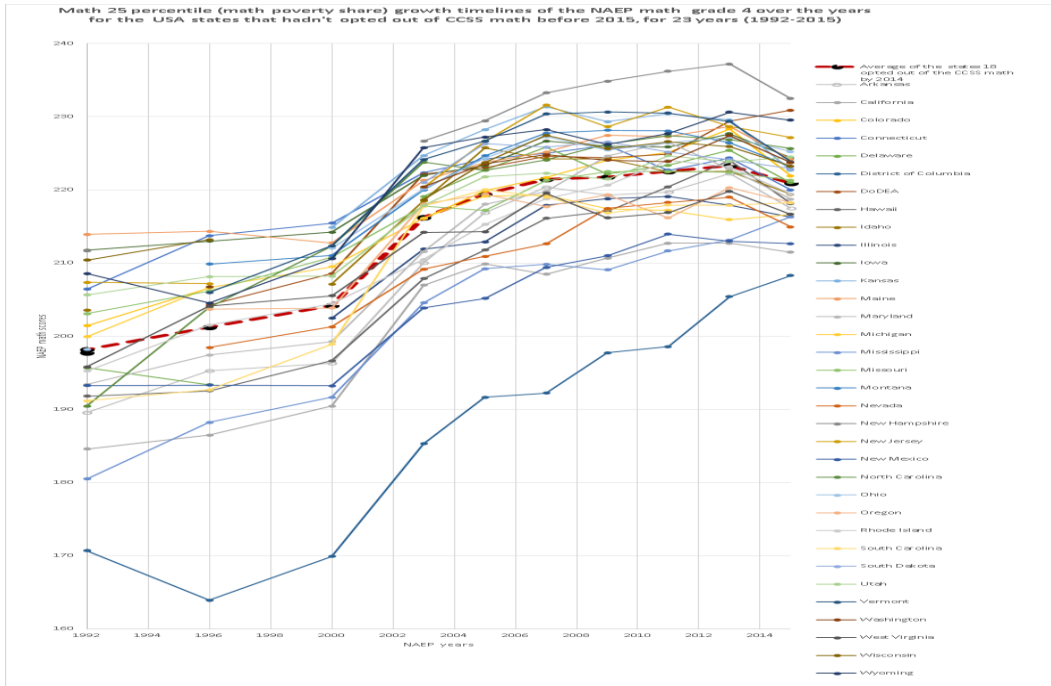


The states that had stayed with the Common Core math till at least nearly before the NAEP 2015:

For the states that had stayed with the Common Core math at least by the end of 2014 mostly declined in math average in NAEP math 2015 for the grade 4.



Their 25 percentile growth trajectories:



### Conclusion for the math grade 4:

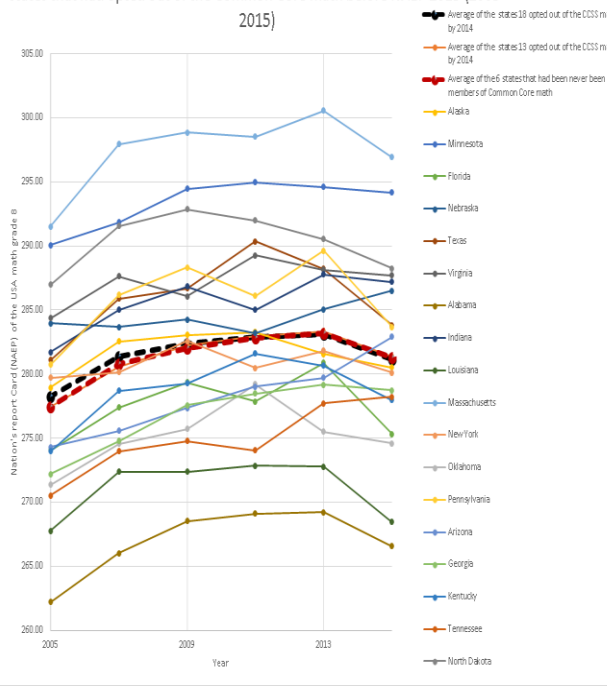
Regardless of the durations that the states stayed with the Common Core math, the inevitable math growth stagnations kicked in by around 2005-2007 for most of these USA states for the grade 4. The only real difference is that the states that had stayed with the Common Core math till around the time of the NAEP math 2015 had a dip stronger.

### Part 3. Math stagnations of the grade 8

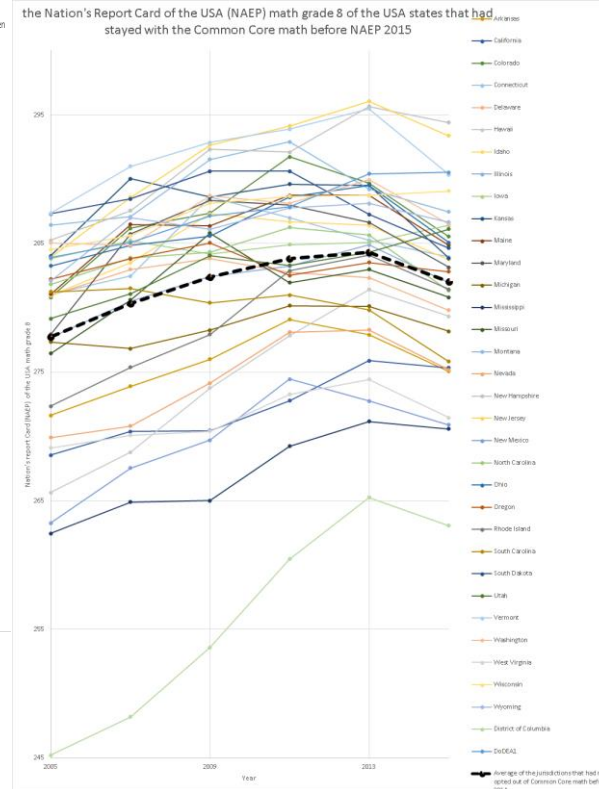
The USA states that had pulled out of the Common Core Math by the end of 2014 or earlier

USA states that had stayed with the Common Core Math by the end of 2014 or later

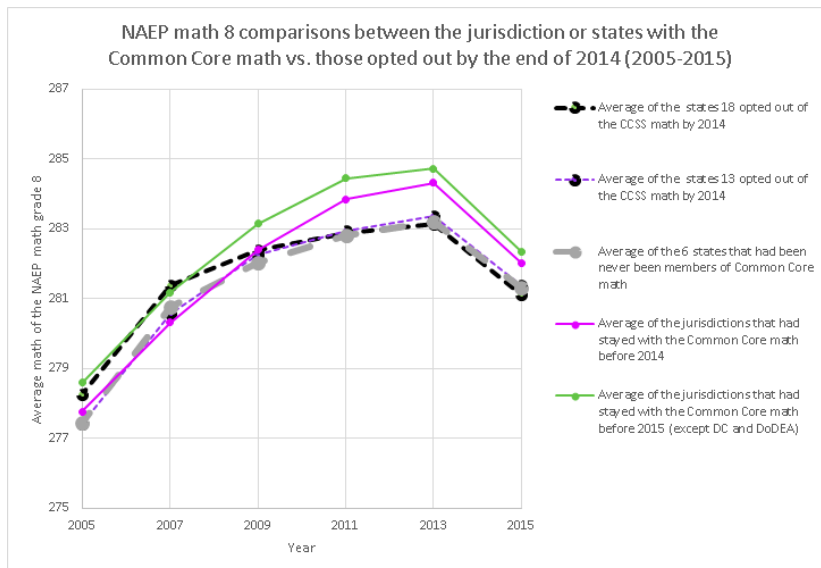
the Nation's Report Card of the USA (NAEP) math grade 8 of the up to 18 USA states that had opted out of the Common Core math before NAEP 2015 (2005-2015)



For the math grade 8, the math average decline slope is a bit steeper than otherwise.



The overall comparisons of the states out of the Common Core Math vs. those stayed with it till at least early 2015 NAEP time for the math grade 8.



NAEP math grade 8 score dip 2013-2015	2013.00	2015.00	the dip 2015-2013 math grade 8
Average of the 6 states that had been never been members of Common Core math	283.19	281.30	-1.88
Average of the states 13 opted out of the CCSS math by 2014	283.35	281.39	-1.96
Average of the states 18 opted out of the CCSS math by 2014	283.13	281.13	-2.00
Average of the jurisdictions that had stayed with the Common Core math before 2014	284.31	282.02	-2.29
Average of the jurisdictions that had stayed with the Common Core math before 2015 (except DC and DoDEA)	284.72	282.35	-2.37

Math grade 4	Math grade 8
<p>The states that had stayed with the Common Core math did about 1.5-2 NAEP point's worse or about 3-4% to 6-7% of 1 Standard Deviation worse for the math grade 4.</p>	<p>For the math grade 8, the difference is almost negligible by about t 0.3-0.4 NAEP math points or about 1% of 1 Standard Deviation.</p>

## Conclusion

The interesting patterns we saw here for the grade 4 math scores are the following:

- 1) For the grade 4, it seems that the Common Core Math have caused the math score decline in NAEP math for the first time since at least 20 years because the decline was none or negligible for the 6-13-18 states that had not in it or pulled out of it.
- 2) For the grade 8, the differences are much smaller than for the grade 8. Those that had stayed with the Common Core till at least around early 2015, however, did slightly worse than the states than those that had been out of it by then.
- 3) Regardless, the math stagnations had taken place in either cases as we can clearly see from the math stagnations starting around 2005-2007 for the grade 4; and for the grade 8, the math stagnations were starting around 2009-2011 mostly and then the sudden drops in 2015 were more likely due to the Common Core effects because as we demonstrated in our Part 3 of this series of math stagnations in the USA that there are usually about 4 years of time lag between the declines of the math stagnations of the grade 4 that may lead to the declines in the math grade 8. In 2015, the vast majority of the states suddenly dropped. So this is almost definitely caused by the Common Core math although the overall declines may have taken to various states for sure.
- 4) By 2017, the chances are that the states out of the Common Core math may continue stagnates and the who continued staying may depend on the efficiency improvements of the Common Core math implementations, but the chances are there may not be good improvements that the Common Core Math was originally promising to deliver.
- 5) There were math dips in the grade 8 math for the states that had been out of the Common Core math, which means that the math stagnations in the USA may enter a worse phase in 2017 on even if the negative effect of the Common Core math is overcome.







## For the NAEP math grade 8 data

Data source: arranged by the author from the NAEP website for the math grade 8.

Year for the NAEP math grade 8	1992	1996	2000	2003	2005	2007	2009	2011	2013	2015
Average of the 6 states that had been never been members of Common Core math	265.769	269.392	270.7872	275.9464	277.4518	280.7688	282.0288	282.8005	283.1867	281.3017
Average of the states 13 opted out of the CCSS math by 2014	266.2966	269.6872	271.3393	276.0997	277.4146	280.5534	282.2515	282.9353	283.3549	281.3905
Average of the states 18 opted out of the CCSS math by 2014	266.9791	270.3089	274.1005	276.832	278.2445	281.3703	282.3949	282.8665	283.1261	281.1255
Average of the jurisdictions that had stayed with the Common Core math before 2014	266.1891	270.2465	270.693	277.0602	277.7583	280.3209	282.4004	283.8428	284.3138	282.0245
Average of the jurisdictions that had stayed with the Common Core math before 2015 (except DC and DoDEA)	267.4918	271.6676	271.9407	277.882	278.5833	281.1764	283.1522	284.4481	284.7182	282.3514

For the NAEP math grade 8. The 6-13-18 states are those above the red, horizontal line are those that had pulled out of the Common Core math by 2013-2014 or never tried. Those below the red line are those that had stayed with it at least till around the NAEP 2015 math.

No	Category	all studen 1992	all studen 1996	all studen 2000	all studen 2003	all studen 2005	all studen 2007	all studen 2009	all studen 2011	all studen 2013	all studen 2015	the dip 2015-2
	Average of the states 18 opted out of the CCSS math by 2014	266.98	270.31	274.10	276.83	278.24	281.37	282.39	282.87	283.13	281.13	-2.00
	Average of the states 13 opted out of the CCSS math by 2014	266.30	269.69	271.34	276.10	277.41	280.55	282.25	282.94	283.35	281.39	-1.96
	Average of the 6 states that had been never been members of Common Core math	265.77	269.39	270.79	275.95	277.45	280.77	282.03	282.80	283.19	281.30	-1.88
1	Alaska		278		279	279	283	283	283	282	280	
2	Minnesota	282	284	287	291	290	292	294	295	295	294	
3	Florida	260	264		271	274	277	279	278	281	275	
4	Nebraska	278	283	280	282	284	284	284	283	285	286	
5	Texas	265	270	273	277	281	286	287	290	288	284	
6	Virginia	268	270	275	282	284	288	286	289	288	288	
7	Alabama	252	257	264	262	262	266	269	269	269	267	
8	Indiana	270	276	281	281	282	285	287	285	288	287	
9	Louisiana	250	252	259	266	268	272	272	273	273	268	
10	Massachusetts	273	278	279	287	292	298	299	299	301	297	
11	New York	266	270	271	280	280	280	283	280	282	280	
12	Oklahoma	288		270	272	271	275	276	279	276	275	
13	Pennsylvania	271			279	281	286	288	286	290	284	
14	Arizona	265	268	269	271	274	276	277	279	280	283	
15	Georgia	259	262	265	270	272	275	278	278	279	279	
16	Kentucky	262	267	270	274	274	279	279	282	281	278	
17	Tennessee	259	263	262	268	271	274	275	274	278	278	
18	North Dakota	283	284	282	287	287	292	293	292	291	288	
1	Arkansas	256	262	257	266	272	274	276	279	278	275	
2	California	261	263	260	267	269	270	270	273	276	275	
3	Colorado	272	276		283	281	286	287	292	290	286	
4	Connecticut	274	280	281	284	281	282	289	287	285	284	
5	Delaware	263	267		277	281	283	284	283	282	280	
6	Hawaii	257	262	262	266	266	269	274	278	281	279	
7	Idaho	275		277	280	281	284	287	287	286	284	
8	Illinois			275	277	278	280	282	283	285	282	
9	Iowa	283	284		284	284	285	284	285	285	286	
10	Kansas			283	284	284	290	289	290	290	284	
11	Maine	279	284	281	282	281	286	286	289	289	285	
12	Maryland	285	270	272	278	278	286	288	288	287	283	
13	Michigan	267	277	277	276	277	277	278	280	280	278	
14	Mississippi	246	250	254	261	262	265	265	269	271	271	
15	Missouri	271	273	271	279	276	281	286	282	283	281	
16	Montana		283	285	286	286	287	292	293	289	287	
17	Nevada			265	268	270	271	274	278	278	275	
18	New Hampshire	278			286	285	288	292	292	296	294	
19	New Jersey	272			281	284	289	293	294	296	293	
20	New Mexico	260	262	259	263	263	268	270	274	273	271	
21	North Carolina	258	268	276	281	282	284	284	286	286	281	
22	Ohio	268		281	282	283	285	286	289	290	285	
23	Oregon		276	280	281	282	284	285	283	284	283	
24	Rhode Island	266	269	269	272	272	275	278	283	284	281	
25	South Carolina	261	261	265	277	281	282	280	281	280	276	
26	South Dakota				285	287	288	291	291	287	285	
27	Utah	274	277	274	281	279	281	284	283	284	286	
28	Vermont		279	281	286	287	291	293	294	295	290	
29	Washington		276	281	285	285	289	288	288	290	287	
30	West Virginia	259	265	266	271	269	270	270	273	274	271	
31	Wisconsin	278	283		284	285	286	288	289	289	289	
32	Wyoming	275	275	276	284	282	287	286	288	288	287	
33	District of Columbia	235	233	235	243	245	248	254	260	265	263	
34	DoDEA <sup>1</sup>		274	277	285	284	285	287	288	290	291	
	Average of the jurisdiction	266	270	271	277	278	280	282	284	284	282	-2.29
	Average of the jurisdiction	267	272	272	278	279	281	283	284	285	282	-2.37

Table: the USA 50 states and 2 jurisdictions (DC and DoDEA) and their math grade 8 of NAEP scores.

## References

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- 4) the NAEP math grade 8: [https://www.nationsreportcard.gov/reading\\_math\\_2015/#mathematics/district/trends/XQ?grade=8](https://www.nationsreportcard.gov/reading_math_2015/#mathematics/district/trends/XQ?grade=8)
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- 7) Lee, Dongchan. 2017. "Math edu crisis in most of the USA states and what MMU1 can do" <https://www.youtube.com/watch?v=qjZW2GnNLXQ>
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## Dongchan Lee's WP (Working Paper) Series on the math stagnation nations

Lee, Dongchan. 2017 February. WP series: Mathematics Stagnation Nation series: for the USA, Australia, New Zealand, UK, and Ireland (Part 1)

Math stagnation nations of all 5 developed, English-speaking countries according to PISA and TIMSS for the past 15-20 years of the math growth history: what does this mean for education and economy?

Lee, Dongchan. 2017 February. 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

Lee, Dongchan. 2017 February. WP series: Mathematics Stagnation Nation series: for the USA (Part 3) The collective Math stagnations of the grades 4<sup>th</sup> and 8<sup>th</sup> in the big cities (or the School Districts based on TUDA of NAEP) of the USA over the 1 decade: their confirmations, time lags, math poverty shares, and the roles of the Common Core math

WP series: Mathematics Stagnation Nation series: for the USA (Part 4)

Math Education stagnations in the USA played more roles than the Common Core math standards impacts for the stagnations on the NAEP 2015, but the math dipping (especially the grade 8) are most likely were due to the Common Core math

Lee, Dongchan. 2017 February. WP series: Mathematics Stagnation Nation series: for the USA (Part 5)

The quasi-universal math stagnations in developed countries are real and won't go away as the conventional EDU reforms are mostly futile: how to transcend them with MMU1 or at least 1/3 of its full version over the next 2-4 years

### **Lee's youtube video accompaniments**

- 1) Lee, Dongchan. 2017. "Math edu crisis in most of the USA states and what MMU1 can do"  
<https://www.youtube.com/watch?v=qiZW2GnNLXQ>
- 2) Lee, Dongchan. 2017. "Math EDU crisis in most of the USA states Part 2 and what MMU1 can do"  
<https://www.youtube.com/watch?v=vB7LcMLVWs4>