WHITHER EDUCATIONAL QUALITY IN CALIFORNIA AS WE MOVE INTO COMMON CORE?

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WHAT YOU WILL SEE TODAY

The results I will show you today are part of a longer term project with my colleague, Richard Rothstein to get beyond the rhetoric and misuse of international and national student test score data to understand what is really happening in US education, and what is working at a large scale to improve it.

Everything I show you here is preliminary and suject to revision.

Today, I will focus on state differences to place California's educational system in the context of the enormous variation in results across US states.

I first compare California students' average scores NAEP Mathematics Test scores in 2013 to the NAEP national average and to Massachusetts and Teaxas students' (the highest scoring in the nation) scores, "adjusting" the CA scores for the demographic differences with the nation as a whole and with MA and TX.

I will then compare California students of similar ethnic and family resource backgrouns to students in other large states with diverse student populations—NY, FL, IL, and TX.

METHODOLOGICAL POINTS

Test scores are usually referred to as reflecting the quality of educational systems.

However, test scores are also the result of inputs that may have little to do with the quality of formal education students' receive.

These include family and state (pre- school, health care, secure environments) inputs before and during the school years, peer inputs, and the historical self-perception groups hold of their academic and social possibilities.

Controlling for these extra-school inputs helps us get a better idea of differences in student performance that are attributable to school system effectiveness.

We therefore present results for student performance over time by state controlling for family academic resources (F.A.R) and race/ethnicity. However, this does not necessarily conteol for all family and state inputs nor does it necessarily capture all of our school inputs. Given available data, it must be considered an approximation.

DEFINING FAMILY ACADEMIC RESOURCES

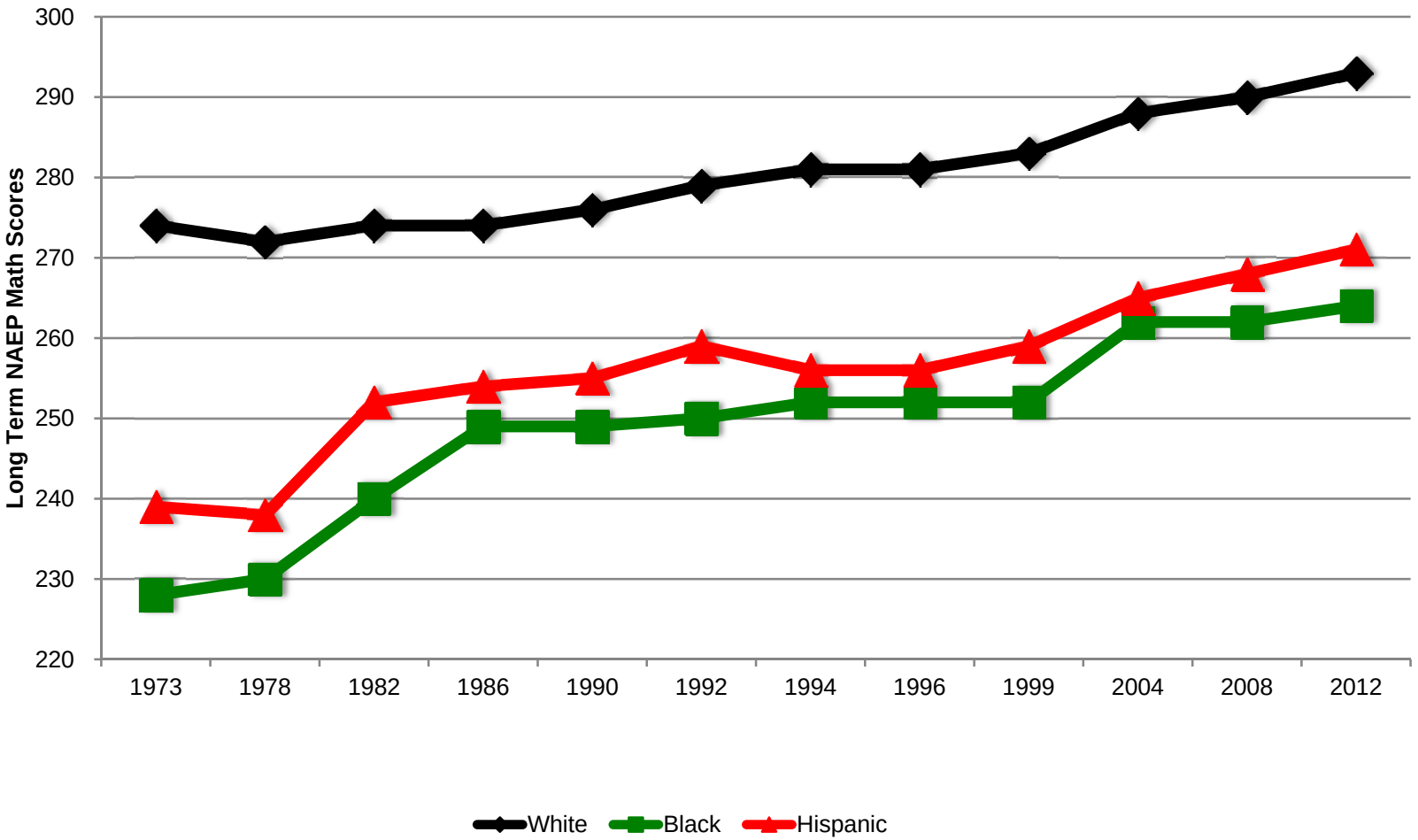
In our international comparisons we define family academic resources (F.A.R.) by "cultural capital" –books in the home (BH)—because BH is reported more accurately by students than parents' education.

However, NAEP data do not report BH in detailed enough fashion before 2003 to be useful, so we use mother's education (ME) as our measure of F.A.R., as well as race/ethnicity. ME and BH are both highly correlated with test scores and each other.

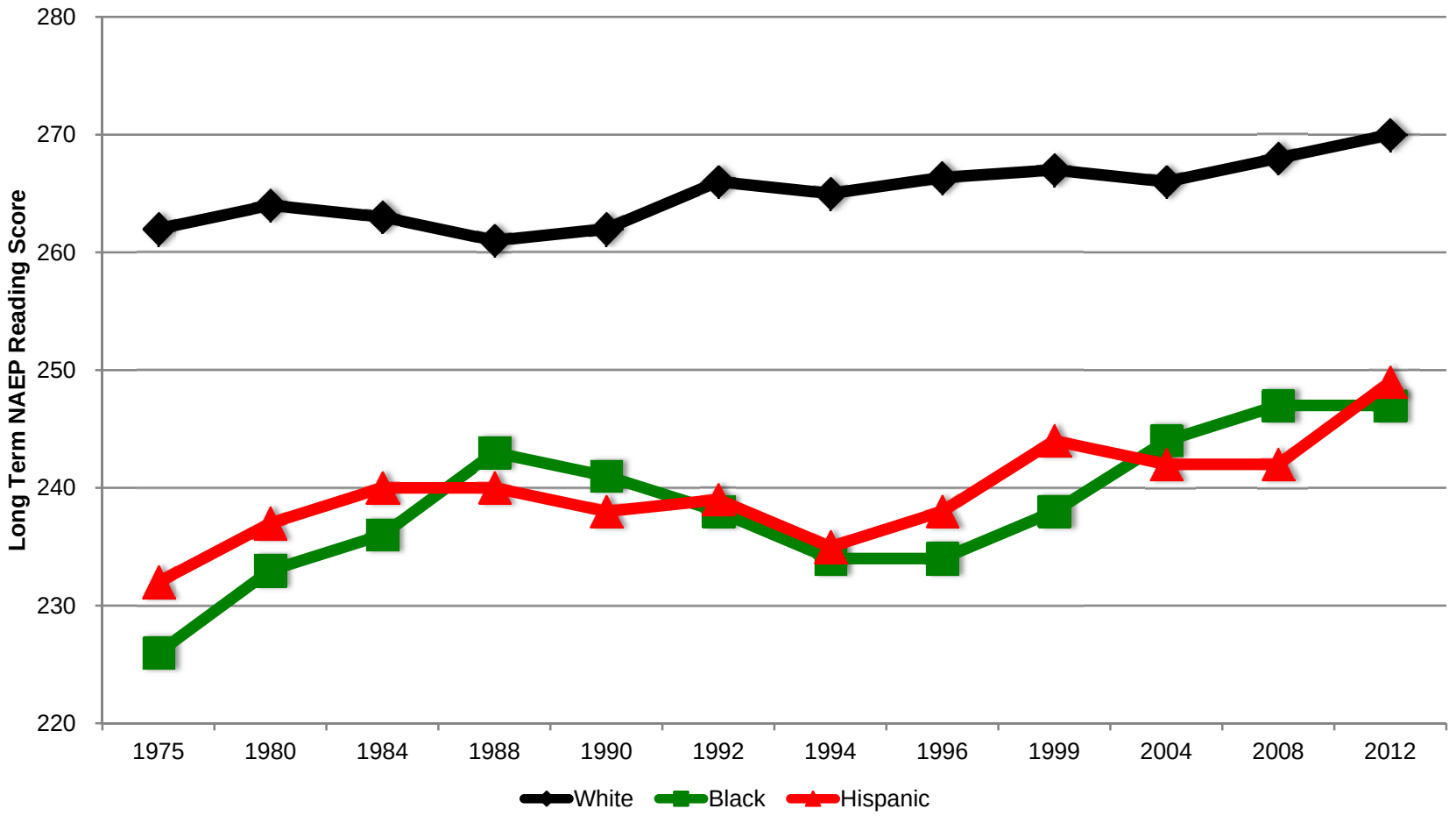
We also use race/ethnicity(RE) as a second measure of resources that are somewhat different from mother's education—RE may capture test-taking ability, and partially academic self-perception.

Together, the percentage of Whites+Asain-Amer and the percentage of students reporting ME as college grad explain 55 percent of the variation in state 8th grade math scores.

NAEP 8TH GRADE MATH U.S. LONG TERM TRENDS, BY RACE/ETHNICITY



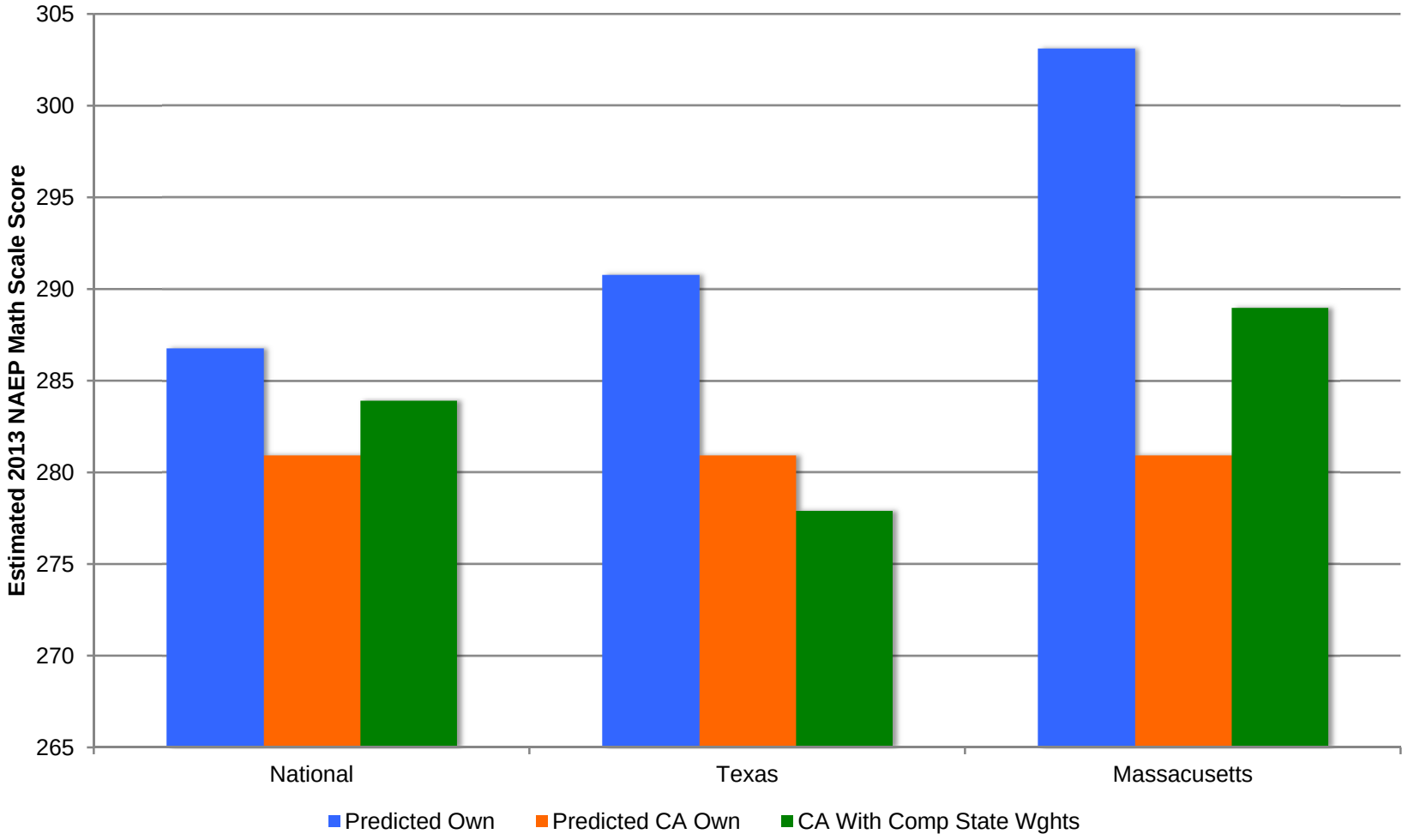
NAEP 8TH GRADE READING LONG TERM TRENDS, BY RACE/ETHNICITY



THE MOTHER'S EDUCATION AND RACE/ETHNICITY BREAKDOWN IN CA AND MA DIFFER GREATLY

California	White	Black	Latino	Asian-Amer	Total
<HSComp	1.436	0.538	15.436	0.359	17.769
HSComp	5.449	1.526	12.641	1.744	21.359
SC	6.154	2.115	9.231	1.538	19.038
Collgrad	18.462	2.872	10.667	8.615	40.615
Total	31.500	7.051	47.974	12.256	
Massachusetts	**White**	**Black**	**Latino**	**Asian-Amer**	**Total**
<HSComp	3.455	1.000	4.000	0.364	8.818
HSComp	10.023	1.591	3.341	0.795	15.750
SC	9.898	1.773	2.364	0.443	14.477
Collgrad	47.580	3.614	3.614	3.614	58.420
Total	70.955	7.977	13.318	5.216	

YET, CALIFORNIA STUDENTS STILL PERFORMED WORSE IN 2013 MATH NAEP THAN THE NATIONAL AVERAGE AND HIGH SCORING STATES WHEN SCORES ARE ADJUSTED FOR THESE DIFFERENCES

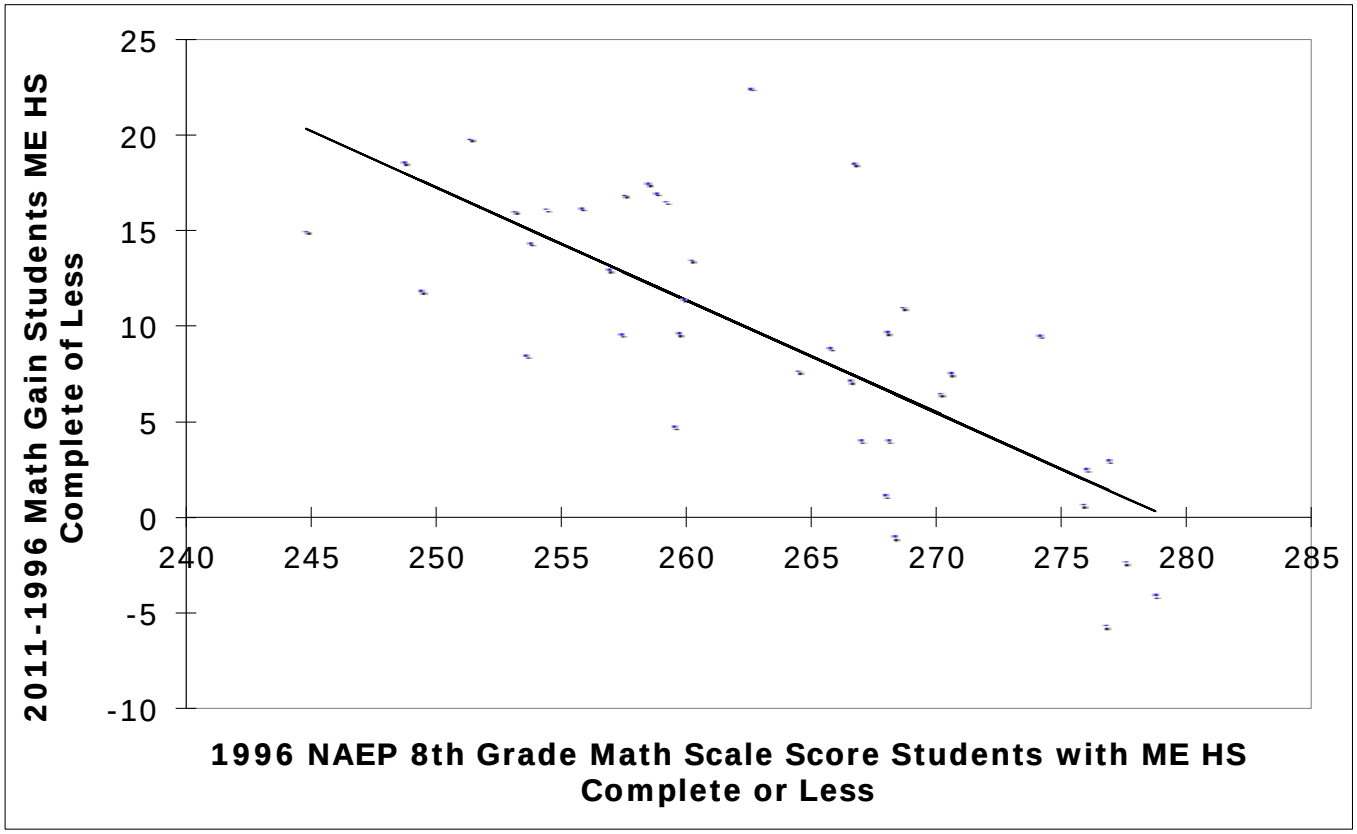


THIS IS CONFIRMED BY THE LARGE VARIATION IN THE PERFORMANCE OF APPARENTLY SIMILAR F.A.R. STUDENTS IN THE SCHOOLS OF DIFFERENT STATES (2011 TIMSS TEST). DIFFERENCES IN SCHOOL SYSTEMS MAY HELP EXPLAIN THESE DIFFERENCES

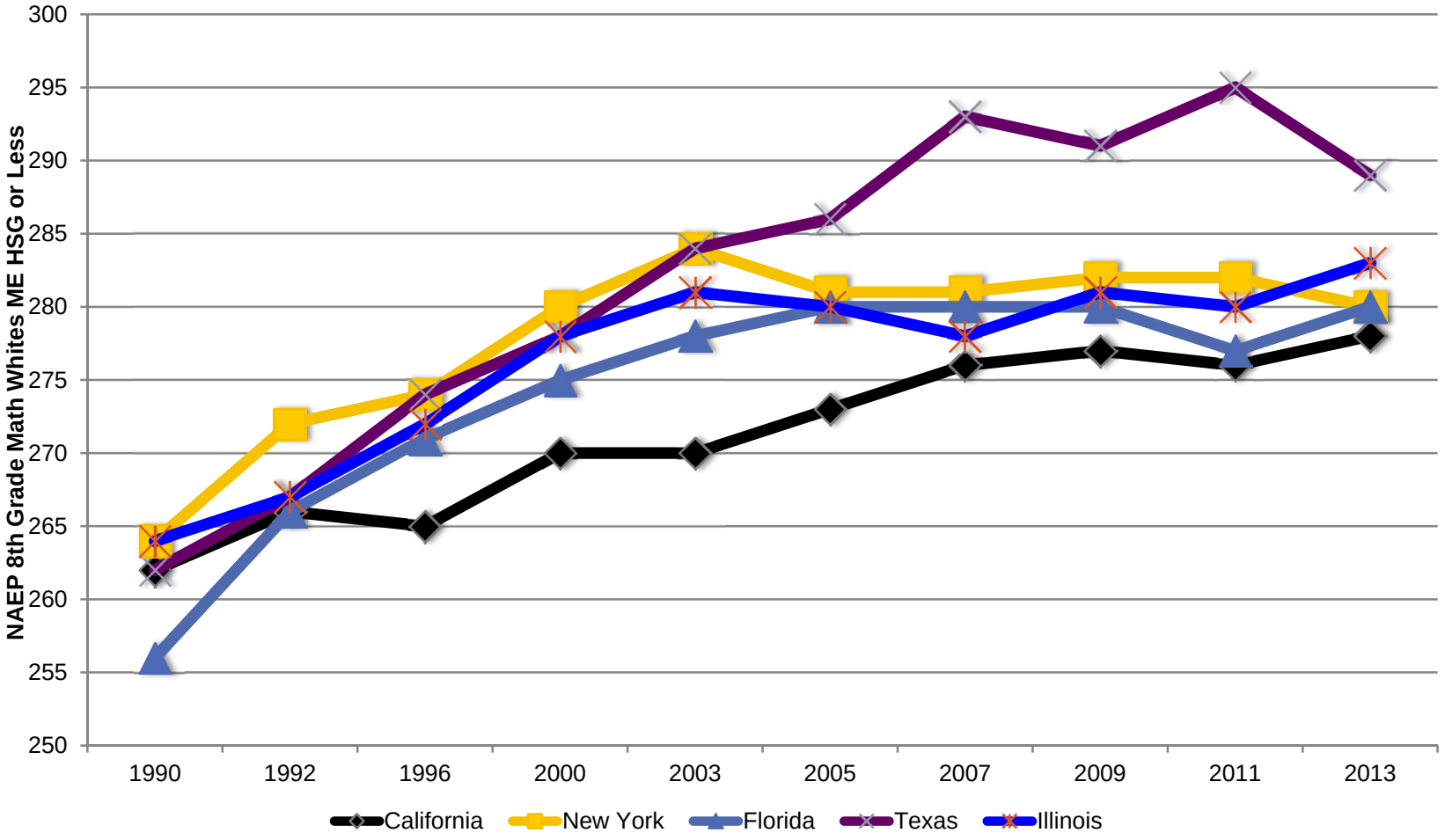
	Finland	US	US (Alabama)	US (Colorado)	US (Connecticut)	US (California)	US (Florida)	US (Indiana)	US (Massachusetts)	US (Minnesota)	US (North Carolina)
0-10 BOOKS	465	465	434	464	446	452	484	479	503	494	484
11-25 BOOKS	493	485	448	487	475	469	498	500	522	506	518
26-100 BOOKS	514	516	481	521	521	507	518	526	563	543	539
101-200 BOOKS	530	542	510	544	550	532	544	544	575	568	560
MORE THAN 200	535	548	502	557	565	535	553	558	598	574	585

MATH GAINS (AS MEASURED BY THE NAEP 8TH GRADE TEST) ARE RELATED TO STATE MATH SCORE STARTING POINT, BUT EVEN SO, GAINS VARY GREATLY ACROSS U.S. STATES

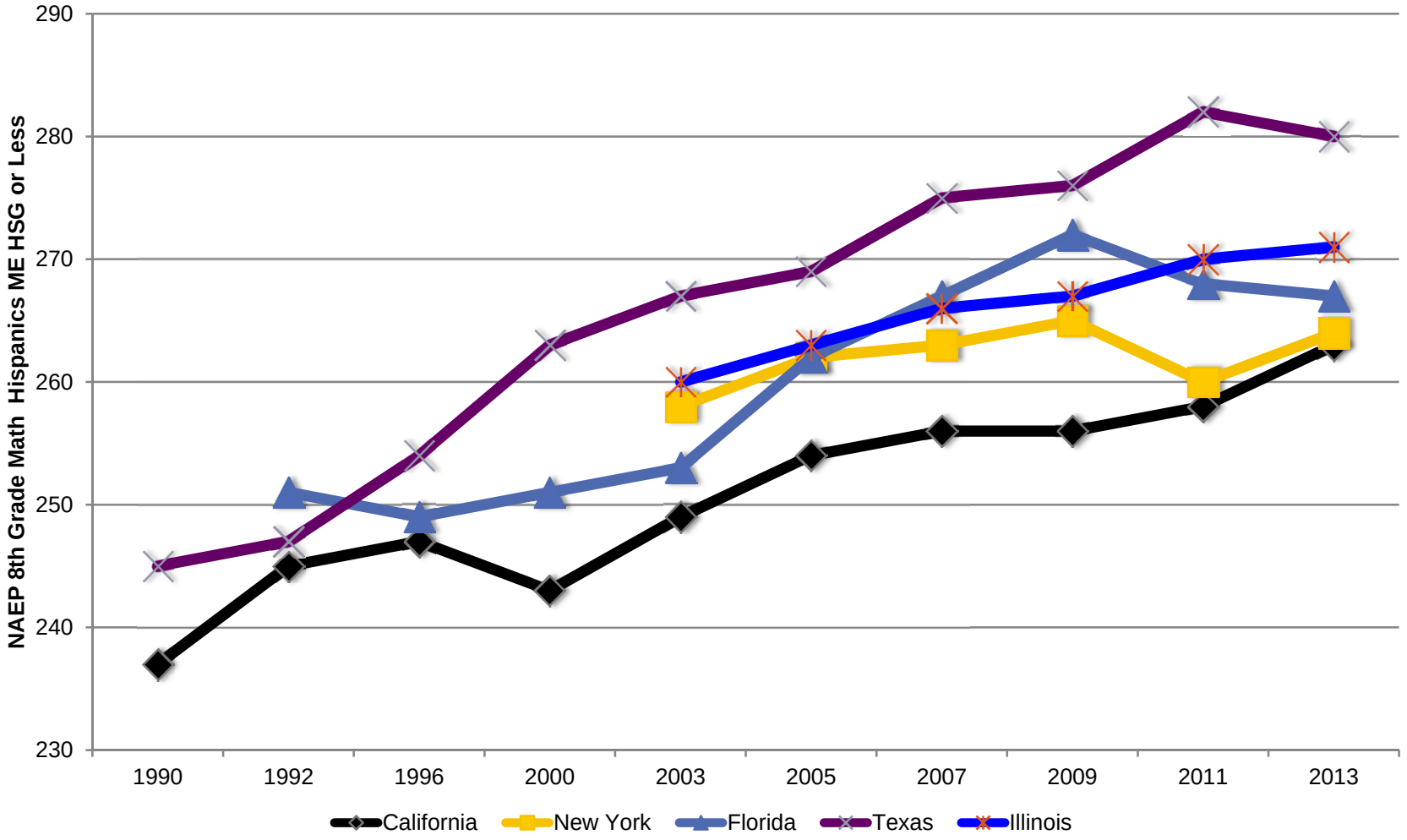
1996-2011 state mathematics gains versus beginning score in 1996 for students with mothers who completed high school or less



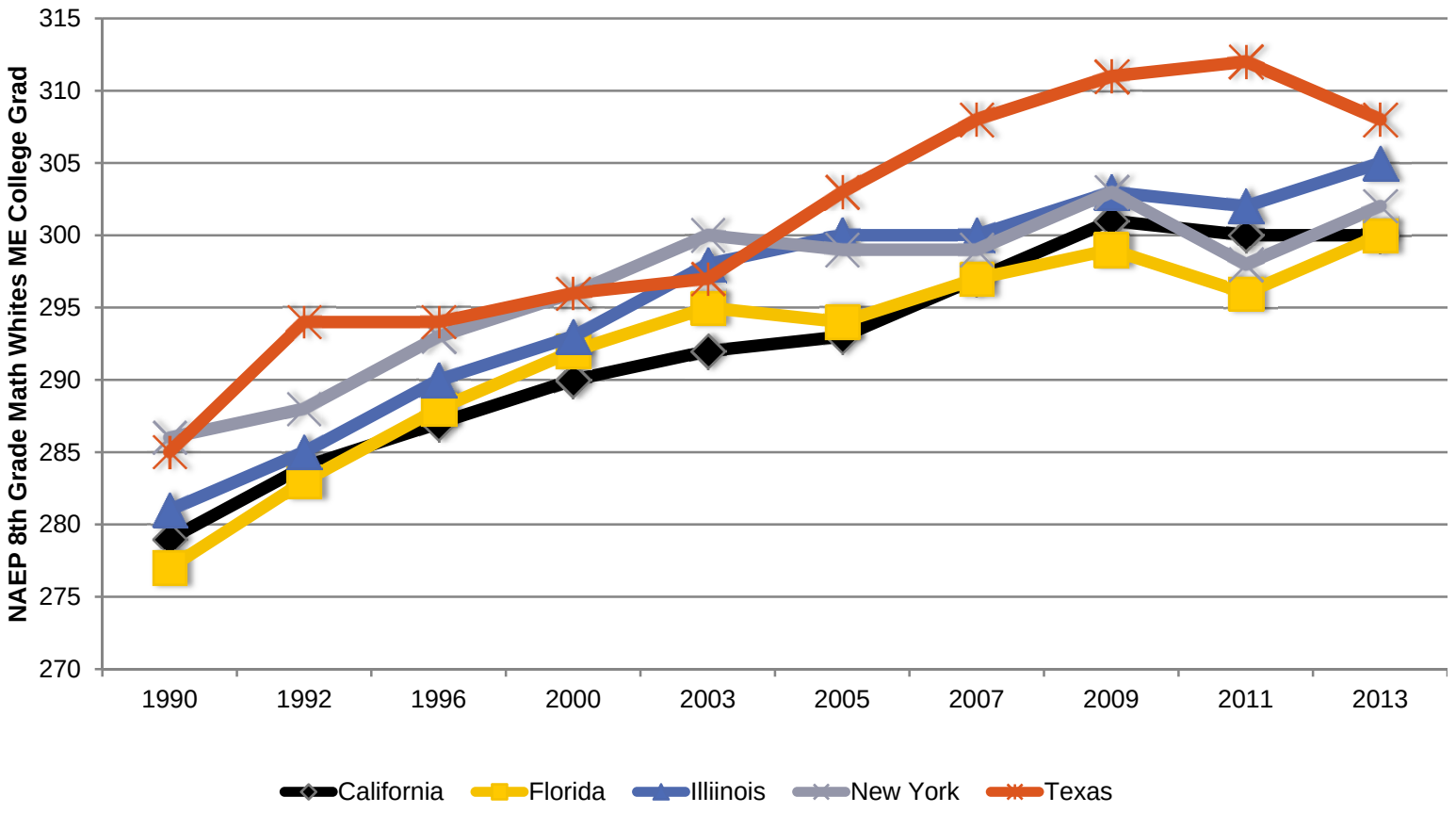
PART OF THESE DIFFERENCES IN GAINS MAY BE DUE TO THE RACIAL/ETHNIC COMPOSITION (RE) OF STUDENTS TAKING THE TEST. WE CAN COMPARE LARGE STATE GAINS CONTROLLING FOR ME & RE. THESE ARE WHITES (NON-HISPANICS), ME HSC OR LESS



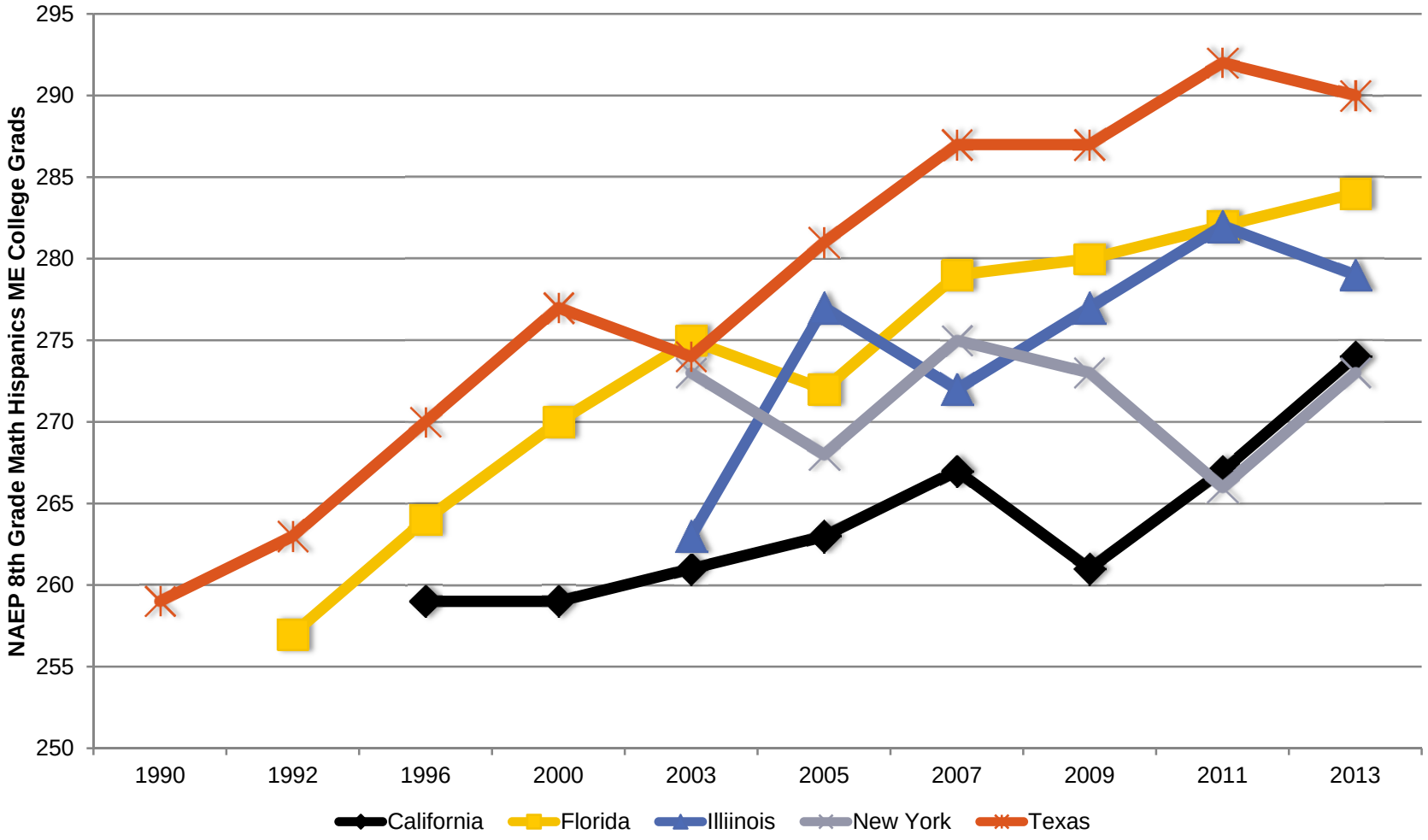
NAEP 8TH GRADE MATH SCORES FOR HISPANICS IN BIG STATES WHOSE ME IS HS GRADUATE OR LESS



NAEP 8TH GRADE MATH SCORES FOR WHITES (NON-HISPANICS) IN BIG STATES WHOSE ME IS REPORTED TO BE A COLLEGE GRADUATE



NAEP 8TH GRADE MATH SCORES FOR HISPANICS IN BIG STATES WHOSE ME IS COLLEGE GRADUATE



SOME OBSERVATIONS ABOUT THE RELATION OF ME (F.A.R.) AND ETHNICITY DIFFERENCES TO TEST SCORES AND TEST SCORE GAINS

Hispanics in both California and Texas who declare that their mother's education is university graduate score about the same in 8th grade math as Non-Hispanic Whites who declare that their ME is HSG or less.

The gap between non-Hispanic Whites with ME equal to HSG and those with ME equal to CG was wider in 1990 in TX than in CA and is now (2013) somewhat narrower in TX. The gap increased in 1990-2013 (5 points) in CA but declined in TX (-4 points).

The gap between Hispanics and Whites with ME HSG was larger in CA than TX in both 1990 and 2013, but decreased more in CA between 1990 and 2013.

The gap between Hispanics and Whites with ME CG was larger in CA than TX in both 1996 and 2013, but decreased LESS in CA than in TX between 1996 and 2013.**

So, if we believe that there is accurate reporting on ME (a big assumption), then the evidence is mixed for CA's efforts to equalize outcomes between disadvantaged and advantaged students compared to TX.

WHY ARE THERE DIFFERENCES BETWEEN STATES? SOME INITIAL SPECULATIONS

The differences in the previous four charts give us some clues as to whether the California educational system is not doing as well as other states or whether the students' outside of school inputs may be different in different states.

Non-Hispanic Whites whose mothers graduated college are most likely to be similar in the large states.

The differences in the rise in math 8th grade scores for that group in the past 23 years has been similar among the five states, although CA scores remain significantly below those in Texas (but not the other three states), and until 2011, the increase in Texas scores was greater than those in CA. One possible explanation is that TX has consistently excluded a higher fraction of Special Educ students (to be examined).

WHY ARE THERE DIFFERENCES BETWEEN STATES? SOME INITIAL SPECULATIONS II

Whites reporting ME as HS graduate or less made smaller gains before 2000 than all four comparison states but larger gains than all but similar students in Texas after 2000.

This pattern is similar but more pronounced than in the case of Whites with ME college graduate.

Possibly, the implementation of CA standards and standard-based testing in 1998 could explain this pattern.

However, this still not explain why lower F.A.R. Non-Hispanic White students in CA score so much lower than White lower F.A.R. students in Texas. Again, is this the result of higher TX NAEP "exclusion" rates, or of policies that made TX schools more effective?

WHY ARE THERE DIFFERENCES BETWEEN STATES? SOME INITIAL SPECULATIONS III

Comparing gains and level of scores for Hispanics (a major ethnic group in CA schools) among states is more complex.

Hispanics are a more heterogeneous group than non-Hispanic Whites.

Test scores can depend on immigrant status (language knowledge--% of ELL students), and on subgroup self-perceptions—Cuban origin (Florida); Puerto Ricans (New York); Mexican-origin (CA, TX, IL).

If ELL exclusion rates differ, the level of scores could differ considerably.

ONE ORGANIZATIONAL DIFFERENCE BETWEEN STATES IS THE STRENGTH OF THEIR ACCOUNTABILITY SYSTEMS

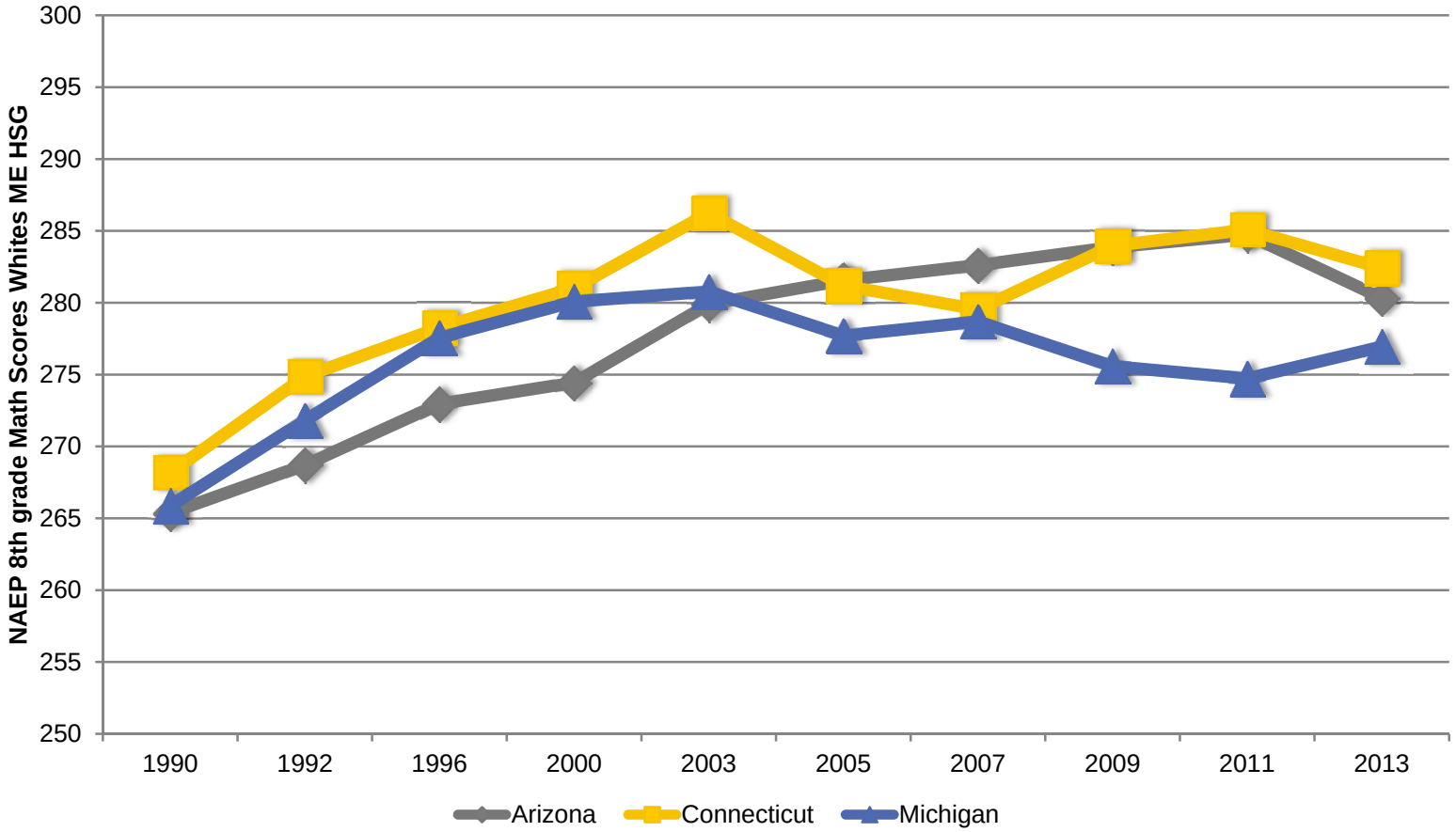
We can compare 8th grade math scores for two sets of states, one with relatively weak accountability systems, and the other relatively strong accountability systems.

We use a measure of accountability that we developed in 2000. It rates states on the amount of testing they do, and the rewards/sanctions connected with those performance evaluations. California had a high accountability index on this measure (4/5).

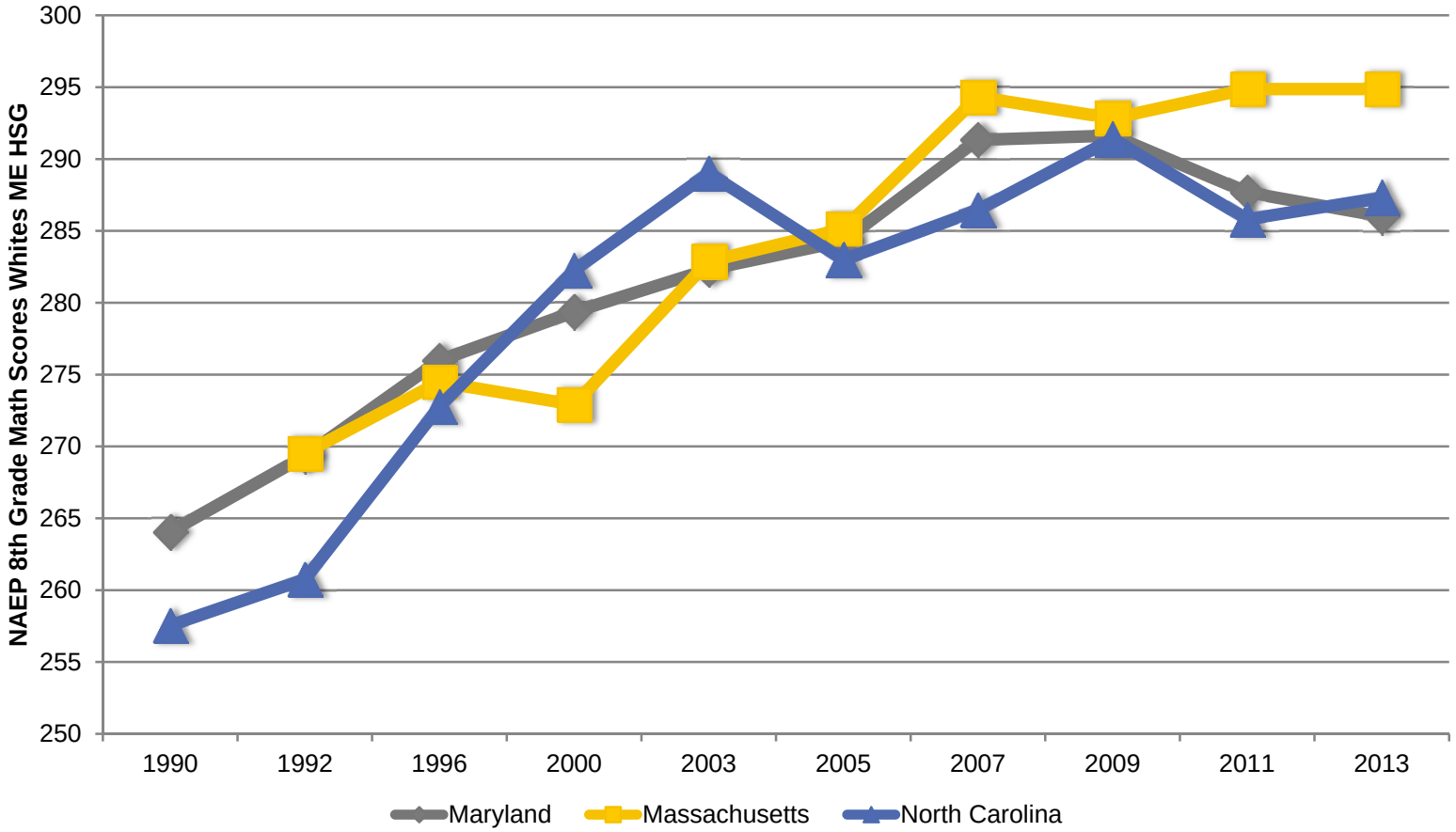
Just as examples, we compare Arizona, Connecticut, and Michigan (weak) with Maryland, Massachusetts, and North Carolina (strong).

There is a tendency for the stronger accountability states to have had bigger increases in math scores.

WHITES REPORTING ME AS HIGH SCHOOL GRADUATE IN WEAK ACCOUNTABILITY STATES



WHITES REPORTING ME AS HIGH SCHOOL GRADUATE IN STRONG ACCOUNTABILITY STATES



A SIMPLE REGRESSION ANALYSIS OF 8TH GRADE MATH TEST SCORE GAINS IN 1990-2013 SUGGESTS THAT ACCOUNTABILITY MAY HAVE POSITIVELY INFLUENCED GAINS

Variable	*ME High School Grad or less*	*ME College Grad*	*Black All ME Level*
Initial Score	**-0.507*** **	**-0.424*** **	**-0.536*** **
Spending Increase Ratio	**-2.680**	**-1.965**	**10.699**
Child Poverty	**-0.365*** **	**-0.429*** **	**-0.446** **
Accountability	**0.914***	**0.872** **	**1.834*** **
Later time period	**4.995*** **	**5.962*** **	**11.205*** **
Intercept	**148.378*** **	**135.615*** **	**126.526*** **
Adjusted R^2	**0.27**	**0.25**	**0.47**

SOME PRELIMINARY CLOSING REMARKS

We cannot say at this time with any degree of certainty why students in CA tend to score lower than students with similar family academic resources and ethnicity in other large states and lower than similar students in a number of other states.

California's advantaged students seem to do relatively better than its disadvantaged students compared to their counterparts in other states.

This may be a good sign because a number of factors may affect the measured scores of disadvantaged students that are not associated with school effectiveness, such as the rate of exclusion from the NAEP test, immigrant status, and ELL status.

On the other hand, lower student performance in CA may reflect worse state and district organization, lower quality teachers (because of lower real salaries). Although CA has continued to make gains, especially in 2003-2013, its students perform less well on the NAEP and the TIMSS compared to similar students in high performing states.