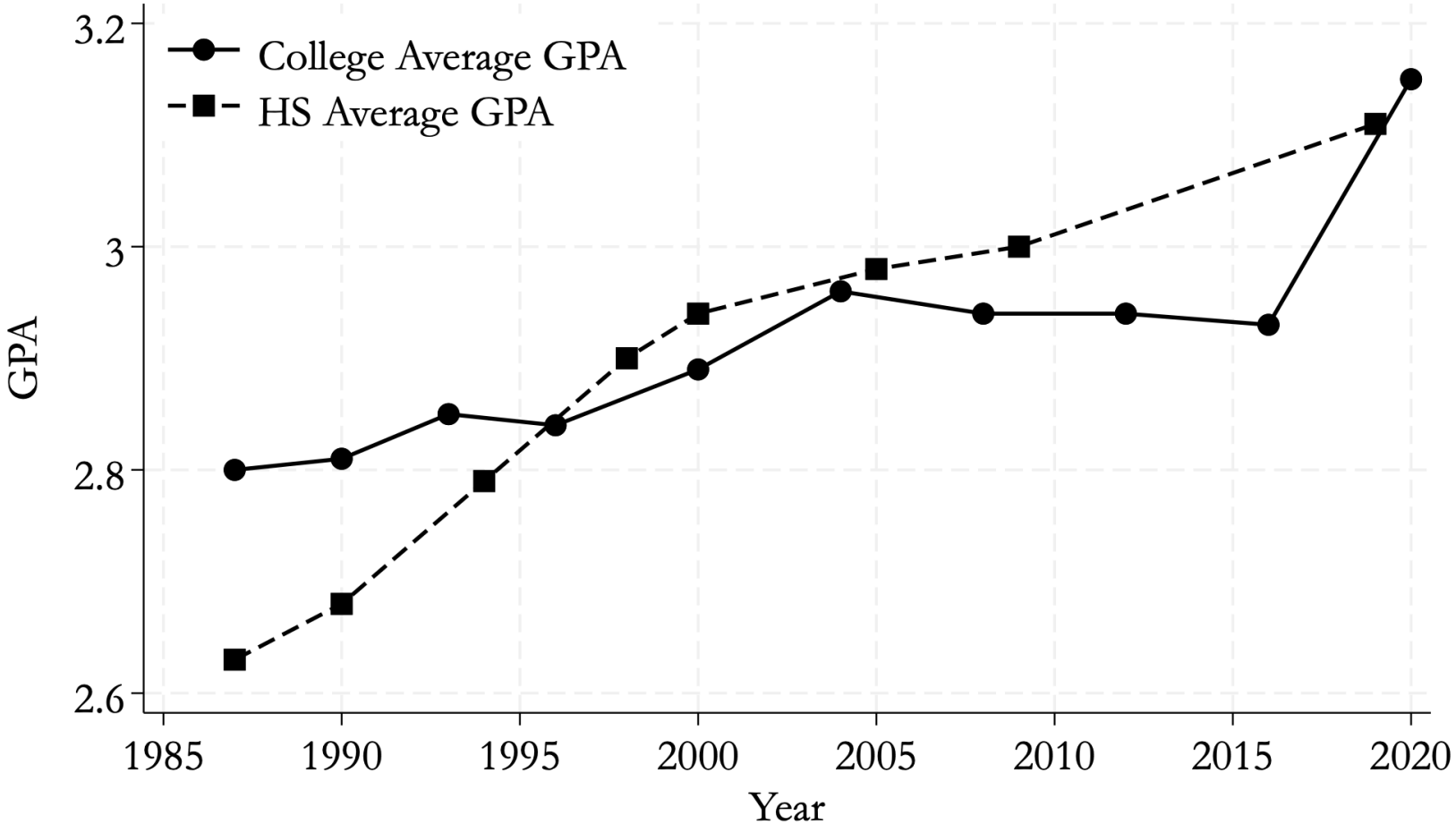
Easy A's, Less Pay: The Long-Term Effects of Grade Inflation

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Average Grades Have Risen Substantially



Sources: National Postsecondary Student Aid Study and High School Transcript Study from the NCES.

Grade Inflation

- Stakeholders concerned about the impact of grade inflation
  - Recent high-profile reports at Harvard and UCSD
  - Similar discussions happening in K-12, sometimes called "equitable grading"
- Teachers typically have a lot of discretion over their grade distributions and grading policies
- What is the effect of grade inflation?
  - What is the effect of being assigned a high school class with a higher level of grade inflation?
  - How do students respond to relaxed grading standards?

Grade Inflation Effects Are Ambiguous

- Grade inflation could take many forms because grades are a mapping of (continuous) performance to discrete grades.
  - e.g. generally easy, generally difficult, easy to pass but difficult to get an A, etc.
- Impact of grade inflation is theoretically ambiguous (Costrell, 1994):
  - High standards could incentivize effort from students to meet higher standards and increase human capital
  - High standards could discourage and deter students from more education (Kohn, 2002)
- The effects of grade inflation can depend on the type of inflation and student characteristics.
- Little empirical evidence of the long-term impact of grade inflation

This Paper

- Construct and validate two types of teacher grade inflation measures
  - Mean grade inflation: teachers give higher average grades
  - Passing grade inflation: teachers pass students more often
- How does grade inflation relate to teacher value-added?
  - Construct measures of cognitive and noncognitive value-added using data from Los Angeles and Maryland
- How does being assigned a high-grade inflation teacher impact students?
  - Effects on future test scores, high school graduation, college attendance and graduation, and earlier career earnings

Preview of Results

- Grade inflation is distinct from value-added
  - Grade inflating teachers have somewhat lower cognitive value-added, slightly higher noncognitive value-added
- Effect of mean grade inflation
  - Decreases future test scores, likelihood of graduating high school and taking the SAT
  - Reduces post-secondary enrollment, employment and earnings
- Effect of passing grade inflation
  - Decreases the likelihood of being held back, increases high school graduation
  - Increases enrollment in two-year colleges and decreases bachelor attainment

Contributions to Related Literature

1. Measuring the effects of grade inflation (Betts and Grogger, 2003; Figlio and Lucas, 2004; Mozenter, 2019; Gershenson et al., 2022; Bowden et al., 2023; Insler et al., 2021)
   - New concept: passing grade inflation
   - Validate grade inflation measures
   - Effects of grade inflation on short-term (high school) and longer-term (college and labor market) outcomes
2. Another dimension of teacher effects beyond test score VA (Boardman and Murnane, 1979; Hanushek, 1979; Rockoff, 2004; Kane and Staiger, 2008; Chetty et al., 2014a,b; Gilraine and Pope, 2021; Petek and Pope, 2023)
   - Grade inflation is a margin teachers and schools have a lot of discretion over
   - Difficult to learn how to be a good teacher, may be much easier to choose a grade distribution

Outline

Data

- Los Angeles and Maryland data

Grade Inflation Measures

- How they are constructed
- Validation of the measures
- Correlation between grade inflation and value-added measures

Estimation and Results

- Effect on high school outcomes in both locations
- Effect on college and labor market outcomes in Maryland

Conclude

Data

1. Los Angeles Unified School District
    - Second largest school district in the nation
    - 72 percent of students are Hispanic (14 percent EL)
    - Graduation rates just over 50 percent
    - Tested annually through 11th grade
2. Maryland
    - Over 250,000 high school students
    - 41 percent White, 34 percent Black, 14 percent Hispanic (2 percent EL)
    - Graduation rates just over 90 percent
    - Limited annual testing in high school

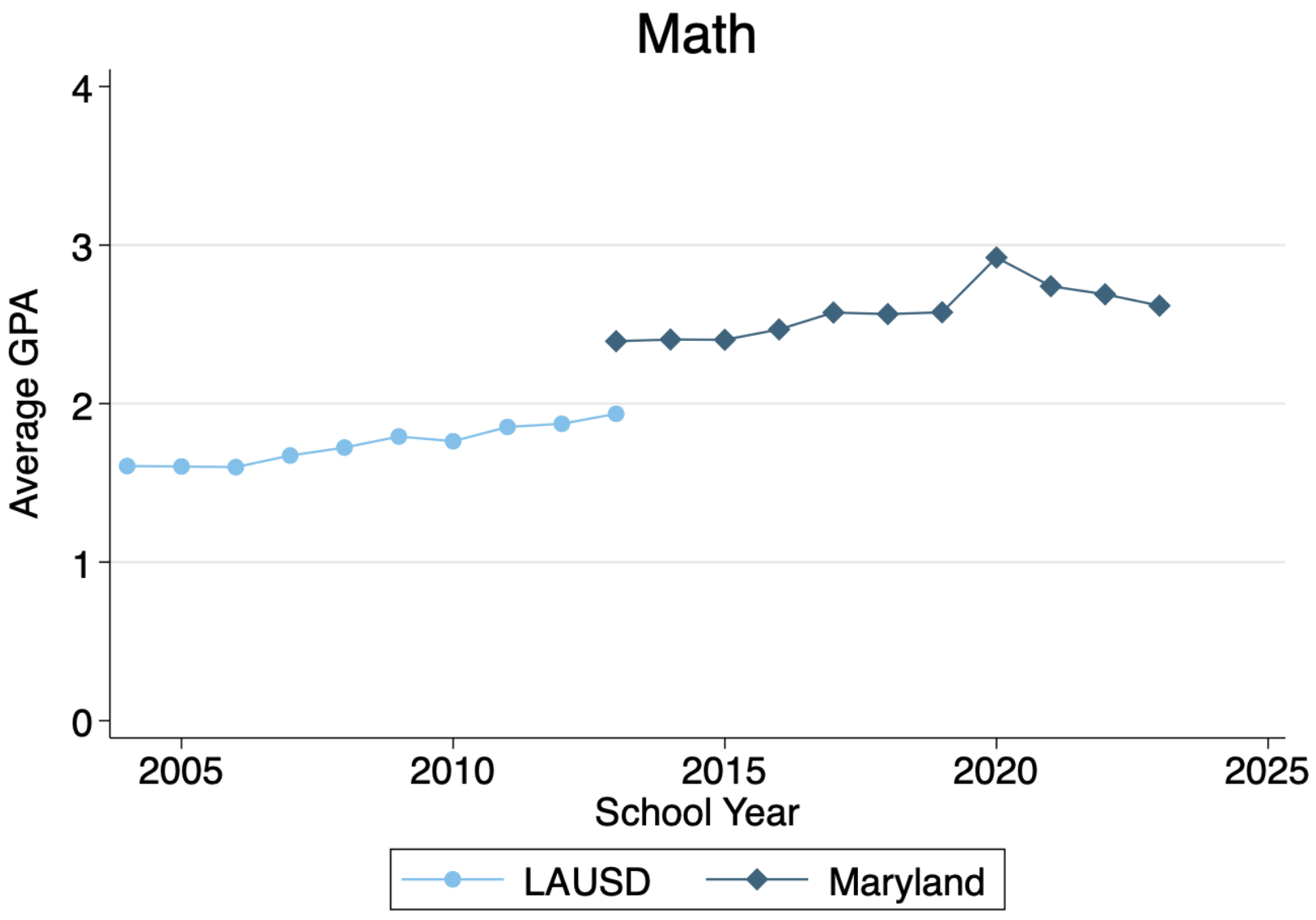
Data

	Los Angeles	**Maryland**
Years	2004-2013	2013-2023
Grades	9-12	9-12
HS Measures	Test Scores, GPA, Behavioral Outcomes	Test Scores, GPA, Behavioral Outcomes
HS Outcomes	Test Scores, SAT, Graduation	Test Scores, SAT, Graduation
Postsecondary Outcomes		Enrollment, Graduation (NSC)
Labor Market Outcomes		Quarterly Wages, employment (UI)

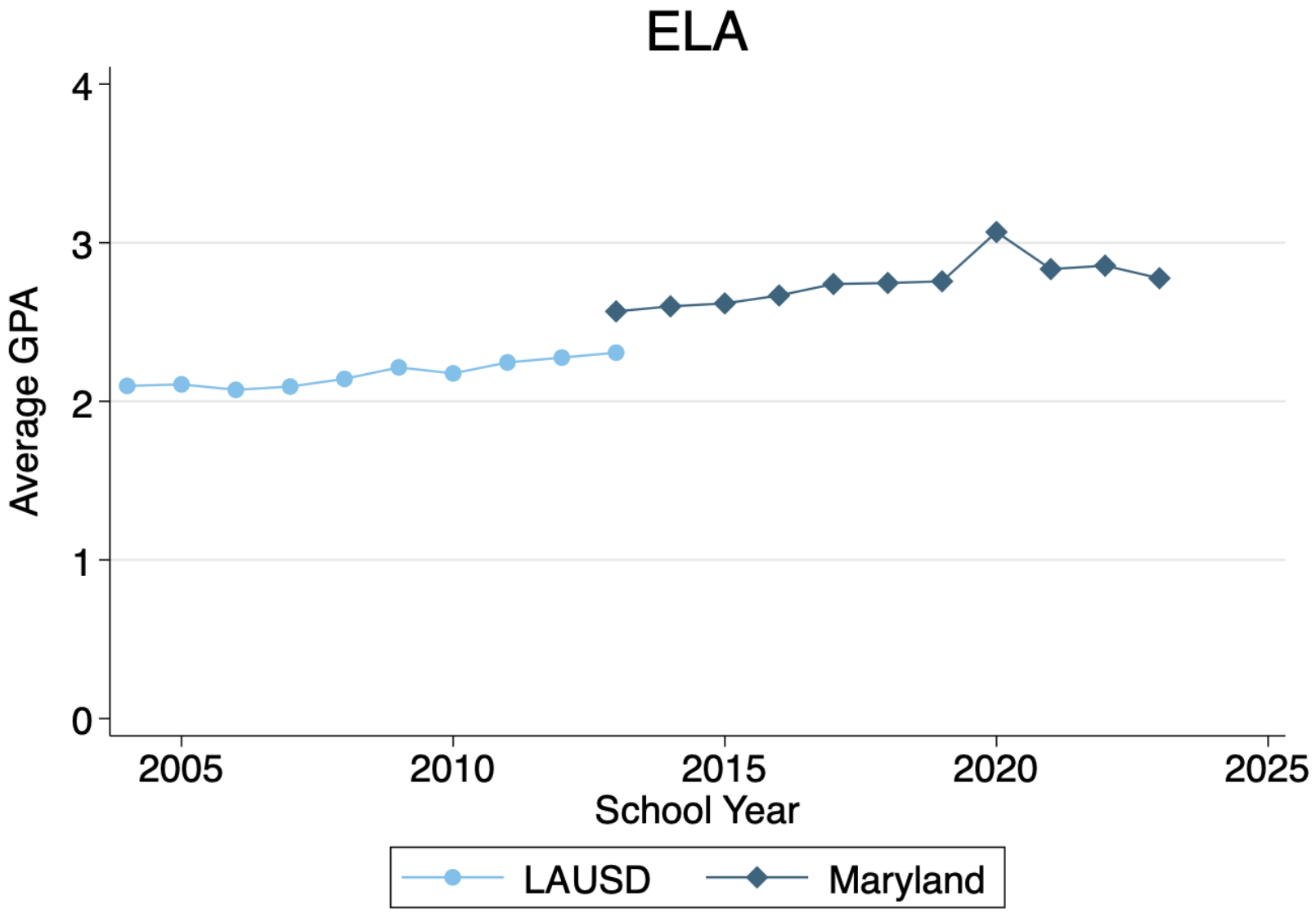
Summary Statistics

	Los Angeles		Maryland	
	Mean	Obs	Mean	Obs
GPA	2.29	985,020	2.89	1,647,988
Failing Grade	0.26	985,020	0.03	1,647,988
Held Back	0.12	985,020	0.04	1,541,341
Graduate HS	0.58	733,949	0.92	1,403,078
Took SAT	0.36	833,266	0.67	1,647,988
Enrolled College			0.65	1,403,078
Graduated College			0.41	461,864
Earnings 6 yrs post HS			$27,789	288,268

Grades are Increasing Over Time: Math



Grades are Increasing Over Time: English



Mean Grade Inflation

$$Grade_{ijst} = \beta_1 TestScore_{ijst} + \beta_2 Grade_{ist-1} + \beta_3 MathTest_{ijst-1} + \beta_4 EnglishTest_{ijst-1} + GI_{jt}^{mean} + X_{it}\beta + \epsilon_{ijst}$$

- GI_{jt}^{mean} is **mean grade inflation**
  - Measures how much higher are teacher j's students' average grades than predicted
- Controls: School FE, grade FE, year FE, EL status, lagged fraction days absent, and lagged suspension and held back indicators
- Estimate with a jackknife empirical Bayes following Chetty et al. (2014a) Other Measures

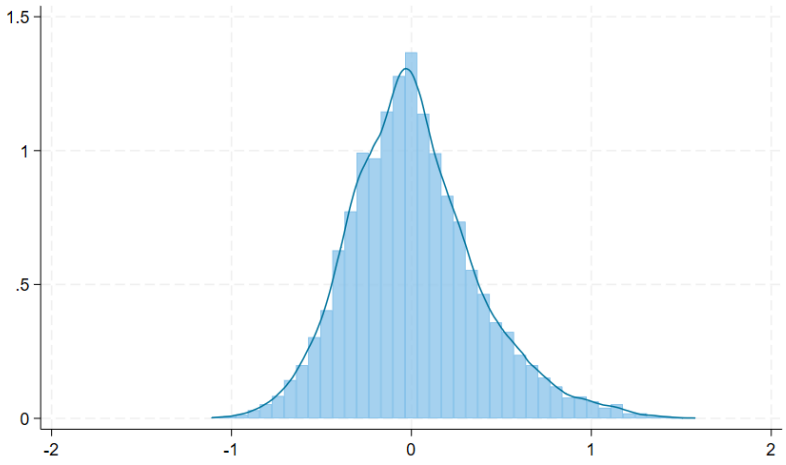
Passing Grade Inflation

$$Pass_{ijst} = \beta_1 TestScore_{ijst} + \beta_2 Grade_{ist-1} + \beta_3 MathTest_{ijst-1} + \beta_4 EnglishTest_{ijst-1} + GI_{jt}^{pass} + X_{it}\beta + \epsilon_{ijst}$$

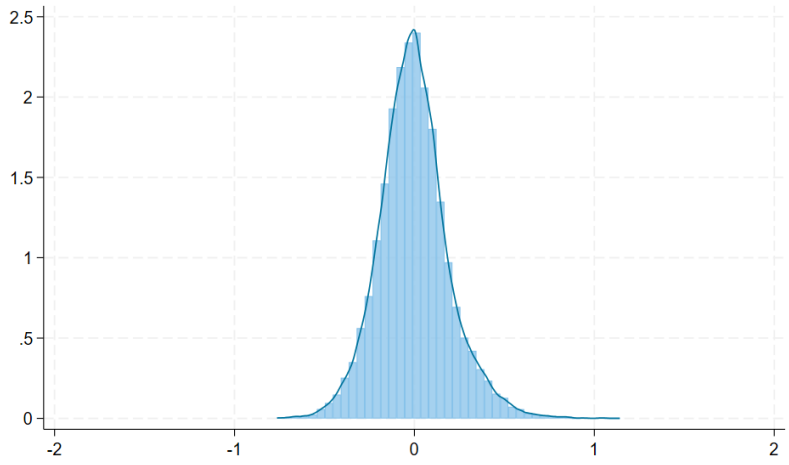
- GI_{jt}^{pass} is **passing grade inflation**
  - Measures how much more frequently do teacher j's students receive passing grades than predicted
- Same controls and estimation as mean grade inflation
- Passing grade inflation highlights a different type of grade inflation

Mean Grade Inflation Distribution: Math English

Los Angeles



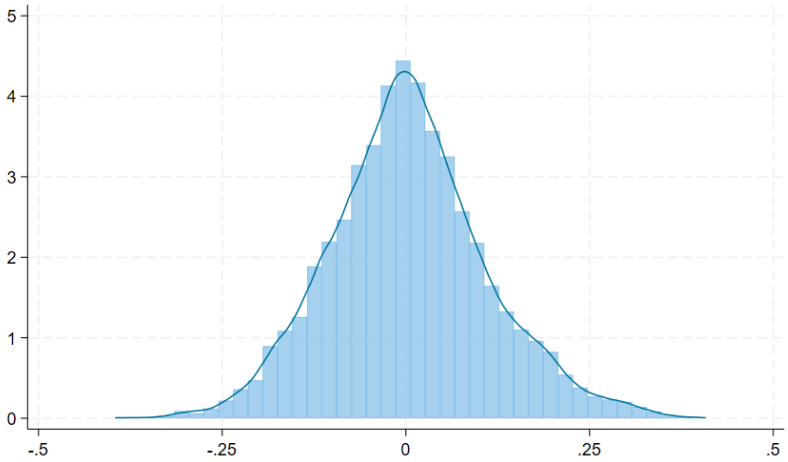
Maryland



Passing Grade Inflation Distribution: Math

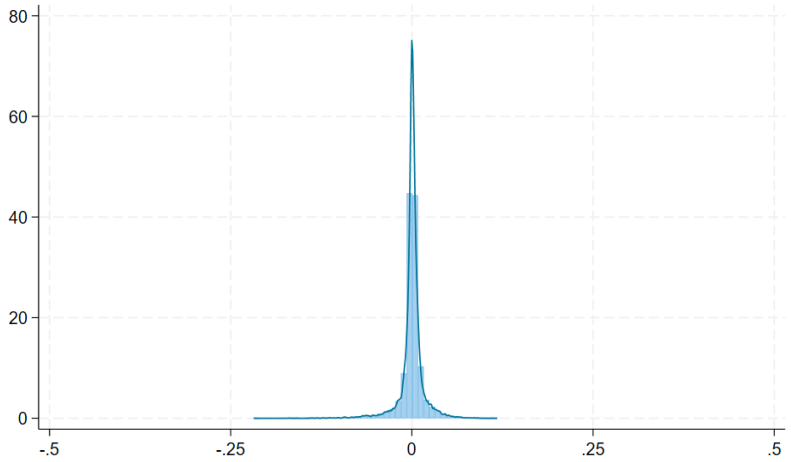
English

Los Angeles



Likelihood of Passing

Maryland



Likelihood of Passing

Grade Inflation Measures: Forecast Unbiased

- Like value-added, grade inflation may suffer from two challenges:
  - Noise from estimation error
  - Bias from selection on unobservables
- Two forecast bias tests help diagnose these issues
  1. Out-of-sample prediction of student outcomes
     - Regress residualized outcome on jackknife empirical Bayes grade inflation measures
  2. Omitted observables affecting VA predictors
     - Regress predicted outcomes (using twice lagged test scores) on grade inflation measures

Forecast Bias

	Math		ELA	
Panel A: Individual Test, LAUSD	Course Grade	Pass Indicator	Course Grade	Pass Indicator
Corresponding GI Measure	1.07	1.07	1.03	1.04
	(0.01)	(0.02)	(0.01)	(0.01)
N	474,686	474,839	545,631	545,773
Panel B: Individual Test, Maryland	Course Grade	Pass Indicator	Course Grade	Pass Indicator
Corresponding GI Measure	1.08	1.11	1.03	0.96
	(0.02)	(0.07)	(0.02)	(0.21)
N	204,994	204,994	250,734	250,734
Panel C: Prediction Test, LAUSD	Course Grade	Pass Indicator	Course Grade	Pass Indicator
Corresponding GI Measure	-0.02	-0.01	-0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)
N	538,525	538,542	603,581	603,585

Value-added Estimation

For comparison with grade inflation measures, we estimate both cognitive and noncognitive value-added

- Cognitive value-added:
  - Math and English test scores as outcome
- Noncognitive value-added:
  - Next-year values of GPA, effort GPA, cooperation GPA, fraction days absent, suspended, held back as outcomes as in Petek and Pope (2023)
  - Construct a combined index of these six value-added
- For both grade inflation and test score VA we use a combined index for math and English

Correlations Between Measures

Panel A: LAUSD	Mean GI	Passing GI	Cog. VA	Noncog. VA
Mean GI	1.0000			
Passing GI	0.8599	1.0000		
Cog. VA	-0.4070	-0.3047	1.0000	
Noncog. VA	0.1550	0.1787	0.0879	1.0000
Panel B: Maryland	Mean GI	Passing GI	Cog. VA	Noncog. VA
Mean GI	1.0000			
Passing GI	0.3601	1.0000		
Cog. VA	-0.3108	-0.0743	1.0000	
Noncog. VA	0.1163	0.0542	-0.1241	1.0000

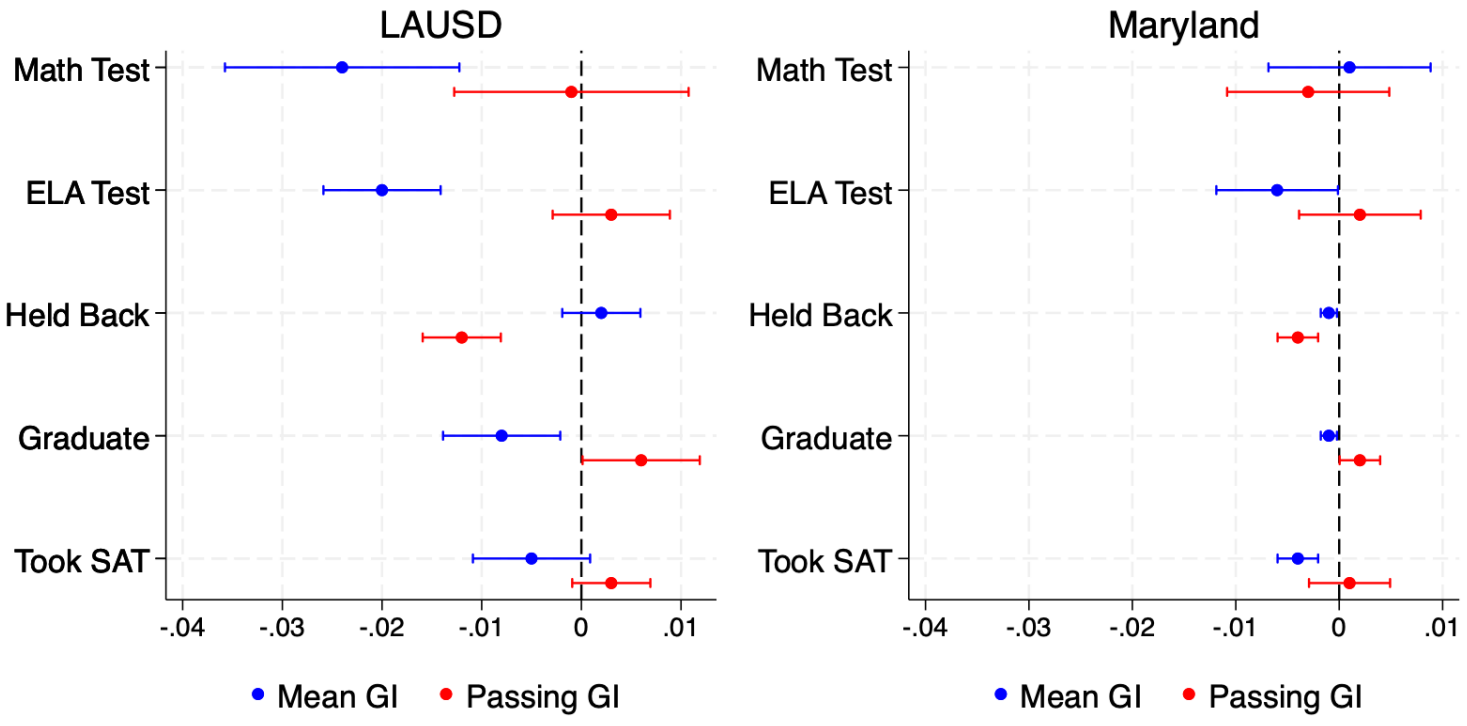
- Use a bootstrapped split-sample approach with attenuation correction to address measurement error Details Raw Corr
- GI negatively correlated with cognitive VA, mildly correlated with noncognitive VA

Estimation: Long-Term Effects of Grade Inflation

$$Y_{it} = \alpha_{mean} \widehat{GI}_{it}^{mean} + \theta_{pass} \widehat{GI}_{it}^{pass} + \delta_{cogVA} \widehat{VA}_{it}^{test} + \psi_{noncogVA} \widehat{VA}_{it}^{noncog} + X_{it}\beta + \eta_{it}$$

- Estimate the effect of grade inflation on student outcomes, conditional on VA measures (Chetty et al., 2014b; Petek and Pope, 2023)
  - α_{mean} and θ_{pass} are main coefficients of interest
- Key assumption: conditional random assignment
- Teacher estimates use jackknife empirical Bayes estimates to address measurement error bias concerns
- Same controls as used in the VA estimation

Effect of Grade Inflation: High School Outcomes



As a Table | Not Controlling for Value-Added | Univariate

Effect of Grade Inflation: By Ability

The effects of mean and passing grade inflation may differ by student ability

- Mean grade inflation
  - May impact effort and human capital formation more for top performing students who can reduce effort and still earn an A
  - May uniformly impact students since less effort is likely needed for each grade
- Passing grade inflation
  - Likely more important for the incentives of students on the margin of passing a class
  - Could mechanically effect the progression of students through high school

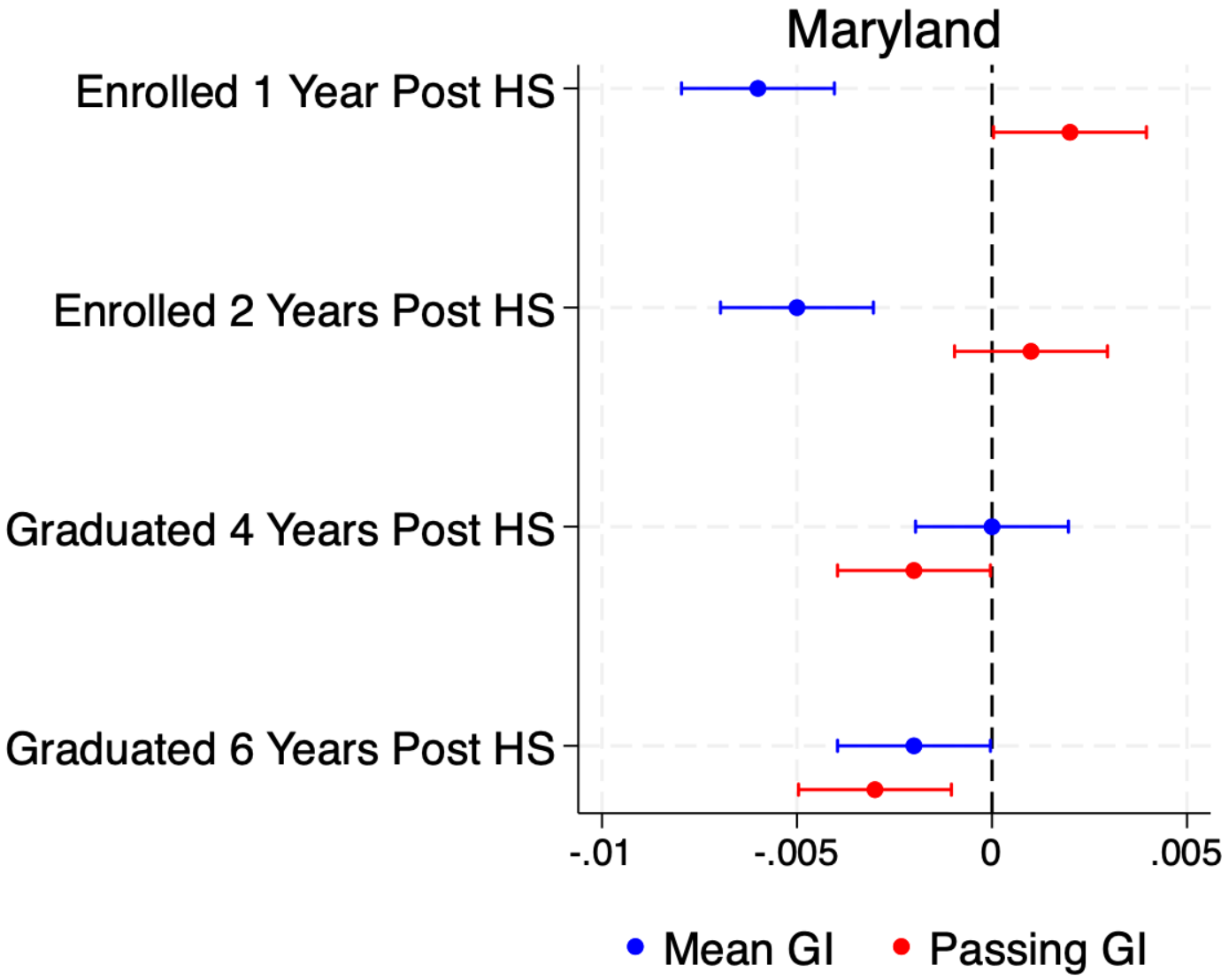
Mean Grade Inflation by Ability Students

Panel A: LAUSD	Future Test (Math)	Future Test (English)	Held Back	Graduate	Took SAT
Below Median	-0.026***	-0.022***	-0.004	-0.007***	-0.000
	(0.006)	(0.005)	(0.003)	(0.003)	(0.002)
Above Median	-0.026***	-0.018***	0.002*	-0.005**	-0.005*
	(0.007)	(0.003)	(0.001)	(0.002)	(0.002)
Equality Test P-value	0.967	0.378	0.017	0.333	0.056
Panel B: Maryland					
Below Median	0.003	-0.007**	-0.003***	-0.000	-0.004**
	(0.005)	(0.003)	(0.001)	(0.001)	(0.002)
Above Median	-0.005	-0.005	-0.001**	-0.000	-0.003**
	(0.006)	(0.004)	(0.000)	(0.000)	(0.001)
Equality Test P-value	0.169	0.552	0.000	0.849	0.428

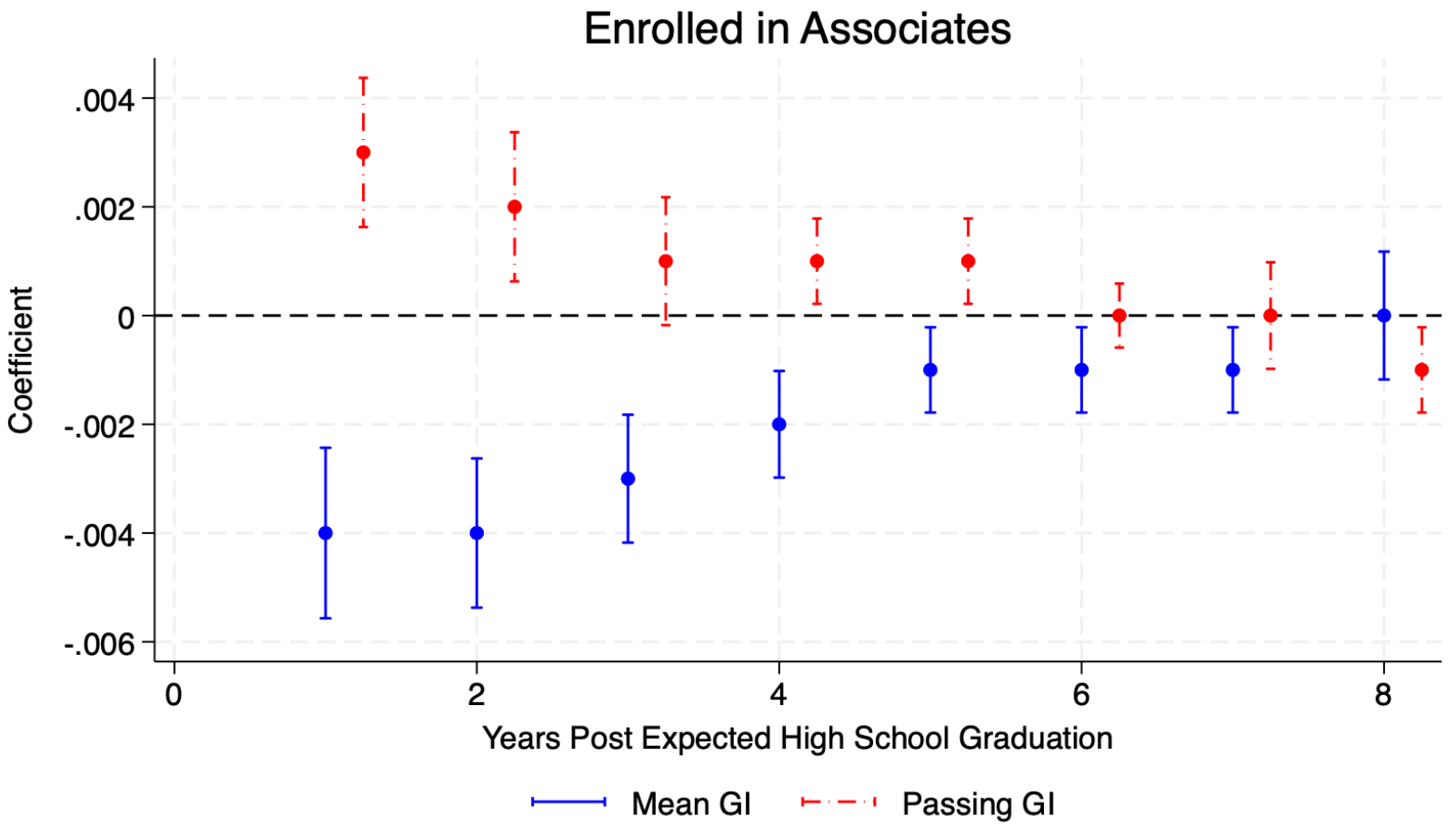
Passing Grade Inflation by Ability Students

Panel A: LAUSD	Future Test (Math)	Future Test (English)	Held Back	Graduate	Took SAT
Below Median	0.001	0.003	-0.012***	0.007***	0.001
	(0.005)	(0.005)	(0.003)	(0.002)	(0.002)
Above Median	0.001	0.004	-0.009***	0.001	0.003
	(0.007)	(0.003)	(0.001)	(0.002)	(0.003)
Equality Test P-value	0.965	0.821	0.201	0.010	0.359
Panel B: Maryland					
Below Median	-0.004	0.002	-0.005***	0.002**	0.001
	(0.005)	(0.004)	(0.002)	(0.001)	(0.002)
Above Median	-0.001	0.001	-0.002*	0.001	0.002
	(0.005)	(0.004)	(0.001)	(0.001)	0.002)
Equality Test P-value	0.605	0.772	0.001	0.022	0.926

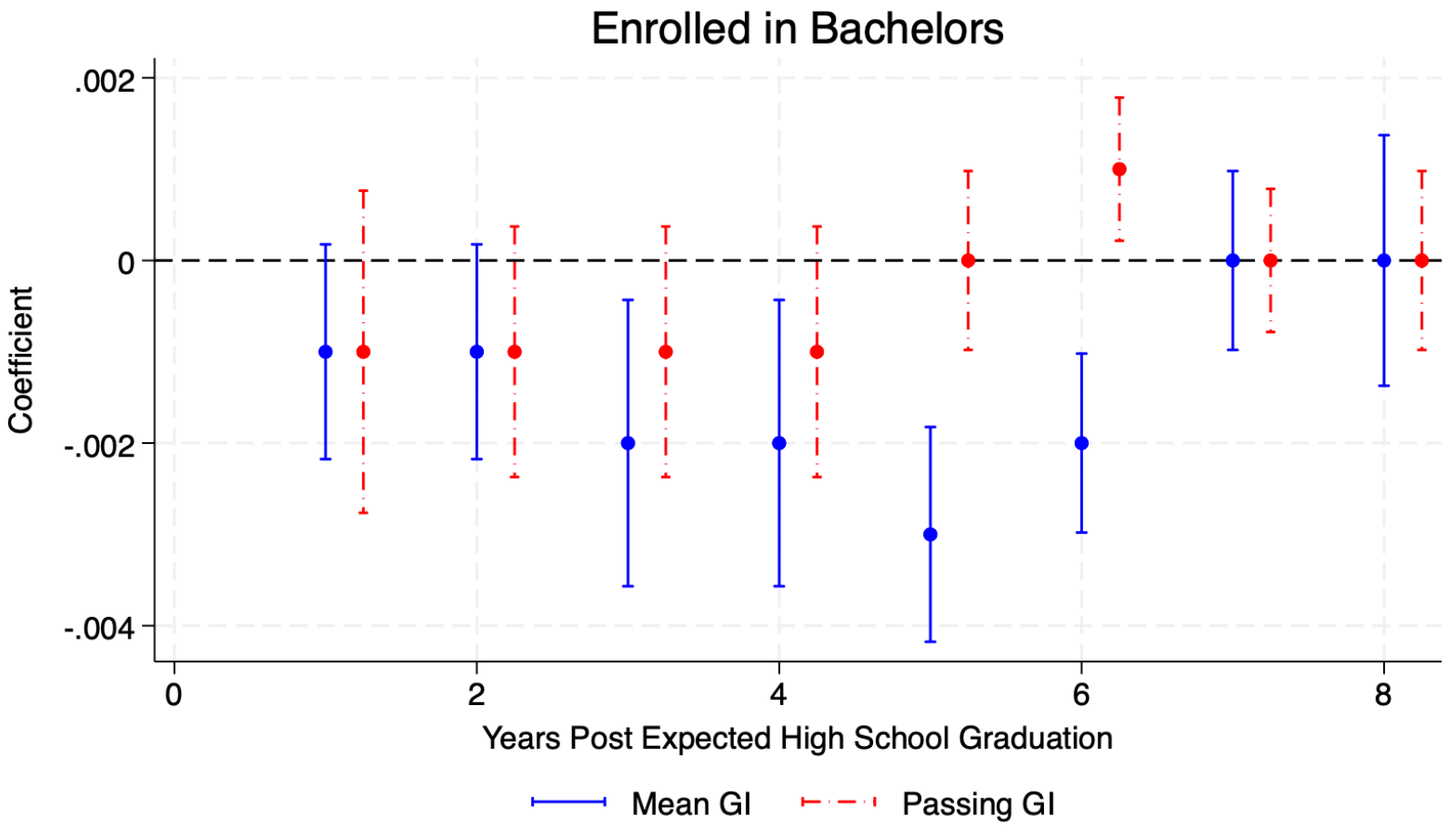
Effect of Grade Inflation: Postsecondary Outcomes



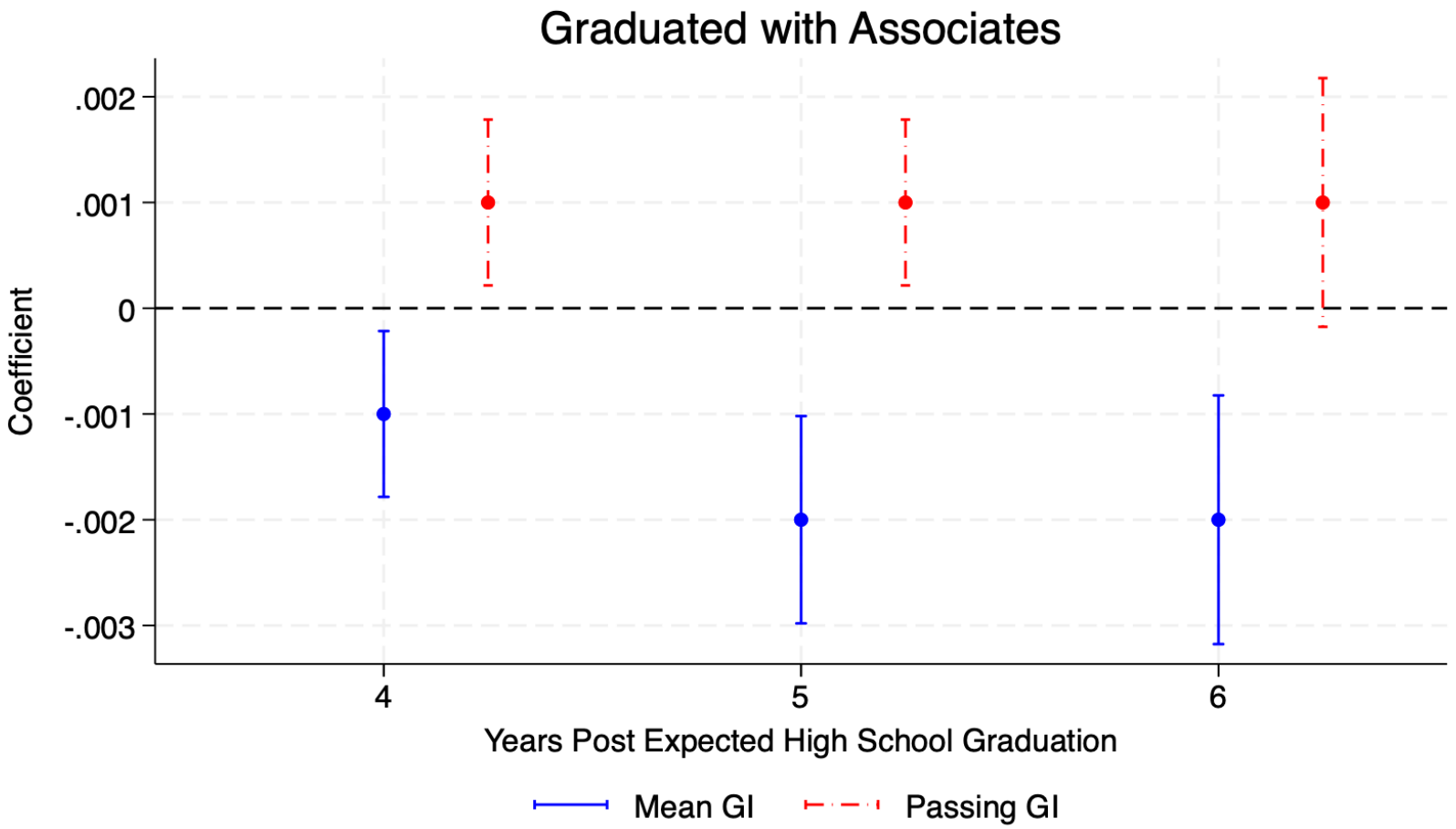
Effect of Grade Inflation: Enrolled in Associates



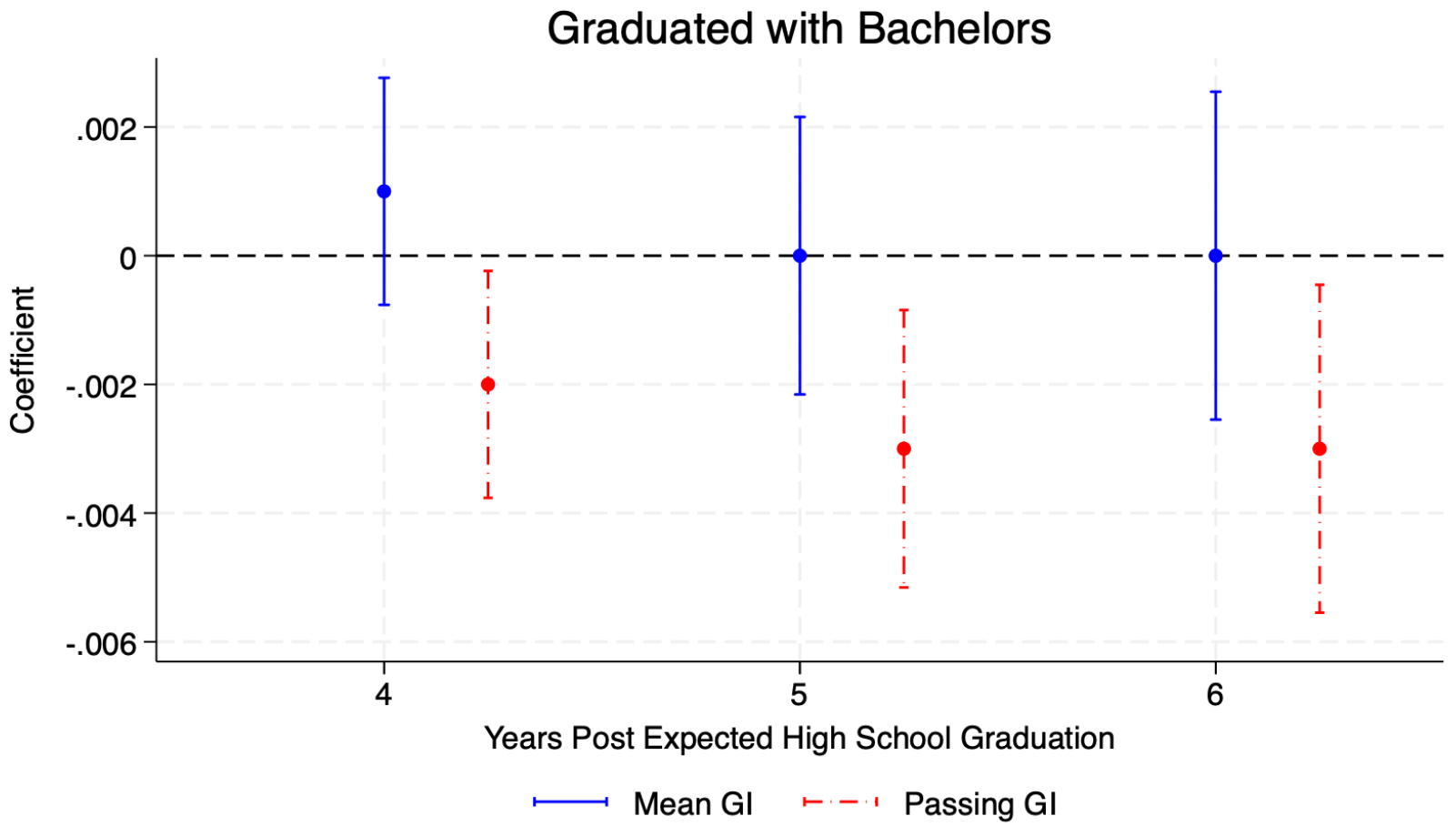
Effect of Grade Inflation: Enrolled in Bachelors



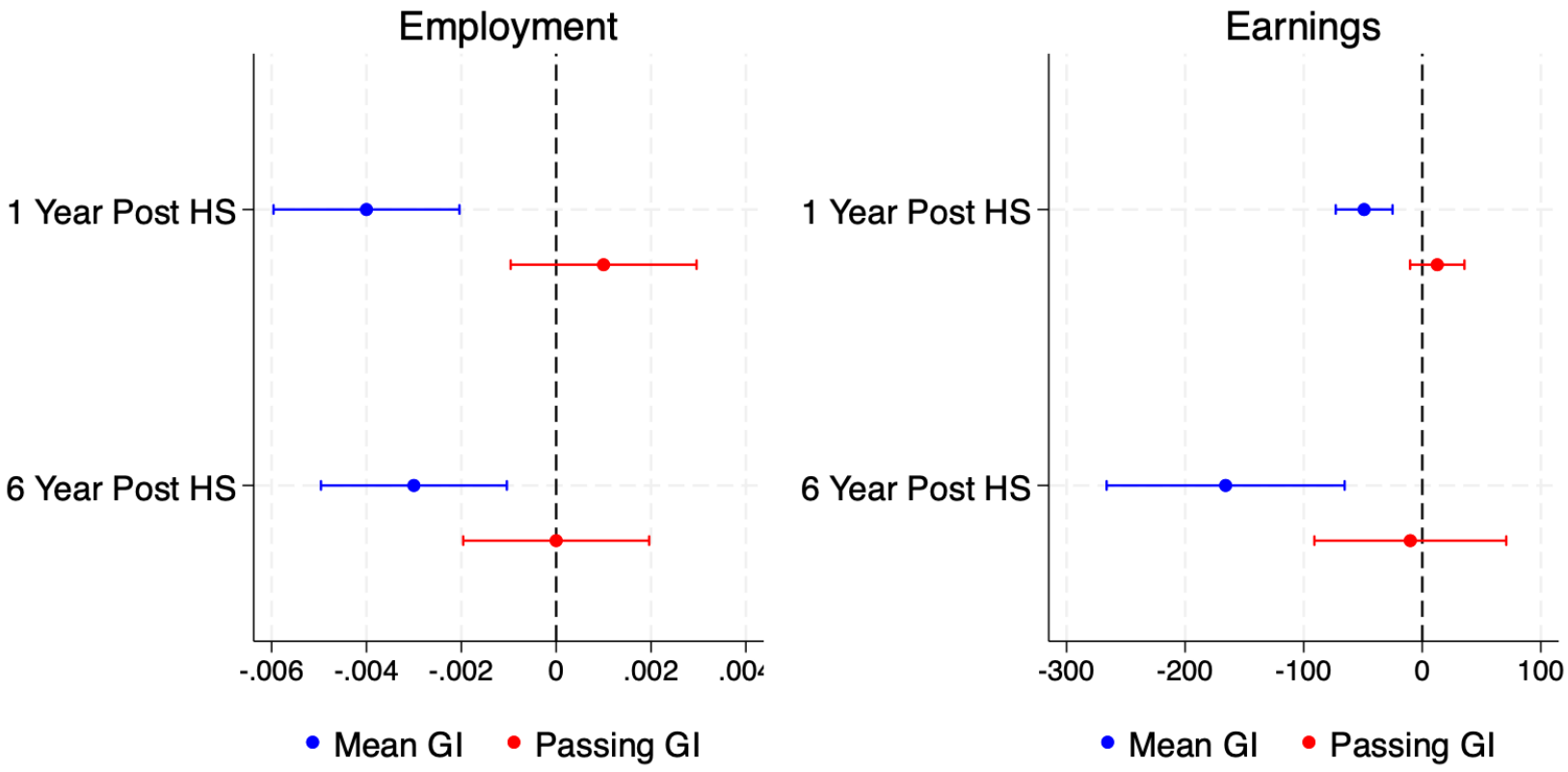
Effect of Grade Inflation: Graduated with Associates



Effect of Grade Inflation: Graduated with Bachelors



Effect of Grade Inflation: Labor Market



Robustness

- Two disparate settings
  - Consistent results for Los Angeles and Maryland
- Univariate regressions Univariate
  - Similar results when only including grade inflation measures
- Excluding contemporaneous test scores Noncontemporaneous
  - Grade inflation measures estimated without contemporaneous test scores are nearly identical
  - Estimates with these alternative measures are also nearly identical
- Similar results when estimated separately by math and English Los Angeles Maryland
- Similar results when including additional controls in Maryland Additional Controls

Conclusion

- Grade inflation is a distinct dimension by which teachers impact students
- Grade inflation impacts students' future outcomes
  - Mean grade inflation negatively affects HS graduation, college-going, employment and earnings
  - Passing grade inflation helps some students graduate from HS and attend 2-year colleges
- Altering grading practices could be a low-cost strategy to improve student outcomes
- Future Work:
  - Effects of grade inflation at other levels of education
  - Test if policies that directly change grade distributions impact students
  - Broader general equilibrium effects of grade inflation

Thank You

- Thank you!

Previous Used Measures of Grade Inflation back

Previous measures of grade inflation:

1. Average test score of each teacher's B students (Figlio and Lucas, 2004; Gershenson et al., 2022)
2. Teacher fixed effect from a regression of test scores on grade (Figlio and Lucas, 2004; Gershenson et al., 2022)
   - $TestScore_{ijt} = \delta_j + \beta\, grade_{ijt} + \varepsilon_{ijt}$

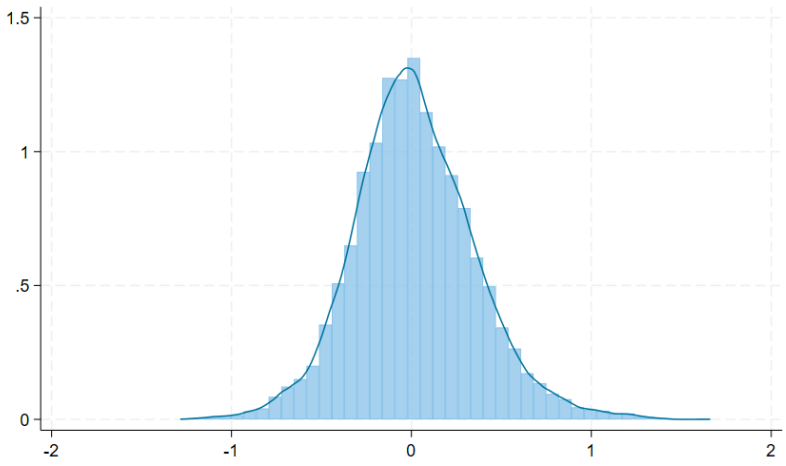
Differences with our measure:

- Previous measures capture the residual of test scores conditional on grades
- Our measure captures the residual of grades conditional on test scores

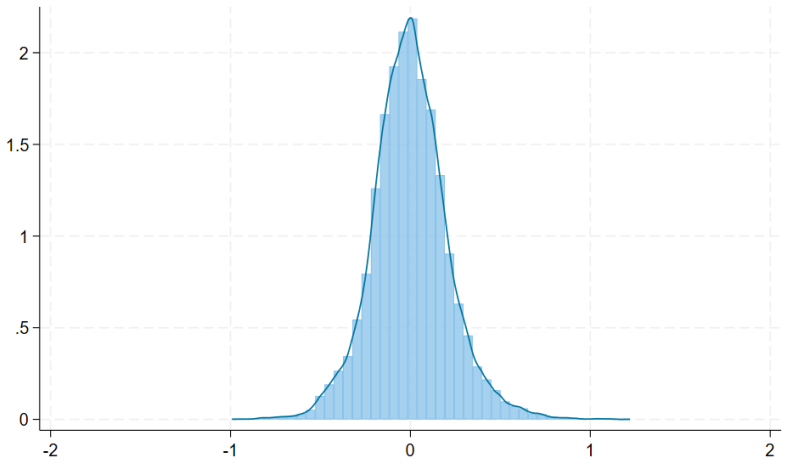
Mean Grade Inflation Distribution: English

back

Los Angeles



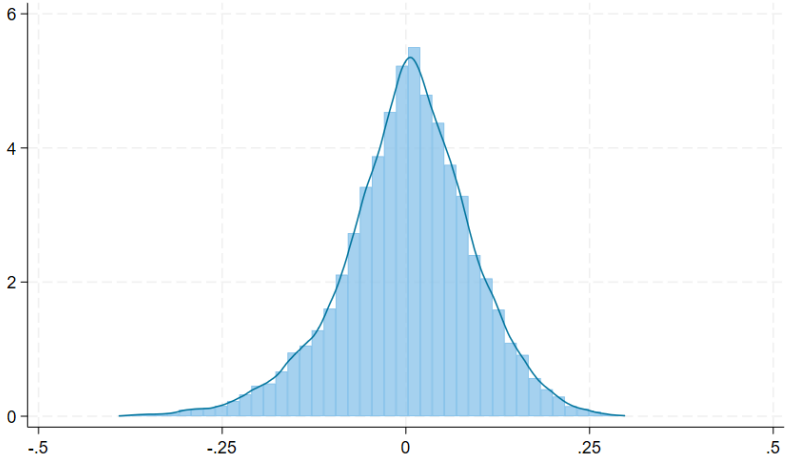
Maryland



Passing Grade Inflation Distribution: English

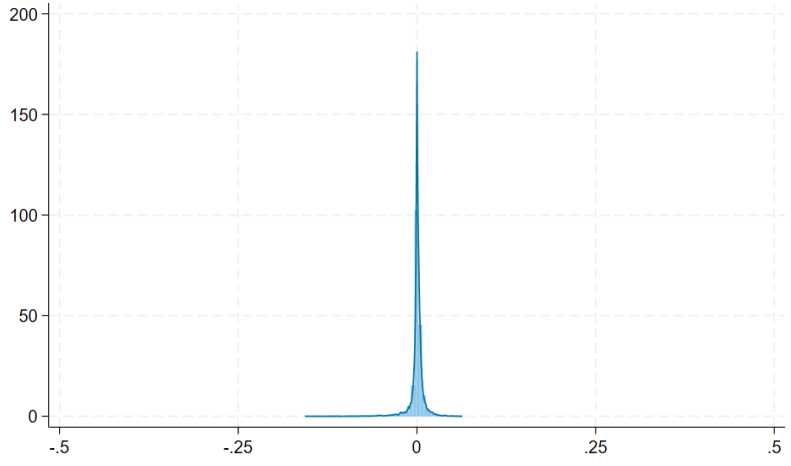
back

Los Angeles



Likelihood of Passing

Maryland



Likelihood of Passing

Estimating Correlations Between Teacher Measures

back

- Raw correlations could be biased upward or downward due to measurement error Jackson et al. (2024)
- A split sample correlation procedure addresses this concern: Ayllón et al. (2025)
  - Split the sample within classroom into samples 1 and 2
  - Estimate teacher measures μ_A and μ_B on each sample to obtain $\hat{\mu}_A^i$ and $\hat{\mu}_B^i$ for each teacher
  - Estimate the correlation as

$$\widehat{r}_{AB} = \frac{\widehat{corr}(\mu_A^0, \mu_B^1)}{\sqrt{\widehat{corr}(\mu_A^0, \mu_A^1)\widehat{corr}(\mu_B^0, \mu_B^1)}}$$

  - Finally, bootstrap this estimate with random sample splits
- Sample split in numerator removes spurious correlations of measurement errors across outcomes, correction term in denominator removes attenuation from measurement error

Correlations Between Grade Inflation and Value-Added

back

Raw correlations without correcting for bias in measurement

Panel A: LAUSD	Mean GI	Passing GI	Cog. VA	Noncog. VA
Mean GI	1.000	.	.	.
Passing GI	0.785	1.000	.	.
Cog. VA	-0.268	-0.337	1.000	.
Noncog. VA	-0.023	-0.050	0.103	1.000
Panel B: Maryland	Mean GI	Passing GI	Cog. VA	Noncog. VA
Mean GI	1.000	.	.	.
Passing GI	0.394	1.000	.	.
Cog. VA	-0.145	-0.048	1.000	.
Noncog. VA	-0.014	0.005	0.046	1.000

Effect of Grade Inflation

back

Panel A: LAUSD	Future Test (math)	Future Test (ela)	Held Back	Graduate in 5 Years	Took SAT	SAT Score
Mean GI	-0.024***	-0.020***	0.002	-0.008***	-0.005+	-1.546
	(0.006)	(0.003)	(0.002)	(0.003)	(0.003)	(1.790)
Passing GI	-0.001	0.003	-0.012***	0.006**	0.003	-3.315+
	(0.006)	(0.003)	(0.002)	(0.003)	(0.002)	(1.896)
Cog. VA	0.113***	0.054***	0.001	-0.000	0.029***	24.748***
	(0.010)	(0.002)	(0.001)	(0.002)	(0.003)	(2.919)
Noncog. VA	-0.004	0.011***	-0.005***	0.011***	0.010***	1.625+
	(0.004)	(0.002)	(0.001)	(0.002)	(0.001)	(0.938)
Outcome Mean	-0.02	0.04	0.13	0.58	0.32	1327.79
Observations	391,782	432,534	832,002	733,946	680,305	186,350
R^2	0.522	0.659	0.167	0.296	0.364	0.738
Panel B: Maryland	Future Test (math)	Future Test (ela)	Held Back	Graduate in 5 Years	Took SAT	SAT Score
Mean GI	0.001	-0.006+	-0.001***	-0.001**	-0.004***	-0.427
	(0.004)	(0.003)	(0.000)	(0.000)	(0.001)	(1.262)
Passing GI	-0.003	0.002	-0.004***	0.002**	0.001	-2.953**
	(0.004)	(0.003)	(0.001)	(0.001)	(0.002)	(1.416)
Cog. VA	0.015***	0.031***	0.001**	0.000	0.005***	-0.509
	(0.004)	(0.003)	(0.000)	(0.000)	(0.001)	(1.270)
Noncog. VA	0.006	0.013***	-0.004***	0.007***	0.003	-6.432***
	(0.004)	(0.003)	(0.001)	(0.001)	(0.002)	(1.512)
Outcome Mean	-0.20	0.03	0.04	0.90	0.65	1158.08
Observations	123,205	279,802	1,117,227	979,425	1,117,945	252,950
R^2	0.356	0.592	0.154	0.239	0.242	0.772

Effect of Grade Inflation: No Value-Added Controls

back

Panel A: LAUSD	Future Test (math)	Future Test (ela)	Held Back	Graduate in 5 Years	Took SAT	SAT Score
Mean GI	-0.053***	-0.035***	0.002	-0.009***	-0.013***	-8.288***
	(0.010)	(0.004)	(0.002)	(0.003)	(0.003)	(2.166)
Passing GI	0.001	0.005	-0.012***	0.007**	0.004	-3.798
	(0.009)	(0.004)	(0.002)	(0.003)	(0.003)	(2.453)
Outcome Mean	-0.02	0.04	0.13	0.58	0.32	1331.81
Observations	391,782	432,534	832,002	733,946	680,305	279,121
R^2	0.510	0.656	0.167	0.295	0.360	0.734
Panel B: Maryland	Future Test (math)	Future Test (ela)	Held Back	Graduate in 5 Years	Took SAT	SAT Score
Mean GI	-0.002	-0.012***	-0.001***	-0.001***	-0.005***	-0.130
	(0.004)	(0.003)	(0.000)	(0.000)	(0.001)	(1.279)
Passing GI	-0.002	0.002	-0.004***	0.002**	0.001	-3.003**
	(0.004)	(0.003)	(0.001)	(0.001)	(0.002)	(1.381)
Outcome Mean	-0.20	0.03	0.04	0.90	0.65	1158.08
Observations	123,205	279,802	1,117,227	979,425	1,117,945	252,950
R^2	0.356	0.590	0.154	0.239	0.242	0.772

Effect of Grade Inflation: Univariate

back

Panel A: LAUSD	Future Test (math)	Future Test (ela)	Held Back	Graduate in 5 Years	Took SAT	SAT Score
Mean GI	-0.052***	-0.029***	-0.007***	-0.004**	-0.009***	-11.234***
	(0.007)	(0.003)	(0.001)	(0.002)	(0.001)	(2.629)
Passing GI	-0.043***	-0.022***	-0.009***	-0.001	-0.007***	-10.919***
	(0.007)	(0.003)	(0.001)	(0.001)	(0.001)	(2.824)
Cog. VA	0.114***	0.058***	0.001	0.005*	0.030***	25.004***
	(0.011)	(0.002)	(0.001)	(0.003)	(0.003)	(3.257)
Noncog. VA	0.008	0.016***	-0.006***	0.012***	0.013***	0.594
	(0.007)	(0.003)	(0.001)	(0.002)	(0.002)	(1.508)
Outcome Mean	0.115	0.235	0.106	0.645	0.405	1,368.568
Observations	199,038.	215,559.	411,275.	327,528.	323,635.	173,195.
Panel B: Maryland	Future Test (math)	Future Test (ela)	Held Back	Graduate in 5 Years	Took SAT	SAT Score
Mean GI	-0.003	-0.011***	-0.003***	-0.000	-0.004***	-1.115
	(0.004)	(0.003)	(0.001)	(0.001)	(0.001)	(1.244)
Passing GI	-0.003	-0.003	-0.004***	0.001+	-0.000	-3.051**
	(0.004)	(0.003)	(0.001)	(0.001)	(0.002)	(1.335)
Cog. VA	0.016***	0.033***	0.001**	0.001+	0.005***	-0.521
	(0.004)	(0.003)	(0.000)	(0.000)	(0.001)	(1.300)
Noncog. VA	0.007+	0.015***	-0.004***	0.007***	0.003+	-6.423***
	(0.004)	(0.003)	(0.001)	(0.001)	(0.002)	(1.517)
Outcome Mean	-0.20	0.03	0.04	0.90	0.65	1158.08
Observations	123,205	279,802	1,117,227	979,425	1,117,945	252,950

Effect of Grade Inflation: Univariate

back

Panel A: LAUSD	Future Test (math)	Future Test (ela)	Held Back	Graduate in 5 Years	Took SAT	SAT Score
Mean GI	-0.052***	-0.029***	-0.007***	-0.004**	-0.009***	-11.234***
	(0.007)	(0.003)	(0.001)	(0.002)	(0.001)	(2.629)
Passing GI	-0.043***	-0.022***	-0.009***	-0.001	-0.007***	-10.919***
	(0.007)	(0.003)	(0.001)	(0.001)	(0.001)	(2.824)
Cog. VA	0.114***	0.058***	0.001	0.005*	0.030***	25.004***
	(0.011)	(0.002)	(0.001)	(0.003)	(0.003)	(3.257)
Noncog. VA	0.008	0.016***	-0.006***	0.012***	0.013***	0.594
	(0.007)	(0.003)	(0.001)	(0.002)	(0.002)	(1.508)
Outcome Mean	0.115	0.235	0.106	0.645	0.405	1,368.568
Observations	199,038.	215,559.	411,275.	327,528.	323,635.	173,195.
Panel B: Maryland	Future Test (math)	Future Test (ela)	Held Back	Graduate in 5 Years	Took SAT	SAT Score
Mean GI	-0.003	-0.011***	-0.003***	-0.000	-0.004***	-1.115
	(0.004)	(0.003)	(0.001)	(0.001)	(0.001)	(1.244)
Passing GI	-0.003	-0.003	-0.004***	0.001+	-0.000	-3.051**
	(0.004)	(0.003)	(0.001)	(0.001)	(0.002)	(1.335)
Cog. VA	0.016***	0.033***	0.001**	0.001+	0.005***	-0.521
	(0.004)	(0.003)	(0.000)	(0.000)	(0.001)	(1.300)
Noncog. VA	0.007+	0.015***	-0.004***	0.007***	0.003+	-6.423***
	(0.004)	(0.003)	(0.001)	(0.001)	(0.002)	(1.517)
Outcome Mean	-0.20	0.03	0.04	0.90	0.65	1158.08
Observations	123,205	279,802	1,117,227	979,425	1,117,945	252,950

Effect of Grade Inflation: No Contemporaneous Test Score

back

Panel A: LAUSD	Future Test (math)	Future Test (ela)	Held Back	Graduate in 5 Years	Took SAT	SAT Score
Mean GI, No Test	-0.019***	-0.023***	0.002	-0.008***	-0.007***	-2.143
	(0.005)	(0.003)	(0.002)	(0.003)	(0.003)	(1.905)
Passing GI, No Test	-0.001	0.005	-0.012***	0.006***	0.004	-2.625
	(0.005)	(0.003)	(0.002)	(0.002)	(0.002)	(1.829)
Cog. VA	0.116***	0.056***	0.001	0.000	0.029***	25.297***
	(0.010)	(0.002)	(0.001)	(0.002)	(0.003)	(3.029)
Noncog. VA	-0.004	0.011***	-0.005***	0.011***	0.010***	1.625+
	(0.004)	(0.002)	(0.001)	(0.002)	(0.001)	(0.950)
Outcome Mean	-0.02	0.04	0.13	0.58	0.32	1327.79
Observations	391,782	432,534	832,002	733,946	680,305	186,350
R^2	0.521	0.659	0.167	0.296	0.364	0.738
Panel B: Maryland	Future Test (math)	Future Test (ela)	Held Back	Graduate in 5 Years	Took SAT	SAT Score
Mean GI, No Test	0.004	-0.005	-0.002***	-0.001**	-0.004**	0.169
	(0.004)	(0.003)	(0.000)	(0.000)	(0.002)	(1.300)
Passing GI, No Test	-0.004	0.000	-0.002***	0.001	0.001	-2.388+
	(0.005)	(0.003)	(0.001)	(0.001)	(0.002)	(1.323)
Cog. VA	0.016***	0.032***	0.001**	0.000	0.008***	-1.255
	(0.005)	(0.003)	(0.000)	(0.000)	(0.001)	(1.377)
Noncog. VA	0.007+	0.013***	-0.004***	0.008***	0.003+	-6.250***
	(0.004)	(0.003)	(0.001)	(0.001)	(0.002)	(1.594)
Outcome Mean	-0.19	0.04	0.04	0.90	0.67	1171.29
Observations	119,921	276,288	887,612	842,353	887,535	217,749
R^2	0.358	0.593	0.160	0.230	0.252	0.772

Effect of Grade Inflation: Los Angeles

back

	Future Test (math)	Future Test (ela)	Held Back	Graduate in 5 Years	Took SAT	SAT Score
Mean GI (math)	-0.046***	-0.022***	0.000	-0.011***	-0.009**	-1.129
	(0.010)	(0.005)	(0.003)	(0.003)	(0.004)	(2.369)
Mean GI (ela)	-0.005	-0.011***	0.003	-0.006	0.001	0.679
	(0.008)	(0.004)	(0.002)	(0.004)	(0.004)	(2.131)
Passing GI (math)	0.011	0.007	-0.011***	0.006+	0.003	-2.459
	(0.009)	(0.005)	(0.003)	(0.004)	(0.003)	(1.960)
Passing GI (ela)	-0.001	-0.006	-0.012***	0.005	-0.001	-6.945**
	(0.009)	(0.005)	(0.002)	(0.004)	(0.004)	(2.644)
Cog. VA (math)	0.126***	0.017***	0.002+	-0.010***	0.011***	21.299***
	(0.013)	(0.003)	(0.001)	(0.003)	(0.004)	(2.862)
Cog. VA (ela)	0.058***	0.066***	-0.002	0.013***	0.033***	19.492***
	(0.008)	(0.003)	(0.001)	(0.002)	(0.002)	(3.287)
Noncog. VA (math)	-0.005	0.005***	-0.003***	0.007***	0.007***	-0.306
	(0.003)	(0.002)	(0.001)	(0.001)	(0.001)	(0.605)
Noncog. VA (ela)	0.004	0.008***	-0.004***	0.005***	0.004***	0.492
	(0.004)	(0.002)	(0.001)	(0.001)	(0.001)	(1.166)
Outcome Mean	0.11	0.23	0.11	0.65	0.40	1368.58
Observations	199,038	215,559	411,275	327,528	323,635	173,195
R^2	0.564	0.679	0.160	0.307	0.379	0.746

Effect of Grade Inflation: Maryland

back

	Enrolled in Postsecondary		Graduated from Postsecondary		Employed		Log Conditional Earnings		Unconditional Winz. Earnings	
	1 year	2 years	4 years	6 years	1 year	6 years	1 year	6 years	1 year	6 years
Mean GI (math)	-0.006***	-0.004**	0.001	0.000	-0.005***	-0.005**	-0.010**	0.008	-74.643***	-110.426
	(0.002)	(0.002)	(0.002)	(0.002)	(0.001)	(0.002)	(0.005)	(0.007)	(24.071)	(108.179)
Mean GI (ela)	-0.006***	-0.005***	0.002	-0.002	-0.003**	-0.001	-0.005	-0.010+	-44.788**	-181.627**
	(0.001)	(0.002)	(0.001)	(0.002)	(0.001)	(0.002)	(0.004)	(0.006)	(21.835)	(81.448)
Passing GI (math)	0.002	-0.002	-0.005**	-0.007**	0.002	0.003	0.010+	-0.005	45.384	-65.554
	(0.002)	(0.002)	(0.002)	(0.003)	(0.002)	(0.003)	(0.006)	(0.010)	(34.094)	(125.684)
Passing GI (ela)	0.005	0.005	-0.001	-0.003	0.000	-0.003	0.013	-0.019	19.245	-136.213
	(0.004)	(0.004)	(0.004)	(0.005)	(0.002)	(0.004)	(0.008)	(0.014)	(43.935)	(247.180)
Cog. VA (math)	-0.002	-0.003	-0.003	-0.003	-0.003	-0.007***	-0.004	-0.005	-10.622	-227.701**
	(0.002)	(0.002)	(0.002)	(0.003)	(0.002)	(0.002)	(0.007)	(0.008)	(38.391)	(110.234)
Cog. VA (ela)	0.002+	0.002+	-0.004***	0.000	-0.001	0.000	-0.015***	-0.001	-79.798***	46.044
	(0.001)	(0.001)	(0.002)	(0.002)	(0.001)	(0.002)	(0.003)	(0.006)	(16.232)	(80.076)
Noncog. VA (math)	0.004***	0.004***	0.000	0.000	0.001	0.001	0.006***	0.003	22.707**	-14.261
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.004)	(11.518)	(53.920)
Noncog. VA (ela)	0.004***	0.004***	-0.001	0.000	0.000	0.001	-0.001	0.003	-3.207	57.061
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.004)	(13.620)	(57.590)
Outcome Mean	0.65	0.57	0.26	0.40	0.69	0.63	8.40	9.79	5546.57	18175.75
Observations	444,650	388,229	260,877	127,076	444,650	127,076	307,329	80,360	444,650	127,076
R^2	0.269	0.268	0.230	0.329	0.032	0.048	0.089	0.049	0.078	0.041

Maryland High School: Additional Controls

back

	Future Test (math)	Future Test (ela)	Held Back	Graduate in 5 Years	Took SAT	SAT Score
Mean GI	0.001	-0.007+	-0.001***	-0.001***	-0.004***	-0.407
	(0.004)	(0.003)	(0.000)	(0.000)	(0.001)	(1.254)
Passing GI	-0.003	0.002	-0.004***	0.002**	0.001	-2.793**
	(0.004)	(0.003)	(0.001)	(0.001)	(0.002)	(1.400)
Cog. VA	0.016***	0.031***	0.001+	0.000	0.004***	-0.705
	(0.004)	(0.003)	(0.000)	(0.000)	(0.001)	(1.268)
Noncog. VA	0.001	0.011***	-0.004***	0.007***	0.002	-6.083***
	(0.004)	(0.003)	(0.001)	(0.001)	(0.002)	(1.440)
Outcome Mean	-0.20	0.03	0.04	0.90	0.65	1158.08
Observations	123,205	279,802	1,117,227	979,425	1,117,945	252,950
R^2	0.356	0.591	0.153	0.238	0.241	0.772

Maryland Postsecondary: Additional Controls

back

	Enrolled in Postsecondary		Graduated from Postsecondary		Employed		Unconditional Winz. Earnings	
	1 year	2 years	4 years	6 years	1 year	6 years	1 year	6 years
Mean GI	-0.006***	-0.005***	0.000	-0.002+	-0.004***	-0.002+	-48.557***	-168.062***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(12.284)	(51.641)
Passing GI	0.002**	0.001	-0.002+	-0.002**	0.000	0.000	11.538	-6.060
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(11.629)	(41.400)
Cog. VA	0.001	0.001	-0.004***	-0.001	-0.000	-0.001	-29.773**	-53.385
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(12.433)	(41.588)
Noncog. VA	0.006***	0.005***	-0.001	0.000	0.002***	0.001	33.330***	-24.619
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(9.711)	(43.546)
Outcome Mean	0.64	0.56	0.27	0.40	0.68	0.62	5444.70	17801.59
Observations	979,425	838,616	552,566	274,354	979,425	274,354	979,425	274,354
R^2	0.285	0.278	0.237	0.338	0.034	0.049	0.080	0.040

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