The Academic Consequences of Affirmative Action Bans Combined with Diversity Targets

Eric Zitzewitz
(Dartmouth and NBER)

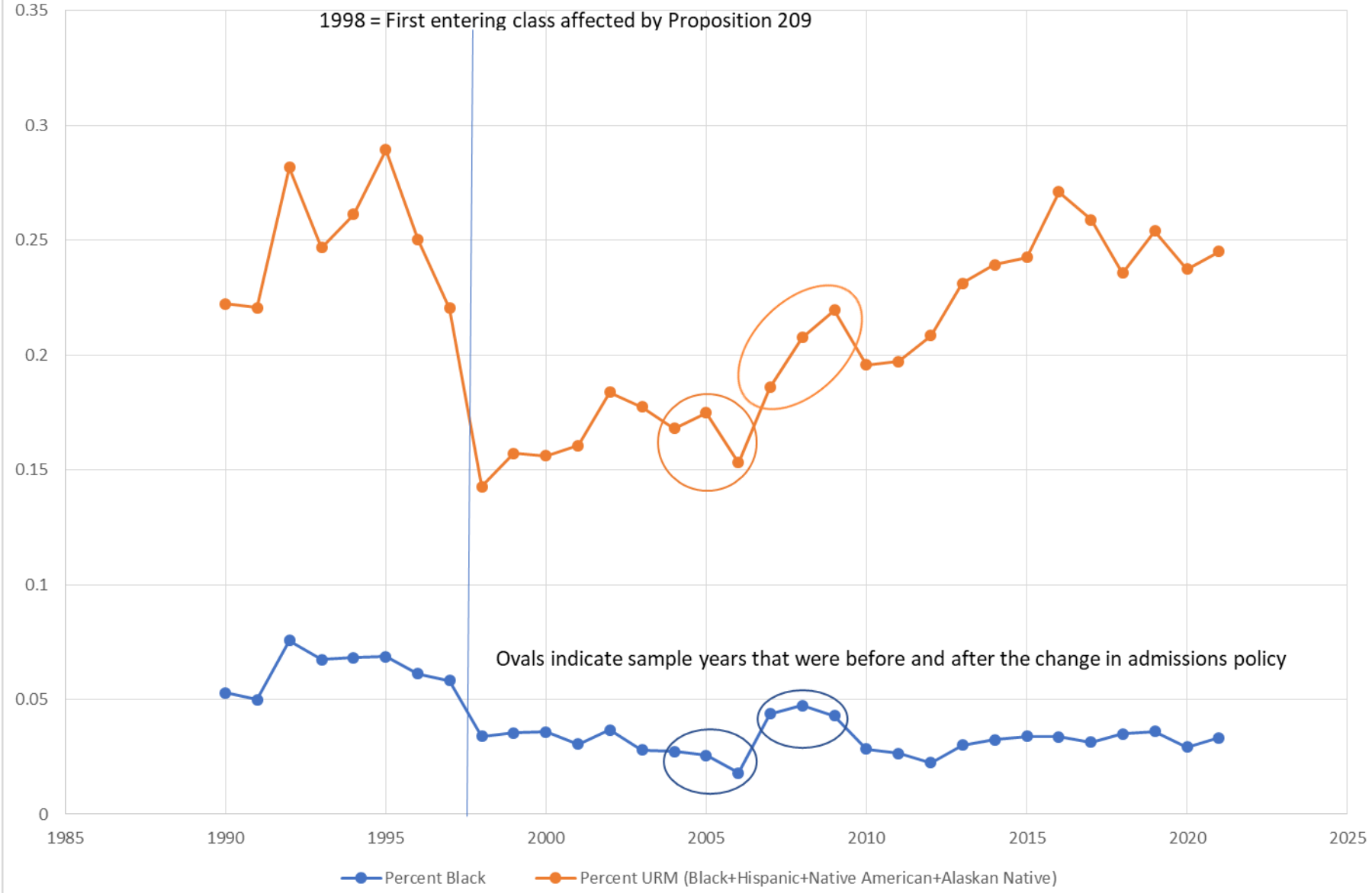
NBER SI Education Meeting

July 23, 2025

The twin constraint problem

- Theory: an affirmative action (AA) ban, combined with a minimum-URM admission target, will cause colleges to shift admission decisions *within groups* toward URM-like applicants
- Empirics: UCLA in 2006 faced both a state AA ban and protests over low Black enrollment shares
  - It redesigned its admissions process in response to the protests
  - Admission decisions shifted within groups as predicted by the theory

Figure 1. Black and URM shares of newly enrolled full-time undergraduate students at UCLA (IPEDS data)



Related work

- Traditional AA: Bowen and Bok (1998); Espenshade, Chung, Walling (2004)
- Colorblind AA: Chan and Eyster (2003); Fryer, Loury, and Yuret (2008); Long and Tienda (2008); Long (2014, 2015); Ellison and Pathak (2021)
- UCLA admission changes in 2006: Sander (2012); Mare (2012); Groseclose (2014)
- UC/UCLA admissions more generally: Antonovics and Sander (2013); Antonovics and Backes (2014); Bleemer (2023)
- AA litigation: Long (2015); Card (2017); Arcidiacono (2018)
- Test optionality: Saboe and Terrizzi (2019), Garg, Li, Monachou (2021), Cascio, et. al. (2024), Dessein (2024)
- Test score information content: UC (2020); Chetty, Deming, and Friedman (2023); Friedman, Sacerdote, and Tine (2024)
- Under/overmatch: Sander and Taylor (2012); Avery and Hoxby (2012); Hoxby and Turner (2015); Bleemer (2022)

Theory

- Suppose a court enforces an AA ban by requiring a zero coefficient on race in a regression of admission decisions on non-racial characteristics
- This requires that

$$\sum [y_i - E(y_i|x'_i)](u_i - \bar{u}) = 0$$

where y and u indicate admission and URM status and x’ is a vector of non-racial characteristics

Theory (2)

- This constraint can be written as

$$\sum y_i[E(u_i|x'_i) - u_i] = \sum y_i E(u_i|x'_i) - \sum y_i u_i = 0$$

- In words, the number of URMs admitted must equal the sum of each admitted applicant's probability of being URM

Theory (3)

- A college facing the twin constraints admits applicants to maximize:

$$U(\overrightarrow{x_1}, \ldots, \overrightarrow{x_N}) + \lambda_u \left(\sum y_i u_i - \underline{u}\right) + \lambda_a \left[\sum y_i E(u_i | x_i') - \sum y_i u_i\right]$$

- An increase in the diversity target ($\underline{u}$) requires a shift in admission decisions towards applicants with high $E(u_i | x_i')$
- x_i' includes only applicant characteristics included in regressions courts use to test for AA

Relationship to Fryer, Loury, and Yuret (2008)

- FLY (2008) model a college that seeks to hit a diversity target using color-blind admissions
  - So they admit applicants they expect to be minority
  - Expectation is conditional on everything a college might observe (except race)
  - In their empirical implementation, average race of zip code provides most of the predictive power
- In my context, expected race can only be conditional on variables court allows as controls
  - Variables that proxy too closely for race (e.g., zip code) will not likely be allowed
- FLY conclude color-blind AA will be 3x as costly as traditional AA
  - I conclude it is closer to 15x

SAT Math and applicant demographics

SAT Math bin	% Black	%Hispanic/NA
760+	0.4	2.3
730-750	0.8	3.5
700-720	1.0	4.8
670-690	1.5	6.7
640-660	2.3	9.5
610-630	3.1	13.1
580-600	4.3	17.3
550-570	5.9	21.9
520-540	7.5	28.6
490-510	9.1	35.2

SAT Math averages:

2004-6 UCLA admits
Non-URM = 693
Overall = 678

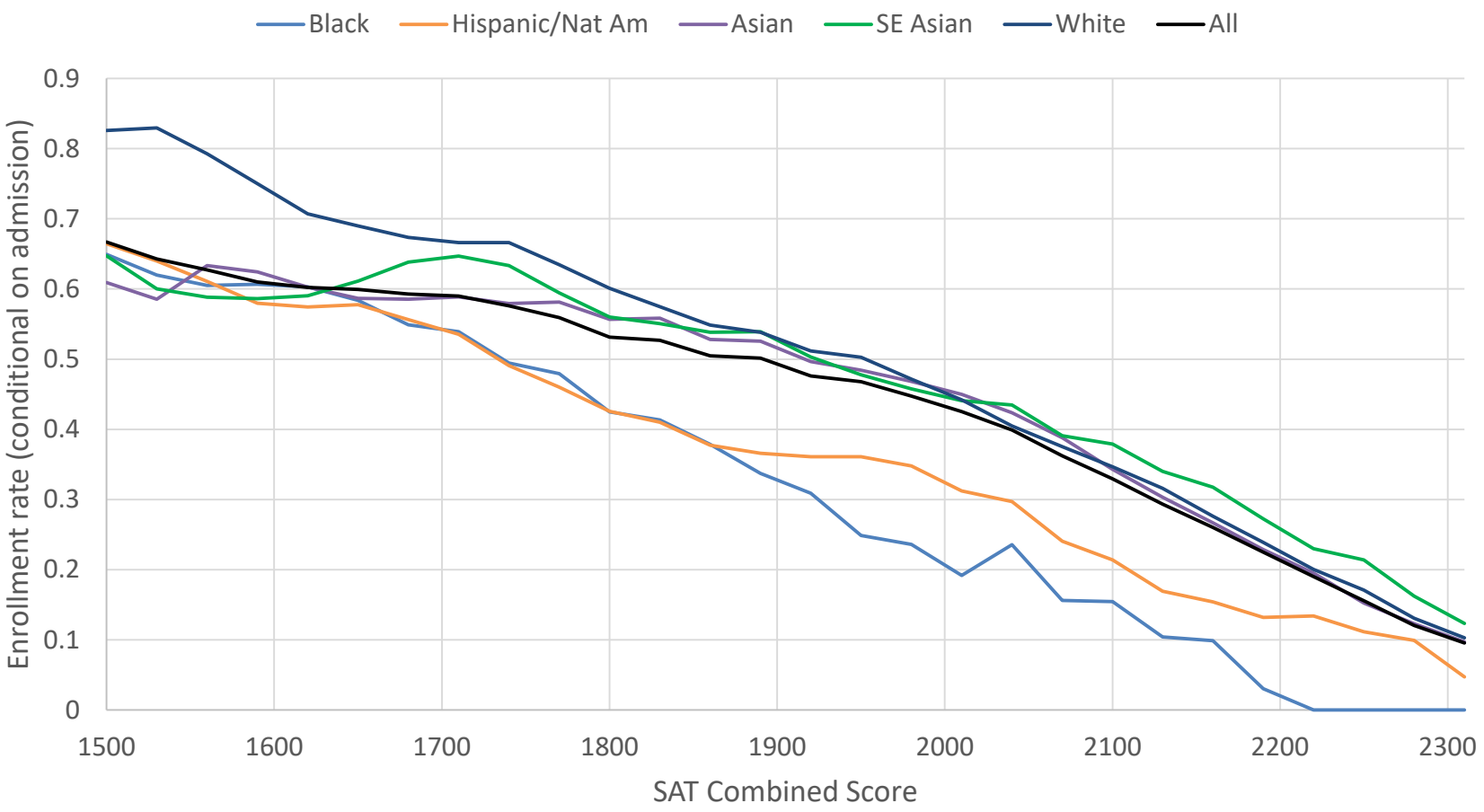
2004-6 No AA
2.3% Black => 650

2007-9 No AA
3.7% Black => 605

2019 Ivy League No AA
7.4% Black => 532

UCLA applicants, 2004-6

Enrollment rates by SAT and race (F2)



Enrollment rates are smoothed for readability.

SAT Math and Family income (%Black)

SAT Math bin	$100K+ or missing	$40-99k	$40k-
760+	0.4	0.5	0.5
730-750	0.7	1.0	0.9
700-720	1.0	0.8	1.0
670-690	1.4	1.6	1.6
640-660	2.1	2.7	2.2
610-630	2.7	3.9	3.1
580-600	3.9	4.8	4.6
550-570	5.0	6.9	6.1
520-540	6.4	8.6	7.6
490-510	8.9	9.8	8.6
Total	2.8	4.8	6.0

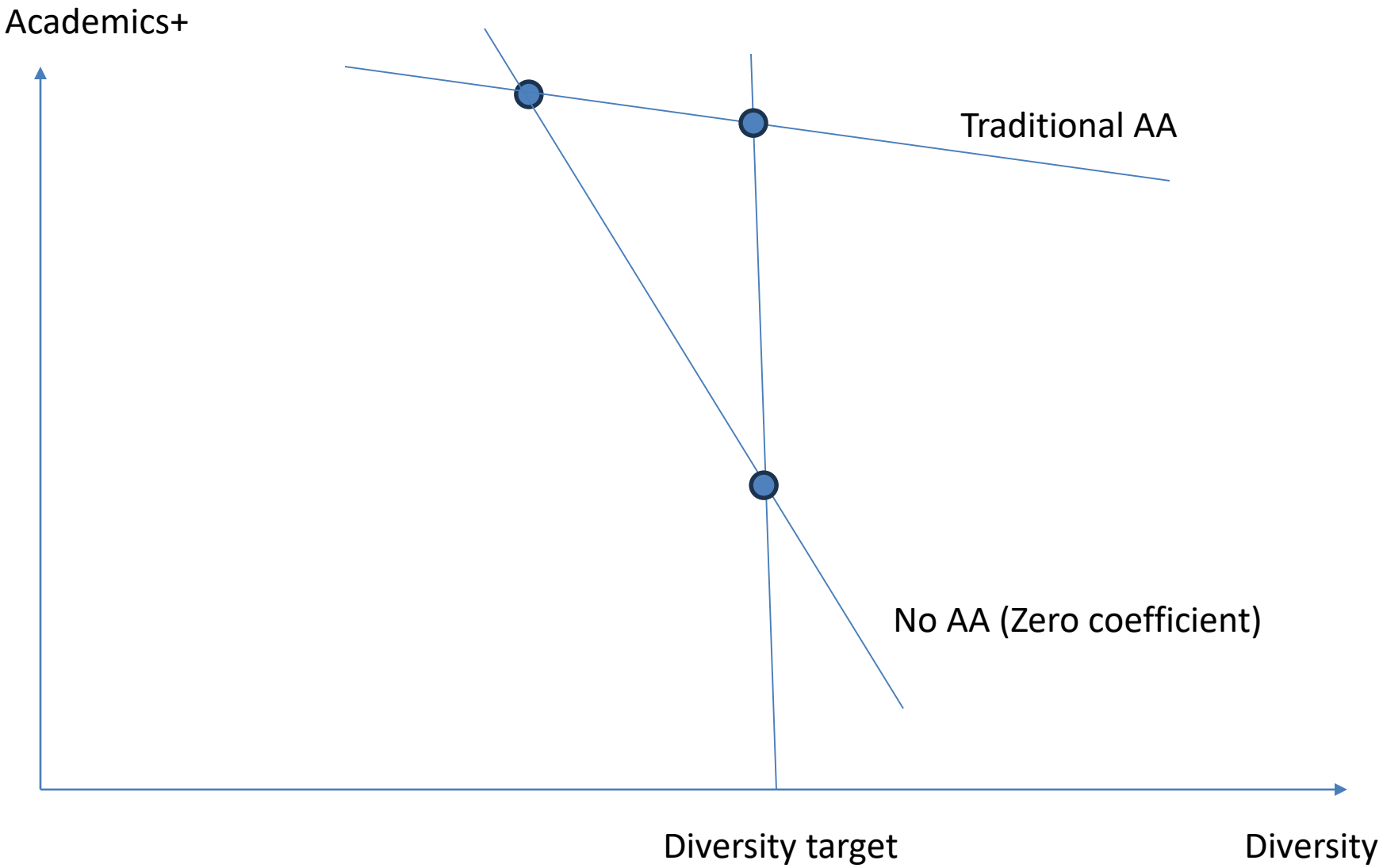
Percent of 2004-6 UCLA applicants who are Black

SAT Math and Family income (%Hispanic/NA)

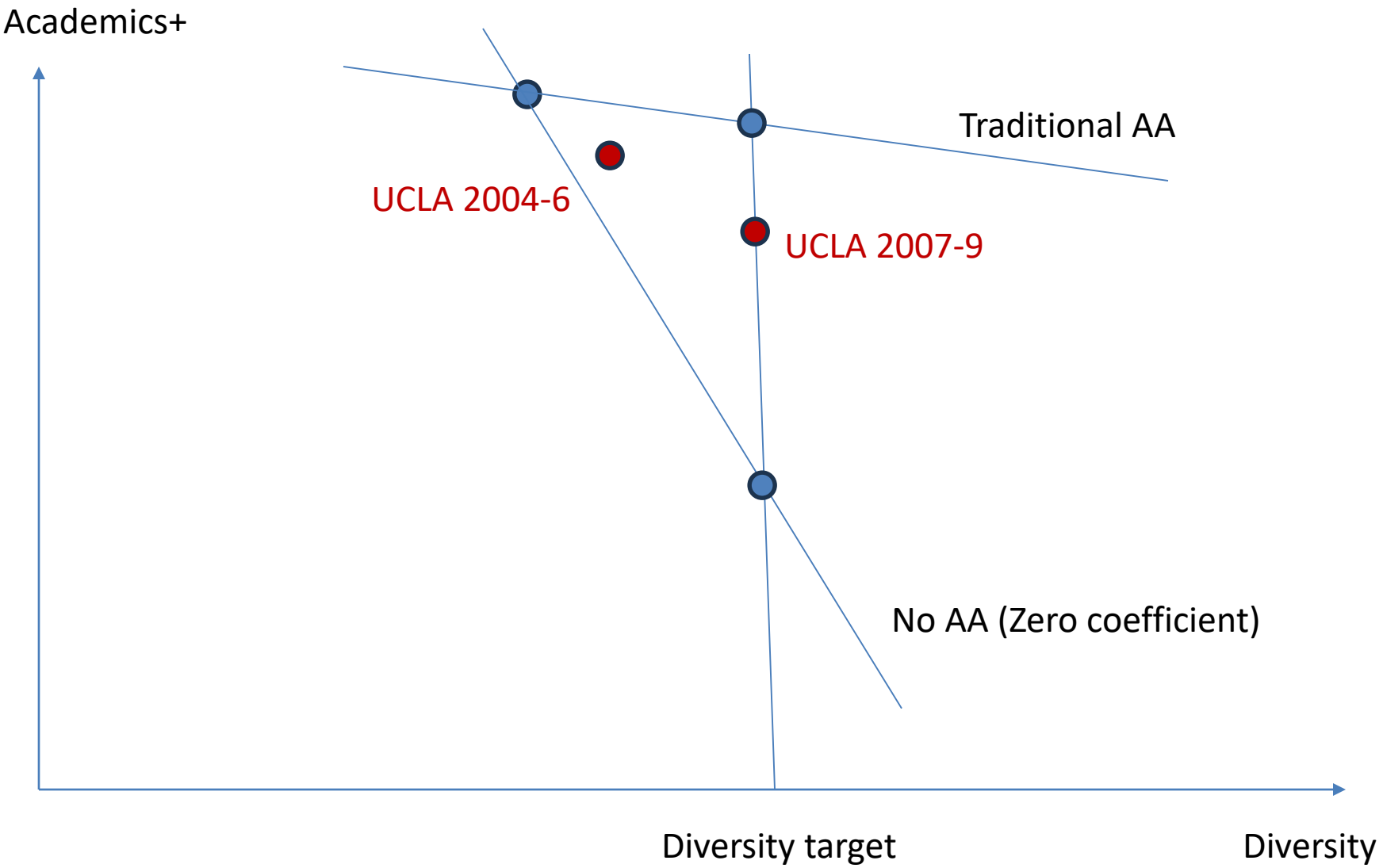
SAT Math bin	$100K+ or missing	$40-99k	$40k-
760+	2.5	2.1	1.5
730-750	3.3	4.5	2.8
700-720	4.6	4.9	5.4
670-690	5.6	8.6	8.1
640-660	7.8	11.3	12.5
610-630	9.7	15.1	20.0
580-600	11.4	19.9	26.6
550-570	14.2	24.3	31.3
520-540	15.6	31.3	40.0
490-510	19.7	36.0	46.6
Total	8.4	18.1	30.0

Percent of 2004-6 UCLA applicants who are Hispanic/Native American

Cost of diversity



Cost of diversity



UCLA admissions changes

- Prop 209 banned affirmative action; took effect starting with class entering in 1998
- In 2006, UCLA experienced protests about low Black enrollment
- It adopted a holistic admissions process in response

Evidence on the motivation

- UCLA Chancellor Norm Abrams to the Committee on Undergraduate Admissions: “I want to report what we are hearing in the outside world. Several constituencies are distressed and upset about the very low number of African American freshmen. The political angst and concern is enormous. … I ask that you make the whole admissions process holistic [and] that you do it quickly and adopt the exact same process that Berkeley currently uses.” (Groseclose, 2014, Chapter 1)

UCLA's old and new process

2004-6

1. Reader A and B scored applicant on academics; these are aggregated into an academic score
2. Other readers assigned "Life Challenges" and "Personal" scores
3. These scores largely explained admissions decisions

2007-9

1. Reader A and B scored applicant holistically
2. Some applicants are selected for supplemental review (which helps a lot)
3. These 2-3 scores are aggregated into holistic score
4. These scores explained admissions decisions, but to a lesser extent

Impact of process change

- Pre-holistic admissions rewarded grades, test scores, and low SES
  - Additional preference for Black and Hispanic applicants
- Post-holistic admissions rewarded test scores and low family SES a lot less, grades and low school API a little more
  - Additional preference for Black applicants grew
- Net effect was to shift admissions within groups towards applicants that were predicted to be Black
  - And in addition, towards actual Black applicants

Data

Included

- Reader scores and IDs
- SAT M, R, W and subject
- GPA un/weighted
- Race
- Family income
- Parental education
- High school API decile (CA public HS only)

Excluded

- Sex
- Geography/high school
- Useful ACT scores
- Single-parent HH
- AP exams
- Exact year
- Intended major

Data were obtained by Tim Groseclose and Rick Sander via public records requests. UCLA omitted some variables and binned others to preserve anonymity. Data are available on timgroseclose.com. I focus on applications to the College of Letters and Science.

Logit predicting admission (T5)

Variable	Main effect	Interaction w/ post-2006
SAT Math	0.427*** (0.025)	-0.248*** (0.029)
SAT Reading	0.568*** (0.028)	-0.217*** (0.037)
SAT Writing	0.689*** (0.018)	-0.303*** (0.022)
SAT subject average	0.456*** (0.05)	-0.033 (0.047)
GPA unweighted	0.496*** (0.044)	0.229*** (0.067)
GPA weighted	1.187*** (0.048)	0.370*** (0.092)
Family income	-0.373*** (0.035)	0.209*** (0.029)
Parental education	-0.623*** (0.030)	0.456*** (0.031)
High school API	-0.586*** (0.030)	-0.162*** (0.028)
Black	0.861*** (0.106)	0.676*** (0.109)
Hispanic/Native American	0.324*** (0.055)	0.075 (0.075)

Continuous variables are standardized. Regressions also include indicator variables for post-2006 and main effects and interactions for having 3 or more subject exams, missing income, parental education, or API, and other races (SE Asian, Other Asian, Other, International; white is omitted). Standard errors allow for two-dimensional clustering based on the identity of the first and second application reader. Multiply by ~0.2 for marginal effects.

Test score, grade, and SES indices

- Test score, GPA, and SES variables are highly correlated with one another
- Therefore it is common to collapse them into indices (often in an ad hoc fashion)
- I do so using UCLA's pre-2006 preferences
  - Split sample in half (even and odd observations)
  - Predict admission using pre-2006 data, using non-linear version of model in Table 5; apply to other half of sample
  - Separate predicted admission log odds ratio into test score, grade, and SES components (recenter at 0)
  - Standard deviations are: 2.3 (scores), 1.7 (grades), 1.4 (low SES)

Logit predicting admission (T6)

Variable	Main effect	Interaction w/ post-2006
Predicted log odds ratio components Test scores	0.990*** (0.025)	-0.430*** (0.023)
Grades	0.996*** (0.030)	0.281*** (0.056)
Low SES	0.984*** (0.046)	-0.637*** (0.034)
High school API	-0.006 (0.025)	-0.508*** (0.031)
API missing (non-CA public HS)	0.001 (0.084)	0.329*** (0.088)
Black	0.700*** (0.105)	0.689*** (0.107)
Hispanic/Native American	0.224*** (0.052)	0.184** (0.075)

Regressions also include indicator variables for post-2006 and main effects and interactions for other races (SE Asian, Other Asian, Other, International; white is omitted). Standard errors allow for two-dimensional clustering based on the identity of the first and second application reader. Multiply by ~0.2 for marginal effects.

Predicting race

- I predict race using a multinominal logit model and test score, grade, and SES variables
  - Same split sample approach
  - Flexible (bin indicator) functional form
- Prob(Black) predicted by
  - Low SAT scores and unweighted GPA
  - Low school performance (API)
  - Low-or-middle income/parental education levels

See Table A7 for linear version of this model

Logits predicting admission post-2006 (T7)

Variable	(1)	(New)	(4)	(5)
Log odds components Test scores + Grades	0.797*** (0.028)	0.829*** (0.028)	0.918*** (0.031)	0.937*** (0.032)
Low SES	0.715*** (0.033)	0.667*** (0.033)	0.435*** (0.025)	0.424*** (0.024)
Predicted log odds Black			0.491*** (0.019)	0.398*** (0.020)
Hispanic/NA			-0.031** (0.014)	-0.041** (0.013)
SE Asian			-0.005 (0.021)	0.006** (0.023)
Black		1.511*** (0.079)		1.156*** (0.077)
Hispanic/Native American		0.561*** (0.031)		0.335*** (0.035)

The predicted log odds ratio of being a member of a racial group are from a multi-nominal logit predicting race in the post-2006 sample using a non-linear version of the model in Table 5 (excluding the race variables). Second and fourth columns include indicator variables for other racial groups as well.

Decomposing changes (T8)

	Total	Scores	Grades	Low SES	% Black
Pre-2006 (actual)	3.088	1.603	1.423	0.062	2.3%
A) Pre-2006 (predicted)	3.088	1.603	1.423	0.062	2.3%
B) Post-2006 (pre-2006 prefs)	3.324	1.766	1.538	0.019	2.2%
C) Post-2006 (pre-2006 prefs; adjusted race coeffs)	3.280	1.704	1.527	0.048	3.7%
D) Post-2006 (predicted)	3.117	1.492	1.674	-0.049	3.7%
Post-2006 (actual)	3.117	1.492	1.674	-0.049	3.7%

A -> B Impact of growing applicant pool
B -> C Impact of shift in racial mix
C -> D Impact of within-group changes

(D – B)/(C – B) = Impact ratio of holistic admissions vs. traditional AA = 4.4 – 4.7

Reallocation of slots (T9)

	Black	Hispanic	SE Asian	Asian	White	Total
Applicants	5,023	20,674	9,894	32,701	34,016	113,757
% with prob. increase	93%	61%	40%	29%	59%	48%
Change if increased	9.1%	6.5%	11.0%	6.3%	6.4%	6.8%
Change in decreased	-4.8%	-6.4%	-6.1%	-6.2%	-4.1%	-6.4%
Average absolute change	8.9%	6.5%	8.0%	6.2%	5.4%	6.6%
Expected Decline -> Admit	429	826	434	594	1,275	3,736
Expected Admit -> Decline	16	517	360	1,441	576	3,736

Changes from pre-2006 to post-2006 preferences reallocated 3,736 slots overall. It switched 1,495 slots between groups, including 413 and 309 to Blacks and Hispanics. 5.2x as many decisions were changed, compared with a straight reallocation to URMs.

Winners and losers – Blacks (T10A)

SAT score	Parental education			
	HS or less	Some college	BA	Graduate
2200+			-3.0%	-9.0%
2100-90	-14.0%	-8.1%	-2.5%	-1.1%
2000-90	-7.2%	0.2%	8.6%	6.2%
1900-90	-1.0%	5.0%	9.8%	8.8%
1800-90	5.6%	9.7%	11.3%	10.6%
1700-90	3.3%	10.4%	10.0%	9.7%
1600-90	4.8%	8.8%	10.2%	8.8%
1500-90	5.1%	9.8%	8.5%	7.9%
1400-90	9.1%	10.6%	7.4%	7.6%
1390-	11.2%	8.0%	6.9%	5.7%

Changes in predicted probability of admissions for 2007-9 applicants due to change from 2004-6 to 2007-9 preferences

Winners and losers – Whites/Other Asians (T10C)

SAT score	Parental education			
	HS or less	Some college	BA	Graduate
2200+	-16.9%	-14.9%	-7.3%	-7.0%
2100-90	-20.2%	-12.0%	-4.1%	-4.9%
2000-90	-20.5%	-7.8%	1.1%	0.7%
1900-90	-15.6%	-2.4%	4.7%	4.4%
1800-90	-11.3%	0.8%	5.1%	4.9%
1700-90	-9.2%	1.8%	4.0%	4.0%
1600-90	-7.9%	1.8%	2.9%	2.8%
1500-90	-5.1%	1.1%	1.9%	2.2%
1400-90	-1.8%	0.9%	1.0%	1.2%
1390-	0.1%	0.4%	0.2%	0.4%

Changes in predicted probability of admissions for 2007-9 applicants due to change from 2004-6 to 2007-9 preferences

Changes in admissions probabilities (T11)

Race	High SAT, Low SES		Low SAT, High SES	
	Pre-2006	Post-2006	Pre-2006	Post-2006
Black	73.8% (65)	53.2% (77)	11.7% (2,092)	17.4% (2,691)
Hispanic/NA	71.3% (474)	66.3% (505)	13.8% (4,601)	16.6% (6,088)
SE Asian	81.1% (444)	69.6% (546)	14.1% (4,666)	17.3% (5,195)
Other Asian	76.3% (4,462)	67.4% (4,871)	15.6% (14,406)	15.9% (16,103)
White	74.7% (3,144)	67.5% (2,976)	16.8% (19,962)	18.2% (23,353)
Total	76.0% (9,719)	66.9% (10,485)	16.0% (51,689)	16.8% (60,448)

High SAT, Low SES = SAT >= 2100 or >= 1900 and Parent ed = HS or less (Red in T10A)
Low SAT, High SES = SAT < 2000 and Parent ed = BA or better

Simulations

- **No AA**: set admission log odds ratio using pre-2006 preferences, with zero racial coefficients (adjust constant to yield actual # of admits)
- **Traditional AA**: adjust constant and racial coefficients to yield actual # of admits of each race
- **Color-blind AA**: add a preference for E(Black | X') to yield actual # of Black admits

Simulations (T14)

	No AA	Trad AA	Color-blind AA
% Black	1.84%	3.71%	3.71%
% Hisp/NA	13.4%	15.1%	25.6%
SAT 3	2011	2003	1867
Total index	3.336	3.288	2.560
Scores	1.778	1.710	0.712
Grades	1.547	1.533	1.011
Low SES	0.011	0.045	0.837

Cost ratios (Color-blind AA / Trad AA):

SAT	(2011 – 1867)/(2011 – 2003)	= 16.6
Total	(3.336 – 2.560)/(3.336 – 3.288)	= 16.4
Scores	(1.778 – 0.712)/(1.778 – 1.710)	= 15.6
Grades	(1.547 – 1.011)/(1.547 – 1.533)	= 40.5

Test blindness (AT9)

	Trad AA Tests	Trad AA Test blind	Color Blind AA Tests	Color Blind AA Test blind
% Black	3.71%	3.71%	3.71%	3.71%
% Hisp/NA	15.1%	15.1%	25.6%	25.2%
SAT 3	2003	1919	1867	1818
Total index	3.288	2.478	2.560	1.862
Scores	1.710	0.922	0.712	0.065
Grades	1.533	1.520	1.011	1.063
Low SES	0.045	0.036	0.837	0.734

Cost ratios (Test-blind, Color-blind AA / Color-blind AA with tests):

SAT (2011 – 1818)/(2011 – 1867) = 1.33

Total (3.336 – 1.862)/(3.336 – 2.560) = 1.90

Scores (1.778 – 0.065)/(1.778 – 0.712) = 1.61

Grades (1.547 – 1.063)/(1.547 – 1.011) = 0.90

Conclusions (for 2025)

- A national ban on affirmative action, combined with diversity targets, will negatively affect the academics of admitted students
  - Size of impact depends on flexibility of AA ban enforcement ***and*** elasticity of diversity target w.r.t. academic tradeoffs
- There will likely be too few slots for highly performing students to all place at selective schools
  - At least until the supply of academic effort in HS adjusts

Thank you!

SAT Math and potential enrollee demographics

SAT Math bin	% Black	%Hispanic/NA
760+	0.1	2.3
730-750	0.3	3.5
700-720	0.5	4.8
670-690	0.8	6.7
640-660	1.6	9.5
610-630	2.5	13.1
580-600	3.1	17.3
550-570	5.4	21.9
520-540	7.1	28.6
490-510	10.1	35.2

SAT Math averages:

2004-6 UCLA admits
Non-URM = 693
Overall = 678

2004-6 No AA
2.3% Black => 627

2007-9 No AA
3.7% Black => 592

2019 Ivy League No AA
7.4% Black => 527

UCLA applicants, 2004-6. Racial shares of applicants are adjusted for average enrollment rates for admits with a given SAT score and race.

SAT Reading and applicant demographics

SAT Reading bin	% Black	%Hispanic/NA
760+	1.0	4.5
730-750	1.4	5.7
700-720	1.4	6.6
670-690	2.0	8.1
640-660	2.5	9.2
610-630	2.8	10.9
580-600	3.6	14.7
550-570	4.6	16.5
520-540	5.9	20.6
490-510	6.2	25.6
460-480	7.8	28.6

UCLA applicants, 2004-6

SAT Reading averages:

2004-6 UCLA admits
Non-URM = 667
Overall = 656

2004-6 No AA
2.3% Black => 668

2007-9 No AA
3.7% Black => 587

2019 Ivy League No AA
7.4% Black => 477

SAT Writing and applicant demographics

SAT Writing bin	% Black	%Hispanic/NA
760+	0.8	4.4
730-750	1.3	5.4
700-720	1.4	6.4
670-690	2.1	8.2
640-660	2.7	9.6
610-630	2.9	11.6
580-600	3.8	14.7
550-570	4.8	17.9
520-540	5.7	21.9
490-510	6.9	27.2
460-480	7.5	31.5

UCLA applicants, 2004-6

SAT Writing averages:

2004-6 UCLA admits
Non-URM = 681
Overall = 669

2004-6 No AA
2.3% Black => 670

2007-9 No AA
3.7% Black => 593

2019 Ivy League No AA
7.4% Black => 475

GPA and applicant demographics

GPA bin	% Black	%Hispanic/NA
4.30+	1.7	10.4
4.20-4.29	2.4	12.5
4.10-4.19	2.6	14.2
4.00-4.09	3.1	14.7
3.90-3.99	3.4	15.8
3.80-3.89	3.6	16.3
3.70-3.79	4.4	18.3
3.60-3.69	5.1	19.1
3.59-	7.9	21.8

GPA averages:

2004-6 UCLA admits
Non-URM = 4.20
Overall = 4.18

2004-6 No AA
2.3% Black => 4.22

2007-9 No AA
3.7% Black => 3.84

UCLA applicants, 2004-6; GPAs are “weighted” (include a bonus point for honors classes)

No preference for low SES (AT10)

	No AA	Trad AA	Color-blind AA
% Black	1.53%	3.71%	3.71%
% Hisp/NA	7.81%	15.1%	19.9%
SAT 3	2056	2036	1912
Total index	3.658	3.498	2.275
Scores	2.067	1.925	1.077
Grades	1.591	1.573	1.198
Low SES	-0.513	-0.405	0.323

Cost ratios (Color-blind AA / Trad AA):

SAT	(2056 – 1912)/(2056 – 2036)	= 7.3
Total	(3.658 – 2.275)/(3.658 – 3.498)	= 8.6
Scores	(2.067 – 1.925)/(2.067 – 1.925)	= 7.0
Grades	(1.591 – 1.198)/(1.591 – 1.573)	= 22.4

Adjusting for enrollment probabilities (AT12)

	No AA, no target	Trad AA	No AA, target
% Black	1.76%	4.77%	4.77%
% Hisp/NA	15.6%	18.1%	18.3%
SAT 3	1935	1922	1857
Total index	2.699	2.629	2.065
Scores	1.178	1.085	0.653
Grades	1.253	1.226	0.919
Low SES	0.268	0.318	0.494

Cost ratios (Color-blind AA / Trad AA):

SAT	(1935 – 1857)/(1935 – 1922)	= 6.1
Total	(3.145 – 2.598)/(3.145 – 3.093)	= 9.0
Scores	(2.067 – 1.925)/(2.067 – 1.925)	= 5.7
Grades	(1.591 – 1.198)/(1.591 – 1.573)	= 12.1