

What the Students for Fair Admissions Cases Reveal About Racial Preferences

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Disclaimer

Peter Arcidiacono served as an expert witness for Students for Fair Admissions, Inc. (SFFA) in the *SFFA v. Harvard* and *SFFA v. UNC* cases. SFFA is not funding his work on this paper. Josh Kinsler worked as a consultant for SFFA in the *SFFA v. Harvard* and *SFFA v. UNC* cases. SFFA is not funding his work on this paper. The views expressed and conclusions reached in this paper are those of the authors; they do not purport to reflect the views of SFFA. To the extent this paper relies on records from the *SFFA v. Harvard* and *SFFA v. UNC* cases, it relies solely on the public records from those cases.

We have used the Harvard litigation documents in four previous papers:

- 1 “Legacy and Athlete Preferences at Harvard”, *Journal of Labor Economics*
- 2 “Divergent: The Time Path of Legacy and Athlete Admissions at Harvard”, *Journal of Human Resources*
- 3 “Asian American Discrimination in Harvard Admission”, *European Economic Review*
- 4 “Recruit to Reject? Harvard and African American Applicants”, *Economics of Education Review*

Affirmative Action

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 - Duke houses data on all public school students in North Carolina for public research...
 - ...but now severely limits public research on Duke data
- Importance of information is compounded when student's don't have good information:

This presentation

Focus on three sets of applicants:

- 1 Harvard classes of 2014-2019 (admit rate 6.7%)
- 2 UNC out-of-state classes of 2016-2021 (admit rate 16.6%)
- 3 UNC in-state classes of 2016-2021 (admit rate 51.9%)

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Use information released from public reports to:

- 1 Examine characteristics of the applicant and admitted pools by race
- 2 Measure the size of racial preferences
- 3 Measure heterogeneity of racial preferences

Focus on applicants that are part of the 'normal' admissions process (i.e. no recruited athletes, children of donors, etc.)

Public Documents and Timeline

Everything in this presentation comes from the public record, primarily from my expert reports.

Timeline:

- October 16, 2017: Arcidiacono, Harvard
- December 15, 2017: Card, Harvard
- January 29, 2018: Arcidiacono and Hoxby, UNC
- February 20, 2018: Arcidiacono rebuttal, Harvard
- March 15, 2018: Card rebuttal, Harvard
- April 6, 2018: Arcidiacono and Hoxby rebuttals, UNC
- January 18, 2019: Arcidiacono and Hoxby replies, UNC

Applicant Scoring

Harvard	UNC
Academic	Program Performance
Extracurricular	Extracurricular
Personal	Personal Quality Essay
Athletic	
Counselor letter	
Two teacher letters	
Alumni overall	
Alumni personal	

*UNC requires one letter of recommendation and Harvard requires essays; these are just not scored

Descriptives

	Pool	White	African American	Hispanic	Asian American
Admit rate	Harvard	4.89	7.58	6.16	5.13
	UNC-out	10.9	16.7	20.2	16.6
	UNC-in	50.9	30.5	41.0	53.6
Applicant Share	Harvard	40.3	11.0	12.6	28.3
	UNC-out	60.4	9.1	8.5	15.4
	UNC-in	64.8	13.6	6.3	10.5
Female	Harvard	45.6	59.6	50.4	49.3
	UNC-out	60.5	66.1	59.5	55.6
	UNC-in	58.8	67.2	61.8	56.4

Descriptives 2

	White		African American		Hispanic		Asian American	
	App	Admit	App	Admit	App	Admit	App	Admit
First gen	4.28	4.05	13.9	7.67	21.9	20.0	8.07	9.65
	8.78	7.22	28.0	19.0	22.1	14.9	12.6	8.90
	15.7	13.2	39.2	33.6	46.7	40.5	24.7	20.0
SAT	0.15	0.56	-1.07	0.14	-0.63	0.28	0.43	0.77
Math	0.08	0.80	-0.98	-0.08	-0.27	0.40	0.60	1.20
	-0.31	0.06	-1.31	-0.73	-0.84	-0.37	0.04	0.47
SAT	0.33	0.72	-0.68	0.41	-0.39	0.44	0.33	0.74
Verbal	0.24	1.02	-0.72	0.24	-0.07	0.64	0.38	1.17
	-0.14	0.25	-1.14	-0.51	-0.68	-0.16	-0.20	0.27

*SAT math and SAT verbal are z-scored by school

Harvard, UNC-out, UNC-in

Representation Across Academic Index Deciles

Decile	White		African American		Hispanic		Asian American	
	White	African American	Hispanic	Asian American	White	African American	Hispanic	Asian American
1	4.91	6.75	38.0	39.3	20.0	13.2	3.75	4.41
2	7.67	9.33	23.1	19.1	20.9	12.4	5.07	6.48
3	10.6	10.3	14.7	11.8	16.3	10.9	6.76	7.28
4	11.1	10.6	8.24	8.90	12.2	10.3	7.49	8.58
5	13.3	10.8	5.75	6.06	9.59	10.1	9.61	9.04
6	10.3	11.0	3.26	4.41	6.01	9.09	8.97	10.2
7	12.3	10.9	2.85	3.88	5.29	8.37	11.2	10.7
8	11.3	10.6	2.09	2.74	4.57	8.62	13.2	12.5
9	9.95	10.3	1.26	1.96	3.01	8.30	16.2	13.8
10	8.64	9.44	0.85	1.76	2.12	8.75	17.9	16.9

*Higher deciles have higher test score/grade combinations

Harvard, UNC-out

Admit Rates by Academic Index Deciles

Decile	White		African American		Hispanic		Asian American	
	White	African American	White	African American	White	African American	White	African American
1	0.00	0.40	0.03	0.41	0.00	0.00	0.00	0.00
2	0.39	0.46	1.03	5.71	0.32	1.27	0.20	0.28
3	0.56	0.76	5.19	13.8	1.95	3.34	0.64	0.25
4	1.82	1.40	12.8	29.7	5.50	9.22	0.86	0.94
5	2.57	2.79	22.4	39.2	9.13	15.6	1.86	1.19
6	4.20	5.12	29.7	45.2	13.6	22.0	2.49	4.67
7	4.79	9.13	41.1	57.8	17.3	29.2	3.98	6.36
8	7.53	15.6	44.5	54.8	22.9	32.0	5.12	15.1
9	10.8	26.0	54.6	68.4	26.2	40.5	7.55	27.3
10	15.3	40.8	56.1	71.4	31.3	59.8	12.7	52.0

*Higher deciles have higher test score/grade combinations

Harvard, UNC-out

Actual vs. Academics Only Admissions Shares

	Harvard		UNC-out		UNC-in	
	Actual	Acad	Actual	Acad	Actual	Acad
White	37.6	35.5	52.9	63.2	72.9	77.6
African American	15.8	0.94	12.7	1.9	9.2	4.3
Hispanic	14.9	2.72	14.1	8.2	5.7	4.2
Asian American	24.9	51.6	20.2	26.7	12.3	14.0

Non-Academic Strengths

	White	African American	Hispanic	Asian American
<i>Panel A: Harvard—Share Receiving a 2 or Better (1-5 Scale)</i>				
Extracurricular	24.35	15.54	16.83	28.23
Athletic	12.79	6.82	7.51	4.81
Personal	21.27	19.01	18.68	17.64
Teacher 1	30.42	17.12	21.59	30.79
Teacher 2	27.13	14.80	18.84	27.41
Counselor	25.28	13.86	16.47	25.12
Alumni Personal	49.92	42.98	41.39	50.33
Alumni Overall	36.49	20.84	23.61	40.89
<i>Panel B: UNC Out-of-State—Average or Share Receiving a 5 or Better (1-10 Scale)</i>				
Extracurricular	5.98	5.41	5.76	6.01
Essay > 5	0.15	0.12	0.15	0.20
Personal Quality > 5	0.20	0.24	0.27	0.24
<i>Panel C: UNC In-State—Average or Share Receiving a 5 or Better (1-10 Scale)</i>				
Extracurricular	5.75	5.15	5.29	5.59
Essay > 5	0.10	0.06	0.08	0.13
Personal Quality > 5	0.18	0.20	0.23	0.20

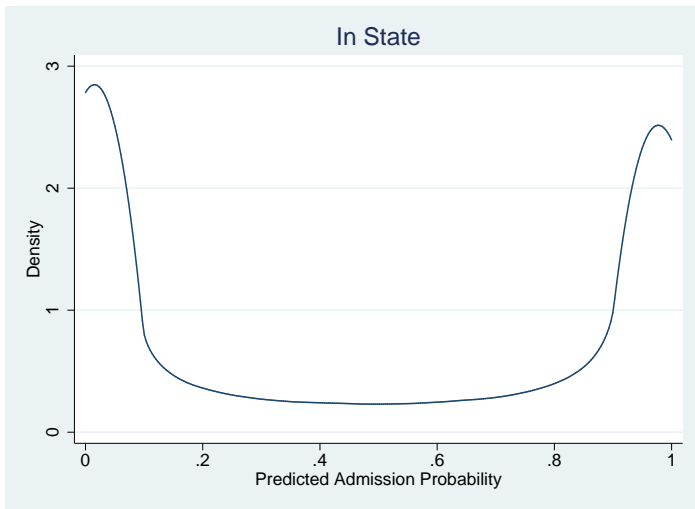
Modeling Admissions Processes

- Both Harvard and UNC value more than just academics
- Estimate a logit model of admissions for each of these decisions processes that includes:
 - academic measures
 - school ratings
 - demographics
 - interactions between race and measures of disadvantage
- Include many, many variables though more in Harvard because more is available

Key findings

- Across Harvard, UNC out-of-state, and UNC in-state find that:
 - large racial preferences for Hispanics with even larger preferences for African Americans
 - also get a bump for being disadvantaged though it is substantially reduced for Hispanics and sometimes non-existent for African Americans
- Asian Americans penalized relative to whites at Harvard; not true at UNC
 - part of the Harvard penalty occurs through their personal rating
 - Asian Americans do as well as whites on UNC's personal rating and on their essay rating
- Models have a high degree of accuracy, especially at UNC

Unconditional Distribution of UNC In-State Predicted Admit Probabilities



Logit Coefficients

	Harvard Typical		UNC Out-of-state		UNC In-state	
African American	2.417 (0.050)	3.772 (0.105)	4.766 (0.077)	6.162 (0.125)	1.851 (0.057)	3.542 (0.119)
Hispanic	1.273 (0.044)	1.959 (0.085)	2.484 (0.071)	3.000 (0.104)	1.24 (0.070)	1.993 (0.148)
Asian American	-0.434 (0.035)	-0.466 (0.070)	0.196 (0.055)	0.077 (0.079)	-0.133 (0.057)	0.148 (0.104)
Disadvantaged (DisAdv)	1.257 (0.048)	1.660 (0.138)				
1 st -gen college	0.174 (0.059)	-0.014 (0.167)	0.912 (0.044)	1.889 (0.075)	0.647 (0.040)	1.168 (0.063)
Early Action/Decision	1.456 (0.035)	1.410 (0.104)	0.727 (0.025)	0.828 (0.030)	0.571 (0.034)	0.512 (0.042)
Application Fee Waived	0.484 (0.047)	0.697 (0.063)	0.360 (0.051)	0.349 (0.061)	0.359 (0.050)	0.349 (0.063)
DisAdv or 1 st -gen × African American		-1.577 (0.143)		-1.343 (0.136)		-1.027 (0.124)
DisAdv or 1 st -gen × Hispanic		-0.582 (0.133)		-0.986 (0.136)		-0.392 (0.159)
DisAdv or 1 st -gen × Asian American		0.144 (0.119)		-0.554 (0.130)		-0.148 (0.143)
Observations	142,700	128,422	105,623	105,116	57,225	57,225
No. of controls	132	319	58	111	58	111
Pseudo R^2	0.260	0.556	0.420	0.588	0.588	0.727
Demographic Variables	✓	✓	✓	✓	✓	✓
Academic Variables	✓	✓	✓	✓	✓	✓
Ratings Variables		✓		✓		✓
Demographic Interactions		✓		✓		✓
HS and Neighborhood Variables		✓				

Transformations

- Can use the model to calculate the counterfactual probability of admission if they had the same observed characteristics except for changing their race
- Consider a white male whose observable characteristics (test scores, ratings, etc.) gave him a 5% chance of admission at school X
- What would his admission probability be if he was instead treated as a member of group Y ?

Transformation Results

For a white male with a 5% chance of admission at school X...

	If treated as...	
Non-disadvantaged	African American	Hispanic
Harvard	69.6%	27.2%
UNC out-of-state	96.1%	51.4%
UNC in-state	64.5%	27.9%

Disadvantaged	African American	Hispanic
Harvard	32.1%	17.3%
UNC out-of-state	86.7%	28.3%
UNC in-state	39.4%	20.7%

*For Harvard, disadvantaged is assigned by the admissions officer
For UNC, it is first-generation college

Cascading

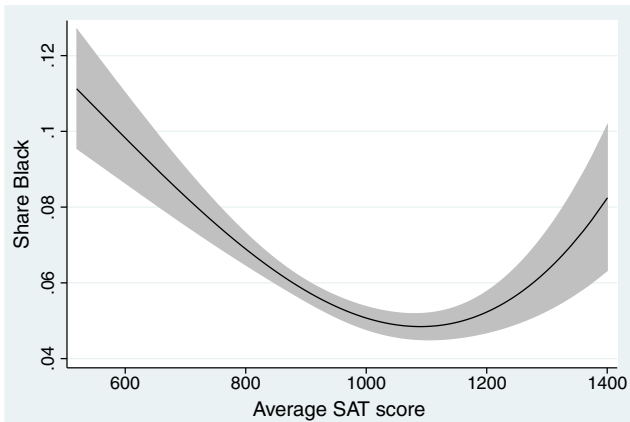


Fig. 1. College percent Black as a function of average SAT score. (Source: America's Best Colleges produced by U.S. News & World Report. Weighted by college enrollment.)

Average Marginal Effects

What is the average change in admissions probability from turning off racial preferences?

	Actual Admit Rate	Average Marginal Eff	No Pref Admit Rate	Share due to Race
<i>African American</i>				
Harvard	9.54%	7.29%	2.25%	76.4%
UNC out-of-state	17.1%	15.6%	1.5%	91.1%
UNC in-state	30.5%	12.7%	17.8%	41.7%
<i>Hispanic</i>				
Harvard	7.16%	4.19%	2.97%	58.5%
UNC out-of-state	20.3%	14.2%	6.0%	70.2%
UNC in-state	41.0%	9.7%	31.2%	23.8%

*Does not include those who have characteristics that perfectly predict rejection

Admit rates for previous admits when preferences are removed

- Denote $y = 1$ if an applicant was admitted when a preference was in place.
- Denote $y' = 1$ as an indicator for whether an applicant would be admitted when the preference is removed.
- The probability an applicant would still be admitted after the preference is removed can be written as:

$$\Pr(y' = 1 | y = 1) = \frac{\Pr(y = 1 | y' = 1) \Pr(y' = 1)}{\Pr(y = 1)}.$$

- The first term on the right hand side is, by definition, 1: if an applicant was admitted without a preference, the applicant will also be admitted when a preference is in place.
- The other two terms are the model-predicted probabilities without and with the preference.

Admit Rate for Previous Admits

What fraction of minority admits would still be admitted absent their racial bumps?

	African American	Hispanic
Harvard	30.0%	46.1%
UNC out-of-state	8.1%	29.2%
UNC in-state	57.8%	75.8%

*Harvard includes ALDC applicants

Capacity Constraints

- When preferences for a group are removed, this frees up additional admissions slots
- Denote X_i as the characteristics that enter the admissions model and let N_t give the number of applicants in cycle t
- Denote β_{NR} as the estimated coefficients where the parameters on race (and their interactions) are turned off
- We solve for an index adjustment ϕ_t^* in each admissions cycle t , such that

$$\bar{p}_t = \frac{1}{N_t} \sum_{i=1}^{N_t} \frac{\exp(X_i \hat{\beta}_{NR} + \phi_t^*)}{1 + \exp(X_i \hat{\beta}_{NR} + \phi_t^*)} \quad (1)$$

- Once we have ϕ_t^* , we can then predict admissions probabilities that both remove the preferences as well as hold the number of admits fixed

Removing Racial Preferences with Capacity Constraints

What would the racial composition of the admitted class be in the absence of racial preferences, holding fixed the number of admits?

	White		African American		Hispanic		Asian American	
	Base	NP	Base	NP	Base	NP	Base	NP
Harvard	36.1	42.6	15.5	4.3	15.8	7.8	26.9	37.5
UNC-out	48.7	62.2	11.2	1.5	12.8	5.2	18.9	22.8
UNC-in	68.8	72.5	8.7	5.6	5.4	4.4	11.8	12.3

NP=No racial preferences