Affirmative Action: Logic, Methods, and Evidence

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reports are available at https://affirmativeactiondebate.org/expert-reports-in-the-unc-case/

Roadmap

1. The logic of Affirmative Action (AA)
2. Simple math for understanding AA
3. Measuring the extent of AA and the promise of alternatives
4. Race-blind alternatives to traditional AA
   - Setting up an alternative for consideration
   - Alternatives to consider:
     - Plans based on socio-economic logic
     - Top X% plans
     - Geography-based plans
     - The Works: all the possible variables in race-predicting indices

The Through Example:
Race in U.S. Selective University Admissions

- AA can be based on any characteristic(s).
- The form under scrutiny in the U.S. is the role of race/ethnicity ("race") in the multidimensional admissions processes implemented by selective universities.
- Much of what is here applies to other contexts, but this study is focused on the above form of AA.

The Logic of Affirmative Action

Characteristic-Based Contributions

Justifications for AA often rely on hypotheses about contributions made by some characteristic (race). E.g:

- Racial diversity of a student body improves learning because confronting diverse perspectives is a precondition for developing critical thinking.
- A critical mass of each racial group is necessary to allow students of each race to learn.
- Deliberate inclusion of traditionally excluded races is a form of justice necessary for reconciliation which is itself necessary for learning.

Hereafter: “CBC” = Characteristic Based Contributions

CBC-based AA

Holistic Merit = Partial Merit + CBC

- Define "Partial Merit" as all forms of merit valued by admissions *except* for contributions based on race.

  • For simplicity, I refer to it as though it were single variable (or index) but it is really a set of variables: scores, grades, awards, activities, leadership, etc.

- As a logical matter, the CBC form of AA does not *require* Partial Merit to be measured poorly.

- But, in practice, Partial Merit is always measured imperfectly:

Holistic Merit = (measures of Partial Merit + u_{PM}) + (race + u_{CBC})

errors in measures of Partial Merit

error in measured CBCs

Statistical Discrimination

Statistical Discrimination ("SD") occurs when dimensions of merit that are valued in admissions are measured more accurately when a student's race is taken into consideration:

$$\text{Holistic Merit} = f(\text{measures of Partial Merit, race})$$

- The function f can be arbitrarily complex (multiplicative, fully non-linear).
- SD logically requires measures of Partial Merit to be imperfect.
- Even with all available measures and race, the SD corrections are inevitably imperfect, leaving us with unobservables (to the econometrician, at least) represented by ε:

$$\text{Holistic Merit} = \text{corrected measures of Partial Merit} + \varepsilon$$

CBC vs. SD: Does it Matter?

CBC and SD may seem the same or isomorphic.

However, the differences *do* matter. The logic is very different.

- SD is correcting an error in which merit, including academic aptitude, would be over- or under-stated. We expect faculty, employers, etc. to appreciate the correction eventually.
- In SD, race does not matter *per se* and can be substituted by other variables that improve measurement in the same way. The same is not true of CBC.
- CBC and SD thus inspire different race-blind alternatives to traditional AA.

Example of why CBC vs. SD matters: the Outsiders' Inference Problem

- Coates & Loury (1993) argue that AA harms students in the underrepresented group because outsiders assume that these students were admitted only because of CBC. If the outsiders do not themselves value CBC, they will discount students in the underrepresented group.
    - Outsiders are employers, faculty, anyone other than admissions staff.
- Coates & Loury argue that only marginal students are likely to have had their admission affected by CBC (*true*) so students who were unaffected by AA are underrated by outsiders.
- The Coates and Loury logic does not apply to SD because SD is a corrective.

Admissions offices may practice AA based on *both* CBC and SD. They are not mutually exclusive.

Affirmative Action: Simple Math

Simple Math 1:

Commonly cited "evidence" of AA is just plain wrong.

Define U and N populations

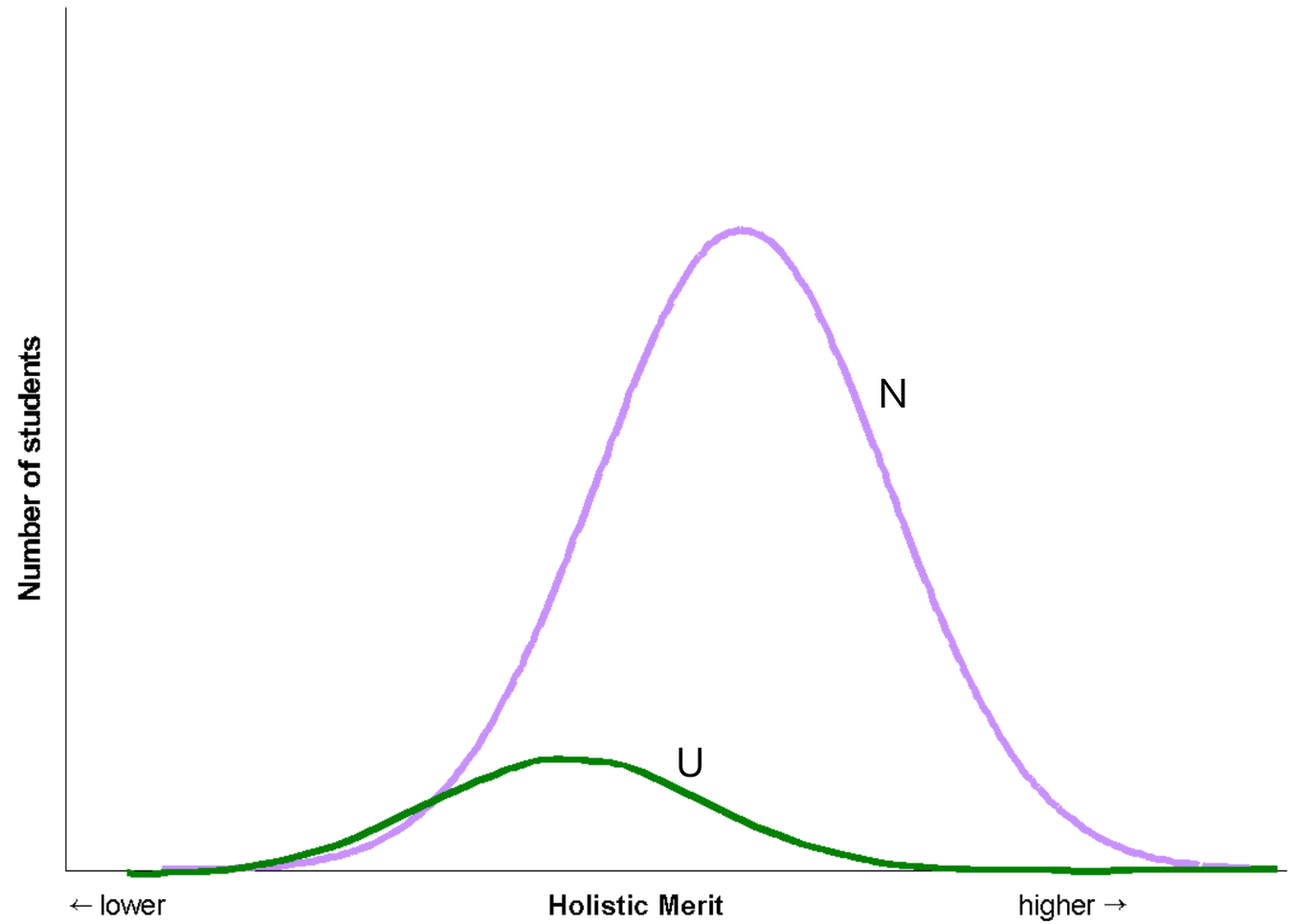
traditionally **U**nderrepresented racial minorities ("URMs")

Not traditionally underrepresented racial minorities ("non-URMs")

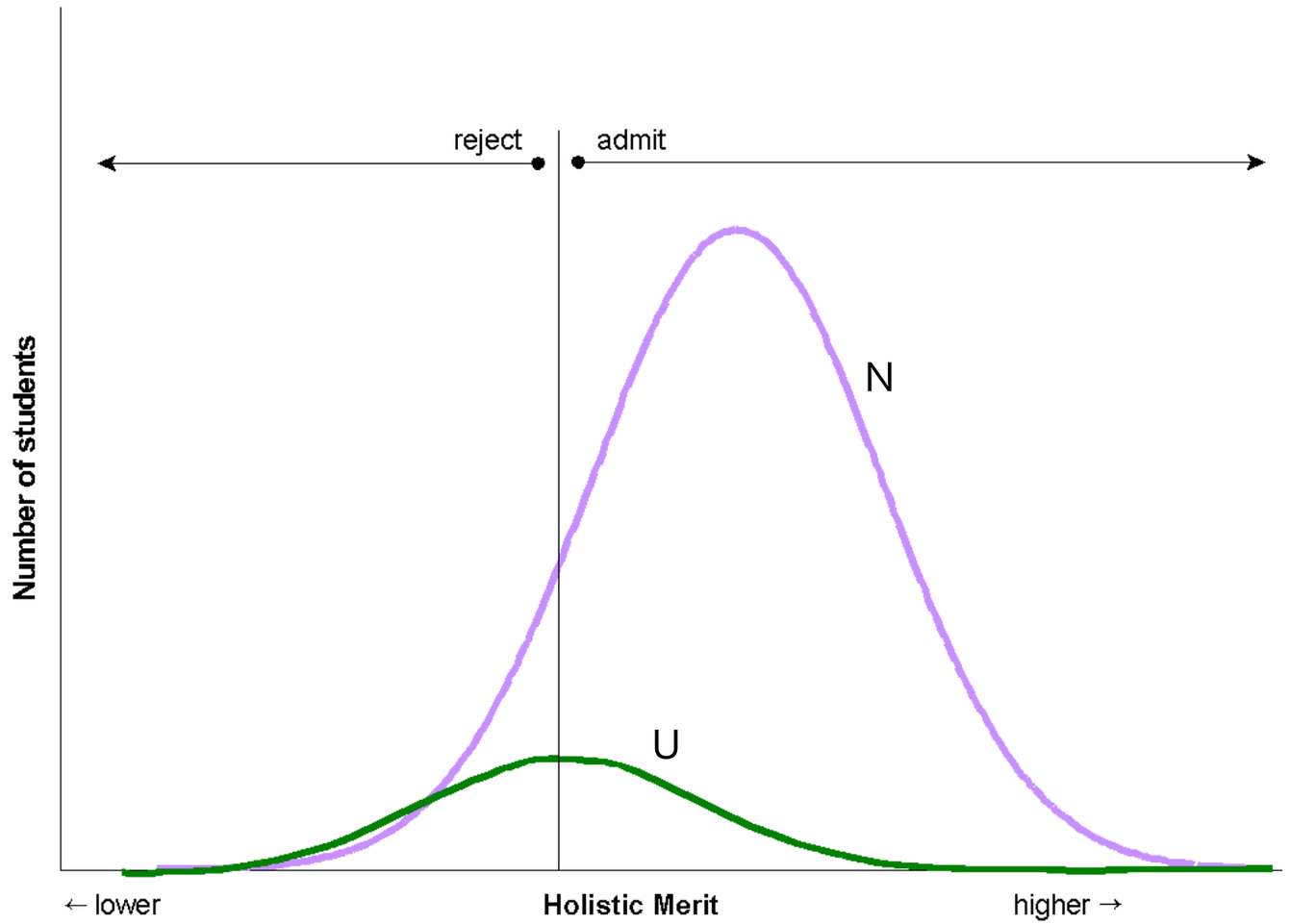
Suppose that *no* AA is being practiced

- Suppose that Holistic Merit is observable and there is no need for CBCs or SD-based corrections.
- Suppose, further, that there are no remaining errors or unobservables so admissions is deterministic.
- Then, even if the admissions office practices no AA, the average Holistic Merit among U and N admits may differ.

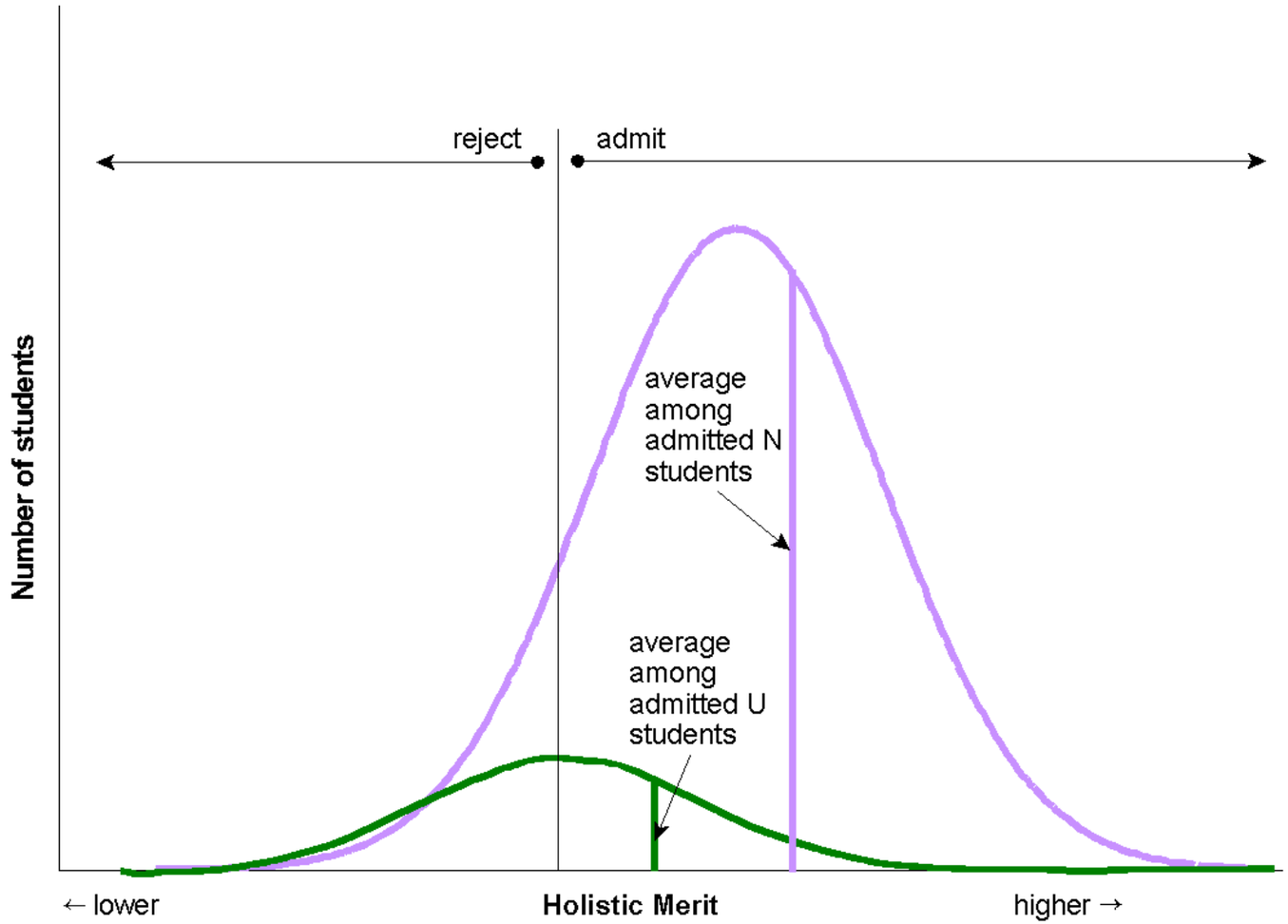
Distributions of Holistic Merit among the U and N populations



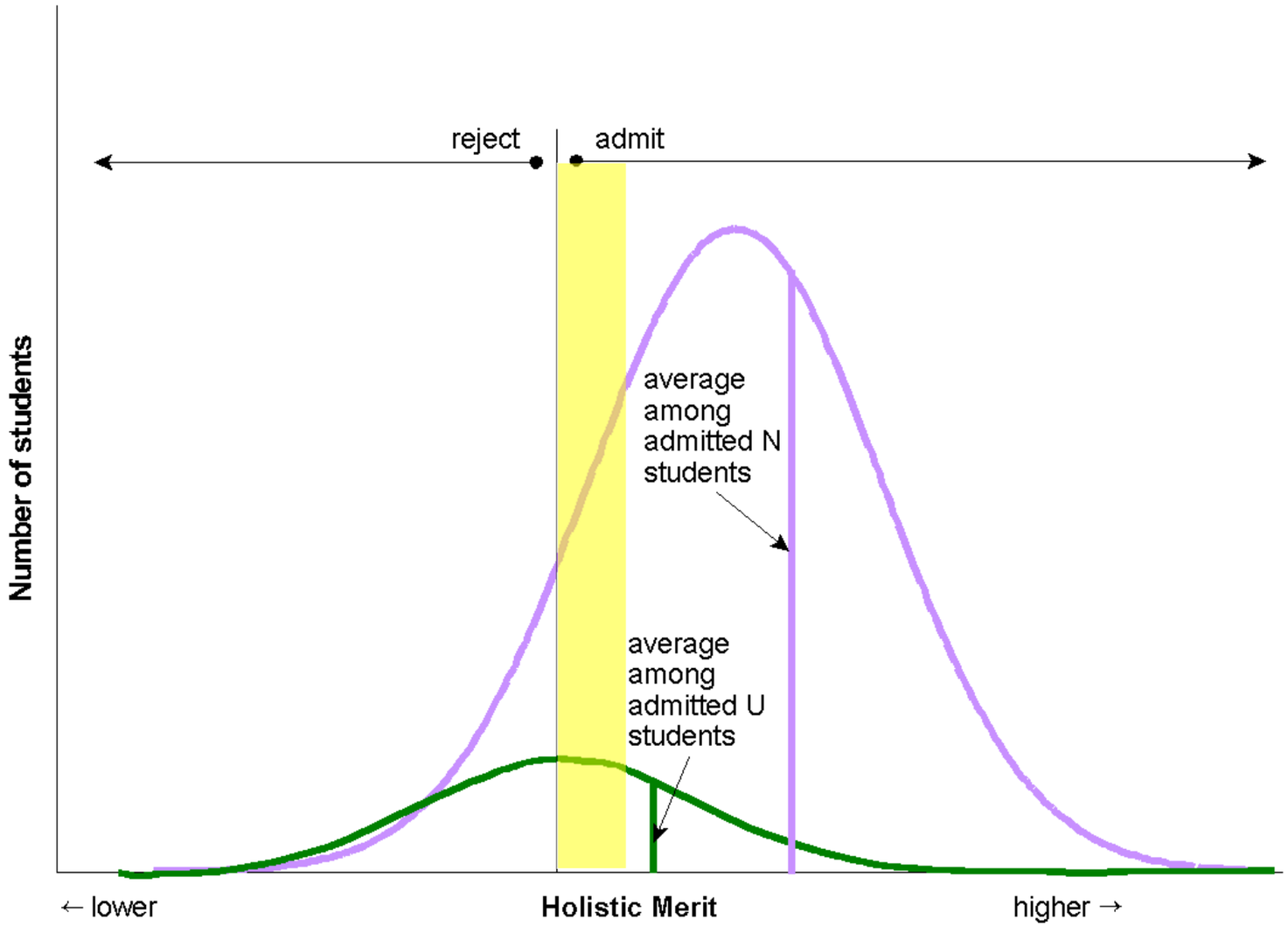
Admissions, no AA being practiced



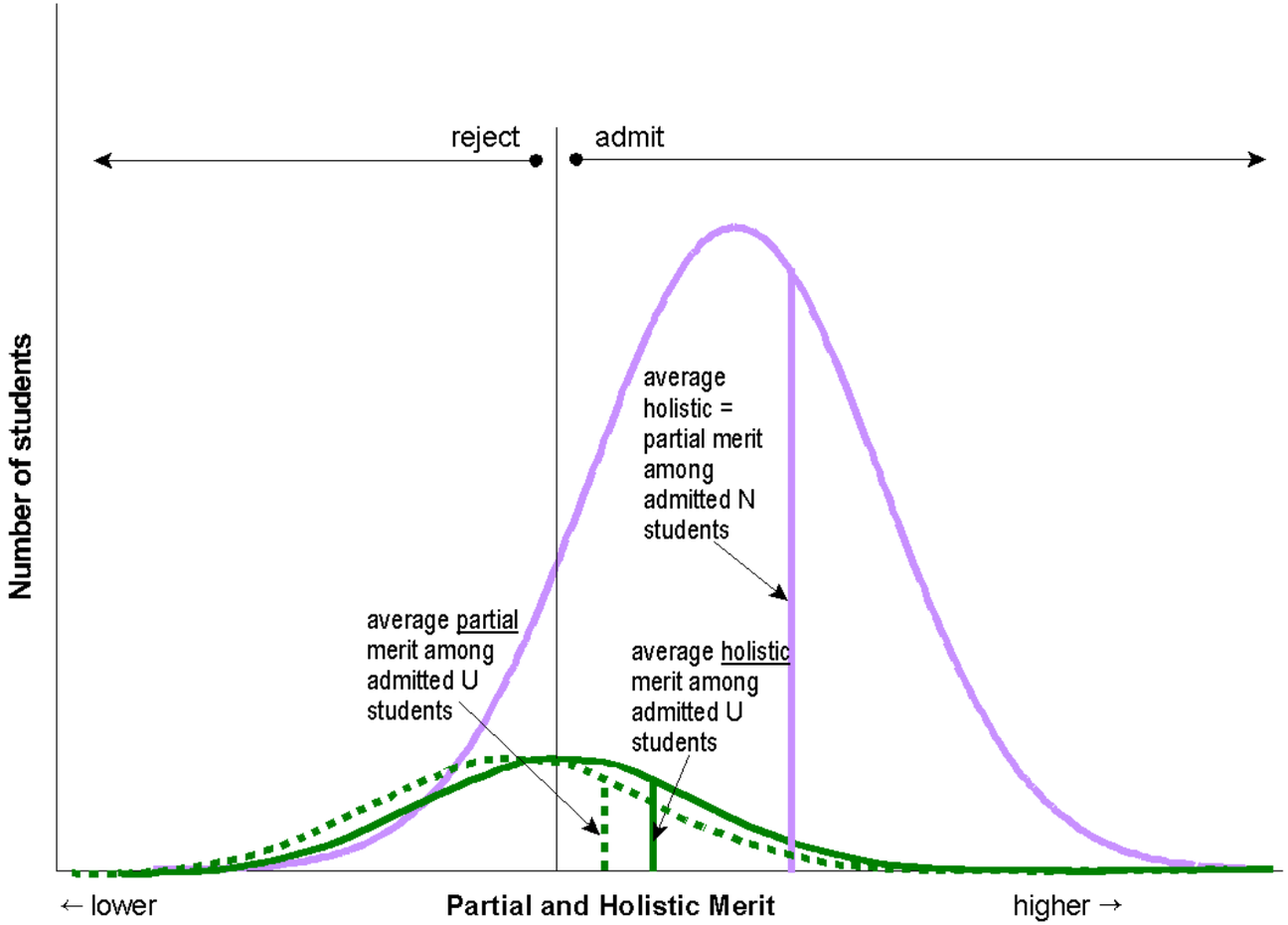
Even with no AA, the average Holistic Merit among U and N admits will differ.



Just above the admissions bar:



The example used Holistic Merit, but Partial Merit is similar: average admit does not inform us about AA.



For simplicity, assume that N-type students make no CBCs and do not need SD-based corrections.

Takeaways from Simple Math 1

Even if the admissions office practices no AA at all:

- the average Holistic and Partial Merit among U and N admits may differ.
- U students will likely be a larger share of the admits in the range just above the admissions threshold.

Hold this thought as we will need it soon.

- Although the two phenomena are the most often cited "evidence" of AA, they are not evidence because they can exist *in the complete absence of AA*.

Simple Math 2:

Any action from AA will be stacked up at the admissions threshold

We expect AA action to be near the admissions threshold

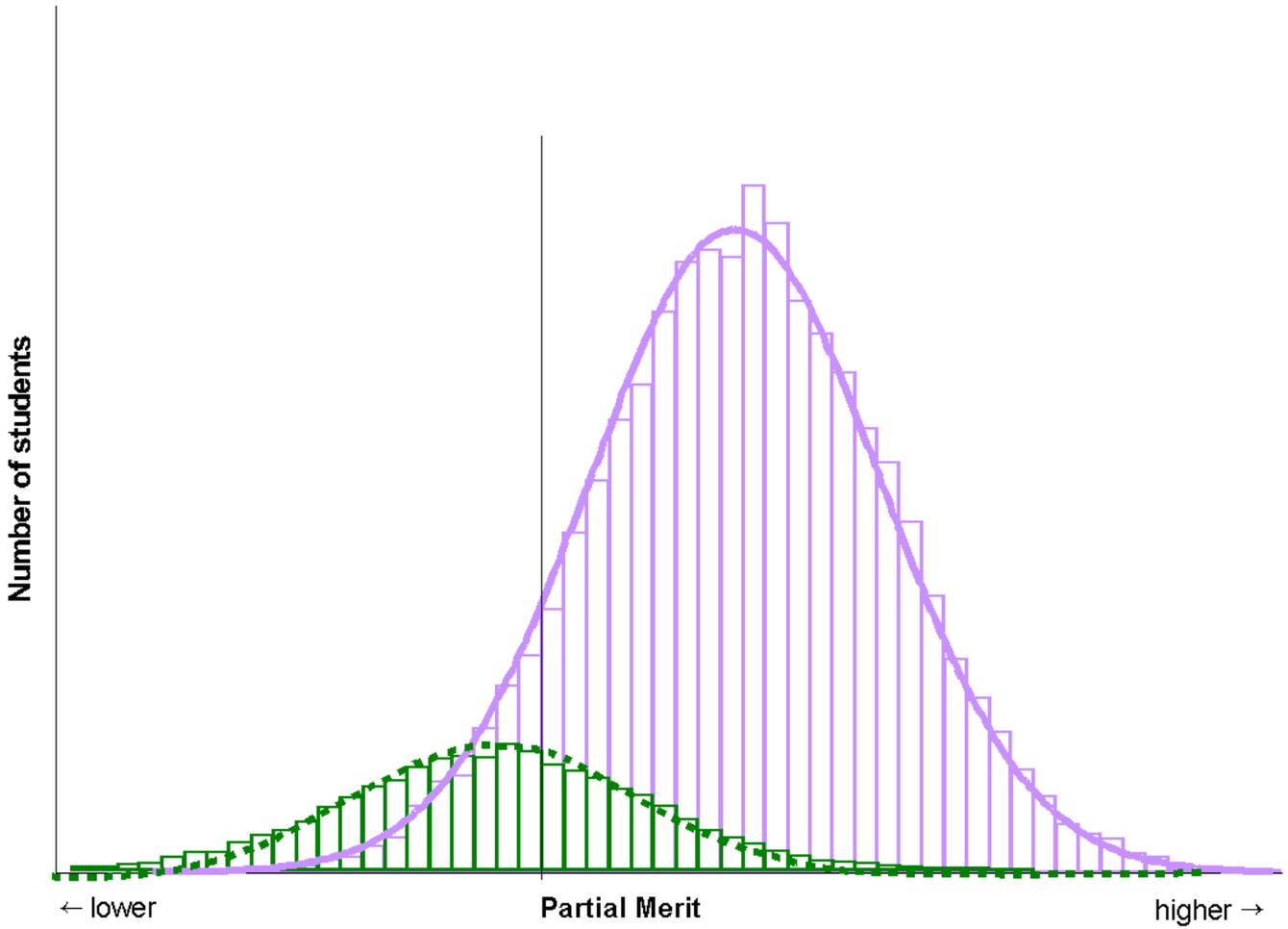
1. U students are a disproportionate share of applicants near the threshold so any AA that affects them will be concentrated near the threshold.
2. Under an array of plausible functional forms for CBC and SD, AA would only change admissions outcomes for students, based on partial merit, who were near the threshold.

   • most obviously, suppose

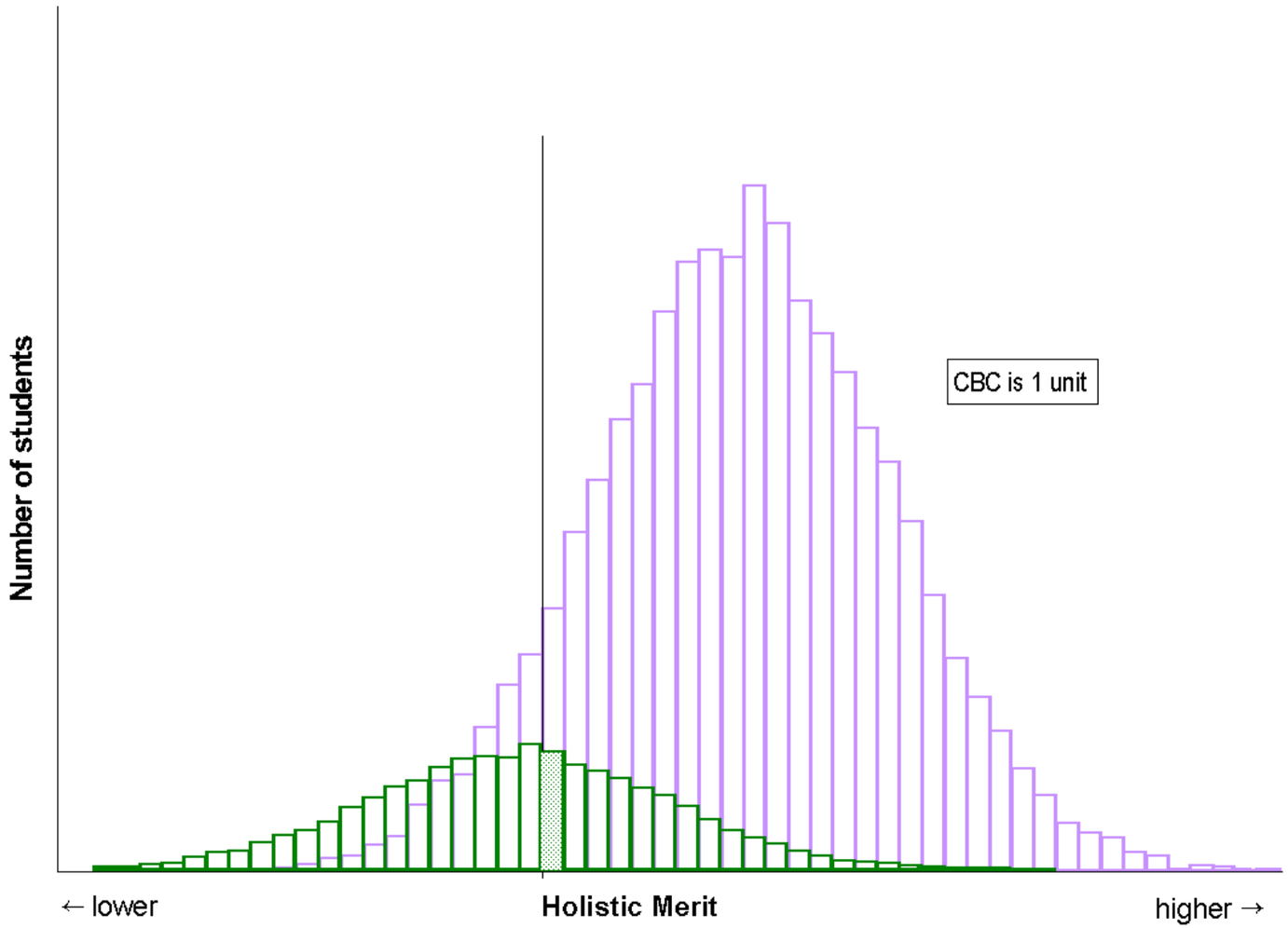
   $$observed\ holistic\ merit = partial\ merit + \overline{CBC}$$

   where admissions office judges $\overline{\text{CBC}}$ to be the same for all U students

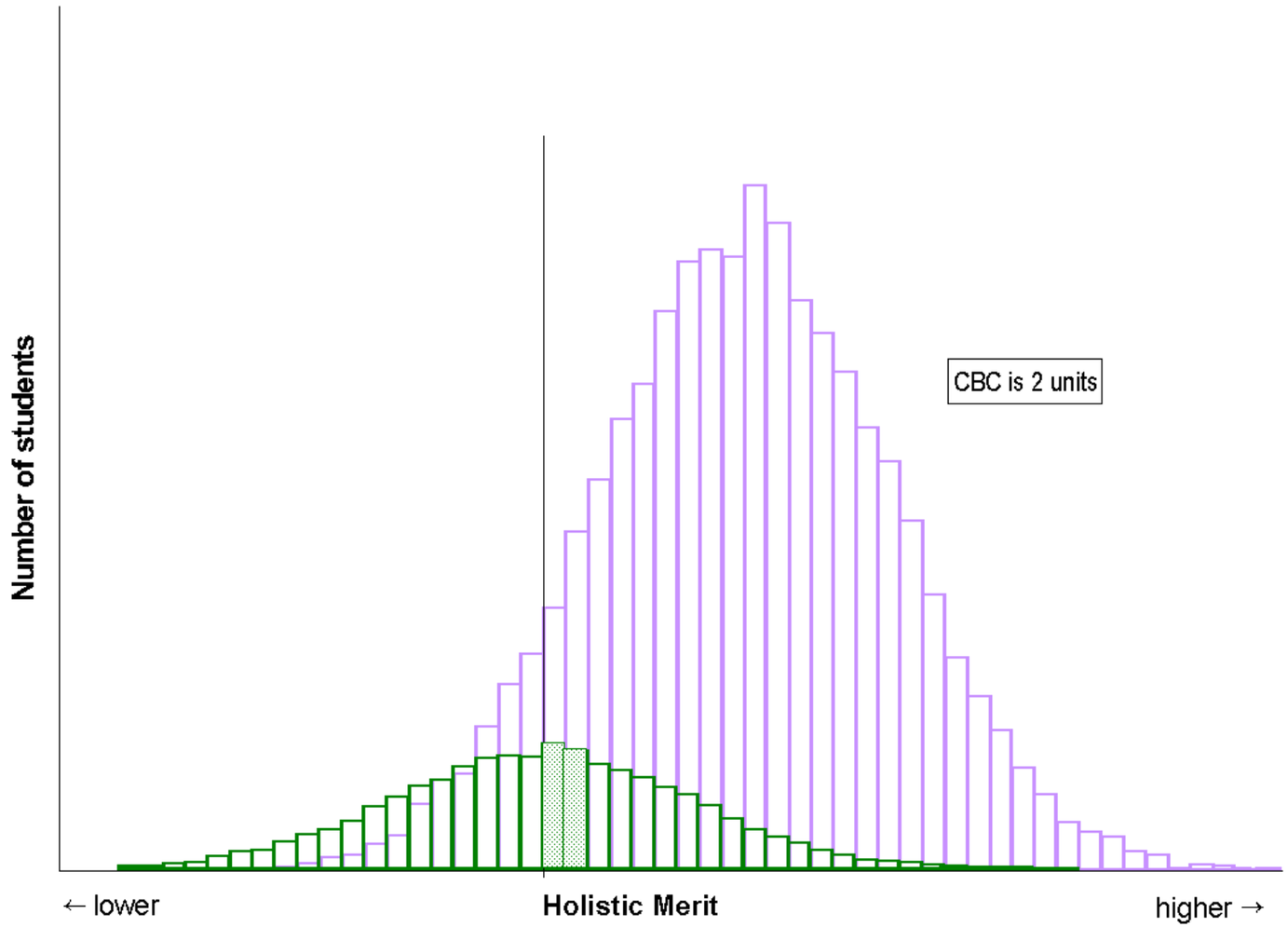
Distributions of Partial Merit among the U and N populations



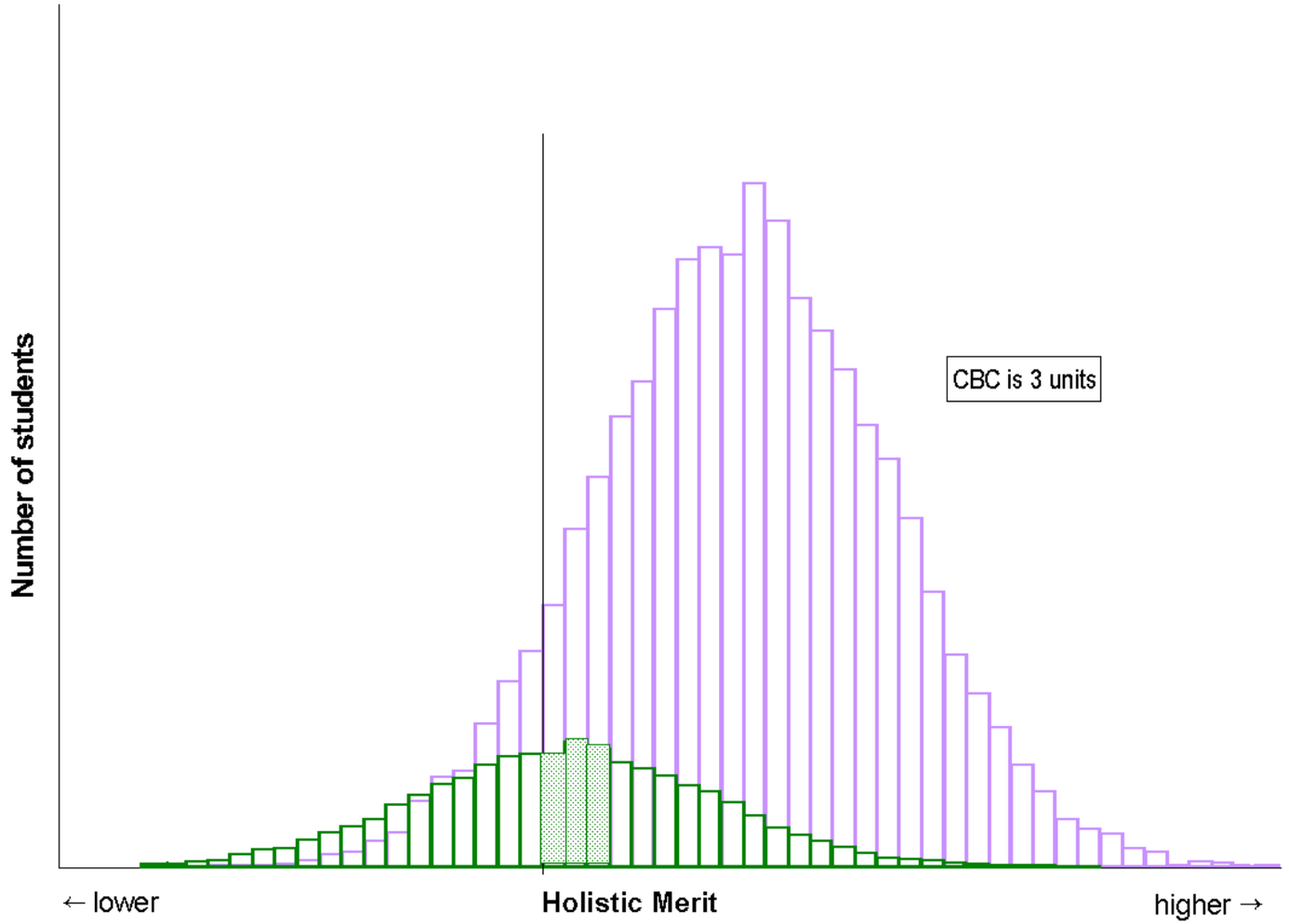
Distributions of Holistic Merit if CBC is 1 unit



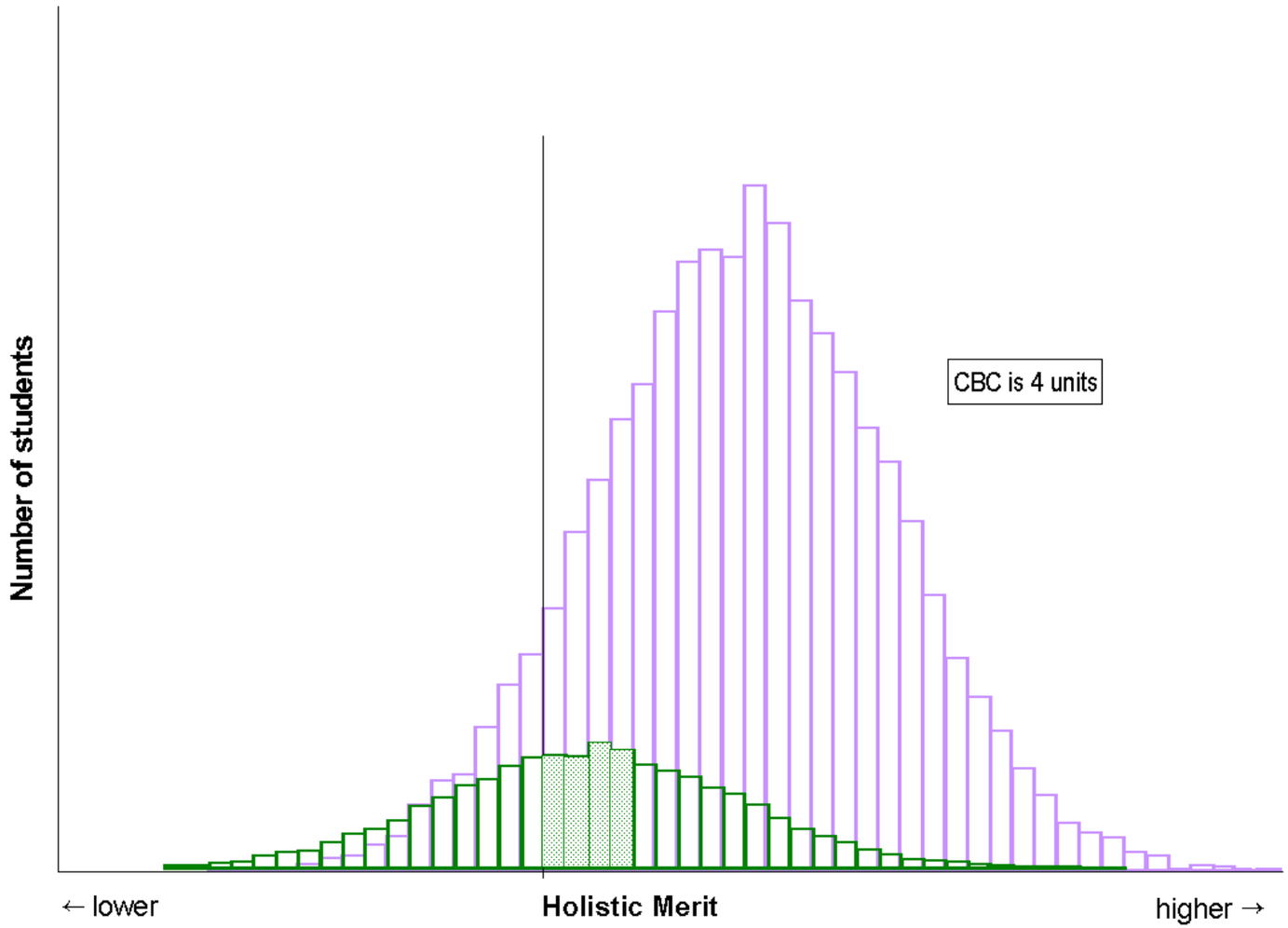
Distributions of Holistic Merit if CBC is 2 units



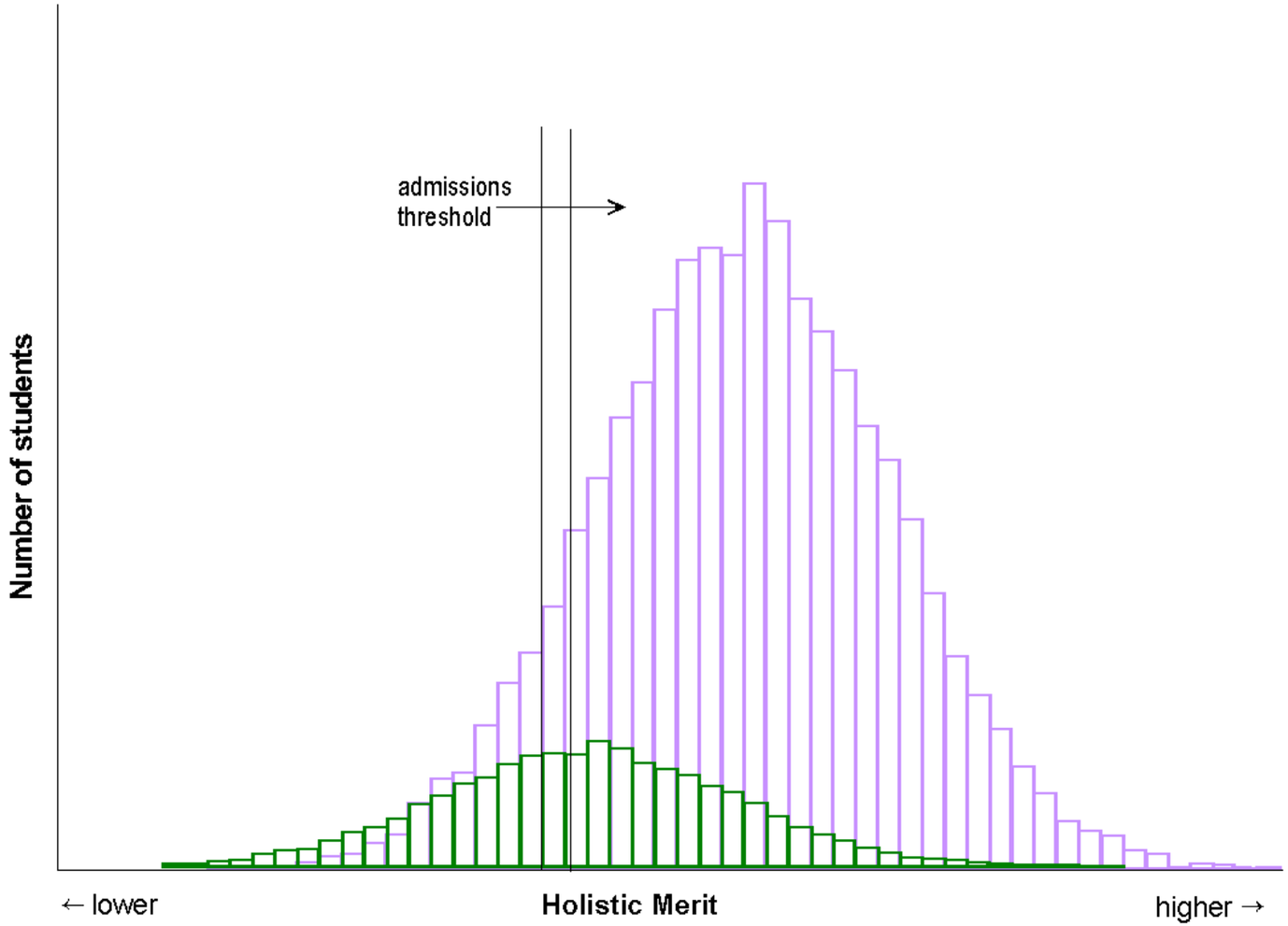
Distributions of Holistic Merit if CBC is 3 units



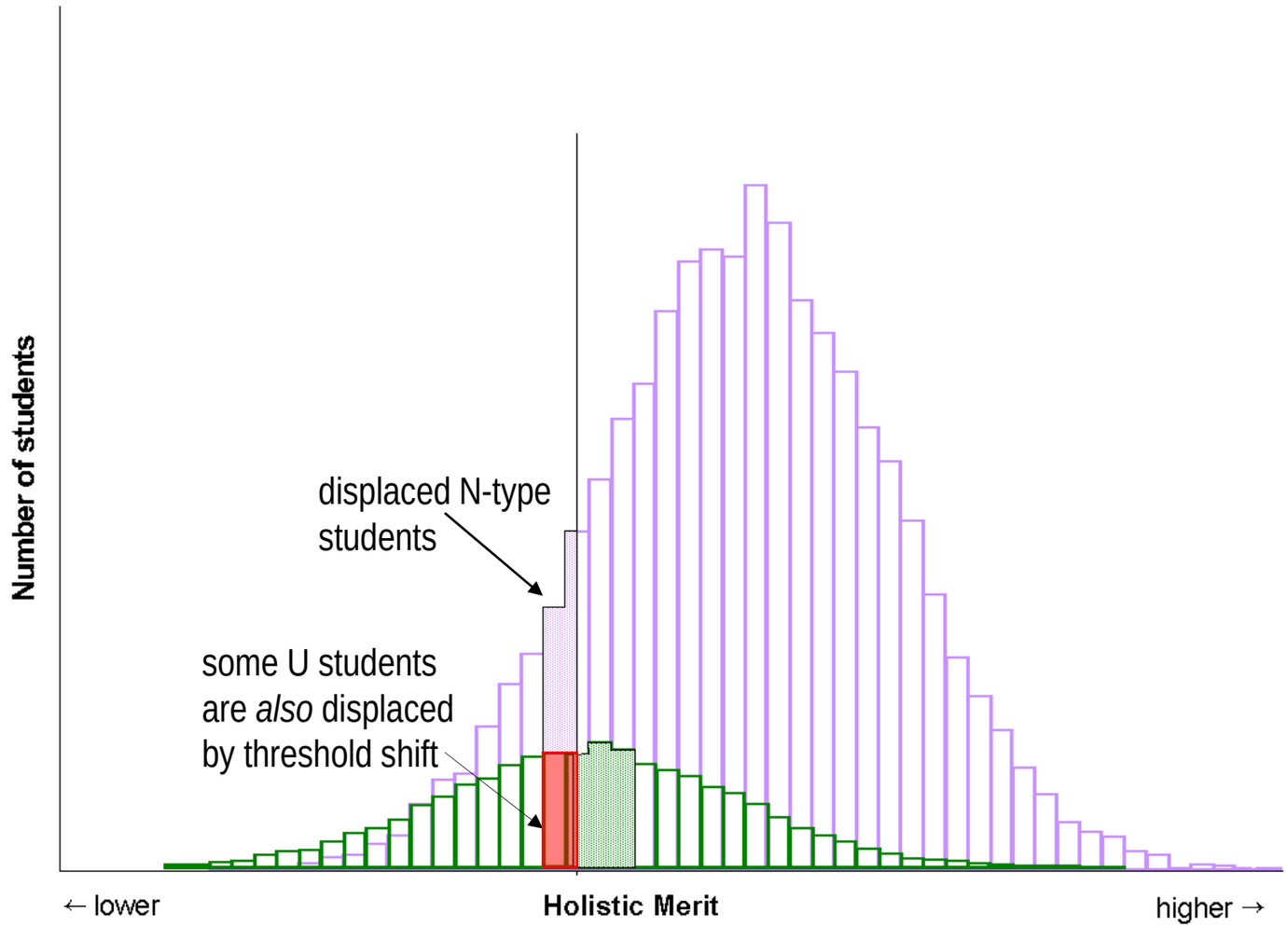
Distributions of Holistic Merit if CBC is 4 units



The admissions threshold must be shifted up



N- and U-type students are displaced by the shift in the admissions threshold



We expect AA action to be near the admissions threshold

1. U students are a disproportionate share of applicants near the threshold so any AA that affects them will be concentrated near the threshold.
2. Under simple functional forms for CBC and SD, AA would only change admissions outcomes for students who were near the threshold based on partial merit.

This is true in practice & also comes from the optimal admissions problem.

Avery & Levin (2010), Chade, Lewis & Smith (2014), Fu (2014), Peng & Garg (2024)

Take-aways from Simple Math 2

If we estimate the extent of AA being practiced (either the CBC or SD form), we are likely to find estimates that are bigger in magnitude near the admissions threshold.

Simple Math 3:

Race blindness imposes losses in proportion to the degree to which non-race variables fail to predict race fully

The math is not actually simple, but the logic is.
An example will make it clear.

Consider a university trying to recruit basketball players

- Suppose that, traditionally, a coach visits games to watch students play and recruits 4 basketball players who are high school stars.
- Now, the coach is forced to be “blind” to students’ actual play.
- The coach can use all other data available: students’ height, whether they attend schools with award-winning basketball teams, etc.
- After recruiting 4 students, coach might find only 1 star basketball player and 3 who were merely very tall people from award-winning schools.
- The university has a choice: recruit even more students in a “blind” way (diluting the merit of the class in one way) or content itself with a lousy basketball team (diluting merit of the class in another way).

Blind recruitment fails to attain what sighted recruitment could

- The university either makes a sacrifice on the competitiveness of its team or makes a sacrifice on the merits of its remaining class.
- The magnitude of the losses depends on the degree to which performance-blind proxies can substitute for observing basketball prowess.
- If nearly all very tall people at award-winning high schools were actually great players, the losses would be small. If one quarter of them were great players, the losses would be larger. If only one tenth were great players, the losses would be even greater.
- The lower the capacity of performance-blind proxies to predict basketball prowess, the greater the losses.

Blind admission processes fail to attain what sighted processes could

- Consider an admissions process that relies on race-blind proxies like poverty, high school class rank, geography, etc.
- Suppose, using the proxies, the university admitted students whom it hoped would make CBCs or whose merit—corrected by SD—was high.
- Some of the students admitted would actually turn out not to make CBCs or would have been "SD-corrected" wrongly and actually be weak.
- The magnitude of the losses depends on the degree to which the race-blind proxies can substitute for observing race.
- E.g. If nearly all low-SES people were U-types and nearly all non-low-SES students were N-types, the losses would be small. But, if many of U-type students who would have been the best admits were non-low-SES, the losses would be great.

The math of Relative Efficiency

The key result is *Relative Efficiency* from Ellison & Pathak (2021).

- See also Chan & Eyster (2003) and Fryer, Loury, & Yuret (2008)

θ = Partial Merit (e. g. test scores, GPA, etc.)
x = characteristic that is valuable because of CBCs or SD (race)
z = the set of proxies for the valuable characteristic (race)
$A^{PM}(\theta, x, z)$ = admissions based strictly on Partial Merit

i.e. rank students on Partial Merit and admit them until university runs out of places

$A^{HM}(\theta, x, z)$ = admissions based on Holistic Merit with CBCs & SD corrections

i.e. race "sighted" admissions

$A^{Proxy}(\theta, x, z)$ = admissions based on proxies for valuable characteristic (race)

i.e. race blind admissions in which proxies, *z*, substitute for the valuable characteristic *x*

Relative Efficiency

$$Relative\ \ Efficiency = \frac{E[\theta|A^{HM}(\theta,x,z)] - E[\theta|A^{PM}(\theta,x,z)]}{E[\theta|A^{Proxy}(\theta,x,z)] - E[\theta|A^{PM}(\theta,x,z)]}$$

- Numerator = Gain in expected merit from using race "sighted" Holistic Merit admissions rather than Partial Merit-based admissions
- Denominator = Gain in expected merit from using Proxy-based, race-blind admissions rather than Partial Merit-based admissions

Interpretation: Race-sightedness is 4 times as efficient as race-blind Proxy-based admissions *if*:

A^{HM} increases expected merit by 1 unit for every 1 unit increase in actual representation of the valued characteristic (race).

A^{Proxy} increases expected merit by ¼ unit for every 1 unit increase in the proxy-based predicted representation of the valued characteristic (race).

Analogous to the basketball example.

Take-aways from Simple Math 3

A measure of the magnitude of losses associated with race-blind admissions is the degree to which proxies fail to predict race accurately.

Measuring the Extent of Affirmative Action and the Promise of Alternatives

Data

- University of North Carolina (UNC) admissions data for the entering classes of 2012 to 2017.
- North Carolina Education Research Data Center (NCERDC) data 2008-17.
- ACT data from mandatory test administered to high school juniors.
- All ACT and College Board tests incl. AP, SAT2, all test administrations.
- Other data from North Carolina (NC) public postsecondary institutions.
- American Community Survey & Census data.
- National Historical Geographic Information System (NHGIS) data.
- Zip code & precise geocode data.

North Carolina is an almost ideal state for the measurement exercise

- UNC is a very selective public "flagship" university.
- UNC stated that it practiced holistic admission during the relevant years.
  - This is unlike the flagships in Texas, Florida, and California, all of which used top X% or other restricted processes.
- Unusually good K-12 data so that the *universe* of potential in-state applicants is knowable, not just the actual applicants.
- North Carolina is a diverse state: low-to-high education, low-to-high income, rural-to-urban, profound geographic diversity, a population with a substantial share of URMs.

UNC Profile (2017 entering class)

- ~41,000 applications, 9700 admits, 4300 matriculants
- In-state students make up ~32% of applicants
- In-state students must comprise 82% of the class, by law. UNC usually hits this mark closely.
- The racial/ethnic composition of the class was:

  Asian 16%, black 10%, white 71%, Latinx 8%, Native American/Alaskan 2%, Pacific Islander 0.2%
  In NC, URM means students whose share of enrollment is lower than their share of the population in the state: black, Latinx, Native American/Alaskan
- The 10-90 test score range of the class was about 1150 to 1400 (SAT scale).

Measuring the Extent of Affirmative Action

Regression Decompositions

Regression Decompositions Measure the extent of Affirmative Action

Use regressions to try to explain admissions decisions. Make the regressions increasingly complex. Do this with binary race (U/N) or all races/ethnicities.

- ✓ race as an additive factor
- ✓ race as a multiplicative factor
- ✓ machine learning
- ✓ in-state vs. out-of-state applicants
- ✓ without and with admissions officers' rating variables
  - endogenous variables as covariates, *caution on interpretation*

The Shapley Decomposition shows the share of the admissions decision attributable to race, other factors

The Shapley Decomposition decomposes R^2 into the shares attributable to any factor or sub-group of factors.* It is the only decomposition that:

- is efficient
- gives symmetric (equal) treatment to all potential explanatory factors, regardless of their order in the model
- obeys monotonicity

* *Pseudo* R^2 with a binary outcome like admission. Also called the Shapley-Owen-Shorrocks decomposition. Code due to FW Chávez Juárez. Machine learning code from H2O.

Race as an Additive Factor

Dependent variable: Admission (0/1)

Row	Description of Specification [2]	(A) R^2	(B) Share of R^2 due to combined test scores	(C) Share of R^2 due to race/ ethnicity	(D) Share of R^2 due to variables other than race/ethnicity and combined test scores	(E)= (B) x (A) Share of admission decision due to combined test scores	(F)= (C) x (A) Share of admission decision due to race/ethnicity
(1)	SAT Combined, ACT Comp [3] [4]	0.121	93.2%	6.8%	-	11.3%	0.8%
(2)	(1) + SAT Subscores, ACT Subscores [3] [4] [5]	0.127	44.9%	7.0%	48.2%	5.7%	0.9%
(3)	(1) + Academic Program, Class Rank, GPA	0.254	33.0%	3.5%	63.5%	8.4%	0.9%
(4)	(3) + Sex	0.254	32.8%	3.5%	63.7%	8.3%	0.9%
(5)	(4) + NC Resident	0.364	29.3%	2.8%	67.9%	10.6%	1.0%
(6)	(5) + Min Coursework, HS Sport, Faculty / Staff Child	0.398	28.3%	2.8%	69.0%	11.3%	1.1%
(7)	(6) + Alum Parent, Early Action	0.406	27.5%	3.0%	69.6%	11.2%	1.2%
(8)	(7) + Parents' Education, Foreign Citizenship, Fee Waiver	0.409	26.9%	2.8%	70.2%	11.0%	1.2%
(9)	(8) + Within-School GPA Rank (SGR)	0.428	23.0%	2.8%	74.2%	9.8%	1.2%

Source: College Board; Connect Carolina; UNC Admissions Website

Notes: Probit regression; pseudo R^2; race/ethnicity: Asian, black, white, Latinx, Native American/Alaskan, Pacific Islander

Race as a Multiplicative Factor

		(A)	(B)	(C)	(D)= (C) x (A)
Dependent variable: Admission (0/1)					
Row	**Description of Specification [2]**	**R^2**	**Share of R^2 due to variables other than race/ ethnicity**	**Share of R^2 due to race/ ethnicity**	**Share of admission decision due to race/ethnicity**
(1)	SAT Combined, ACT Comp [3] [4]	0.118	91.4%	8.6%	1.0%
(2)	(1) + SAT Subscores, ACT Subscores [3] [4] [5]	0.125	88.4%	11.6%	1.5%
(3)	(1) + Academic Program, Class Rank, GPA	0.253	87.6%	12.4%	3.1%
(4)	(3) + Sex	0.253	87.6%	12.4%	3.1%
(5)	(4) + NC Resident	0.371	88.8%	11.2%	4.2%
(6)	(5) + Min Coursework, HS Sport, Faculty / Staff Child	0.406	88.5%	11.5%	4.7%
(7)	(6) + Alum Parent, Early Action	0.413	88.4%	11.6%	4.8%
(8)	(7) + Parents' Education, Foreign Citizenship, Fee Waiver	0.417	87.3%	12.7%	5.3%
(9)	(8) + Within-School GPA Rank (SGR)	0.437	87.2%	12.8%	5.6%

Source: College Board; Connect Carolina; UNC Admissions Website

Notes: Probit regression; pseudo R^2; race/ethnicity: URM, non-URM (to avoid overfitting)

Take-aways from Decomposition

- Observable (to us) variables explain less than half of the variation in admissions decisions.
  - Even if we add admissions officers' ratings, which are almost certainly endogenous to their preferred outcomes, we can explain less than half of admissions decisions.
  - This does not mean that admissions decisions are arbitrary.
  - More likely, admissions officers observe something we do not.
  - The only thing we know about the unobservables is that they are insufficiently correlated with the observables to be "picked up" by them.
  - *Resist the temptation to treat the estimated model (i.e. predicted admission) as if it were reality.*

Measuring the Extent of Affirmative Action

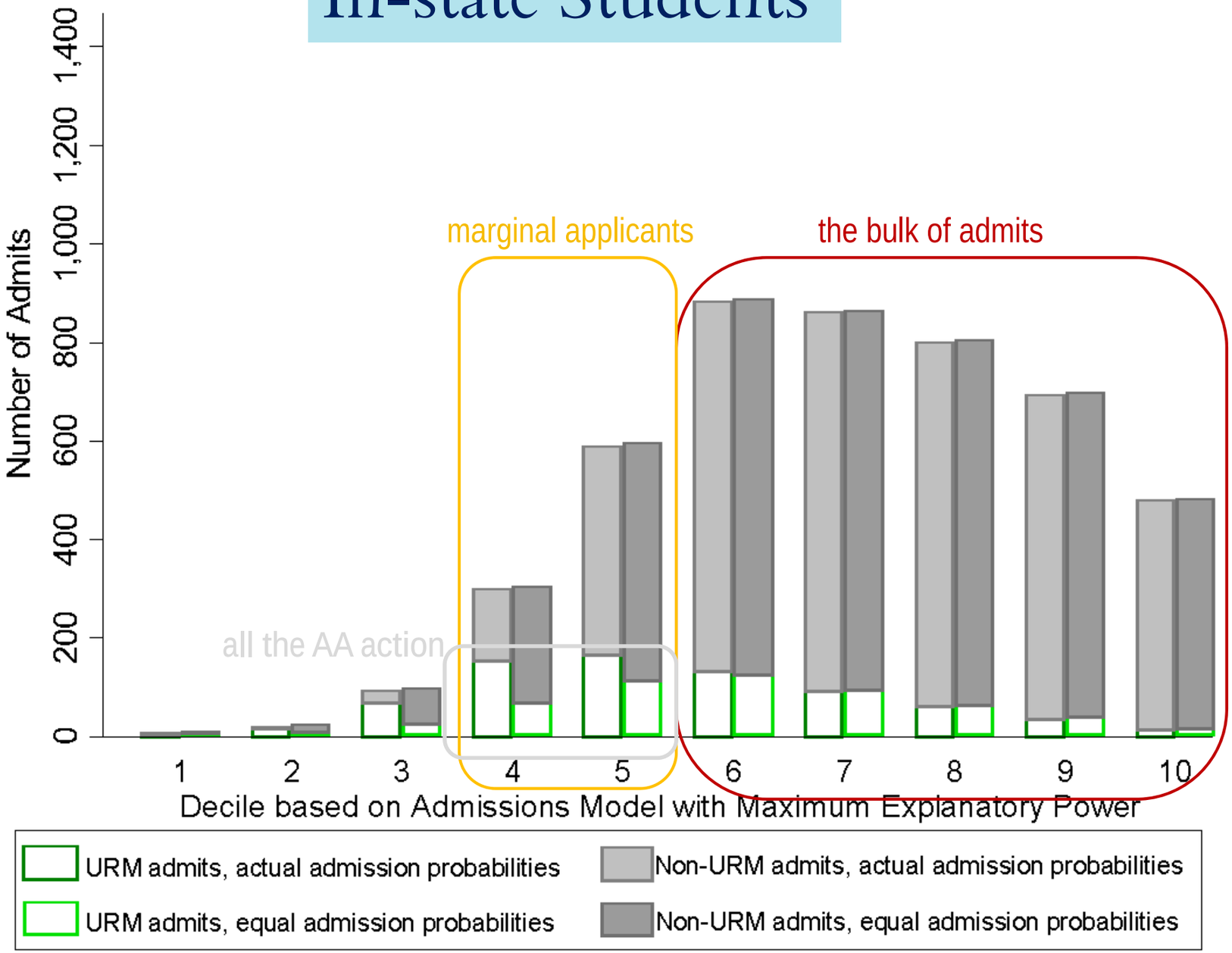
Setting admissions probabilities equal for URM & non-URM students

Recall that, if we estimate the extent of AA being practiced, magnitudes will likely be greater near the admissions threshold

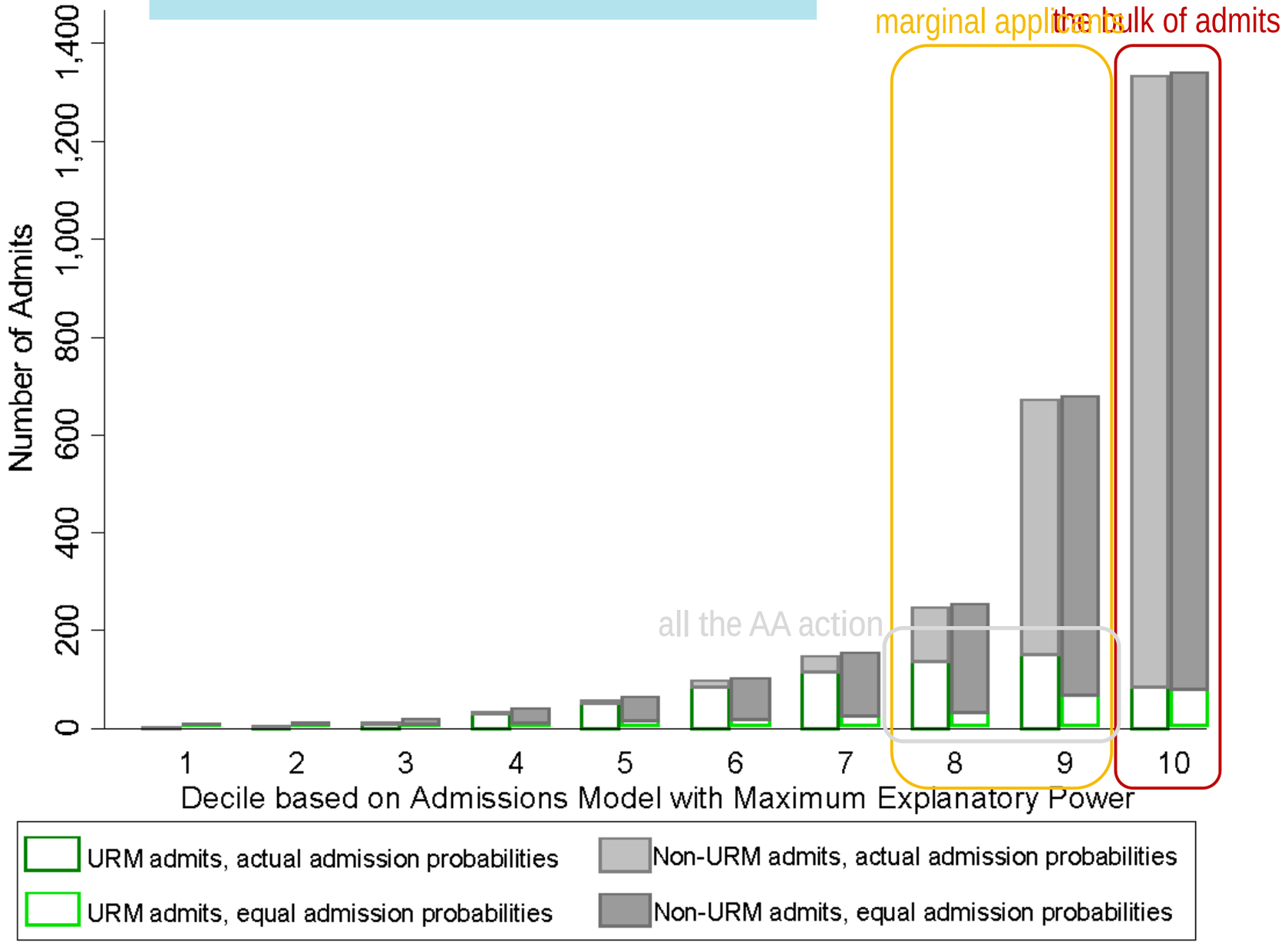
- To test this:

1. assign students to the decile of their estimated admissions probability from the maximum explanatory power model.
2. equalize admissions probabilities within each decile
    - i.e. adjust the number of U and N admits such that the average admissions probability for each type is equal to the total admissions probability in that decile.

In-state Students



Out-of-state Students



By adding up over the deciles, we get an estimate of the impact of AA

Change in Non-URM, In-State Admits Due to Equalizing Admissions Rates for URMs & non-URMs

Decile	Change as a share of all admits
1	0%
2	0.2%
3	0.6%
4	0.7%
5	0.8%
6	0.6%
7	0.3%
8	0.1%
9	0%
10	0%

By adding up over the deciles, we get an estimate of the impact of AA

Change in Non-URM, In-State Admits Due to Equalizing Admissions Rates for URMs & non-URMs

Decile	Change as a share of all admits
1	0%
2	0.2%
3	0.6%
4	0.7%
5	0.8%
6	0.6%
7	0.3%
8	0.1%
9	0%
10	0%

bulk of admits

Take-aways from Setting Admissions Probabilities Equal

- As predicted, AA's likely effects are concentrated among marginal applicants who are near the admissions threshold.
- The bulk of admits come from deciles that are unaffected or affected to only a tiny degree.
- *Thus, a top applicant who was displaced would be an extreme outlier.*

Measuring the Promise of Race-Blind Alternatives

A measure of the magnitude of **losses** associated with race-blind admissions is the degree to which proxies **fail** to predict race

Plausible proxies must be available to admissions offices. Proxies include, at the high school or Census block group level:

Census block group
household income (dollars)
family income (dollars)
home is owned (indicator)
home value if home is owned (dollars)
single parent household (indicator)
non-parent household head (e.g. aunt, indicator)
number of siblings in household
household head or student in group quarters (indicator)
rural (indicator)
in urban area but outside central city (indicator)
in urban area inside central city (indicator)
mother's education (5 categories*)
father's education (5 categories*)
household head's education (5 categories*)

High School
percent free or reduced price lunch
teacher-student ratio
per-pupil spending
high school graduation rate
share who take a non-mandatory college test
share of 12th graders who plan military
share of 12th graders who plan voc/tech
share of 12th graders who plan 2-year college
share of 12th graders who plan 4-year college
share of 12th graders who plan employment

* less than diploma, hs diploma/GED, 1 yr of college, 2 yrs of college, 4 yrs of college, 5+ yrs of college

Race is not predicted accurately, especially among high aptitude students

Ability to Predict URM Status for North Carolina Public High School Students
model includes all proxies listed above

SAT/converted ACT	Pseudo-R^2
All levels	17%
SAT > 1000	11%
SAT > 1100	9%
SAT > 1120	9%
SAT > 1220	8%
SAT > 1260 (20th percentile among in-state non-URMs admitted to UNC)	6%

We are lousy at predicting race.

Similar predictive accuracy for: all 18-19 year olds in NC; all 18-19 year olds in the U.S.; 6 racial categories instead of URM/non.

Relative Efficiency math would tell us to stop here because we now know that race-blind admissions will impose losses relative to "sighted" admissions.

- But it is worth going on to simulate race-blind alternatives to AA because admissions offices might be poor at implementing "sighted" holistic admissions.
- We need not compare alternatives to what is *achievable* with race-sightedness. We can compare alternatives to the reality of what is *actually achieved* with race-sightedness.

Simulating Race-Blind Alternatives

Steps in creating a simulation

1. Build an admissions model using race-blind proxies.
2. Under this model, predict who would



since ultimately what we care about is *who enrolls* and any alternative plan would affect application and matriculation behavior, not just admissions.

3. Compare results of simulation against UNC actual levels of academic preparedness and underrepresented minority representation

Deliberately make assumptions very favorable to alternatives

Assume:

Application

- All current applicants still apply.
  - favorable because some have a lower probability of admission under the alternative
- 75% of "newly preferred" classified-as-disadvantaged apply.
  - favorable because only about 15% of them currently apply

Enrollment/Matriculation

- Current matriculation probabilities hold.
  - favorable because, empirically, matriculation probability falls as UNC gets less selective relative to other schools in student's portfolio

A very important (but subtle) challenge

• Regressions showed that we can explain only a minority of real admissions decisions with observables, even with rich specifications and ratings variables (which are unverifiable and can reflect race so are therefore "cheating").

⟶*Adding more factors or flexibility just induces overfitting.*

• Thus, when we simulate admissions, we necessarily overemphasize observable variables. Greatly.

• We also have to judge each plan against some benchmark. All benchmarks necessarily focus on observable variables.

• Thus, in comparisons with any benchmark, simulated alternatives mechanically perform well vis-a-vis real admissions.

All the simulations are set up similarly: Illustrate with an SES index

1. Construct an SES index measure for every applicant.
2. Choose an emphasis and threshold to give to the SES index.
   - Threshold is the cut-off at which a student is "disadvantaged".
   - Emphasis is how many "seats" are reserved for the disadvantaged.

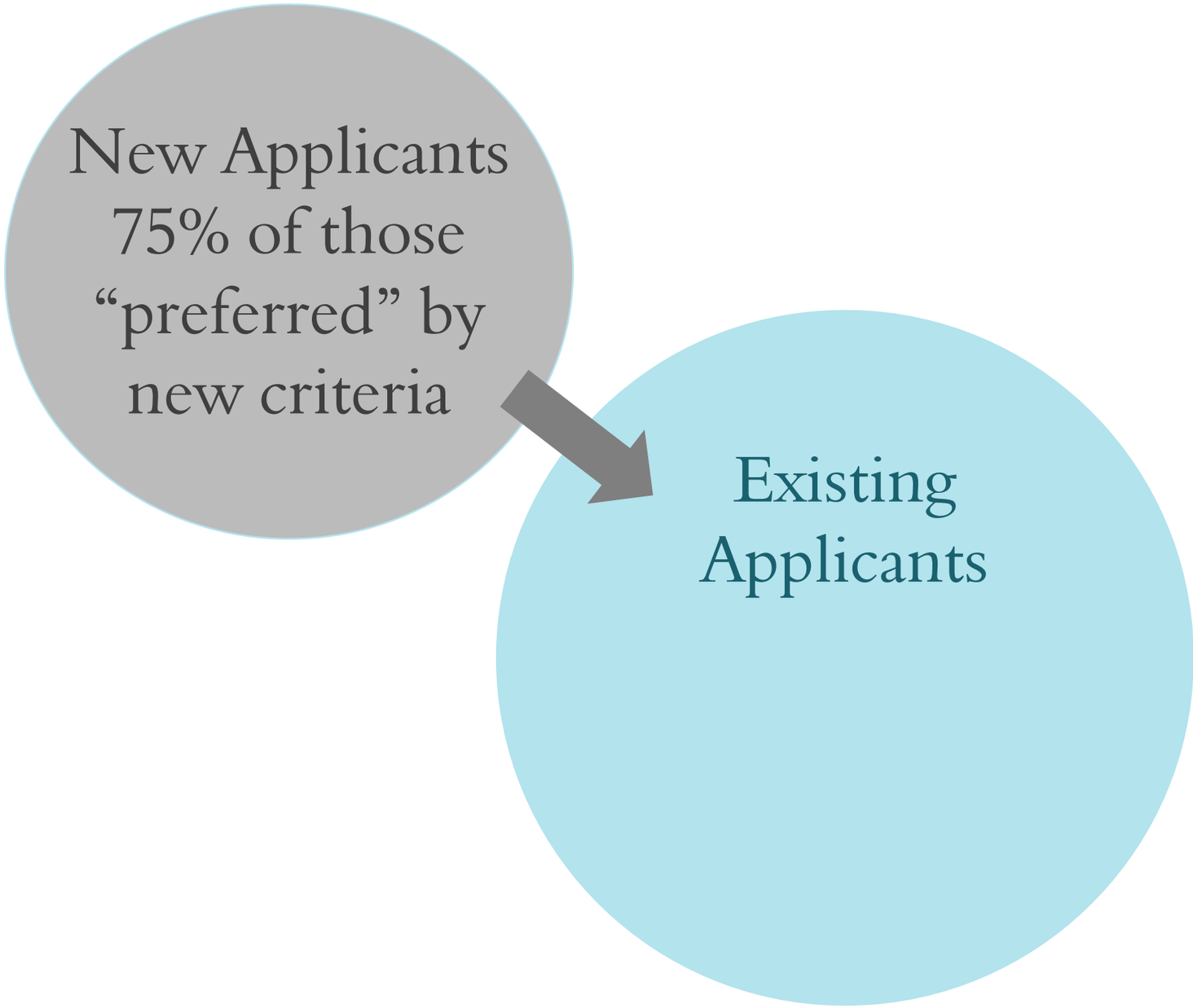
A total of **20 cases for each index**.

reserved seats	thresholds
750	bottom 5% on SES
1000	bottom 10% on SES
1250	bottom 15% on SES
1500	bottom 20% on SES
	bottom 25% on SES

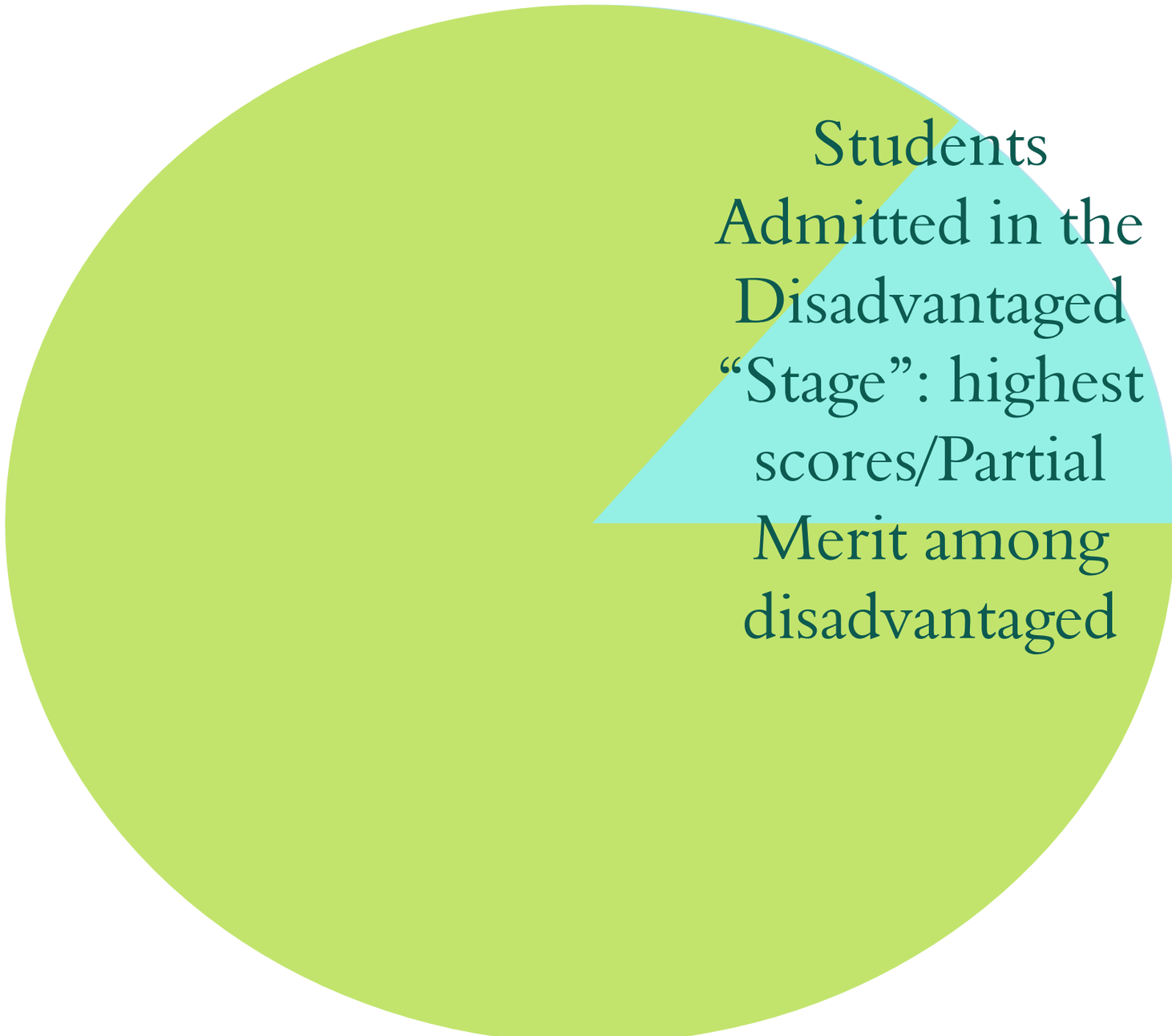
We experimented and these cover the interesting cases.

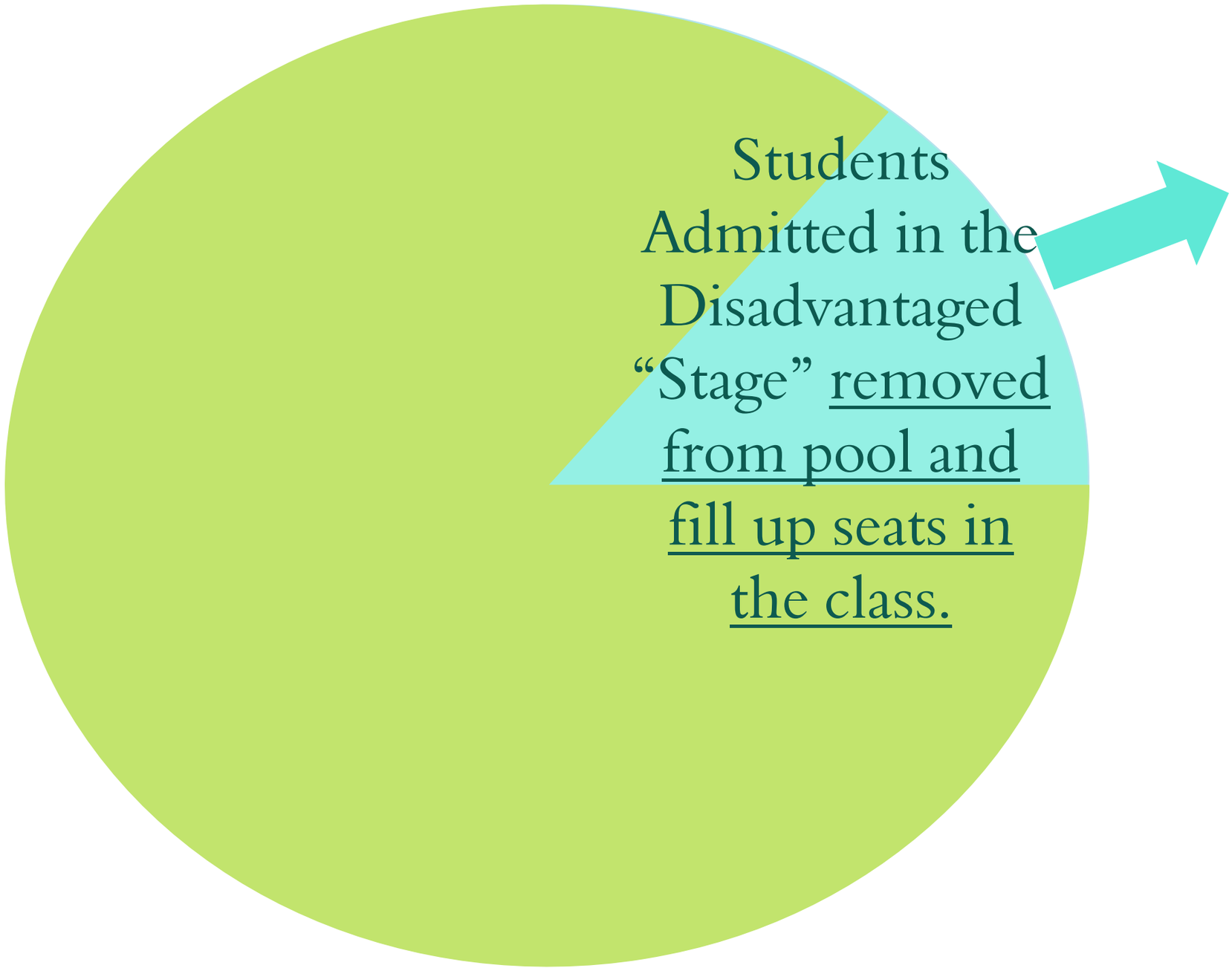
All the simulations are set up similarly: Illustrate with an SES index

1. Construct an SES disadvantage index measure for every potential applicant.
2. Use the favorable assumptions on applications & enrollment.
3. Use one of the 20 emphasis & threshold combinations for the disadvantage index.
4. In the notional Disadvantaged "Stage," allocate the reserved seats to the highest scorers (highest Partial Merit).
5. Test whether it's *feasible* to hit the actual combination of scores/Partial Merit and URM representation by admitting remaining applicants to the non-reserved seats?


New Applicants
75% of those
“preferred” by
new criteria
Existing
Applicants


Existing plus
“Newly
Preferred”
Applicants


Students Admitted in the Disadvantaged "Stage": highest scores/Partial Merit among disadvantaged


Students
Admitted in the
Disadvantaged
"Stage" removed
from pool and
fill up seats in
the class.


Pool of
remaining
students
available to
complete the
class

Categories of SES-based simulations

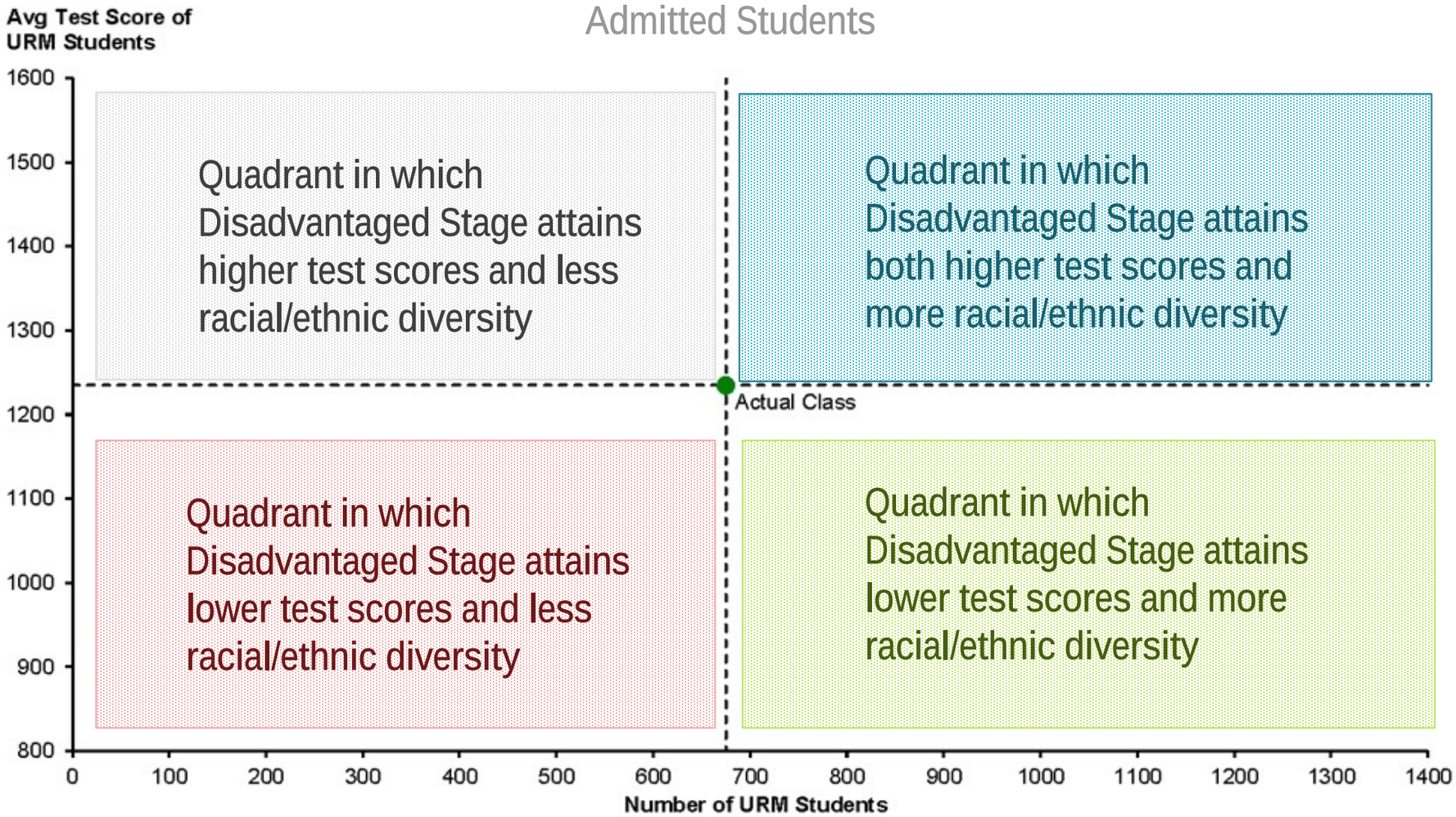
LIKELIHOOD OF ATTENDING 4 or 2 YEAR COLLEGE INDICES	STRIVER INDEX	RACE PREDICTING INDEX	RACE PREDICTING INDEX WITH EXTRA GEOGRAPHY
A student's predicted probability of attending a four-year college based on socioeconomic background. A student's predicted probability of attending either a two- or four-year college based on socioeconomic background.	The difference between actual and predicted test score of a student. The index is positive if the student outperforms expectations, given socioeconomic background.	Artificial index constructed to maximize the probability that socioeconomic variables correctly predict URM minority status. "Kitchen sink" index. This index is designed to test the *ceiling* of what can be attained by SES in a race-blind alternative. It does not have any race-neutral logic.	Previous index except that two special Tract-level variables are added: 1. historical UNC admissions rate for Tract. 2. student's percentage rank in his/her Tract. (Tract or zipcode fixed effects induce *extreme* overfitting.)

Other simulations

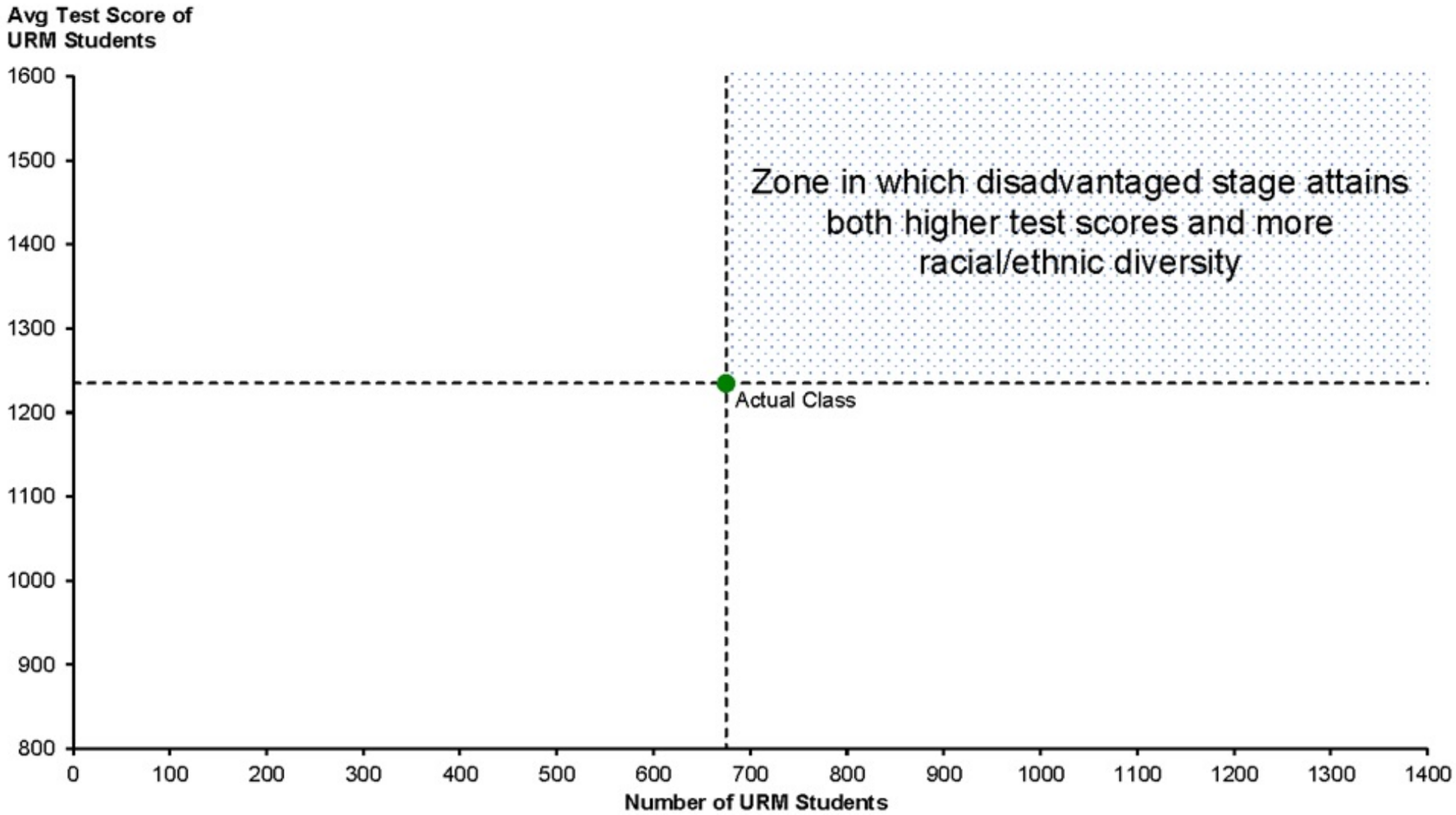
CLASS RANK BASED PERCENTAGE PLANS	ALLEN-SUGGESTED GEOGRAPHIC PLANS	DISADVANTAGED HIGH SCHOOL PARTNERSHIPS	TARGET STUDENTS FROM LESS SELECTIVE COLLEGES
The top X% of students in each high school, based on class rank, are admitted. A 7.29% plan turns out to be the right size for UNC, filling its class about correctly.	Put Tracts in order by historic UNC admissions rate, lowest to highest. Take student with highest scores & grades (equally weighted) in each Tract. Repeat the cycle until run out of admissions places.	Set aside seats for students from disadvantaged high schools based on criteria like Free & Reduced Lunch.	Set aside seats for transfers from NC State. Set aside seats for transfers from community colleges.

Admissions Modeling Based on 4-Year College SES Index "Disadvantaged Stage"

Admitted Students

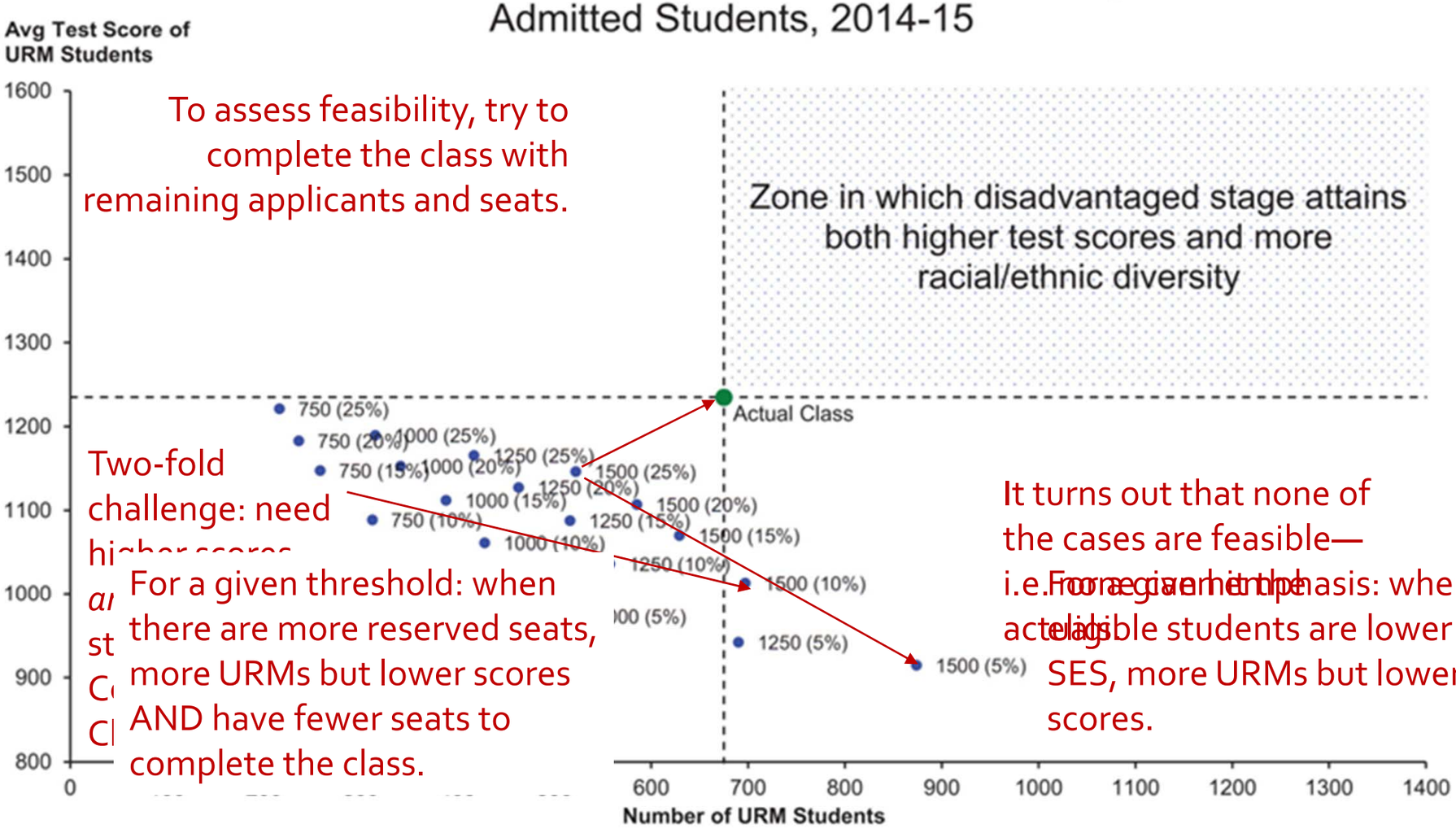


Admissions Modeling Based on 4-Year College SES Index "Disadvantaged Stage"



Admissions Modeling Based on Four-Year College-Related Socioeconomic Index: "Disadvantaged Stage"

Admitted Students, 2014-15



To assess feasibility, try to complete the class with remaining applicants and seats.

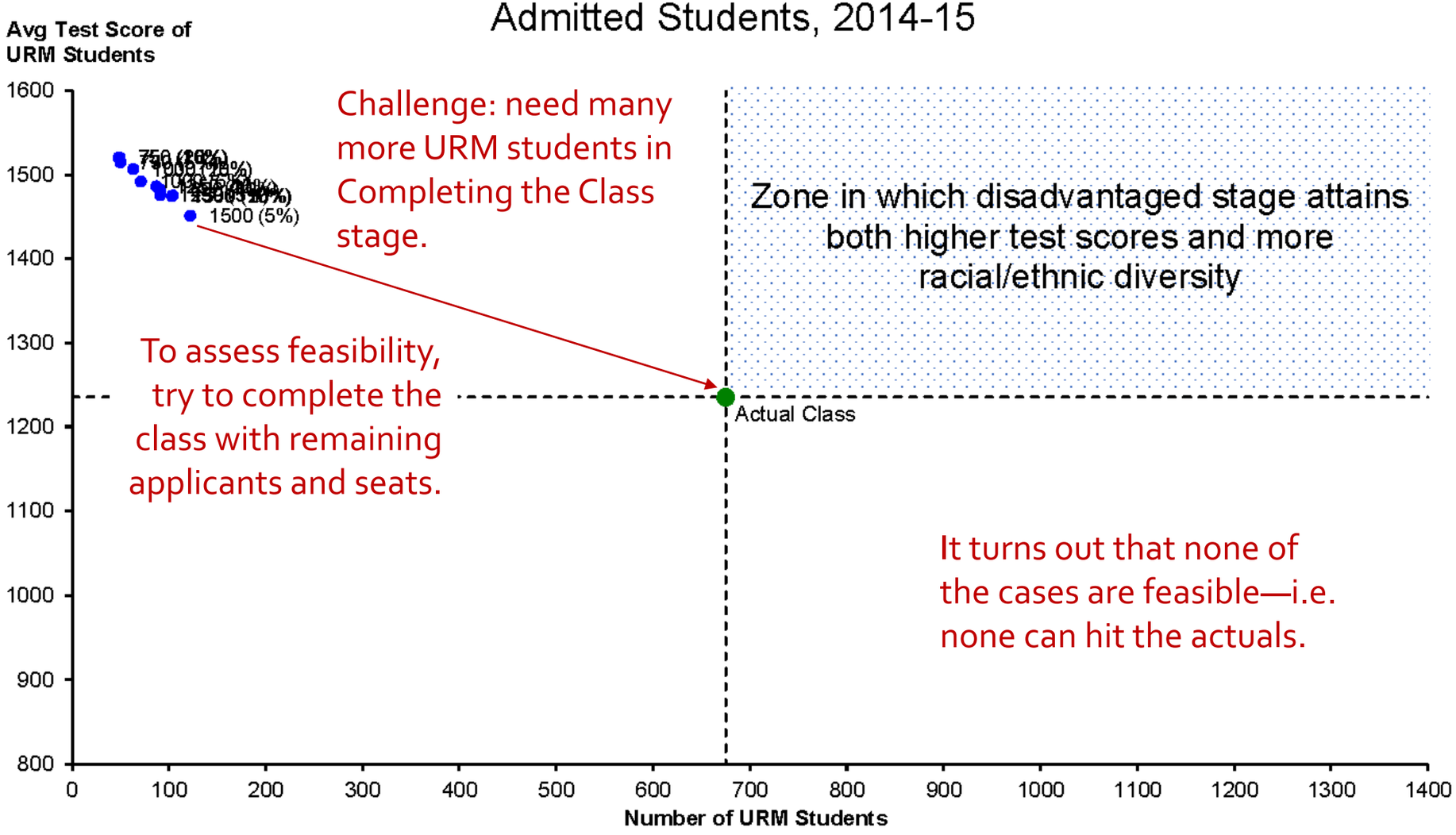
Two-fold challenge: need hi… *a*… st… C… Cl…

For a given threshold: when there are more reserved seats, more URMs but lower scores AND have fewer seats to complete the class.

It turns out that none of the cases are feasible—i.e. For a given threshold: when actual eligible students are lower SES, more URMs but lower scores.

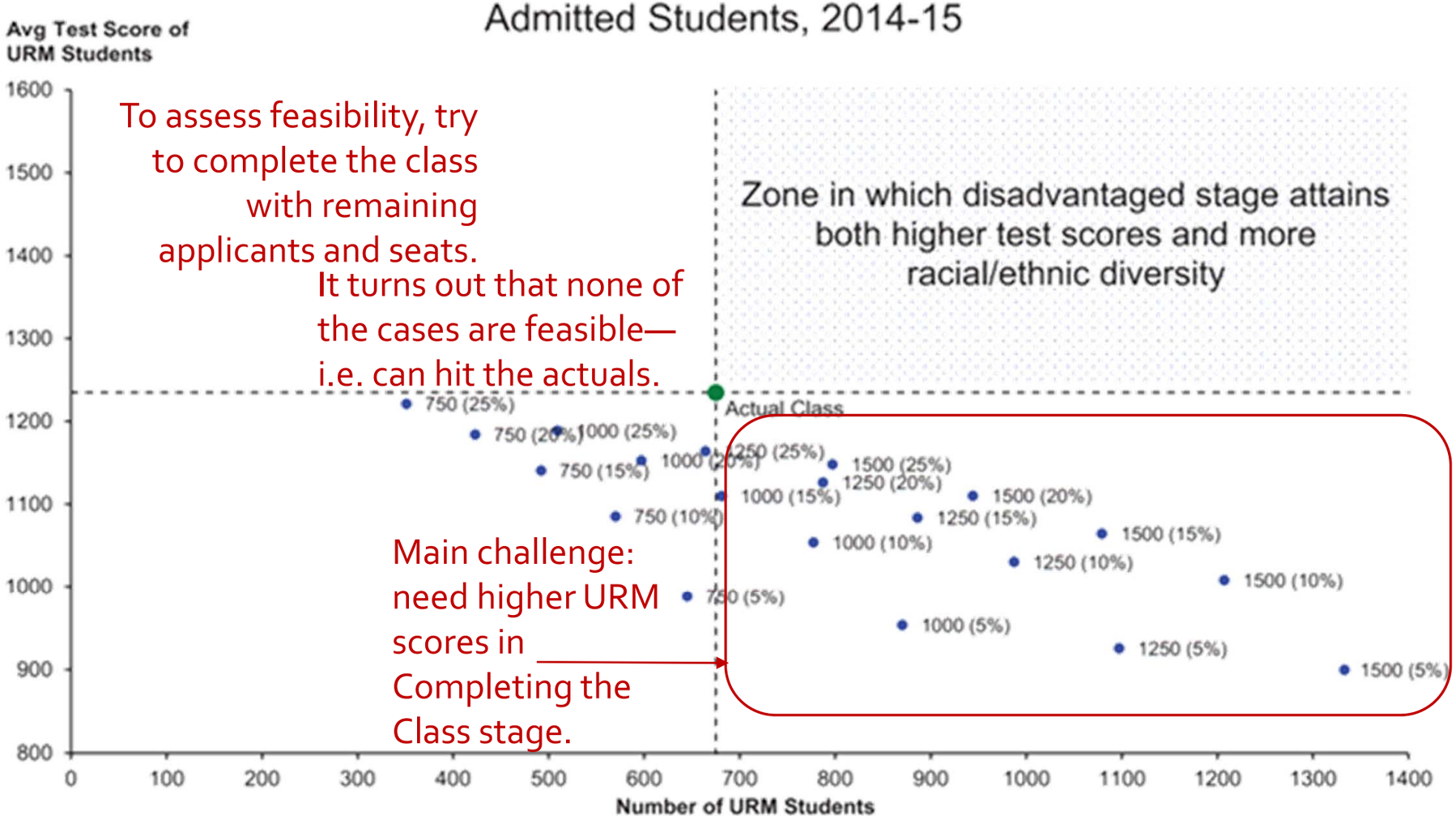
Admissions Modeling Based on Striver Index: "Disadvantaged Stage"

Admitted Students, 2014-15



Admissions Modeling Based on Race Predicting Index: "Disadvantaged Stage"

Admitted Students, 2014-15



Results from other simulations

CLASS RANK BASED PERCENTAGE PLANS	ALLEN-SUGGESTED GEOGRAPHIC PLANS	DISADVANTAGED HIGH SCHOOL PARTNERSHIPS	TARGET STUDENTS FROM LESS SELECTIVE COLLEGES
Significant decreases in scores, grades. Mixed effects on race/ethnic diversity. Never hit the actuals. *Plans require high schools to remain racially segregated in order to work.*	Geographic plans with smaller levels of geography are prone to randomness (historic admissions rates are random), severe overfitting. *Plans require neighborhoods to remain racially segregated.*	Tested 16 different simulations. These tend to look like SES index plans that produce substantially lower scores. Never hit the actuals. *Plans require segregated schools.*	Resulted in substantially lower average test scores. Problem: Most students from less selective colleges are relatively low scorers. Never hit the actuals.

Discussion

Why Do Race-Blind Alternatives Consistently Fail to Hit Actuals?

- It is really just the Relative Efficiency math plus UNC doing a competent job at holistic admissions. It's the cost of ignoring information that has no near substitute.
- Intuitively, each alternative uses up too many admissions places on students who would not have been admitted if the admissions office were sighted.
- Even under very favorable assumptions about applications and matriculation, there are not enough remaining places to make up for poor targeting.

Another Intuition: high achieving URMs are not all that concentrated in low SES neighborhoods, families, or schools

- High-achieving URMs are often in neighborhoods or schools that are majority white/Asian.
- High-achieving URMs are often from middle class families and neighborhoods.
- High-achieving URMs often show up in magnet or choice schools that do not have poor college-going histories.
- Stereotypes like “all URMs are poor” are inaccurate and becoming more so over time. Information is becoming more, not less, valuable.

Lessons learned

- CBC vs. SD matters especially for benefits, harms, and remedies.
  - Probably also matters for the law.
- Oft-quoted "evidence" of AA is spurious.
- AA affects marginal students so it does not add up to as much as thought.
- We are poor at predicting race using SES, school, and geographic variables.
- The math predicts that race-blind alternatives will generate substantial losses. *This turns out to be true*.
- None of the proposed race-blind alternatives does as well as actual, sighted holistic admissions especially if CBCs matter.

Thanks!