Merit-Based Admissions: Evidence from Cambridge

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- Excellent co-operation from the Cambridge Admissions office, reasearch assistance from former post-doc Renata Rabovic and undergrad Emily Song
- Research funded by ERC Consolidator grant "Empirical Demand and Welfare Analysis" to DB 2016-21
- Reflects our views and not of Cambridge, Christs College and Trinity College

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Admissions Debate

- Commonly claimed that elite-college admissions are 'biased'
 - "Just eight schools send as many pupils to Oxbridge as 3,000 others" Sutton Trust, 2018
 - "Harvard rated Asian-American applicants lower on personality traits, Suit says", NYTimes, 2018
- Univs claim to admit academically most promising students
 - "Oxford is committed to recruiting the best candidates from all backgrounds and all identities"
 - "Admissions Tutors are looking for the students they believe have the most academic potential"
- Qn. Can the data tell whether admissions are solely merit-based?

• Equal Success vs Equal Outcomes across groups

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• Observed vs unobserved variables

Merit-Based Admissions



Our Approach



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- 2013-2017 Entrants
- ESTEM: Economics, NatSci (Physical), Engineering, Math
- Non-ESTEM: NatSci (Bio), Law, Medicine
- 3 years' standardized (by subject) Tripos score
- Whether Pooled, Gender, School-type (State/Non-state)

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	Male	Female	State-Schools	Pvt+Intl
ESTEM	17	17.5	18.2	27+11
Non-ESTEM	21	18	25	31 + 10

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Mean Comparison



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Pooled Male – Direct Admit Female

	1st Yr	2nd Yr	3rd Yr
ESTEM	0.24***	0.16***	0.15***
Non-ESTEM	0.02	0.08	0.05

Controlling for Subject-Fixed Effects and College-Fixed Effects

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Pooled Male – Direct Admit Female

	Mean-difference
GCSE A*s	-0.372***
AS Social & Nat. Sciences	-0.022***
AS Maths	0.196***

Pooled Pvt – Direct Admit State

	1st Yr	2nd Yr	3rd Yr
All subjects	0.014	-0.071	-0.065

Controlling for Subject-Fixed Effects and College-Fixed Effects

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1st Yr Tripos Distbn by Gender



School-type



 In ESTEM, Non-pooled females score significantly lower in 1st year exams than pooled males

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- The gender gap falls slightly but persists in subsequent years
- Does not happen for non-ESTEM but competitive subjects
- Weak evidence for maintained school candidates

- Why are female students performing poorly in ESTEM?
 - Implicit bias in marking
 - Gender differences in big stake exams
- How to design admissions/assessments optimally ?
- Huge interest among students great for teaching and recruiting RAs!

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• Broader Research Agenda: How to target policies to maximize aggregate outcome and utilities?

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Thank you for listening!

