

What Are Unique about China's Inequality?

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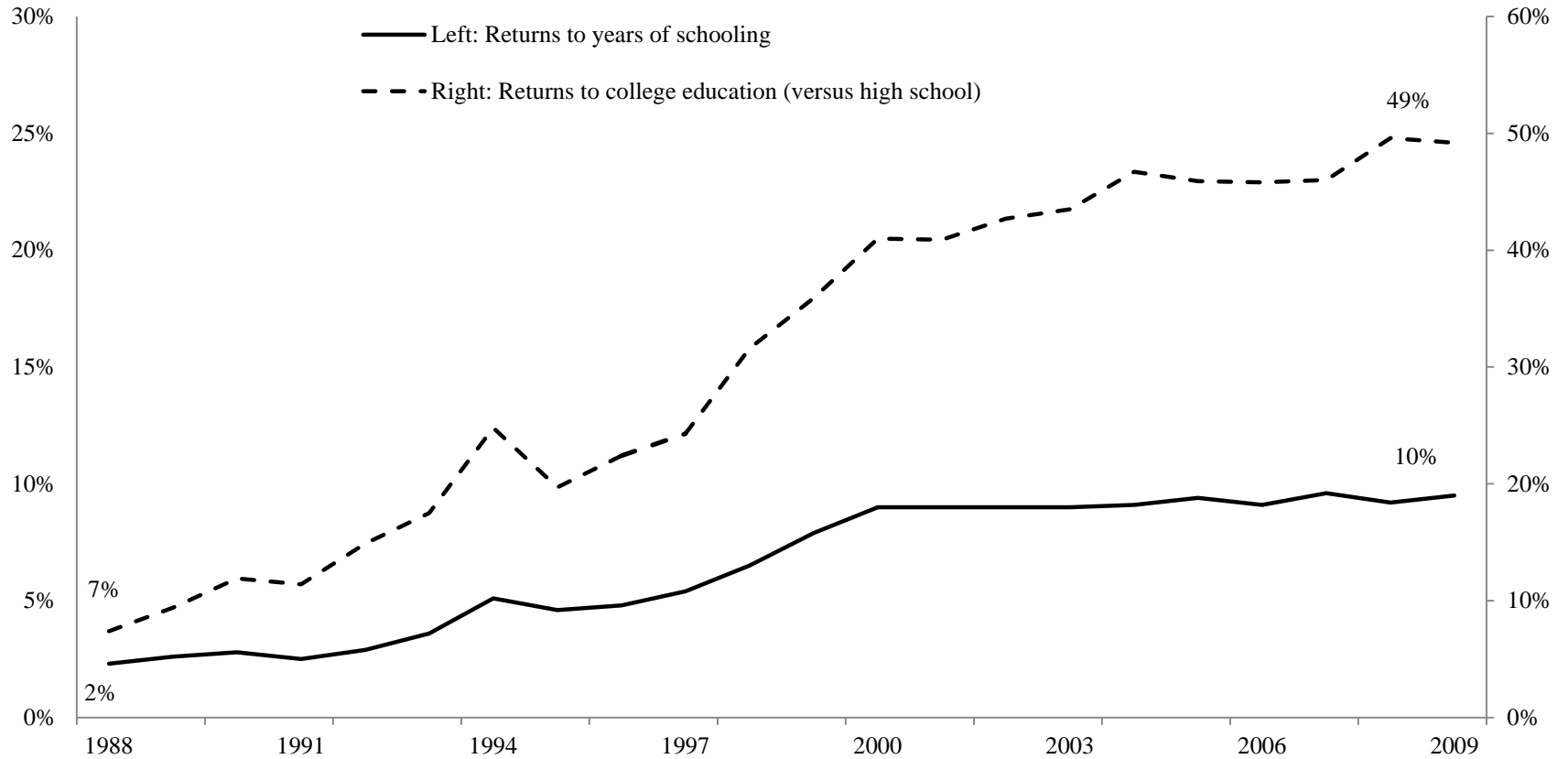
Contexts

- High growth rate: 10% a year for 30+ years
- A large country with differences in many dimensions
- We are not in equilibrium yet: people are still moving around

Contexts

- Economic transition: from plan to market
 - From equality to inequality when human capital and efforts are rewarded (Heckman and Li, 2005; Zhang et al., 2005)
 - How much of the gap is due to productivity gap?

Rising returns to education



Contexts

- Economic transition: from plan to market
 - There are many shocks (reforms)

Why do we care about shocks?

- Luck plays an important role
- Example: housing reforms since 1998, then house price started to shoot up
- So, when you are born is important in China!

Research questions:

- How much of the inequality is due to cohort income gap?
- What are the inter-generational implications?
- Inequality of labor vs. non-labor income?

Contexts

- Economic transition: from plan to market
 - Reforms unfinished yet

Unfinished reforms

- The state and state-owned enterprises (SOEs) are still powerful, monopoly many resources in China
- Inequality in access to public goods, or markets (health, education, finance, employment...)
- Implications: some people earn rents that shouldn't exist in a market economy

Policy wise

- Productivity difference: rewards should be encouraged
 - Policies should target on reducing **inequality in human capital** (how to measure it?)
- Luck: should be taxed, but how?
- Rents: should be removed... can privatization help?

Contexts

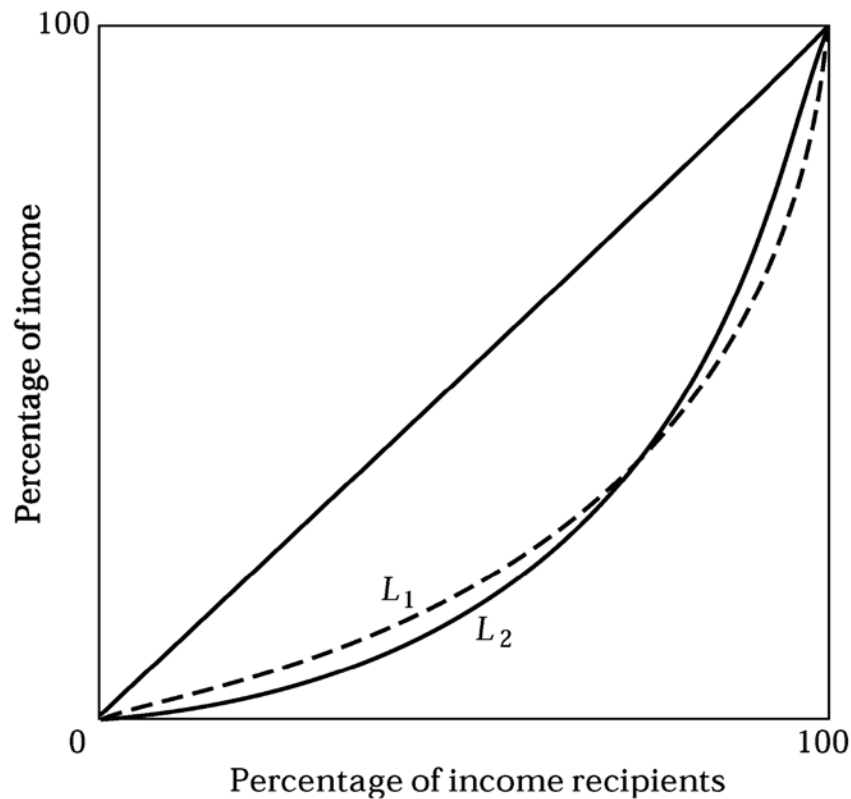
- Economic development
 - industrialization with lagging urbanization due to the unique *hukou* policy

Industrialization and inequality

- Should industrialization increase or reduce inequality?
- Industries have higher wages than agriculture, suppose we move one labor from agriculture to industries, how should Gini change?

Industrialization and inequality: ambiguous

Figure 5.5 Crossing Lorenz Curves in the Modern-Sector Enlargement Growth Typology



Short-run vs long-run

- Myopic laborers
 - Short-run: high demand for low human capital workers, they enter the labor market too soon, and have low-level of education (inequality comes down)
 - Long-run: technology improves (Li et al. 2012 JEP), return to human capital increases (inequality goes up)
- Left-behind children due to *hukou* policy
 - Children are parentless: what are the implications? Inter-generational inequality will rise?
- Policy: pay the opportunity cost of staying in school

Contexts

- Economic development
 - Lower level of protection for workers (union, pension, insurance ...)

China's Educational Inequality: Evidence from College Entrance Exams Scores and Admissions

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Education Inequality

- Related to Income, wealth, consumption
- Has inter-generational implications
 - Parental income affects **child education**
 - **Parental education** affects child achievement



College Entrance Exams (CEE)

- To get into college, most students need to take the College Entrance Exams (CEE) on June 7-9
 - Math
 - Chinese
 - English
 - Composite (one of the two)
 - Sciences
 - arts/social sciences
- Fate-determining exams for Chinese



Applications and Admissions

- Before/after the exams (before/after scores known), students need to fill in their
 - *college preferences* in order
 - *Major preferences* in order
- Scores are known
- Each college sends an admission team to every province (where it has admission quotas)
- The quotas and distribution are ultimately set by the Ministry of Education, but colleges have some freedom



Data: CEE Takers in 2003

- The population of all CEE takers
- 6.2 million students in 2003
- Information
 - Exam takers: high school name, location, hukou, birth date, gender, ethnicity, health status, repeating taker, science, scores of College Entrance Exams (CEE)...
- Admissions: university name, major
- Could get access more years potentially



Supply of Higher Education

- Two categories of higher education
 - Colleges (2-3 years)
 - Universities (4 years)
- Universities
 - 985 universities (in **May 1998**, President Jiang's speech: build world-class universities)
 - 211 universities (**21st** century: invest in **100** universities)
 - Other universities



985 Program

- Tier 1: to become top universities in the world
 - 2: Tsinghua University; Peking University
 - Funding: all from central government
- Tier 2: to become top universities in China, well known in the world
 - 10 universities
 - Funding: $\frac{1}{2}$ from central, $\frac{1}{2}$ from local
- Tier 3: to become well known universities in China and the world
 - 27 universities
 - Funding: $\frac{1}{2}$ from central, $\frac{1}{2}$ from local

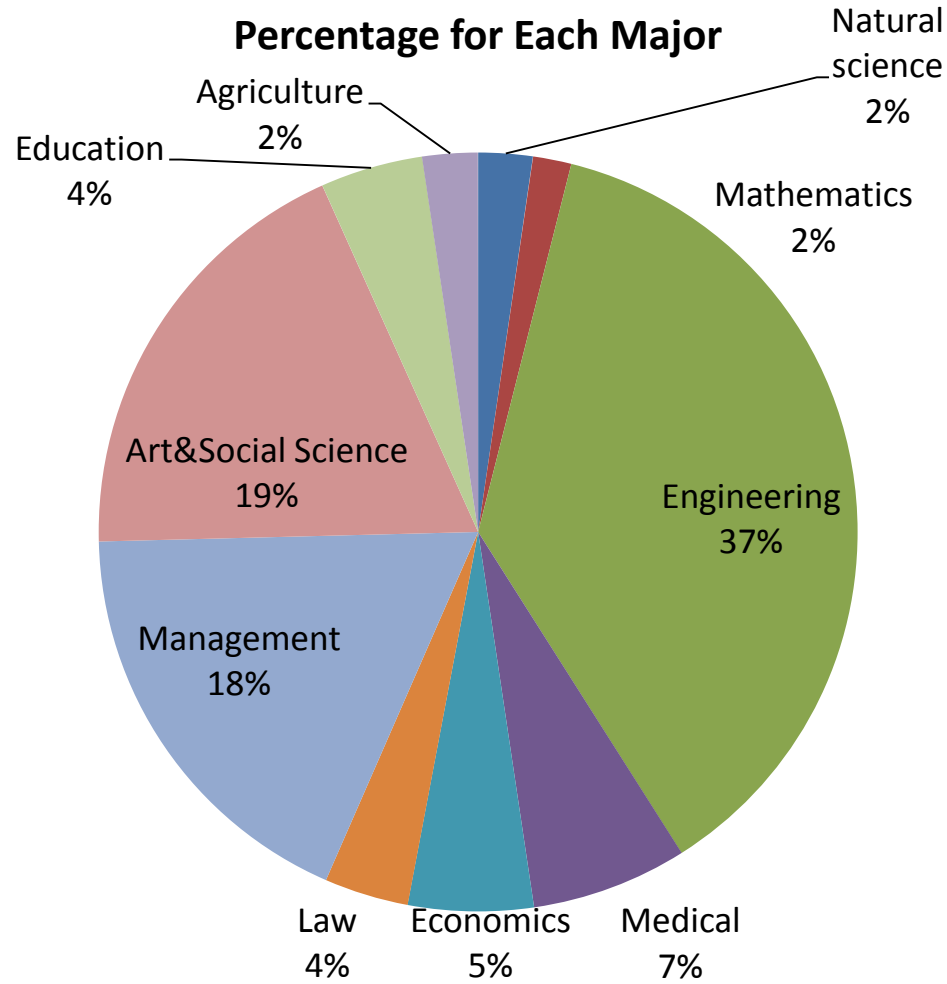


Rate of Admission in 2003

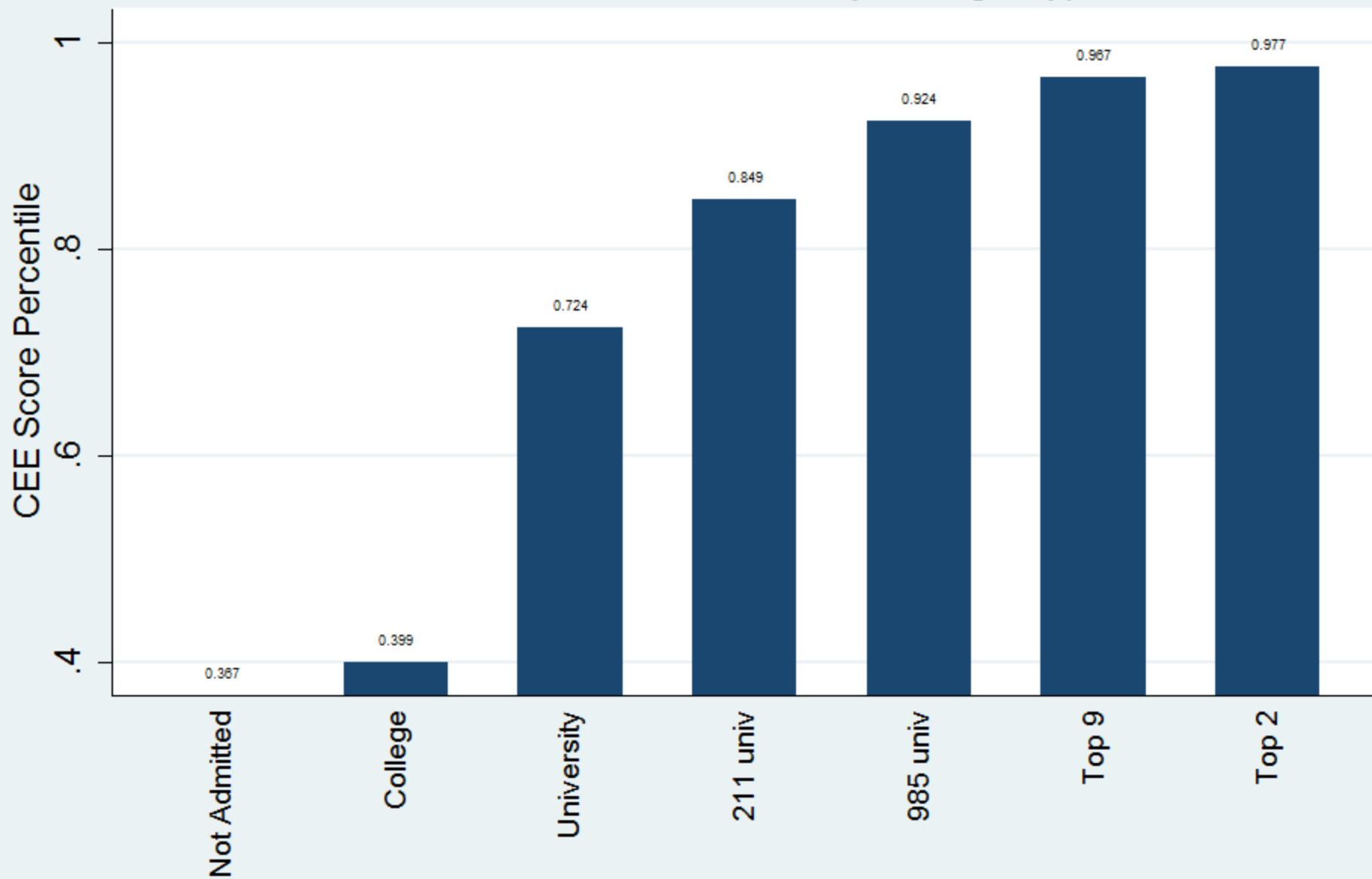
Type	Number of colleges	Number of students	Percent of the population
Not Admitted	0	1960199	0.316
College	1123	2424147	0.391
University	602	1365827	0.220
211 Universities	76	284212	0.046
985 Universities	29	138686	0.022
Top 9 Universities	7	26672	0.004
Top 2 Universities	2	6497	0.001
Total	1839	6206240	1



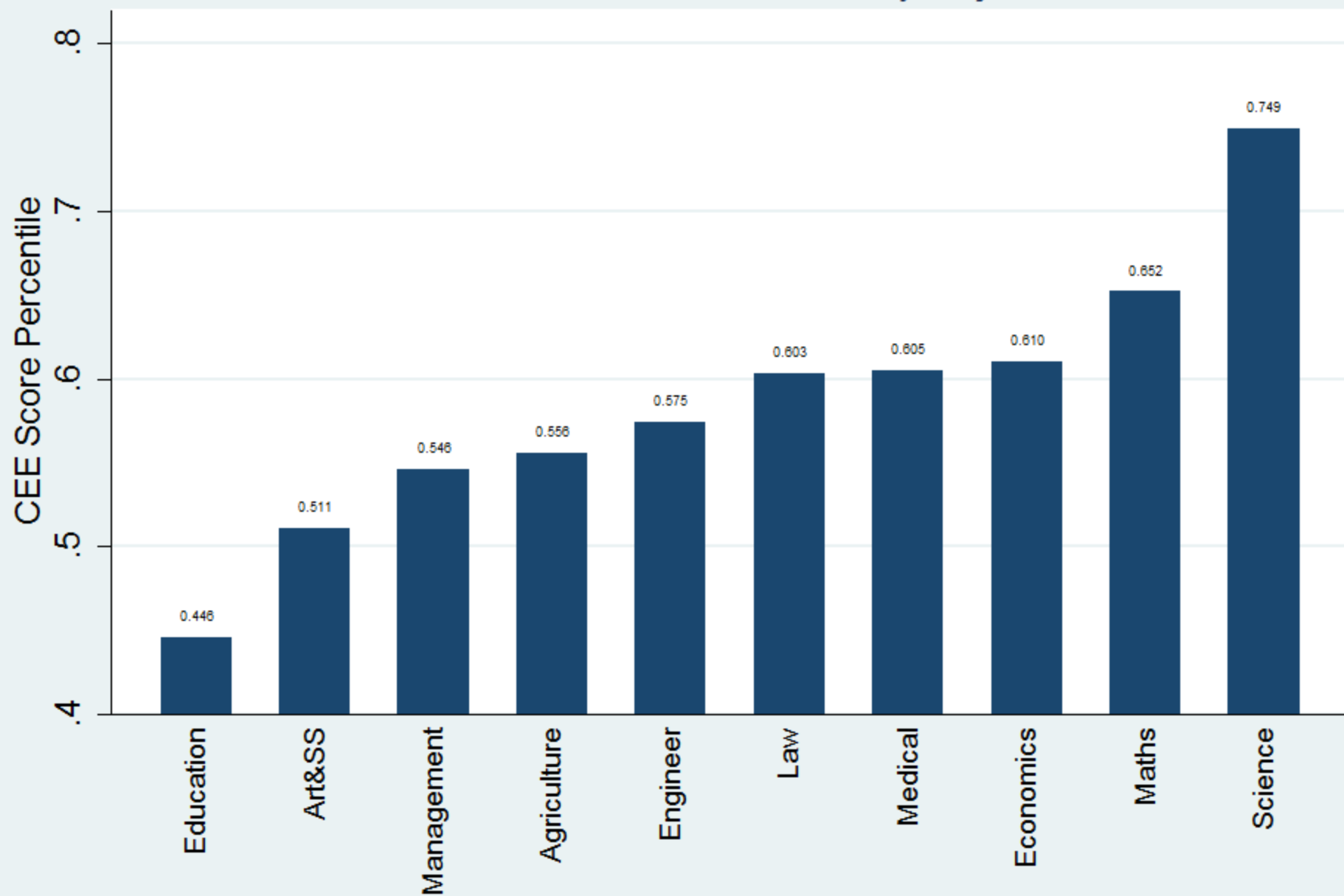
Major Allocation



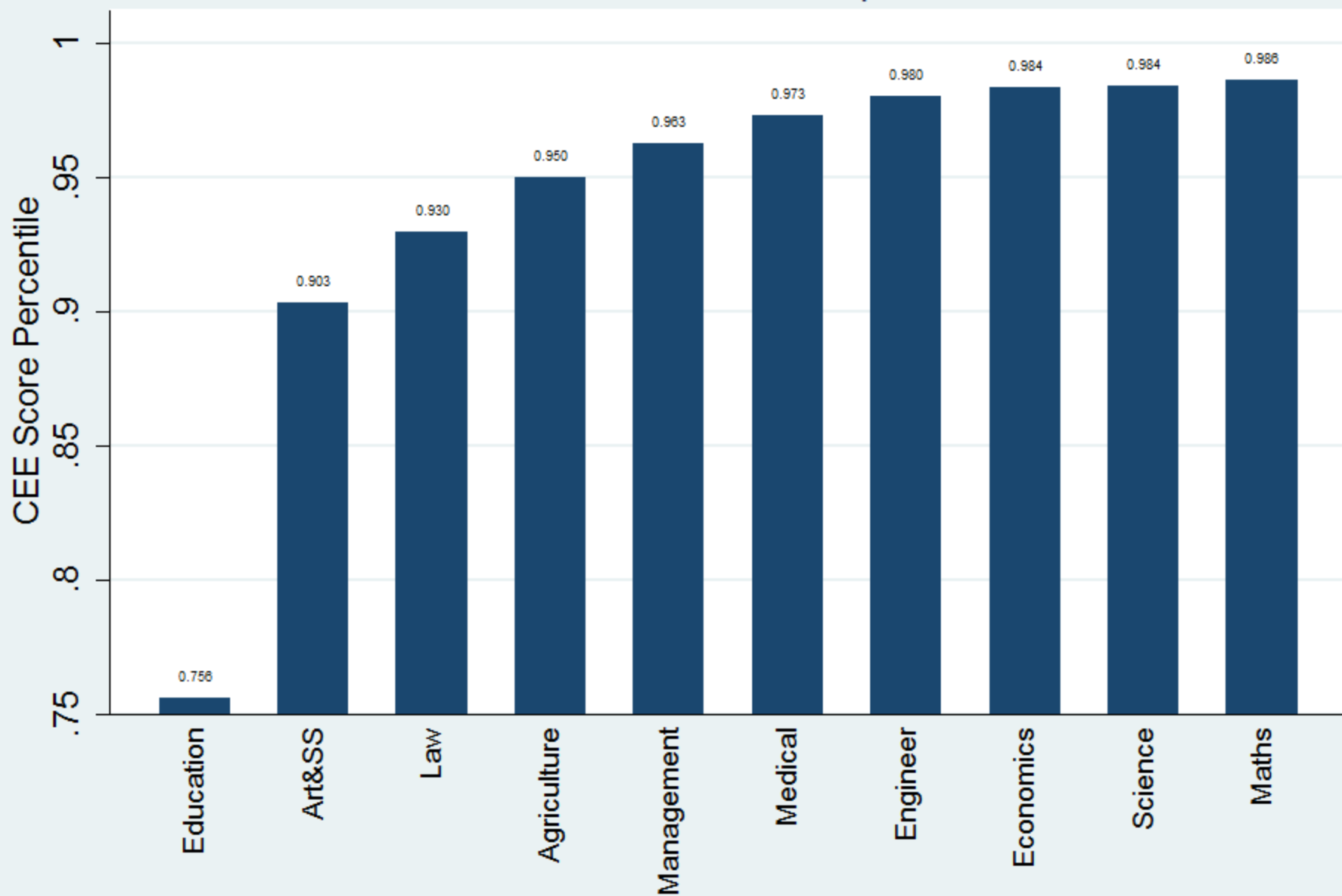
Percentile of CEE Scores by College Type



Percentile of CEE Scores by Major



Percentile of CEE Scores of Top 9 Universities

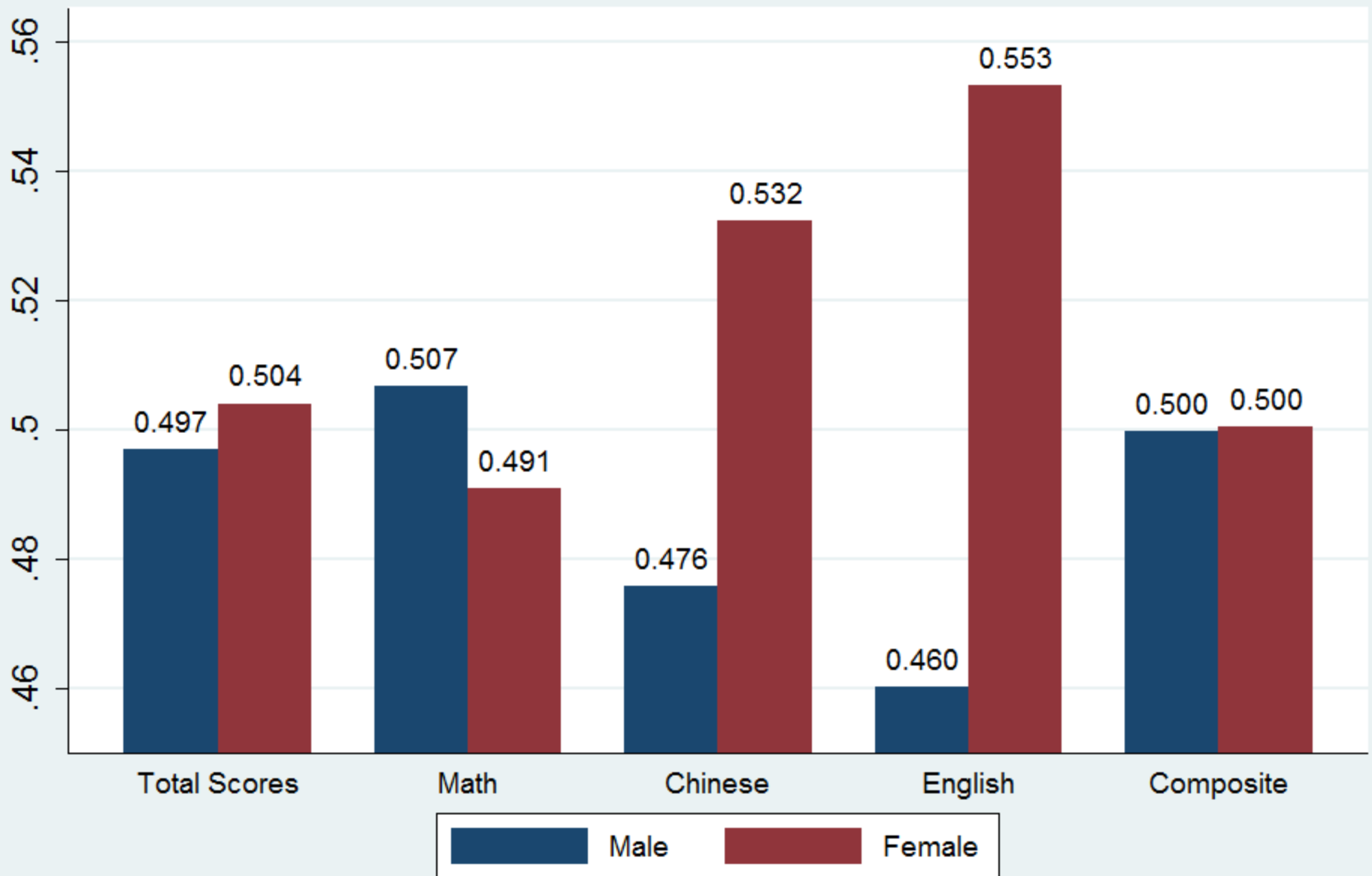


Educational Inequality

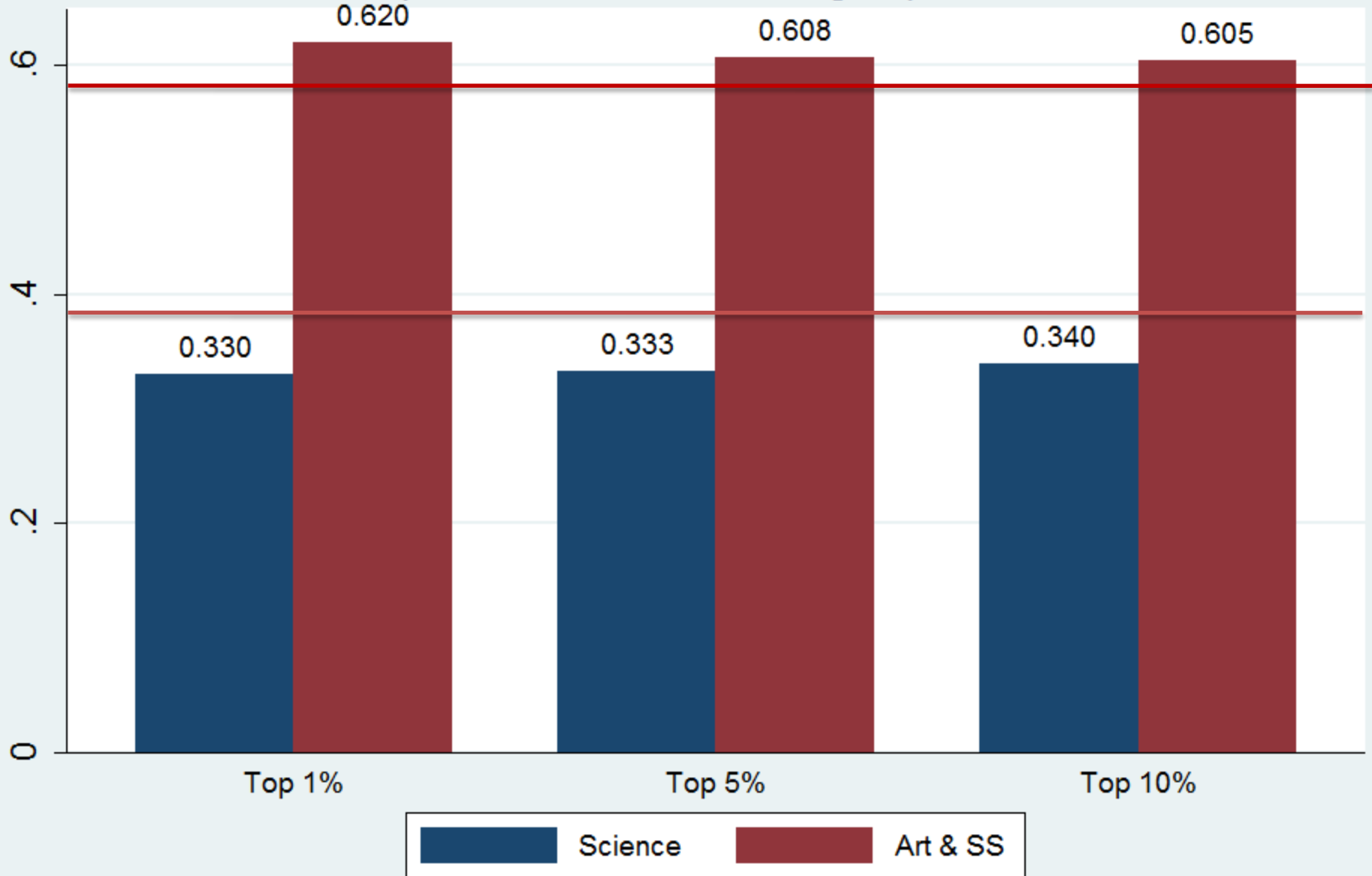
- **Gender bias**
- Urban (rural) bias
- Income bias
- Home bias



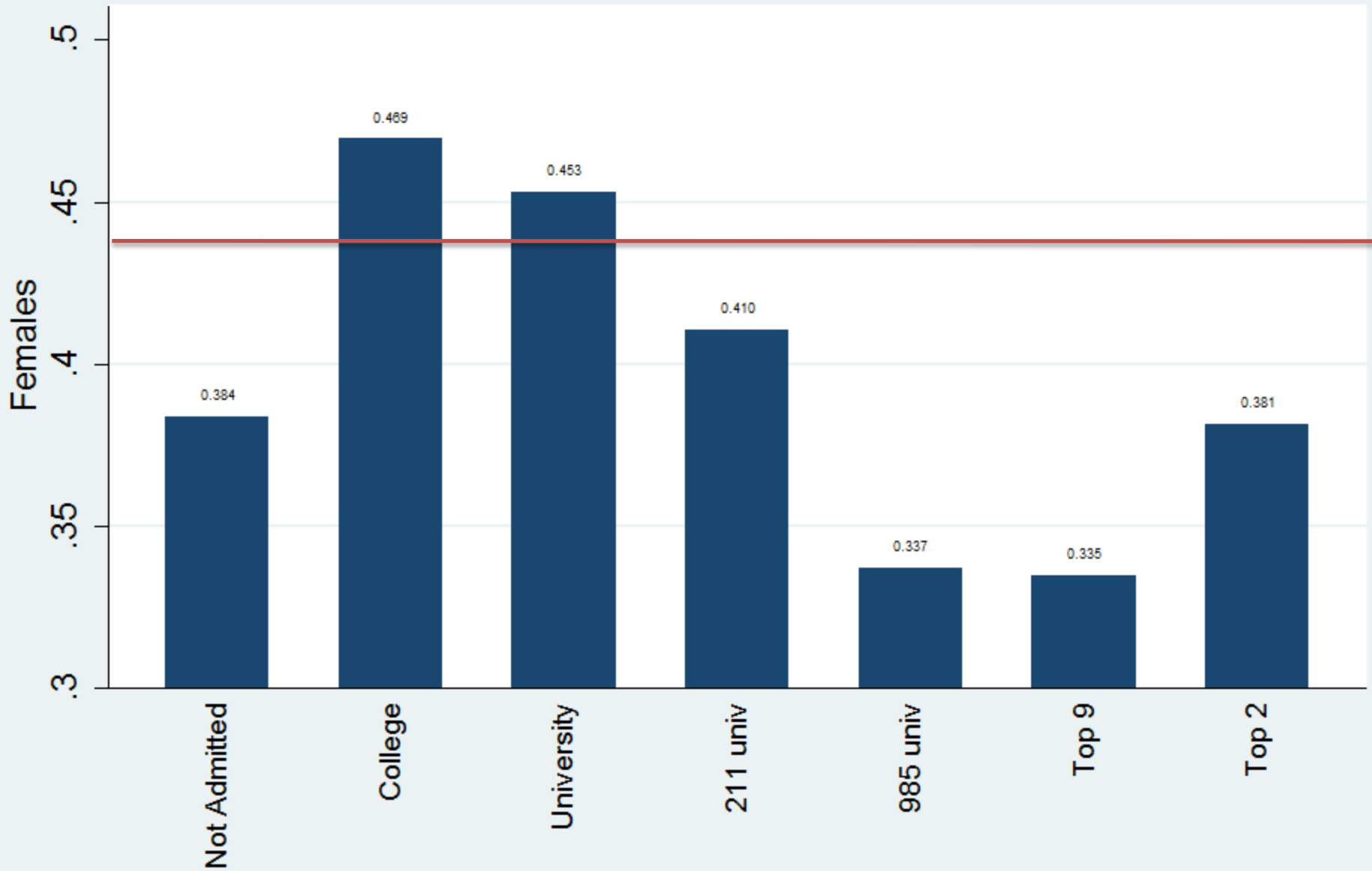
CEE Scores for Males and Females



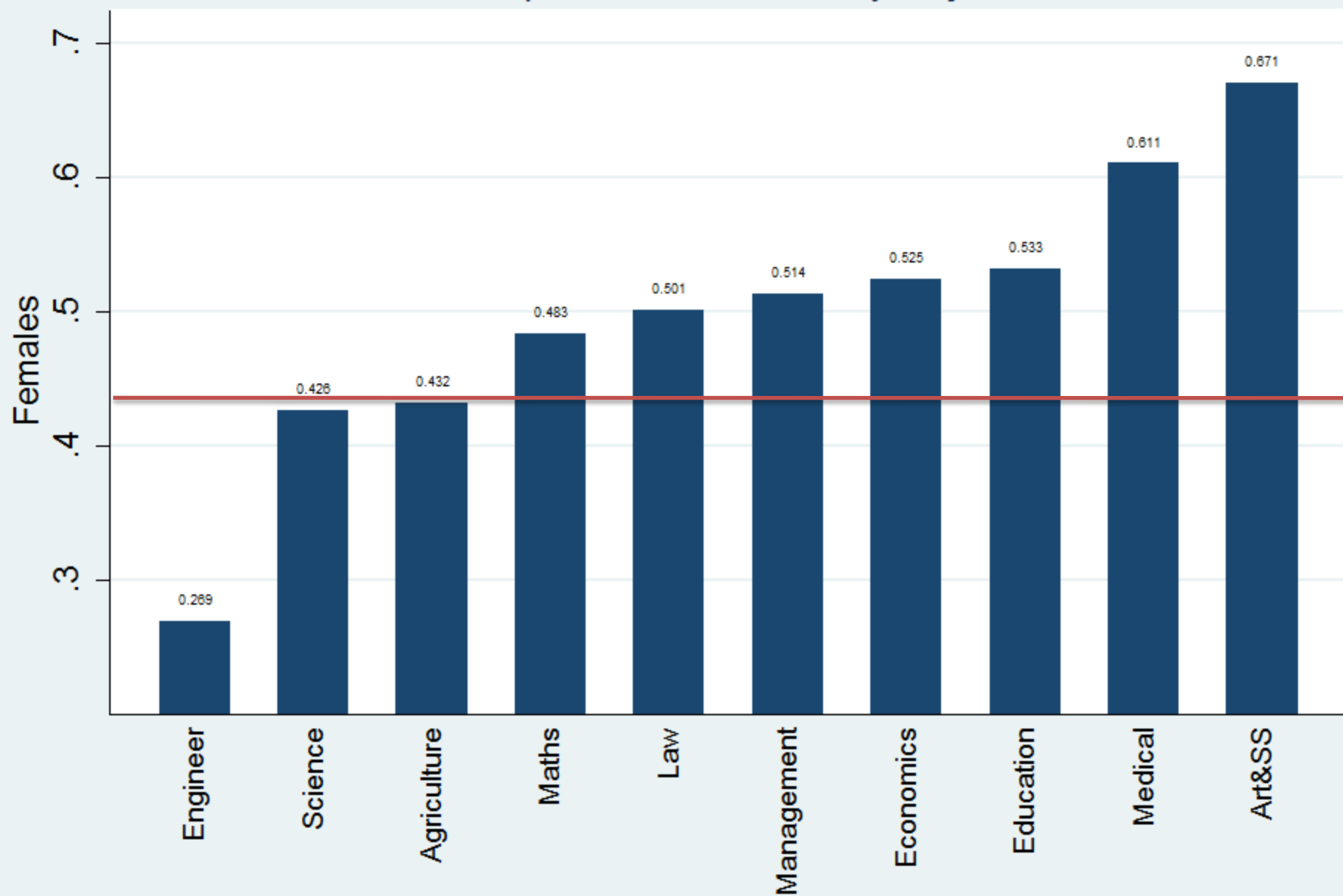
Proportion of Females among Top Students



Proportion of Females by University Type



Proportion of Females by Major

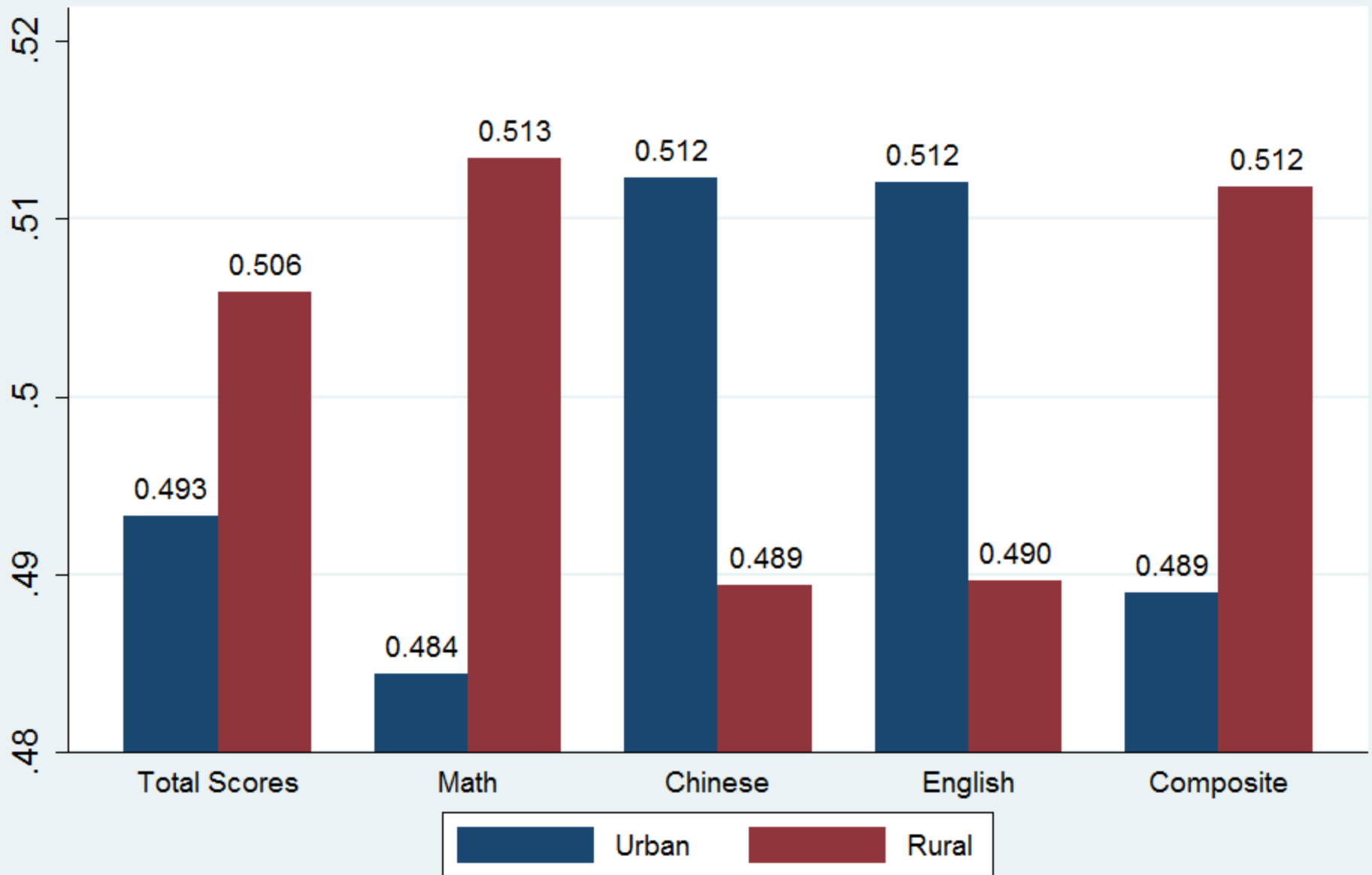


Educational Inequality

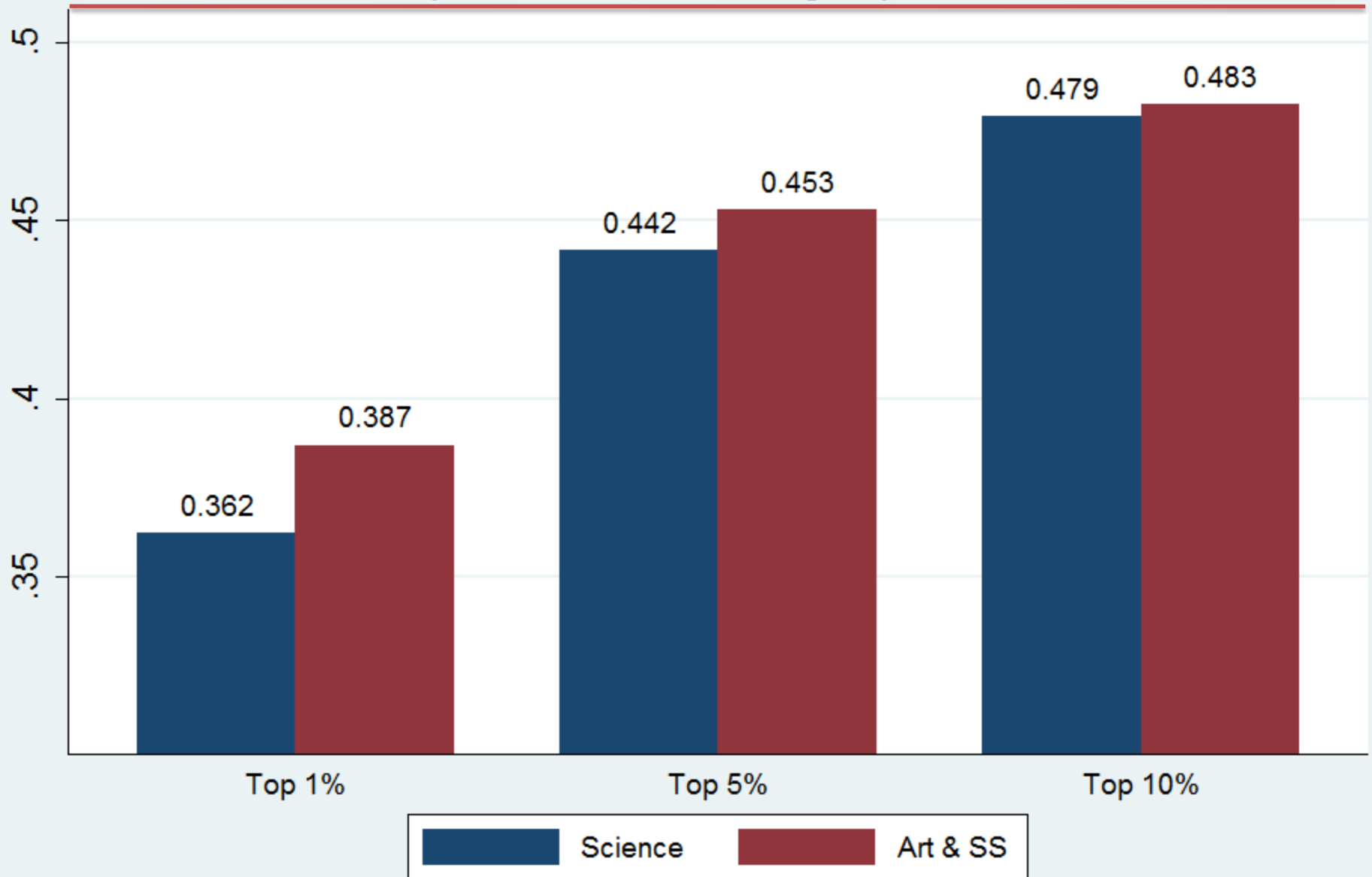
- Gender bias
- **Urban (rural) bias**
- Income bias
- Home bias



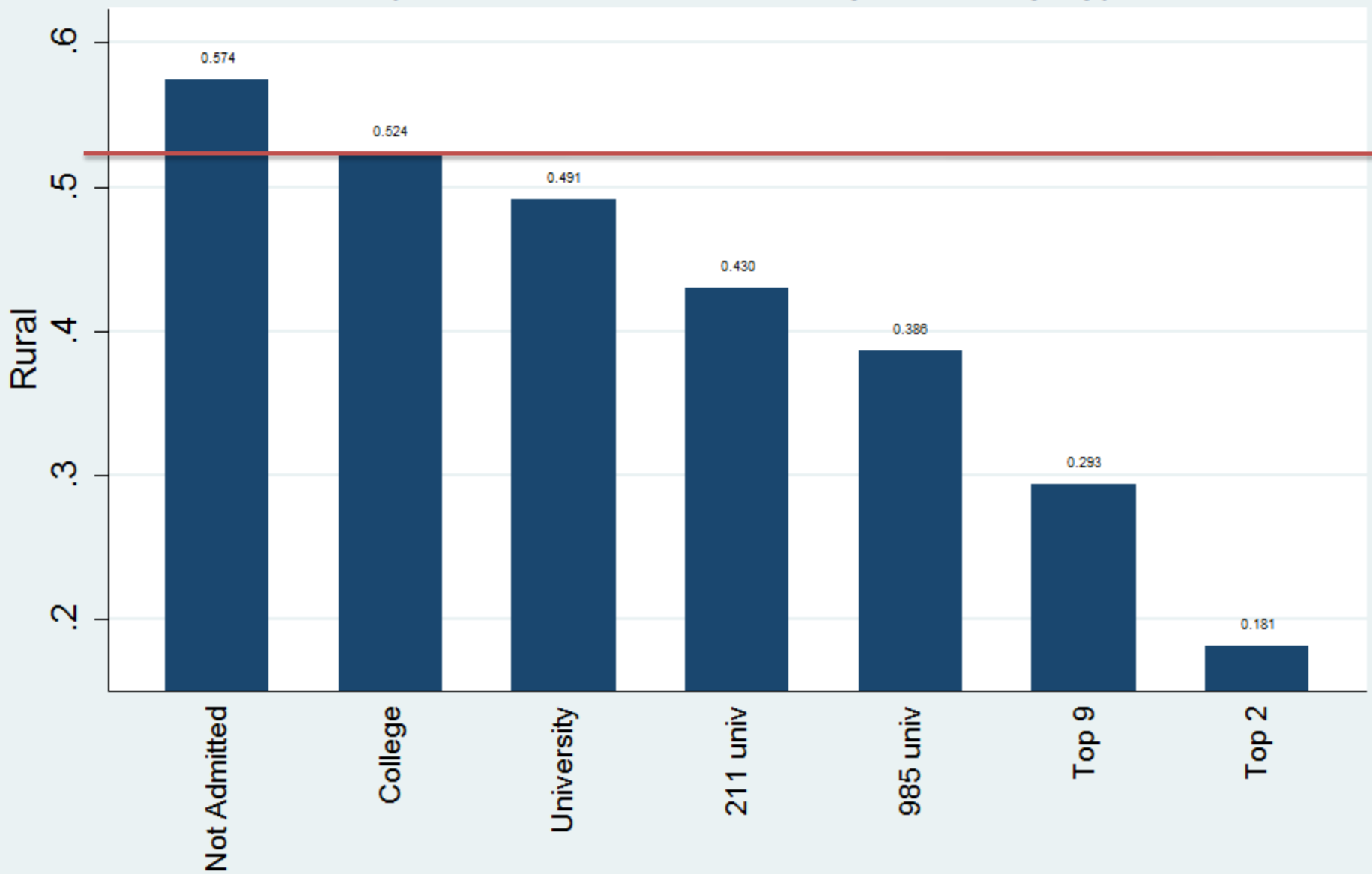
CEE Scores: Urban vs. Rural



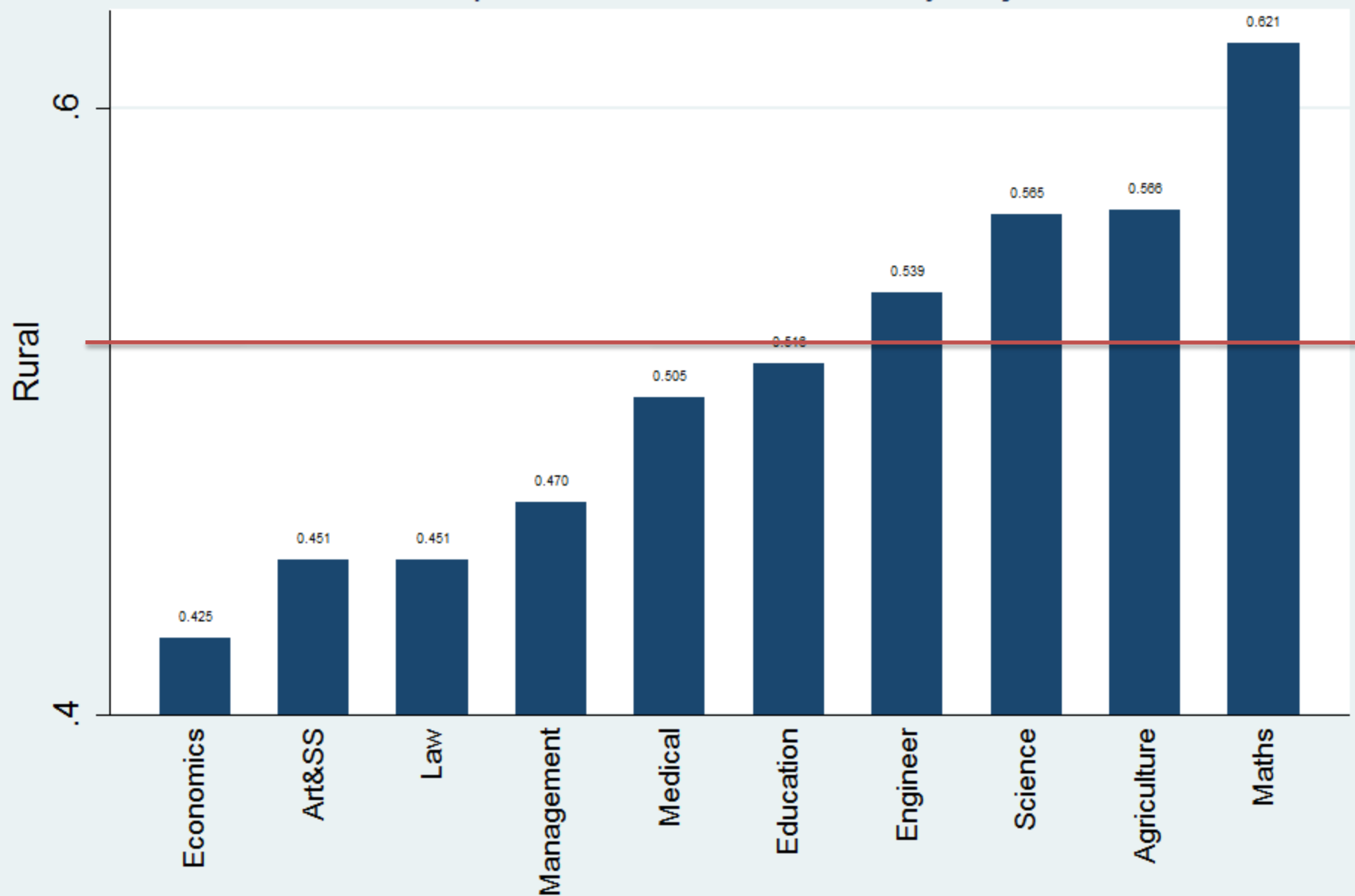
Proportion of Rural among Top Students



Proportion of Rural Students by University Type



Proportion of Rural Students by Major



Educational Inequality

- Gender bias
- Urban (rural) bias
- **Income bias**
- Home bias

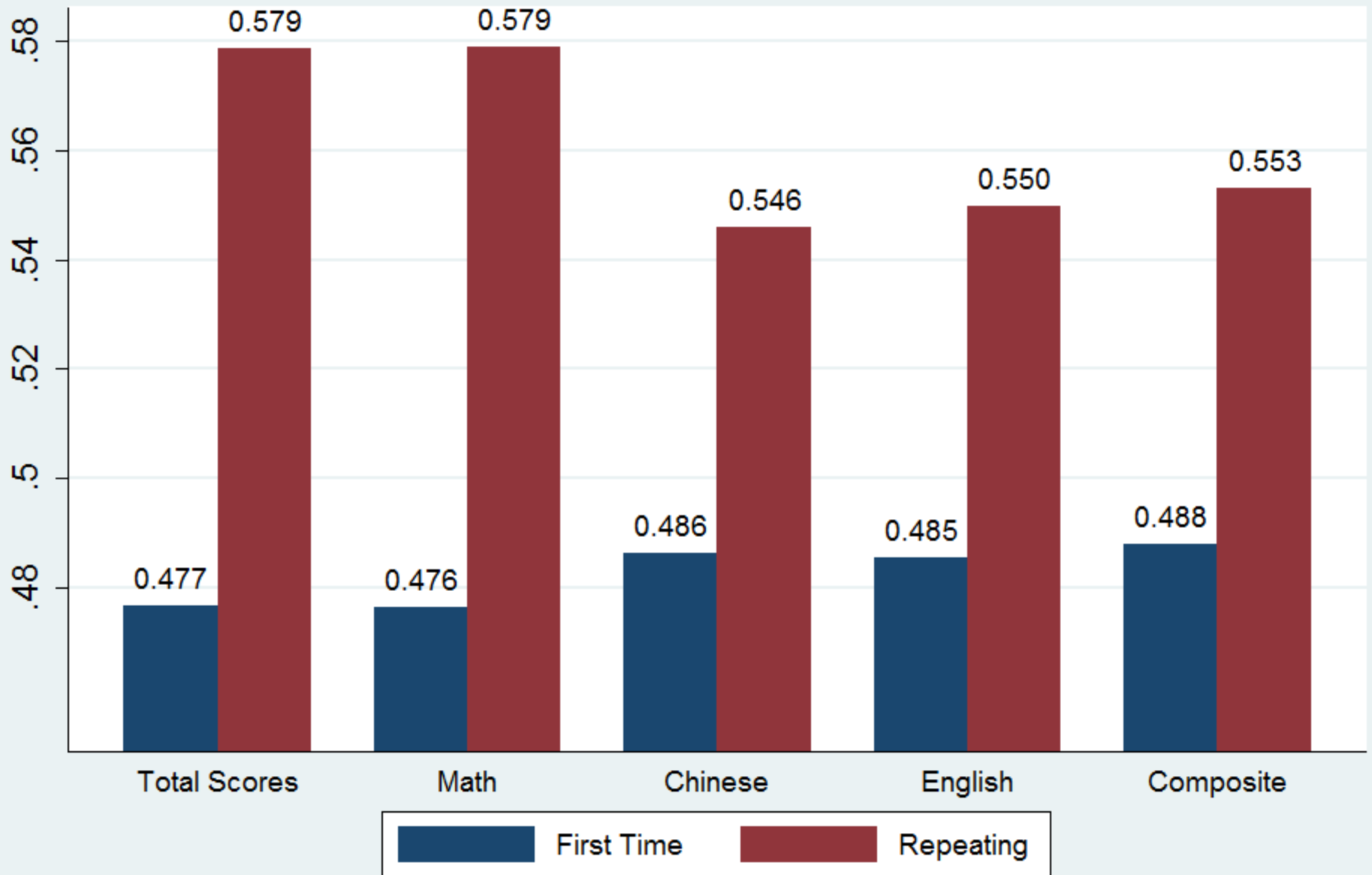


Income Bias

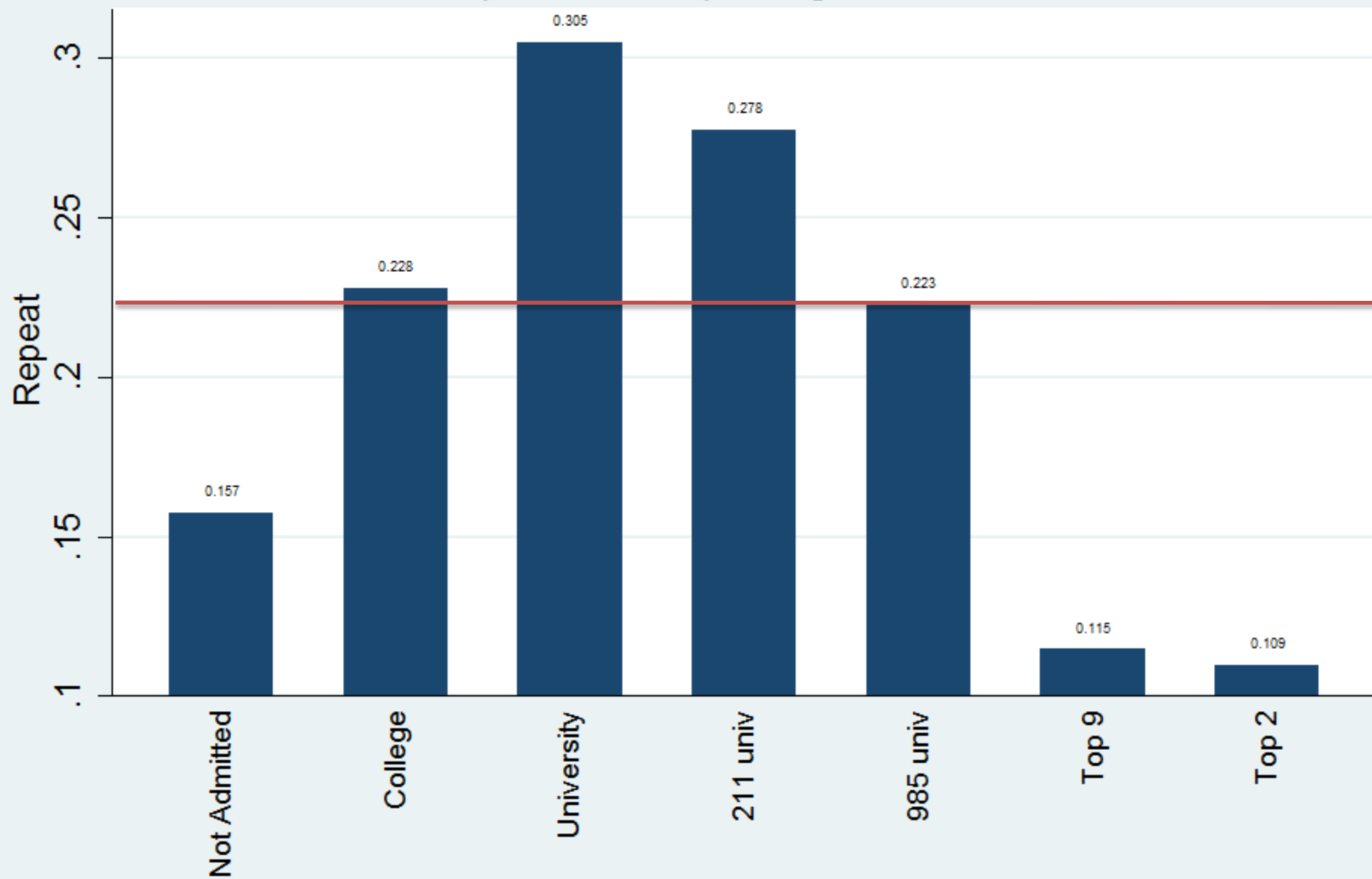
- Children from rich families
 - Repeat exam takers (only once a year)
- Go to elite high schools



CEE Scores: First Time vs. Repeating Students



Proportion of Repeating Exam Takers

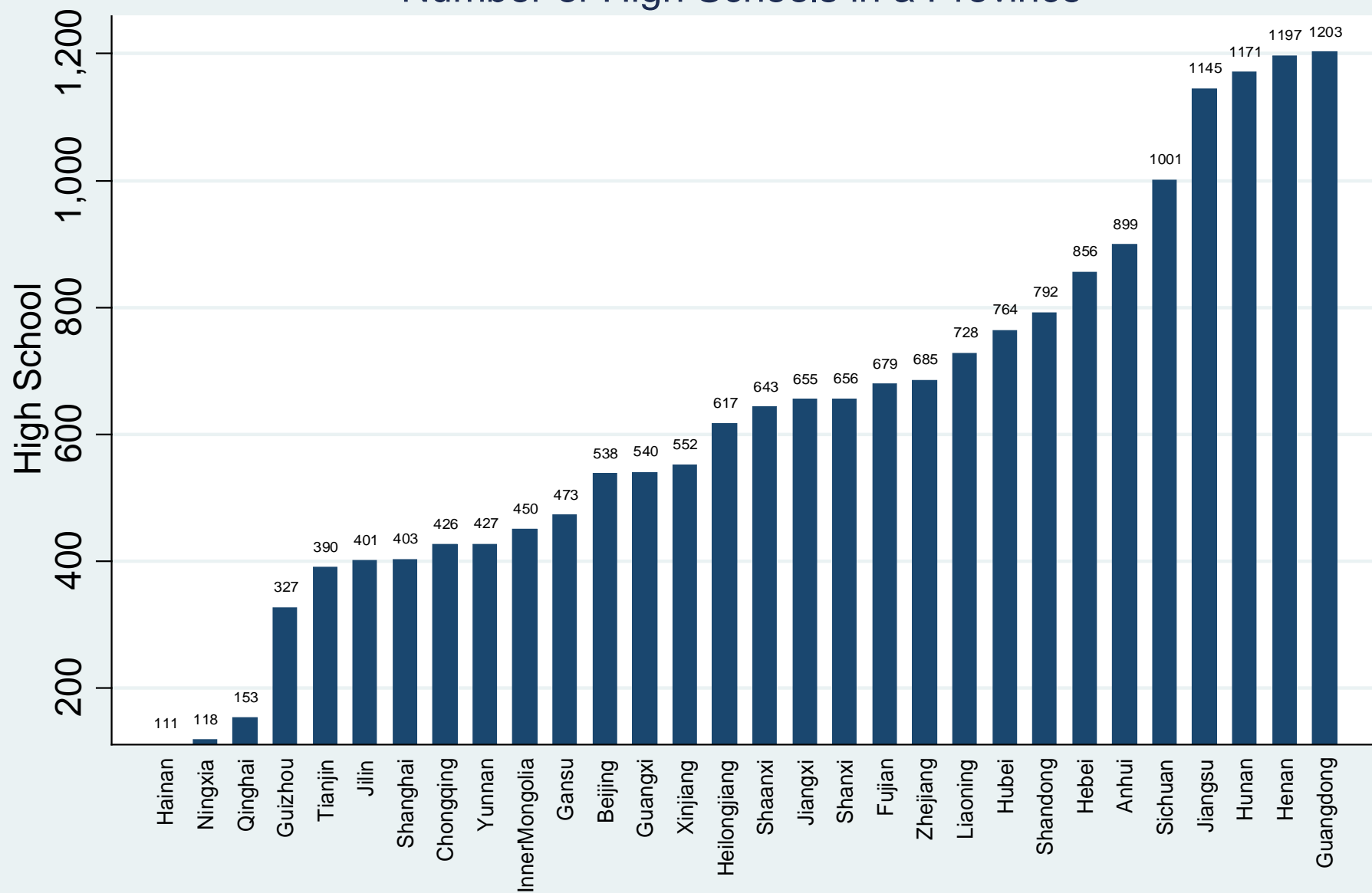


Income Bias

- Children from rich families
 - Repeat exam takers (only once a year)
 - Go to elite high schools



Number of High Schools in a Province



High School Gini

- High school Gini coefficients for different level of colleges
- Eg: High school Gini for admission to Top-2 universities
 - Count the number of successful applicants of each high school
 - Calculate the Gini coefficients



High School Gini: # Admitted

Type (inclusive)	Gini Coefficient
College	0.556
University	0.712
211 Universities	0.804
985 Universities	0.861
Top 9 Universities	0.929
Top 2 Universities	0.959

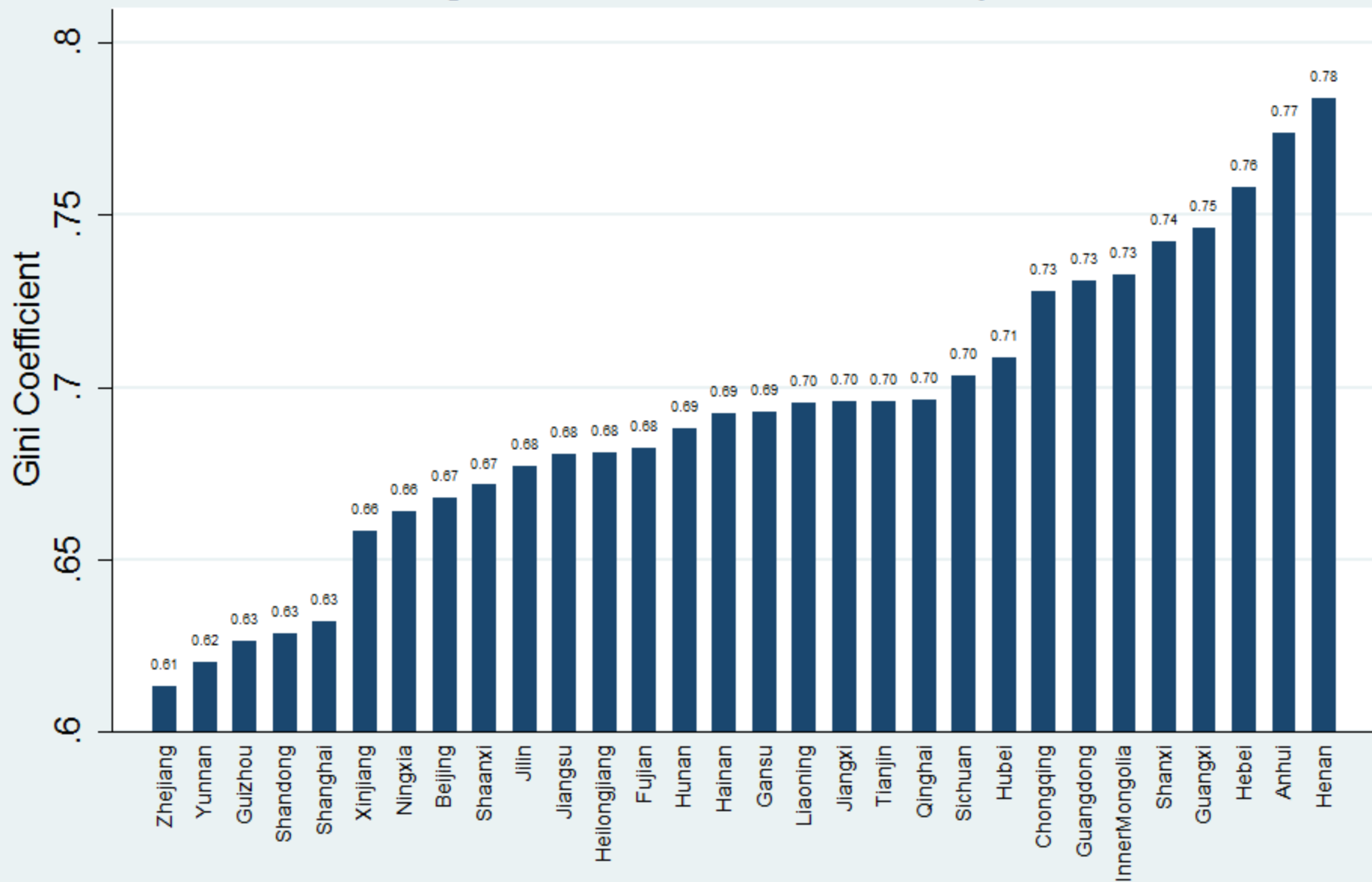


Admissions from Top High Schools

Type	Top 10% of high schools	Top 5% of high schools
College	0.365	0.222
University	0.510	0.318
211 Universities	0.664	0.456
985 Universities	0.764	0.565
Top 9 Universities	0.914	0.756
Top 2 Universities	1	0.858



Gini of High School Students Admitted by Universities

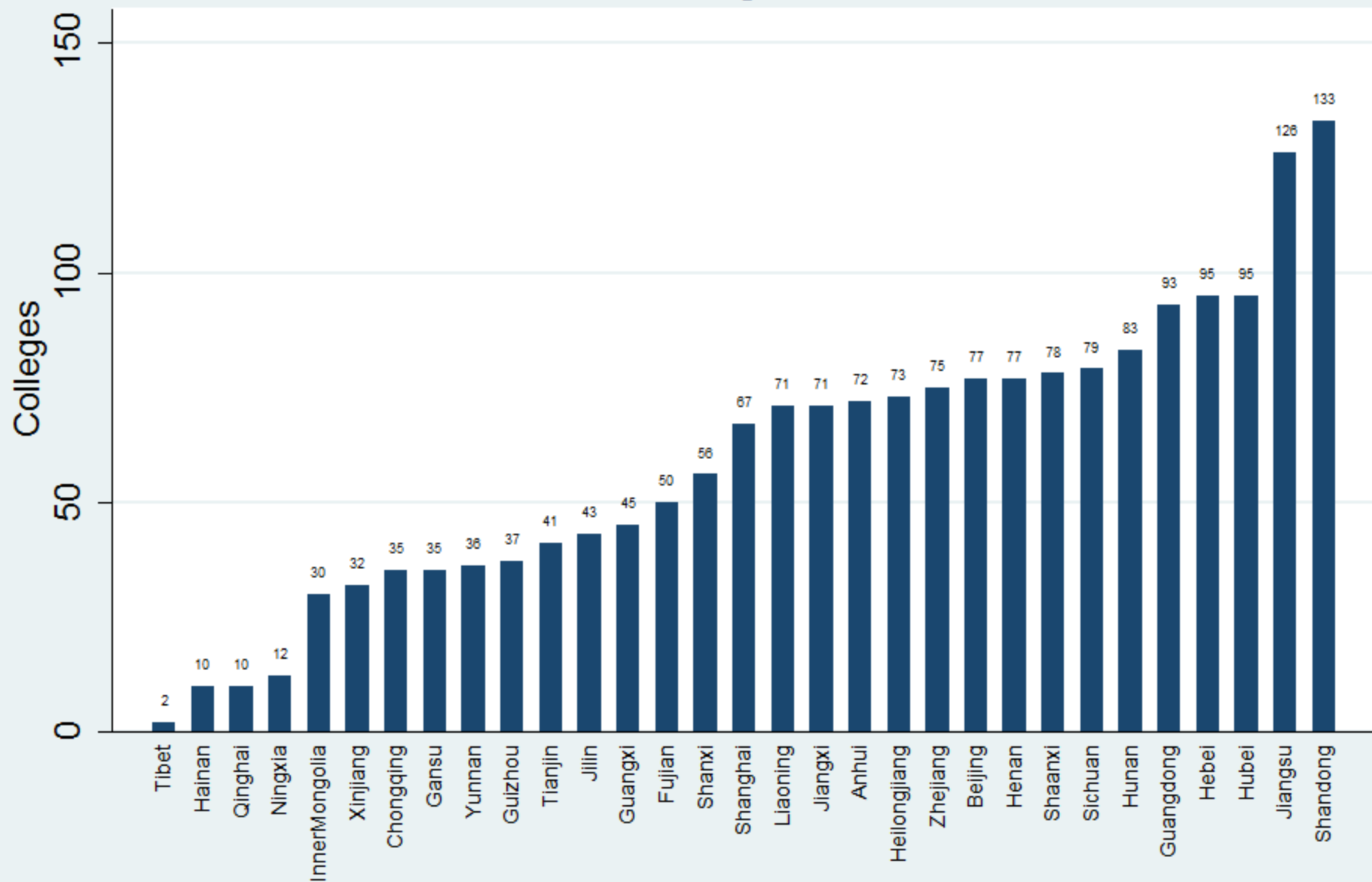


Educational Inequality

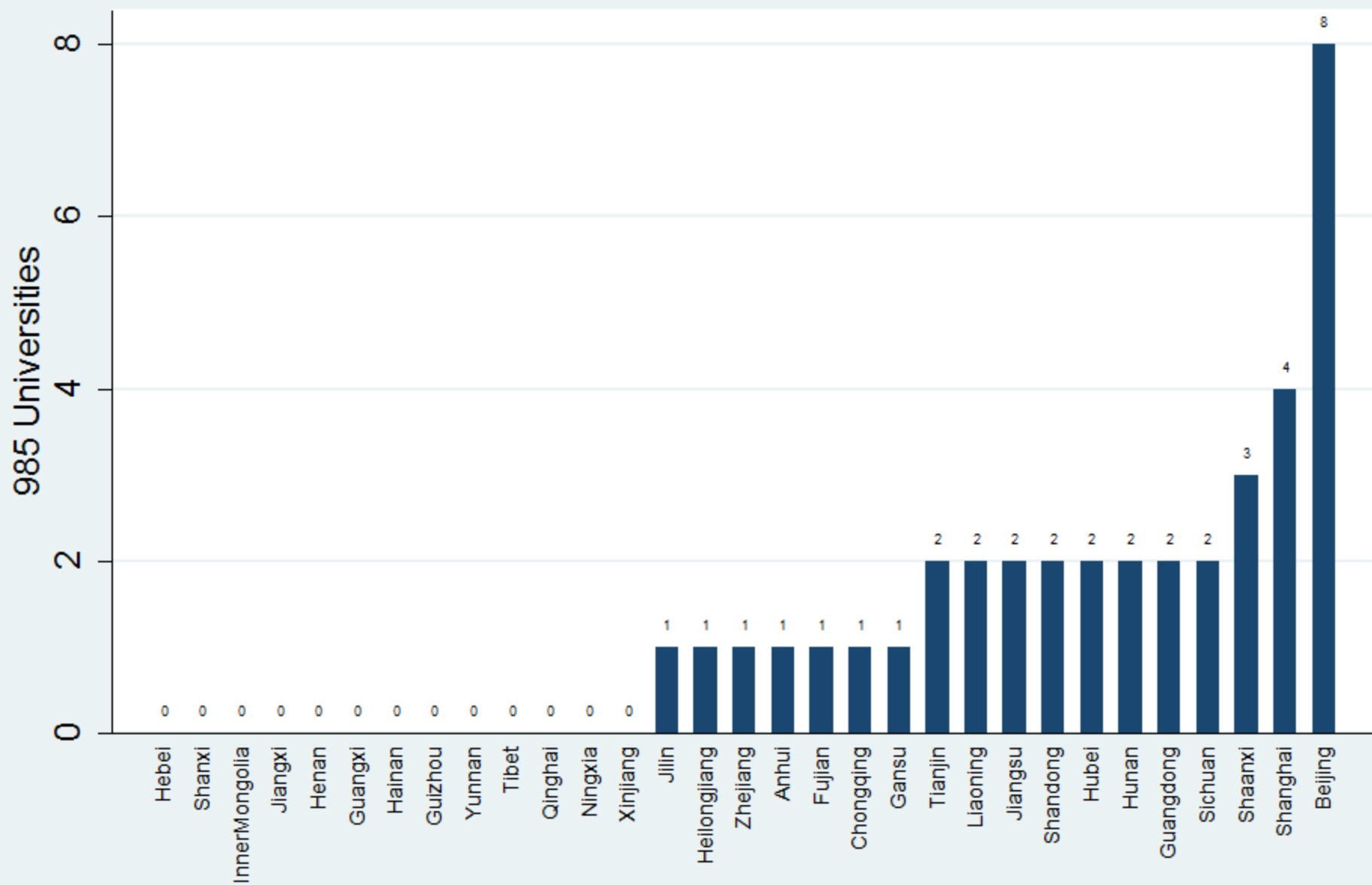
- Gender bias
- Urban (rural) bias
- Income bias
- **Home bias**



Number of Colleges in a Province



Number of 985 Universities in a Province

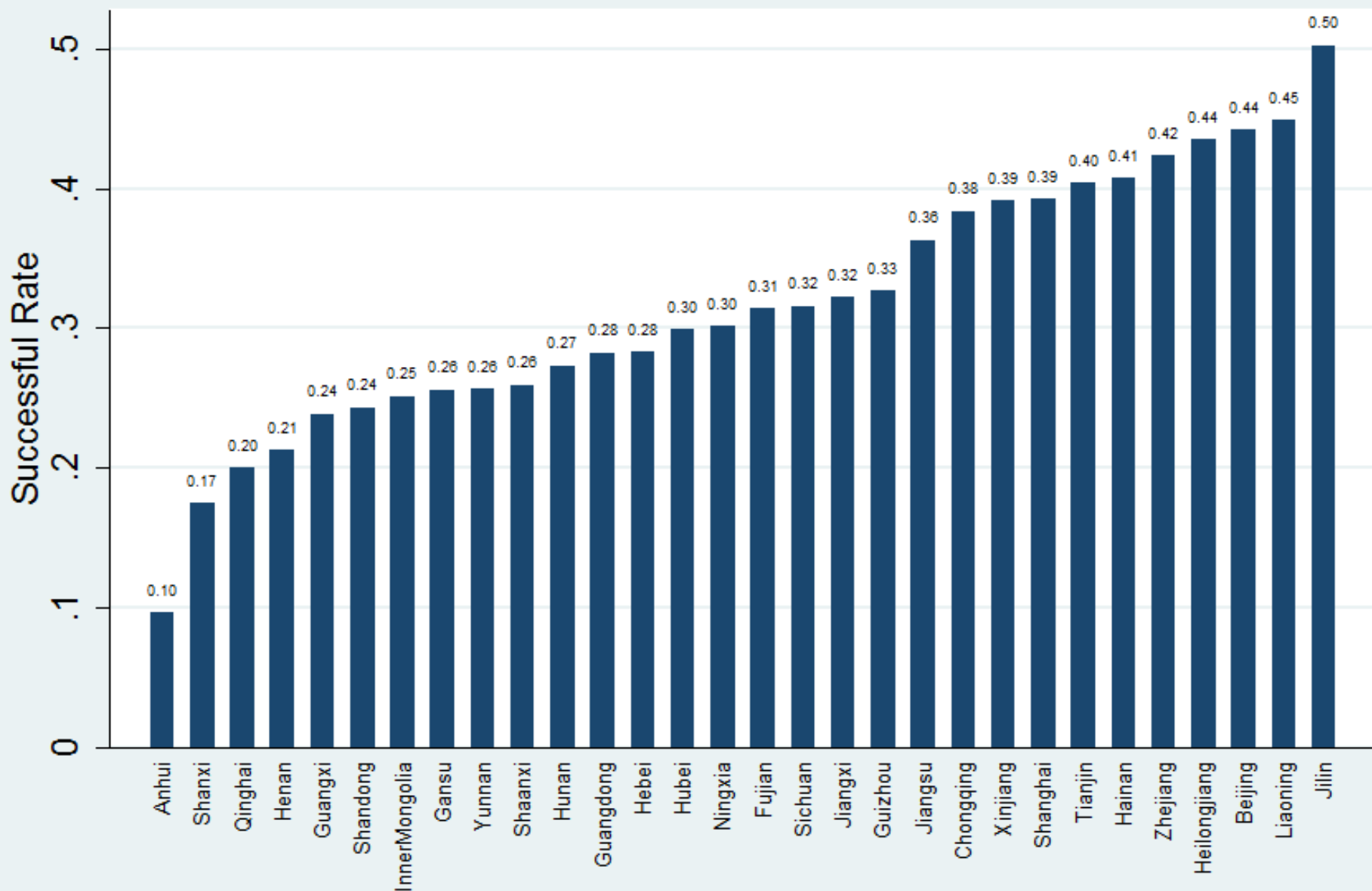


Local Admissions of Each Type

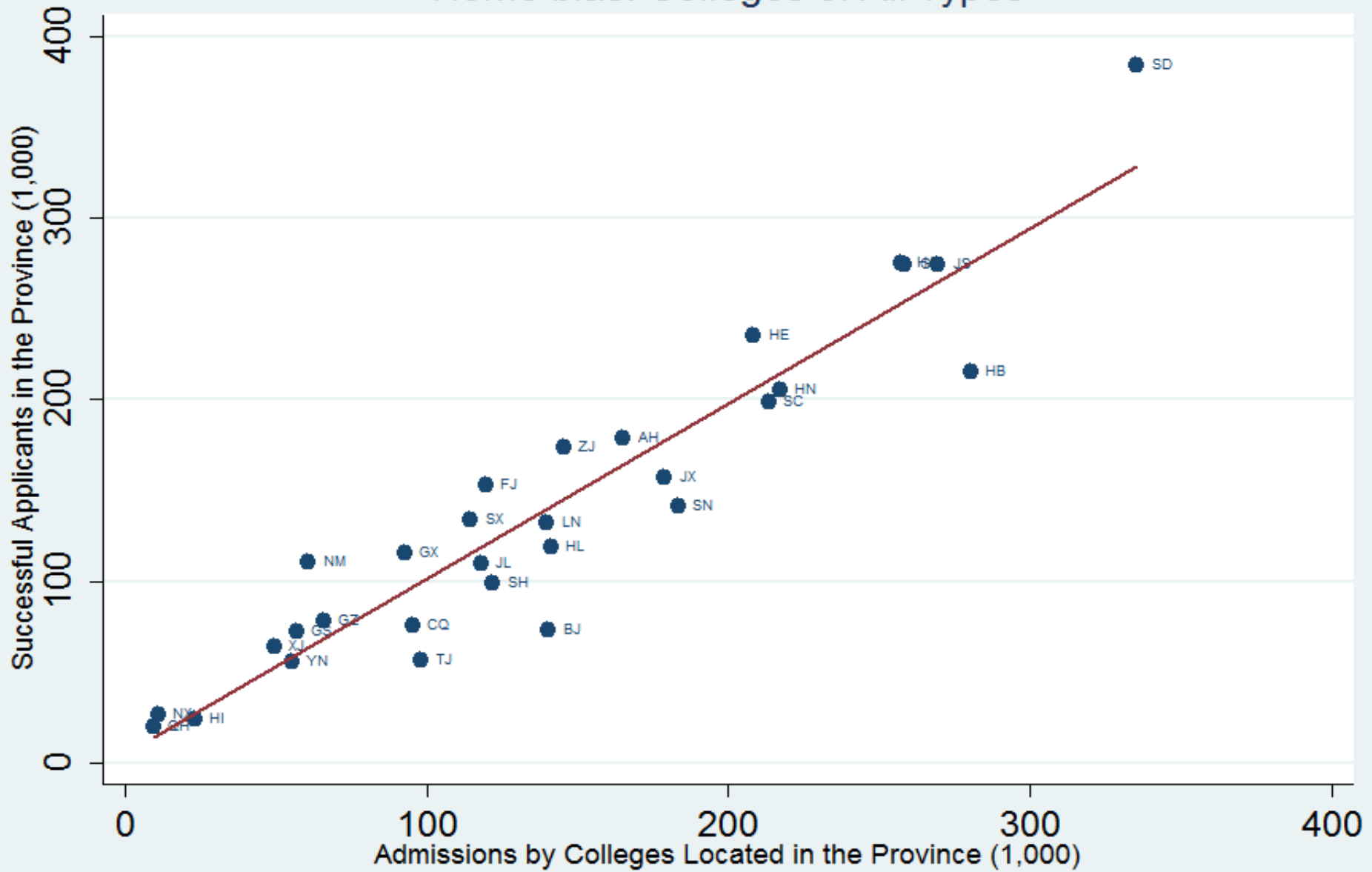
Type (inclusive)	Percent of local admissions
College	0.658
University	0.667
211 Universities	0.456
985 Universities	0.393
Top 9 Universities	0.388
Top 2 Universities	0.209



Universities



Home bias: Colleges of All Types



Summary

- Who have the largest chance to enter an (elite) college?
- They are
 - rich urban boys from elite high schools located in “good” provinces
- So, the College Entrance Exams may be fair, but admissions are not

