Pay to Play? How Application Fees Influence STEM Grad School Choices in France

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Abstract
- Impact of Application Fees on STEM Graduate School Applicants in France (2015-2020)
- Regression Discontinuity Analysis
- Application Fees Lead to Fewer Exam Attempts
- Adverse Admission Outcomes: Males, Low SES, Lower Ability Students
- Effect of Fee Structure: Centralized vs. Decentralized

Motivation
- Stark disparities in access to elite colleges observed in many countries (France, U.S., etc.)
- Key Factors: Financial constraints, complex admission processes, and informational gaps
- Financial Constraints: Literature has focused mainly on tuition fees and financial aid, with less attention to application fees (Pallais 2015)

⇒ Study Focus: Assess how application fees affect the application behavior and admission outcomes of STEM graduate school applicants in France, leveraging the existence of fee waivers and varying fee structures.

Data
- Centralized Admission to Elite STEM Schools (SCEI) 2015-2020: demographics, exam choices, exam fees, exam results, school preferences, and admission outcomes
- Need-based Scholarship Data (AGLAE) 2013-2018: Student demographics, parental income, composite score, school levels
- Previous Achievement Data (DEPP) 2010-2020: Results of high school (Baccalauréat) and middle school (DNB) exams

Empirical Strategy
- Regression discontinuity design at the fee-waiver threshold:
  - Eligibility Criteria: Based on need-based scholarship status (parental income, number of siblings, number of siblings in higher education, and distance to the program)
  - Income thresholds pooled by relative income-distance to the threshold

Application Behaviour
- Figure 1: Income Thresholds for Fee Waiver Status
- Figure 2: Fees Paid and Exams Taken at the Fee Waiver Threshold

Admission Outcome
- Table 1: Probability of Receiving an Admission Offer

Main Results
- Application fees → 55 percent reduction in exams attempted
- Application fees → 15 percent reduction in admission probability
- Larger impact on male, low-ses, and lower-ability students

Gender Heterogeneity
- Male students reduce more safety choices while female students reduce more ambitious choices.

Table 2: Gender Heterogeneity in Selectivity of Exam Attempted

Centralized vs. Decentralized Fees

Table 3: Probability of Applying to the Most Selective School

Key Findings
- Fee-paying individuals apply to fewer schools, reducing admission probability
- Admission quality unaffected upon receiving an offer
- Decentralized fee structure has more adverse impact

Policy Recommendations
- More gradual exemption scheme for fee waivers
- Promote common application fees
- Advise students to have a “safe” choice

References

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