Dynamic College Admissions and the Determinants of Students' College Retention

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Abstract

We analyze the determinants of students' college retention in the context of a dynamic centralized assignment system where students can learn about their preferences and abilities over time and can re-apply to the system. We show that the most common assignment mechanism, the Deferred Acceptance (DA) algorithm, can result in significant inefficiencies as it fails to elicit the intensity of students' preferences. Using data from Chile, we document these inefficiencies, and we show that not being assigned to ones' top-reported preference has a positive causal effect on the probability of (i) reapplying to the centralized system, (ii) switching one's major/college, and (iii) delaying college graduation. Moreover, we find that a significant fraction of students change their preferences over time, which increases switchings and delay graduations, and we also observe that these switching and dropout decisions vary depending on students characteristics including gender and level of income. Based on these facts, we build and estimate a structural model of students' college progression in the presence of a centralized admission system, allowing students to learn about their match-quality over time. We use the estimated model to disentangle how much of students' switching behavior is due to initial mismatches as opposed to learning, and we also analyze the impact of changing the assignment mechanism and the re-application rules on the efficiency of the system. Our counterfactual results show that policies that provide score bonuses which elicit the intensity on students' preferences can significantly decrease switchings, dropouts, and increase the overall welfare of students.