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The Returns to College(s): Relative Value-Added and Match Effects in Higher Education

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Abstract:

Students who attend different colleges in the U.S. end up with vastly different economic outcomes. We study the role of relative value-added across colleges within student choice sets in producing these outcome disparities. Linking administrative high school records, college applications, admissions decisions, enrollment spells, degree completions, and quarterly earnings spanning the Texas population, we identify relative college value-added by comparing the outcomes of students who apply to and are admitted by the same set of institutions, as this approach strikingly balances observable student potential across college treatments and renders our extensive set of covariates irrelevant as controls. Methodologically, we develop a framework for identifying and interpreting value-added under varying assumptions about match effects and sorting gains, generalizing the constant treatment effects assumption typically employed in the value-added literature. Empirically, we estimate a relatively tight, though non-degenerate, distribution of relative value-added across the wide diversity of Texas public universities. Selectivity poorly predicts value-added within student choice sets: a fleeting selectivity earnings premium fades to zero after a few years in the labor market, and more selective colleges tend to have lower value-added on STEM degree completion. Non-peer college inputs like instructional spending more strongly predict value-added, especially conditional on selectivity. Educational impacts predict labor market impacts: colleges with larger earnings value-added also tend to be colleges that boost persistence, BA completion, and STEM degrees along the way. Finally, we probe the potential for (mis)match effects by allowing each college's relative value-added to vary flexibly by student characteristics. At first glance, Black students appear to face small negative returns to choosing more selective colleges, but this pattern of modest "mismatch" is entirely driven by the availability of two large historically Black universities with low selectivity but above-average value-added. Across the non-HBCUs, Black students face similar returns to selectivity, and indistinguishable value-added schedules more generally, compared to their peers from other backgrounds.