

## Community College Transfer Students in Texas: Examining Student Choices, Transfer Policies, and Outcomes

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August 2021

### What We Studied

Forty percent of all Texas public college students start at a community college and 75 percent earn at least some community college credits. Yet we have very little evidence about how students make transfer decisions and whether the policies meant to avoid credit loss, like the core curriculum, actually improve transfer success and degree attainment.

In this study, we examine how community college students select which institutions to transfer to (research focus #1) and whether state transfer policies, like the core curriculum, impact student outcomes (research focus #2). Using ERC data on community college entrants, we examine track student transfer and progress. First, we examine proximal outcomes in the transfer process—investigating how students select their destination university. Second, we examine the relationship between credits accumulated under the *core curriculum*—a set of courses that, as mandated in state policy, are universally accepted at public colleges statewide, totaling up to 42 credits—and degree attainment among students who transferred from community colleges to public universities. By examining both student transfer behavior and the impact of policies meant to illuminate transfer pathways, this project stands to inform ongoing debates about how to best improve transfer policies in the state.

### How We Analyzed the Data

We used student data collected by the Texas Higher Education Coordinating Board (THECB), including demographic information, admissions and enrollment records, placement test scores and exemptions, credits, grades, and degree outcomes, along with financial aid application (FAFSA) information.

**Research focus #1:** Our first line of inquiry drew on theories and models of college choice to examine how transfer-intending community college students decide between four-year institutions. We captured the destinations of all Texas students who began at a community college and made a transfer to a four-year university between 2011 and 2015. We observe the schools that community college students ultimately transfer to and the institutional and geographic factors associated with those choices. We used conditional logit regressions to model choice behavior and examine what institutional features (e.g. distance, cost, selectivity) predict students' decisions by observing the institutions they ultimately selected in comparison to their other options.

**Research focus #2:** Focusing on an analytic sample of students who transferred from community colleges to public universities (N = 23,824), we leveraged summary statistics to describe patterns of pre-transfer credit accumulation and regression analyses to examine the association between pre-transfer core credits and bachelor's degree attainment. To

create the measure capturing core credits, we used core curricula course listings from THECB's website, which includes course prefixes and numbers for core coursework at every college in Texas, and merged the matrices of core course numbers into THECB student schedule data using course prefixes and numbers (see Schudde, Bick, & Shea, 2020). We classified all pre-transfer community college credits into five different categories: (a) core credits, (b) vocational and technical credits, (c) other college-level credits, (d) developmental education credits in math, and (e) developmental education credits in English. We created both a measure of pre-transfer core credits and a quadratic term for core credits in order to capture the non-linear relationship between core credits and degree attainment. In the regression models, we control for demographics, student enrollment patterns, and academic performance. To capture variation that may occur across institutions and majors, we also included fixed effects for pre-transfer community college, destination university, and pre-transfer major, as well as clustered standard errors (at the community college level).

## **What We Discovered**

### **Research focus #1: Choosing transfer institutions: Examining the decisions of Texas community college students transferring to four-year institutions**

We find that an overwhelming majority of community college transfer students select public and mostly research universities, despite the fact that nearly half of the institutional options were private schools. Students transferred to a relatively small subset of universities, despite many four-year options: 86% of total transfers were to 20 institutions, out of 78 total options. Of the nearly 95,000 transfers observed, most were to public (98%) and research (74%) institutions. (Full paper and results are reported in Jabbar & Edwards, 2020)

Students were sensitive to distance. They were less likely to enroll at a four-year institution the farther it was from the community college attended. Our analysis related to students' sensitivity to distance aligns with prior research on transfer destination choice, and college choice, however, we are able to parse this pattern of sensitivity by student subgroups. We find that all students in our sample were less likely to enroll in an institution the farther it was from the community college attended, but that this relationship was the strongest for non-traditional students. This result is intuitive but nonetheless important considering that community colleges are a likely pathway to four-year degree attainment for older students who might juggle school with full-time employment as well as family obligations. Considering our full sample results show a consistent aversion to distance, we can conclude that students who are geographically isolated are likely to be at a disadvantage when it comes to transfer.

The institutional characteristics associated with students' choice of transfer destination suggest that all students were less likely to choose a flagship university. This was particularly true for economically disadvantaged students, which could indicate access issues such as strict admissions requirements, limited space, or even cost constraints. We also find that higher university graduation rates increase the probability of transfer across all subgroups. Instructional expenses per each full-time enrolled student marginally increased the likelihood of transfer, potentially because information on instructional expenses is less transparent to students. And a smaller student to faculty ratio as a measure of both support and quality predicted transfer, especially for non-traditional and economically disadvantaged students. This finding could point to the benefit of smaller class sizes and more available advising time valued by traditionally disadvantaged groups as they enter their pathway to four-year degree attainment. It could be that the cost of attendance and a lack of financial support present significant barriers to transfer and degree completion for community college students. However, in our analysis, we found very small coefficients associated with our measure for the cost of attendance and percent of students receiving financial aid, thus no evidence in our full sample that transfer students weigh the cost of attendance factors when deciding where to transfer.

Finally, we find interesting results related to our measures of student body demographics and their association with transfer choice. Overall, we observe a preference for schools offering more of a racial/ethnic student match. This preference was somewhat stronger for Asian and White students compared to students historically underrepresented in higher education (e.g. African American, Latinx, Native American), which could represent patterns of racial stratification across four-year institutions more generally. Though this finding warrants a more detailed investigation, it

could be that on many campuses in our sample the racial breakdown is a plurality, but that when Whites and Asians are grouped together, they represent both a majority of our sample and of enrollments in top-chosen schools. Given this apparent trend, it would be interesting to know whether a larger proportion of underrepresented students at top-chosen schools in Texas would then influence underrepresented groups of community college transfer students considering a suite of institutional options.

## Research focus #2: The role of the core curriculum in transfer student degree completion

In Figure 1, we show cumulative credits earned before transfer disaggregated by credit type (core, technical, and other college-level credits and developmental math and English credits). We present this information for the full sample of community college transfer students and for subgroups based on core completion and bachelor’s degree completion status. By the time of transfer, community college transfer students, on average, completed 35.4 college-level credits, including core, vocational/technical, and other college-level credits. Despite reports from prior research that community college staff emphasize core completion (Schudde et al., 2021), only 19% of community college transfer students in our study completed the core—accumulating 42 core credits distributed across the required component areas—before the time of transfer. On average, students earned 8.4 other college-level credits, 0.7 vocational credits, and 1.9 credits in developmental coursework (0.8 in English and 1.1 in math) (see full sample bar). Among core completers, the average number of core credits accumulated prior to transfer was 48.1, with 59.3 cumulative college-level credits, whereas core non-completers finished fewer college-level credits prior to transfer, with 21.2 core credits and 7.9 other college-level credits.

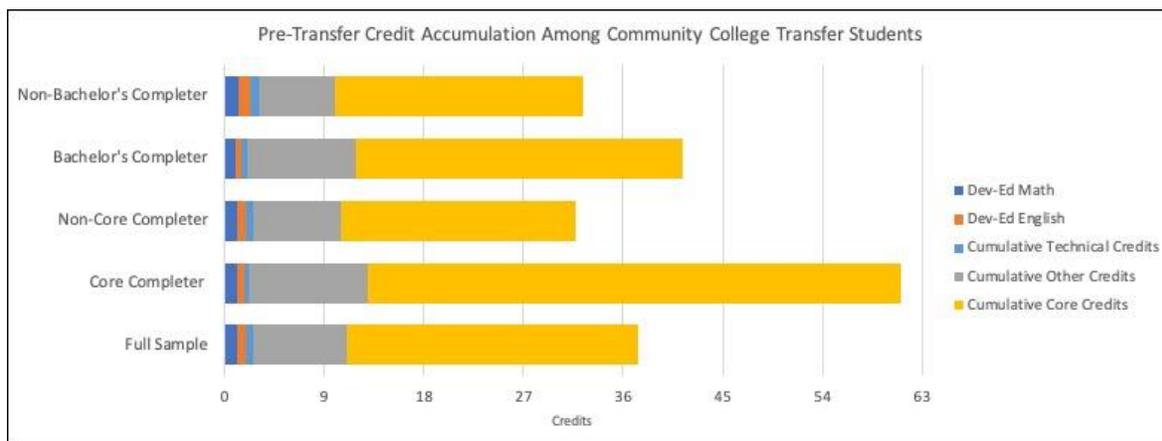


Figure 1. Pre-Transfer Credit Accumulation Among Community College Transfer Students

We next describe results from our main regression model. Figure 2 presents the relationship (in average marginal effects with 95% confidence intervals) between core credits accumulated before transfer and bachelor’s degree attainment. Average marginal effects can be interpreted as the change in predicted probability for a one-unit change in the variable while holding other variables at their mean. Figure 2 illuminates a point of diminishing returns for pre-transfer core credits. Up to about 44 core credits (two more than the “core complete” status), each additional core credit improves a transfer student’s probability of earning their degree, though we see the relationship is initially steeper and starts to level off as core credits approach the turning point of 45 credits, where it then becomes negative. Pre-transfer core credits accumulated beyond the turning point may be detrimental to baccalaureate attainment, though we note that the standard errors start to get larger after 50 credits because far fewer students take that many core credits prior to transfer (making the estimates beyond that point less precise).

The results of our regression analyses suggest that each additional pre-transfer core credit improves students’ probability of earning a bachelor’s degree, but only up to approximately core completion status. The 42-credit limit embedded in the state mandate has meaning, since it limits the number of credits universities must accept during

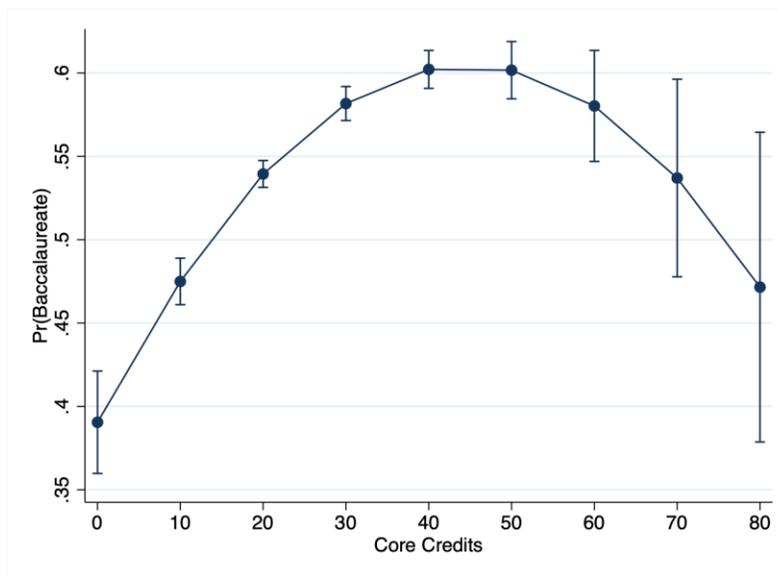


Figure 2. Pre-Transfer Core Credit Accumulation and the Predicted Probability of Earning Bachelor's Degree

transfer. When students surpass the 42-credit mark, they soon experience a negative relationship between additional pre-transfer core credits and bachelor's degree attainment (the turning point was almost 3 credits—just one additional course—above the core completion mark).

### Discussion/Policy Recommendations

Our findings have implications for policies that lessen existing barriers to successful transfer and for institutions seeking to increase student enrollments through increased community college transfer rates. Given that the majority of transfers observed were to a small subset of public universities, policymakers and practitioners have an opportunity to prioritize and strengthen transfer pathways that are already successful, perhaps by revising and streamlining existing articulation agreements. It is also important to note that even this relatively small subset still represents approximately 20 different schools for community colleges to communicate with regarding the specifics of transfer policies. This descriptive observation has implications for practitioners, administrators, and advisers within community colleges tasked with staying up to date on all of the details of each transfer partnership.

Our results examining the role core credits play in degree attainment suggest that the design of core curricula—including limits set on guaranteed credit transferability—inform student outcomes. Because core credits in Texas must transfer but do not have to apply toward major-specific requirements (i.e., they may transfer as electives), students who intend to transfer core complete should be cautious about which core courses they take at the community college and how those credits will ultimately apply toward their bachelor's degree program. The observed decline after reaching the core completion mark may be related to efficiency of core credit accrual, where students with many pre-transfer credits took courses not aligned to a given program of study. Ideally, a transferable core curriculum would help students avoid unnecessary credit accrual, if students take courses from the varied components of the distributed curricula (which breaks down number of courses from various required topic areas)—but this assumes adequate guidance and transparency about how those courses will be counted toward requirements in the student's desired degree.

A recent proposal in Texas included an amended core curriculum that would incorporate tailored math and science components based on students' field of study (and guaranteed those courses *apply* toward the final bachelor's degree) (Senate Research Center, 2019). The final version of the bill, Senate Bill 25, did not include the amended core, but does require that colleges and universities across the state provide their course sequences and program plans to THECB and publicly post that information online. This may be a first step toward improved transparency of transfer information, as institutions are now mandated to post information that will illustrate variation in course requirements across degree programs. Our findings cannot directly speak to how an amended core curriculum would influence

student outcomes, but we expect that offering more clarity about how core credits apply toward a degree would improve the efficiency of core credits for transfer students. We recommend that the state reconsider the design of the core curriculum related to problematic core components, which, according to extant research, include math and science coursework (Schudde et al., 2021).

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