Title: The Effects of Declining Public Support on Student Outcomes in Community Colleges

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Short abstract (150 words):

Throughout the nation, states are reducing funding to higher education, but little is known about how these funding cuts have affected student outcomes. This paper studies the impacts of declining public support for higher education in California, with a focus on community colleges, the largest higher education system in the country. In California as elsewhere, a large share of students who eventually earn a bachelor's degree begin in community colleges. Using rare access to administrative data, we develop a series of longitudinal records for various cohorts of students. We assess how budget reductions have impacted student pathways, focusing on key

outcomes including enrollment, transfer, degree completion, and certificate (vocational) completion. Our preliminary finding suggests that the most dramatic impact has been a reduction in access, with declines in enrollment rates. The paper explores which groups of students have been most affected by the reduction in access.

Extended Abstract:

This paper studies the impacts on student outcomes of declining public support for higher education, with a focus on California's community college system. This public higher education system served over two million students in the 2011-2012 school year, making it the largest system of public higher education in the country. California, like many states, has dramatically reduced funding for its higher education systems. Yet in California, as elsewhere, the effect of these cuts on student access and success has not been well-studied. Ongoing reductions in public support for community colleges, in particular, pose a disproportionate threat to the ability of low income and underrepresented students to increase their post-secondary educational attainment. We will assess how reductions in public support have impacted student pathways by combining data on budgets, institutions, and student outcomes.

The paper is organized into four main sections. In the first section, changes in state funding for public colleges across the nation are identified, with a focus on community colleges and comparisons between California and other key states. The section also briefly describes California's system of higher education.

The second section describes our data and methods. The study exploits rare access to longitudinal student data and institutional data on all of California's community college students and institutions. Consistent data on students and institutions is available for over ten years, allowing us to compare student outcomes in very different budget environments. The nature of this data allows us to link students over time to track progress and attainment, as well as to combine with peer, cohort, course, and institution information. Specifically, we follow multiple cohorts of individual students over time, comparing cohorts before and during various budget and macroeconomic conditions. Key student-level fields we include are: demographic characteristics, matriculation intent/goals, completion, transfer, and degree or certificate received. Course taking data include section, enrollment effective date, grades, and financial aid. For each observation, we append student records with institution-level information, including college, courses offered, course section information, and section instructor information. We use a variety of statistical models to evaluate student outcomes, with the model

dependent on the outcome of interest. For example, we use time hazard models to evaluate completion rates of successive cohorts, controlling on observable characteristics of students. Community college enrollment is evaluated using a probit model. The richness of the data require thoughtful selection of the independent variables to be used in the analyses. Of course we focus on measures that are consistently well-recorded. Administrative staff at the California Community College Chancellor's Office provide in-depth knowledge of college-reporting practices across time.

The third section of the paper relies on institutional data (including faculty information) to identify responses of California's community colleges to reduced funding. Those responses include increases in fees, reductions in course offerings, changes in faculty (including the types of faculty as well as the number of faculty), and reductions in other staff (including student support services). We have conducted a preliminary analysis of changes observed at the institutional level using summary, publicly available data reported by the California Community College Chancellor's Office. Some of those changes have been dramatic. For example, fees at community colleges in California, while still relatively low, have increased 40 percent over the past year. The composition of the faculty has also changed, with an increase in part-time non-tenured instructors.

The fourth section of the paper focuses on student outcomes, including transfer, degree completion, certificate completion, and drop-out. Macroeconomic conditions external to colleges as well as changes in what colleges are able to offer in light of budget cuts both contribute to the makeup of the student body, which may shift significantly over time. It is crucial to examine student outcomes jointly with changes in the types of students served and changes in services offered. Failing to account for these changes could lead to spurious conclusions about the impact of budget cuts to student success. We can at least partly control for this by examining multiple cohorts that (1) take into account changes in the composition of students served by the system over time and (2) track pathways for students in a way that does not conflate (at least directly) changes in the student pool with outcomes. As described above, a number of statistical methods will be applied, according to the outcome variable of interest. Our preliminary findings – using higher level data – suggest that the most dramatic impact may be in a reduction in access, with declines in enrollment rates. We will test and explore this finding further, as it relates to proper evaluation of student pathways within the system as well as to important implications for which groups of potential students are most affected by the reduction in access.