

The Role of Community Colleges in Promoting Student Diversity in California*

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Proposition 209 ended the use of race-based affirmative action in public colleges and universities in the state of California in January of 1998. This created a serious impediment to institutional efforts to recruit and retain historically under-represented minority (URM) youth. Not surprisingly, the number of African American and Hispanic students dropped noticeably at four-year institutions in the years immediately following 1998. Although the reduction has been most notable at competitive public universities (Baretto and Pachon 2003; Healy 1998; Ramage 1998; University of California 2003), evidence suggests that less competitive universities and state colleges have also experienced declines in the enrollment of URM students (Grodsky and Kurlaender 2006).

In response to Proposition 209, the UCs have increased their outreach efforts, instituted a program of comprehensive review of applications to consider the socioeconomic and personal obstacles students have overcome, and created the Eligibility in the Local Context program (ELC) to try to increase the diversity of their incoming cohorts. These programs have attracted the attention of policy makers and social scientists, although it is not yet clear how effective a substitute such programs are for race-based affirmative action. The limited evidence that we have suggests that the effectiveness of 'top x% programs' like ELC is modest (Cancian 1998; Kain, O'Brien, and Jargowsky 2005; Long 2004).

Another avenue for fostering diversity in four-year institutions that has not received adequate attention in recent discussions is community college transfer. This pathway may be particularly effective in California where policy makers have emphasized the transfer function of the community college and, through articulation agreements between community colleges and public four-year colleges, have sought to encourage students to follow this route to a baccalaureate degree (CPEC 2002; California Education Code 2003). Approximately seventy percent of students in public higher education in California attend community colleges,

disproportionate numbers of whom are students from under-represented minority groups (CPEC 2003; NCES 2005). Open door admission policies at community colleges circumvent some of the key hindrances URM students face in access to four-year institutions, including lower rates of completion of the high school courses required for admission to the UCs and CSUs, lower rates of participation in the SAT, lower average grades and test scores, lesser family economic resources and greater uncertainty about the costs of college and the availability of financial aid, (California Postsecondary Education Commission 2004; Reed 2005; Venezia, Kirst, and Antonio 2003). Once in community colleges, students can work toward transferring to four-year institutions.

The community college transfer pathway is not without challenges, but it does provide an opportunity for students to gain access to four-year colleges and universities, even if they could not be initially admitted to those institutions. Bahr, Hom and Perry (2005) report, for example, that approximately 40 percent of California community college freshmen exhibiting intent to transfer in 1995 actually made the transition to four-year institutions. While community colleges offer a potentially valuable means of increasing access to California's public four-year institutions for under-represented minority youth, we do not know the extent to which this pathway has been utilized by URM students either prior to or following Proposition 209.

To address this question, we use data on transfer from community colleges to four-year institutions provided by the California Community College Chancellor's Office. We examine overall transfer rates and transfer rates to different types of four-year institutions by race/ethnicity for each cohort of students entering community colleges between 1993 and 2001. These analyses will show the degree to which transfer in general, and transfer to competitive UCs in particular, changed as a result of Proposition 209. We expect to find that rates of transfer to UCs in general, and to more competitive UCs (Berkeley, Los Angeles and San Diego) in

particular, increase for African American and Hispanic students relative to white students in the years following and including 1998, the first year Proposition 209 was implemented.

Community College Transfer: A Viable Pathway into Four-Year Institutions

Community colleges originated as transfer institutions, focusing their curricula on preparing students for transition to four-year colleges and universities. Over time, a combination of institutional and political pressures and economic changes led community college to increase their focus on vocational training (Brint and Karabel 1989; Dougherty 2001). Today, 40-60 percent of students, depending on the estimates, are enrolled in vocational programs (Cohen and Brawer 1996; Dougherty 2001), and community colleges awarded more degrees in vocational fields than in liberal arts (Townsend 2001). Community college missions have also expanded to include a range of other activities, including workforce preparation (outside of degree programs), remedial, continuing and general education, and community service (Cohen and Brawer 1996; Gill and Leigh 2004). These developments have led to a reduction in the transfer function of community colleges, which may be partly responsible for the declining transfer rates in recent decades (Dougherty 2001; Grubb 1991).

Increased vocationalization of community colleges has drawn much criticism. Since the now classic application of Goffman's "cooling out" argument to community colleges (Clark 1960) and the "diverted dream" by Brint and Karabel (1989), critics have charged that community colleges divert students from four-year institutions. This assertion is generally motivated by the finding that the majority of traditionally aged students in community colleges express a desire to transfer to four-year institutions but that a relatively small proportion actually make this transition (Brint and Karabel 1989; Cohen 1994; Grubb 1991; Lee and Frank 1990; NCES 2001; Surette 2001). However, measuring transfer rates is a complicated matter, and

there is no consensus on what degree of transfer would earn community colleges praise as opposed to criticism (for a review see Roksa 2006a). Moreover, transfer rates vary across groups of students, from 25 percent for all first-time community college students to 52 percent for students who have an academic major and are taking courses toward a bachelor's degree (NCES 2001; see also Spicer and Armstrong 1996).

Notwithstanding the debates about calculating and evaluating transfer rates, transfer remains one of the key functions of modern community colleges. The share of total student credit hours in liberal arts coursework in community colleges has been relatively stable during the last quarter of the twentieth century, hovering slightly above 50 percent (Brawer 1999; Cohen and Ignash 1994). Moreover, liberal arts are no longer the only transferable courses: increasing numbers of students in vocational fields are making the transition to four-year institutions, with students earning A.A.S. degrees having transfer rates equal to or higher than those with academic degrees (for a review, see Townsend 2001). In the case of California, approximately 73% of credits earned at community colleges in the 2000-2001 school year were transferable (Gill and Leigh 2004), and many of the transferable credits are in vocational areas (Striplin 2000). By providing students with transferable courses, community colleges facilitate access to four-year institutions for a substantial number of students (for some estimates see Cohen 1994; 1996; Dougherty 2001; NCES 2001). In 1994, approximately 16 percent of bachelor's degree recipients had begun their postsecondary education in community colleges (Phillippe 2000).¹ This is not to suggest that there are no areas in need of improvement with respect to community college transfer, but to demonstrate that community colleges can serve as an avenue of access to four-year institutions.

¹ For related estimates in the 1970s and 1980s, see Grubb, 1991.

The community college transfer route is especially important for students from racial minority groups, particularly Hispanics. Disproportionate numbers of URM students begin higher education in community colleges. Minority enrollment is higher in community colleges than four-year institutions, with Hispanic students being the fastest growing racial/ethnic group at community colleges (Phillippe 2000; see also Cohen and Braver 1996). In 2004, community college students comprised 36 percent of total enrollments in higher education, but over 50 percent of Hispanic students enrolled in postsecondary institutions were attending community colleges (NCES 2005).

Researchers continue to debate whether community colleges assist or hinder educational attainment (for reviews, see Cohen and Braver 1996; Dougherty 1991; 2001). Although early studies argued that community colleges divert students from four-year institutions and bachelor's degrees (e.g., Brint and Karabel 1989; Clark 1960), recent evidence suggests that the effects of democratization are stronger than those of diversion, and thus that community colleges improve rather than reduce levels of educational attainment (Rouse 1995; Leigh and Gill 2003; 2004; Gonzales and Hilmer 2006). Concerns about diversion are particularly salient in discussions of transfer patterns across racial/ethnic groups. In the aggregate, racial minority students have lower transfer rates than their white counterparts (Cohen 1996; Dougherty and Kienzl 2006; Palmer 1991). However, if transfer is examined as one of the final outcomes of higher education, along with degree completion and dropout, one finds large differences by race in degree completion, but essentially no racial differences in transfer (Bailey, Jenkins, and Leinbach 2005a; 2005b). Moreover, differences in individual factors related to academic preparation, attendance patterns and family background account for much of the minority disadvantage in transfer (for a review see Palmer and Eaton 1991).

Florida, for example, reports that among students who completed associate degrees (and thus demonstrated commitment and ability to succeed in higher education), minority students have equal or slightly higher transfer rates than their white counterparts (Florida Community College System 2001). Moreover, individual level studies, controlling for a range of background and academic characteristics find no disadvantage for minority students in the transfer process, with an exception of African American bachelor's degree aspirants in some instances (Anderson, Sun, and Alfonso 2006; Dougherty and Kienzl 2006; Roksa 2006b; 2006c). Of course, accounting for racial/ethnic differences in transfer by adjusting for background characteristics does not negate the finding that minority transfer rates are low, and policymakers and researchers continue to work to find ways to improve the transfer rates of minority students (e.g., Bender 1991; Blau 1999; CPEC 1990; Dougherty, Reid, and Nienhusser 2006; Hungar and Lieberman 2001; Shulock and Moore 2005; Suarez 2003).

In an era of declining affirmative action (Breland, Maxey, Gernand, Cumming, and Trapani 2002; Grodsky and Kalogrides 2005), the community college transfer route has assumed greater importance for baccalaureate-granting institutions as a means of recruiting under-represented minority students (e.g., see Hebel 2000). However, we do not know yet whether minority students are taking advantage of this pathway to reduce the adverse effect of the retrenchment of affirmative action policies.

California offers a unique case by which to evaluate this possibility. California has the largest community college system in the nation, with 110 community colleges and several off-campus centers enrolling over 1 million undergraduates in credit-bearing courses or approximately 70 percent of undergraduates in public higher education (CPEC 2003). Furthermore, California's master plan in higher education has historically accorded the community college a clear role in facilitating baccalaureate transfer. With well-developed albeit

at times confusing systems to ensure that community college credits transfer to public four-year institutions, transfer is arguably easier in California than in many other states. Finally, California is one of a handful of states that experience an exogenous shock to its affirmative action policy at a specific time. Thus California is a natural experiment in the efficacy of community college transfer as a substitute for affirmative action in undergraduate admissions.

Diversifying Colleges and Universities through Transfer in California

Access has been a top priority for higher education in California. One of the key components of California's Master Plan for Higher Education is transfer from the community college to the University of California (UC) or California State University (CSU) systems. In fact, both UC and CSU are mandated to "establish a lower division to upper division ratio of 40:60 to provide transfer opportunities to the upper division for Community College students, and eligible California Community College transfer students are to be given priority in the admissions process" (University of California Office of the President 2004). Traditionally, the legislature has mandated that the institutions collaborate on developing transfer agreements and programs, but has respected institutional independence and thus left the specifics to the institutions. This policy has led to a dizzying array of community college-CSU/UC articulation agreements that vary across institutions and, within UCs and CSUs, across majors. Today, students can see whether and how their courses at community colleges will transfer to any of the four-year California institutions through the ASSIST web site (Articulation System Stimulating Interinstitutional Student Transfer). Using ASSIST, students intending to transfer can develop course plans consisting of courses that will transfer to a four-year institution of their choice.

While affording a great amount of flexibility, California's approach to managing transfer is incredibly complex. Despite efforts at standardization, each institution sets up its own transfer

requirements, with particularly stringent requirements for certain majors. Consequently, much emphasis in the California's system has been placed on providing students with information regarding varied requirements for transfer, to the point that even state statutes include provisions regarding publication and distribution of transfer information. Although disseminating information is crucial to navigating the transfer process, it presumes that students know a) that they want to transfer, b) where they want to transfer, and c) what field they want to study. Considering the research on students' college choices and attendance, these assumptions do not seem tenable (e.g., McDonough 1997; Schneider and Stevenson 1999). Not surprisingly, the autonomy of individual campuses, and resulting complexity of transfer arrangements in California, have been criticized as being "a bureaucratic maze that functions well for those able to work through it but loses many others (p. 102)..." and for being "cumbersome, time-consuming, and discouraging" for students (p. 51)" (Hungar and Lieberman 2001).

Recognizing the challenges to fostering transfer in a decentralized system, the legislature recently instructed the three segments to "jointly develop, maintain, and disseminate a common core curriculum in general education courses for the purposes of transfer. Any person who has successfully completed the transfer core curriculum shall be deemed to have thereby completed all lower division general education requirements for the University of California and California State University."² One of the results of this legislation has been the development of the Intersegmental General Education Transfer Curriculum (IGETC). Generally referred to as the "core transfer curriculum," IGETC is a standardized general education program that students can use to fulfill lower-division general education requirements. Although promising IGETC is a promising policy innovation, completion of the core curriculum is not required for transfer admission at four-year institutions, nor does its completion guarantee admission to potential

² West's Annotated California Codes (2003). Education Code. Chapter 9.2, Article 1, section 66720. Specific section quoted was added to state statutes in 1988.

transfers, and a number of science, nursing, and engineering schools within the UC system do not accept it (CPEC 2005). The potential of IGETS to streamline and simplify the transfer process has not yet been realized.

Despite these challenges, transfer is a viable function of community colleges in California. Approximately 60,000 students transfer every year from community colleges to public four-year institutions. The majority of students, about 80 percent, transfer to the one of the 23 CSUs that educate about two-thirds of the undergraduates attending public baccalaureate-granting institutions in California (CPEC 2003; 2005). This is partly a reflection of lower admission requirements of CSUs relative to UCs and admission of both lower- and upper-division (60 semester units) transfers at CSU. UCs only admit upper-division transfers and require higher GPA for consideration. Transfer has also become a more popular route of access to four-year institutions, with an annual average growth rate of 1.5 percent at CSU and 4.4 percent at UC (CPEC 2005).³

In addition to providing an alternative route to four-year institutions in general, community college transfer is particularly important for URM students. Approximately 80 percent of African American and Hispanic undergraduates enrolled in California's public higher education system attend community colleges (CPEC 2003). A substantial number of those students transfer to four-year institutions. In 2002-2003 school-year, 2,845 African American and 12,939 Hispanic students transferred from community colleges to public four-year institutions, the majority of them (approximately 85 percent) to CSUs (CPEC 2003).

³ For additional information on transfer in California, see <http://www.cpec.ca.gov/Commission/transfer.asp>.

The Present Study

Have African American and Latino students increased their utilization of community college transfer for access to four-year institutions following the adoption of Proposition 209? Although lower division transfer students are required to meet the admissions requirements for first-year applicants to the UCs and CSUs, upper division transfer students (those who have accrued more than 60 semester credits at a community college) need not meet these requirements. Furthermore, upper-division transfer students need not submit SAT or ACT scores and their high school academic performance is not considered for UC/CSU admission. These more lax admissions standard should make transfer at least a partial substitute for affirmative action in four-year college admissions.

Given the weaker average academic profiles of under-represented students, the community college pathway seems like an attractive alternative route into the UC and CSU systems in the absence of affirmative action. In fact, among otherwise eligible students in the high school class of 2003, failure to take the SAT II was the single most important limitation, causing around 21,000 students to be ineligible for UC admissions (CPEC 2004). While we do not know the degree to which under-represented minority student access was hindered by their failure to take the SAT II or SAT I, other work on inequalities in access to college-relevant information suggests that this may be a barrier to entry (Tornatzky, Cutler, and Lee 2002; Vargas 2004; Venezia, Kirst, and Antonio 2003). This work suggests that, in addition to a lack of information on the need to take a college entrance exam, many disadvantaged students and their parents are unaware of the courses students need to take in high school, the costs of college attendance or the availability of financial aid.

Affirmative action programs muted the impact of these information inequalities across racial and ethnic groups in the past, through outreach and consideration of student race/ethnicity

and socioeconomic status in admissions and financial aid decisions. In the absence of such targeted programs, alternative pathways like community college transfer may have become more important for both students and postsecondary institutions. Although fraught with challenges, evidence and research reviewed above show that the transfer pathway is a viable route into four-year institutions in California, allowing a number of students, including those from racial minority backgrounds, to access four-year institutions.

DATA AND METHODS

We base our analyses on administrative data provided by the California Community College Chancellor's Office (CCCCO). For each of the 110 community colleges and each year between 1993 and 2001, we record the number of entering first-time community college students by race/ethnicity. Based on a CCC merge of individual enrollment records with data from the National Student Clearinghouse and administrative data from the University of California and California State University Systems, we also observe the number of students from each matriculating cohort who transfer to four-year institutions, by type of institution, race/ethnicity, and time of transfer.⁴

In the presented analyses, we rely on a random sample of 25 percent of the population of community college students, which includes 484,072 individuals. The students in the sample are 16-23 years of age, although over 60 percent are 18-19. We exclude American Indian and 'other students from our analyses, dividing the remaining respondents into four racial categories: white, Hispanic, African American, and Asian/Pacific Islander (or API). Forty-four percent of the

⁴ The National Student Clearinghouse claims to include enrollment information for 91% of students enrolled in U.S. colleges (see Romano, Richard M. and Martin Wisniewski. 2003. "Tracking Community College Transfers Using National Student Clearinghouse Data." Annual Conference of the Council for the Study of Community Colleges. Dallas, TX.)

students in our sample are white, 30 percent Hispanic, 9 percent African American, and 17 percent API.

We begin by presenting descriptive data on whether students transferred to four-year institutions within four year of entering the community college. These descriptive data include the entire population of the first-time community college students. The four-year transfer restriction is necessary to create comparable transfer rates across cohorts and also makes our results comparable to other studies of transfer that typically censor students after four years. Following our discussion of descriptives, we assess the probability of transfer using a logistic regression model. This model estimates differences in the probability of transfer across racial groups as well as whether those differences have changed over time.

Next, we distinguish among transfers who enter the California State University system, one of the three more competitive University of California campuses (Berkeley, Los Angeles or San Diego), one of the remaining University of California campuses, or some other institution. The last category includes private non-profit and proprietary institutions within the state of California and any institutions outside of California. We present descriptive data on the proportion of each cohort that transferred to each type of four-year college by race and cohort. Following, we present a multinomial logistic regression model estimating the probability of transfer to each of these alternatives, compared to not transferring at all. The multinomial model estimates racial differences in transfer destinations as well as whether those have changed over time.

RESULTS

Between the 1993 and 2001 cohorts, approximately 17 percent of first-time community college students transferred from community colleges to public four-year institutions in

California. The percentage increases to 21 if we include students who transferred outside of the California public higher education system. It is important to note that these estimates include *all* beginning community college students in the denominator and limit the transfer window to four years. If we were to restrict the sample of community college students to those who expressed intent to transfer or exceeded some credit threshold, the transfer rates would be much higher. For example, Bahr, Hom and Perry (2005) report that approximately 40 percent of California freshmen who exhibited intent to transfer in 1995 actually transferred.⁵

Figure 1 plots the four-year transfer rates of each racial/ethnic group by the year each cohort first entered the community college. We mark 1998, the first year under proposition 209, by a vertical line on the x-axis. As Figure 1 shows, African Americans and Hispanics have substantially lower transfer rates than Whites in every cohort. Slightly over 10 percent of African American and Hispanic students transfer compared to approximately 24 percent of white students and 33 percent of Asian/Pacific Islander students. URM students are thus substantially less likely to use the transfer pathway than their white and API counterparts.

Figure 1 also suggests little systematic change in transfer rates over time.⁶ The lines for all racial groups are essentially flat, with only small fluctuations across years. Focusing on the year immediately before and after Proposition 209 went into effect, we see little evidence of a 209 effect on transfer for any group. These descriptive data thus suggest that African American and Hispanic students have not increased their reliance on the transfer pathway to gain access to four-year institutions despite the more restrictive opportunities they face for UC and CSU admission.

[Figure 1 about here]

⁵ We will apply these restrictions in future analyses.

⁶ The downturn in the rate of transfer for the 2001 cohort may reflect incomplete data for transfer in 2005. We will look into this further.

Corroborating descriptive findings, Table 1 presents odds ratios for transfer to four-year institutions, based on a logistic regression model. The magnitude of the racial/ethnic differences in the odds of transfer are quite remarkable. Model 1 indicates that, net of year of entry into the community college, African Americans are 52 percent less likely and Hispanics 60 percent less likely to transfer than whites. API students, on the other hand, are 56 percent more likely to transfer than their white counterparts. As may be anticipated from Figure 1, there is no change in the probability of transfer in the post-1997 period. This is the case for both overall transfer and transfer for different racial groups.

Although there are no changes in transfer over time, it is interesting to note that there is substantial variation in the probability of transfer across institutions. Supplemental college random effects models reveal that variation in the probability of transfer across community colleges is of notable magnitude. This is the case for both overall transfer and differences across racial/ethnic groups. Thus, it is not only that certain institutions have higher transfer rates than others but also that racial/ethnic difference in transfer vary across institutions. We have not explored the sources of this variation in this paper, but we anticipate doing so in the future. Some of the possibilities for exploring this variation are outlined in the discussion section.

Variation in Transfer Destinations

Preceding analyses considered only whether students transferred to four-year institutions. However, one may expect substantial variation in transfer rates across different types of transfer destinations. On the one hand, Proposition 209 had the greatest impact on minority student access to the most elite UCs. Minority students denied freshman admissions to these institutions may have enrolled in community colleges instead and transferred to these competitive UCs as juniors. Since 209 had a lesser impact on admissions to CSUs and no effect on admissions to

private institutions, we might expect transfer rates to these institutions to be relatively stable. On the other hand, Proposition 209 may have had the symbolic effect of making UCs, and especially elite UCs, appear less welcoming to potential URM transfers. If this is the case, we might expect to see a decline in rates of transfer to competitive UCs and an increase in rates of transfer to less competitive CSUs or private institutions. While students transfer at approximately the same rates before and after Proposition 209, these stable rates may mask shifts in the types of colleges to which students transfer.

Figures 2 to 5 present descriptive information on transfer rates by destination and race. With respect to California's public higher education system, Figure 2 is a mirror image of Figure 1: API students have the highest transfer rates to every type of public institution in California, including CSUs, elite UCs, and other UCs. They are followed by whites. African American and Hispanic students have the lowest transfer rates to all types of public institutions. Transfer to private and out-of-state colleges and universities, however, presents quite a different pattern. White students have the highest transfer rate to these institutions, followed by API and African American students. Importantly, by 2001, white and African American students actually have the same transfer rates to private and out-of-state colleges and universities. Hispanic students have the lowest transfer rates to these institutions.

[Figures 2-5 about here]

Considering change over time, all groups experience slight declines in transfer rates to CSUs. The other transfer destinations exhibit varying degrees of change across racial groups. Transfer rates to private and out-of-state institutions have increased over time for white and African American students. Post Proposition 209, African American transfer rates to these institutions have increased faster than those of whites, leading to convergence by 2000. Thus, at the end of the observation period, African American and white students transfer to private and

out-of-state colleges and universities at the same rates. API students, in contrast, are less likely to transfer outside of the California higher education system after 1997. Transfer rates for Hispanic students exhibit the greatest degree of stability over time.

Transfer to elite UCs presents a different pattern. Transfer rates of API students show the most variability, although they consistently remain much above transfer rates of all other racial groups. White students are transferring to elite UC's essentially at the same rate throughout the whole observation period. Transfer rates for African American and Hispanic students, however, decline slightly, particularly in the early period, between 1993 and 1996. The consequence of this decline is that the gap between African American and Hispanic students on the one hand and white students on the other grows. For example, while the black-white gap in transfer to elite institutions for the 1993 cohort was 0.68 percent, it became 1.34 percent in the 2001 cohort. When considering these differences, it is important to note that the percentage of African American students transferring to elite institutions is low, making even small changes in the actual number of students transferring appear substantial in percentage terms.

Table 2 presents a more formal assessment of the trends observed in the descriptive data. This table presents odds ratios for transfer to different types of institutions based on a multinomial logit, with "no transfer" used as the reference category. The results largely corroborate the story that emerged in Figure 2. Compared to whites, the odds that African Americans transfer to any public institution in California are between 20 and 40 percent of the odds that they stay at the community college. In contrast the odds that they transfer to a private or out-of-state college rather than remain at the community college are only 20 percent lower than those of whites. Compared to whites, Hispanics have between 50 and 70 percent lower odds of transferring in general. In contrast, API students have an advantage in transfer to all but private and out-of-state colleges and universities. This is especially true for transfer to elite

institutions, where the odds of API students transferring are 3.65 times those of white students who entered the community college in the same year.

[Table 2 about here]

With respect to differences before and after Proposition 209 went into effect, Model 2 suggests a slight decline in the probability of transfer to CSUs and a slight increase in the probability of transfer to private and out-of-state institutions after 1997. Addressing the question of whether the reliance of URM students on the transfer pathway has increased after Proposition 209, Model 3 presents interactions between post 209 period and race. The results indicate that the likelihood of transfer to elite institutions for African American and Hispanic students declined after 1997. Thus, underrepresented racial minority groups not only have a lower likelihood of transfer to elite institutions than whites, but the relative advantage whites enjoy in elite transfer relative to African American and Hispanic students who entered community college at the same time increased in the wake of Proposition 209. African American students seem to at least partially compensate by having higher transfer rates after 1997 to private and out-of-state colleges and universities relative to whites. There are no other significant private/out-of-state interactions for Hispanic students. API students, in contrast, show no change in transfer to either elite UCs or CSUs relative to white students. API students do, however, appear to increase their rate of transfer to other UCs relative to white students after 1997.

The story of transfer thus appears to be consistent with that of access: the overall transfer rates remain stable, but destinations change slightly over time. African American and Hispanic students were and remain significantly less likely to transfer to four-year institutions than their white counterparts. However the gaps vary across transfer destinations and over time. With respect to elite institutions, African American and Hispanic students seem to fall slightly more behind whites after Proposition 209 went into effect. This may suggest that elite institutions

have engaged in affirmative action when admitting transfer students before 1997, but it may also reflect a perception by URM students that they are no longer welcome at more competitive UC campuses.

However, it is important to note that the decline in African American and Hispanic transfer rates to elite institutions began before 1998, with the largest decline between 1993 and 1996 (see Figure 4). Supplemental models restricting the data to 1996-2001 show weaker interaction terms between race and post 209 period (0.81 for African Americans and 0.91 for Hispanics, ns). This would suggest that other policies and practices in California higher education may have contributed to the decline in transfer rates for African American and Hispanic students. Whether these interaction results are interpreted as signaling decline in African American and Hispanic transfer rates to elite institutions or relative stability post Proposition 209, it is clear that the rates are not increasing. Underrepresented racial minority students are not responding to the restrictions on the direct access to elite institutions post Proposition 209 by increasing their reliance on the transfer pathway.

DISCUSSION

In the wake of Proposition 209, the community college transfer pathway into the UC system has become a more important potential mechanism for increasing access to the University of California system for historically under-represented minority students. Studies that focus on the decline in the diversity of matriculating cohorts ignore this avenue. Reviewing administrative data for entering community college cohorts between 1993 and 2001, we find that although overall transfer rates for underrepresented racial minority groups have remained stable over time, the transfer destinations have changed. After Proposition 209 went into effect, African American and Hispanic students became less likely to transfer to elite institutions, and

African American students became more likely to transfer to private or out-of-state college and universities relative to white students. Instead of helping to compensate for restrictions in direct access to elite institutions, the transfer pathway has become a slightly less popular option for African American and Hispanic students in recent years.

These findings have important policy implications. They indicate that the transfer pathway is an underutilized option for access to four-year institutions for under-represented racial minority groups. While transfer is a viable function of community colleges in California, with an average of 60,000 students transferring every year (CPEC 2005), African American and Hispanic students are the least likely to utilize this pathway, even in times when their direct access to four-year institutions has been restricted by Proposition 209. Understanding what institutional and state policies and practices facilitate transfer of URM students is a crucial next step in developing effective approaches to fostering their successful transition to four-year institutions. Improving transfer rates of under-represented racial minority students would not only serve the goals of equity by increasing their access to public four-year institutions but also enhance the diversity and quality of learning environments at the baccalaureate granting institutions in California.

After portraying the contours of transfer in California, we aim to further explore several directions. We are very much interested in hearing the participants' comments on these or any other avenues of exploration. First, we aim to better understand the observed racial differences in transfer. Working with administrative data, we do not have a wealth of individual level predictors, but to the extent possible, we will attempt to account for individual differences in background and academic trajectories. So for example, restricting the sample to students who expressed an intent to transfer when they enrolled in community colleges or restricting the sample to students who completed a minimum number of credits at community colleges may

help us better understand the extent to which commitment to pursuing higher education influences observed differences. This is particularly important for students intending to transfer to the UC system as those institutions accept only upper-level transfers (i.e., students who have completed 60 credits). However, although examining these differences will provide a better understanding of the racial gaps in transfer, these differences are not expected to alter the observed changes in transfer patterns over time.

Second, we are interested in exploring the variation in transfer rates across institutions. Supplemental random effects models indicate that both the likelihood of transfer and the gap in transfer between minority and white students vary substantially across community colleges. We are interested in hearing thoughts from the conference participants regarding what may explain this variation. So far, we have considered proximity to four-year institutions. However, proximity does not have a substantively significant effect on transfer. Where the effect appears to vary by race/ethnicity, it does so in ways that seem to favor minority and majority transfers depending on the transfer destinations. Again, effects are substantively trivial and do little to mediate racial/ethnic differences in transfer. Another possibility we are considering is the degree of racial segregation in higher education. We anticipate that community colleges with different levels of racial segregation may have different effects on overall transfer, and in particular transfer of minority students.

The third avenue that we aim to pursue is a closer examination of the private and out-of-state institutions that minority students, particularly African Americans, are transferring to. African Americans are the least disadvantaged in comparison to whites with respect to transfer to private and out-of-state institutions. Moreover, African Americans have been more likely to transfer to these institutions after Proposition 209 went into effect. The most common destination for African American students transferring outside of the California public higher

education system is the University of Phoenix (approximately 20 percent). But, interestingly, the University of Southern California seems to absorb an increasing proportion of African American students over time. By examining these out-of-state and private destinations in more depth, we hope to gain a better understanding of the educational trajectories of African American students, particularly after 1997. Finally, as descriptive results indicate, the drop in African American and Hispanic transfer to elite UC institutions has begun before Proposition 209 went into effect. While Proposition 209 could have contributed to this trend, and has certainly not stopped or reversed it, the question remains as to what other policies and practices in California's higher education can help to explain this decline. Understanding the totality of potential influences on the transfer rates of minority students is particularly important for developing effective policies to reverse this downward trend.

Contrary to our predictions, under-represented racial minority students did not increase their reliance on the transfer pathway to gain access to public four-year institutions after Proposition 209 was enacted. With respect to transfer to elite UCs, the probability of transfer for African American and Hispanic students has actually declined modestly over time. These results show that the transfer pathway remains an underutilized avenue of access to four-year institutions, particularly elite UCs. Revitalizing the transfer pathway could not only improve educational outcomes of under-represented racial minority students but also increase diversity in public four-year institutions in California.

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Figure 1

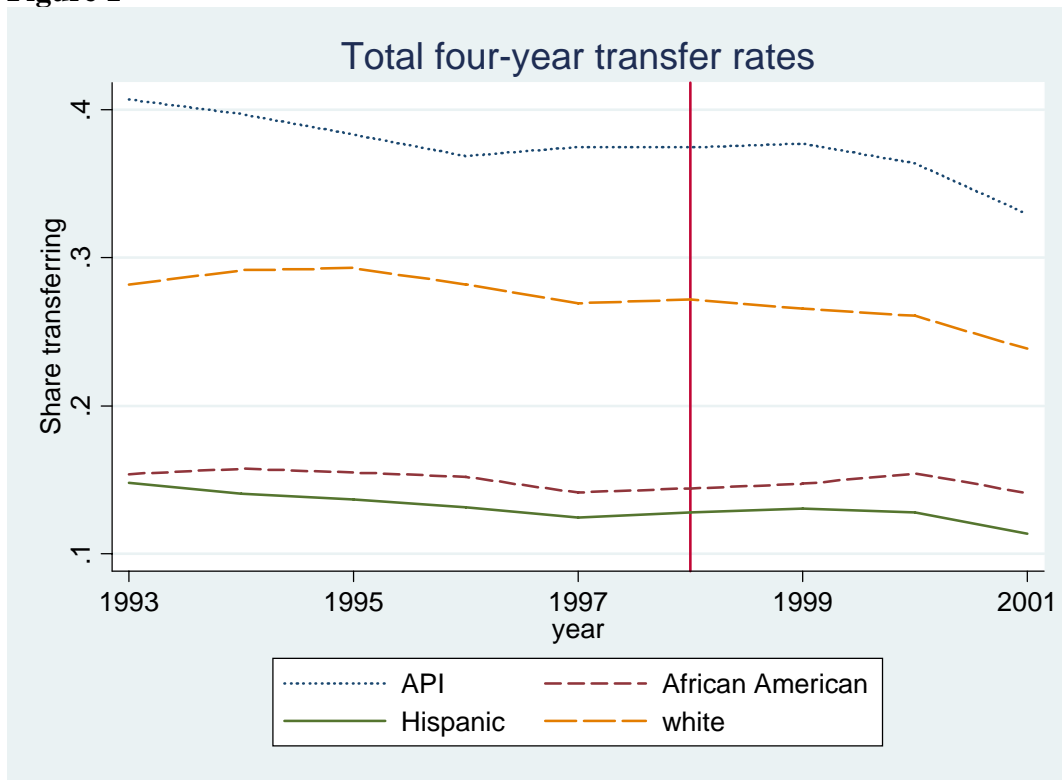


Figure2

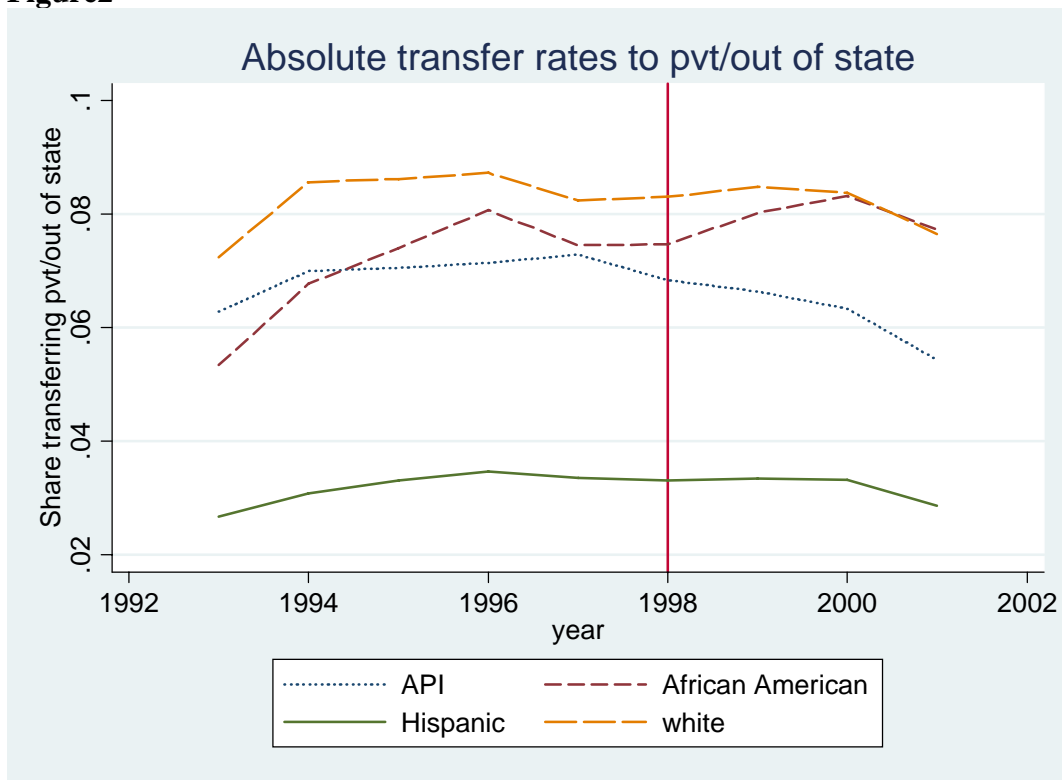


Figure 3

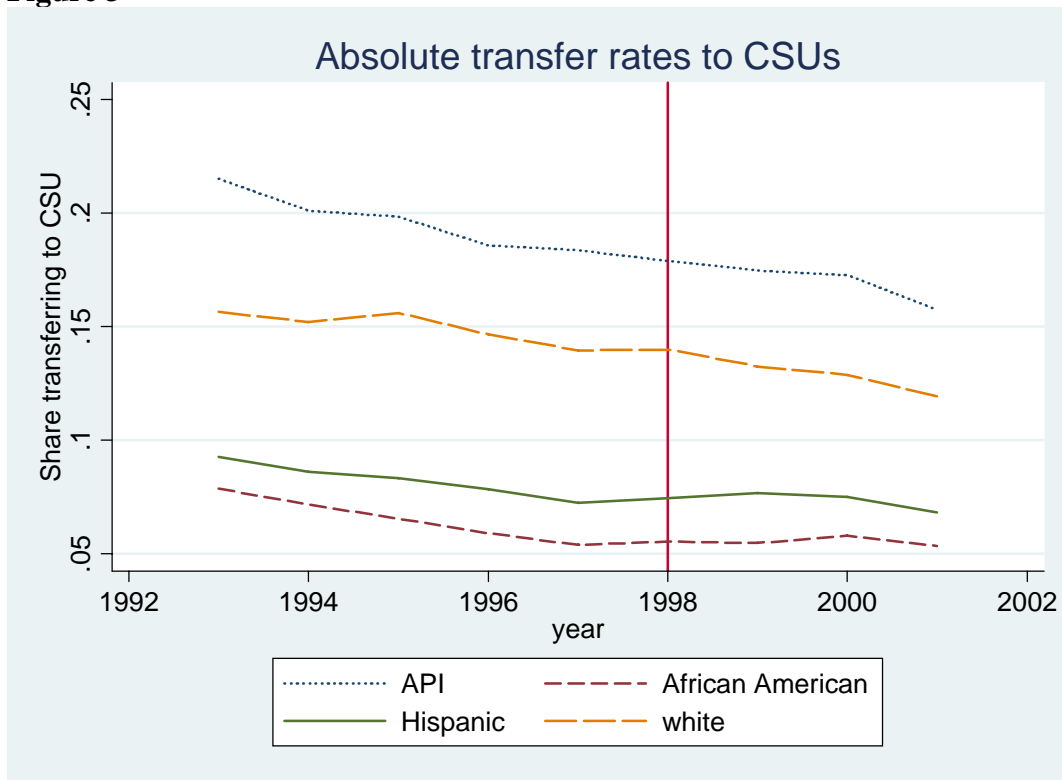


Figure 4

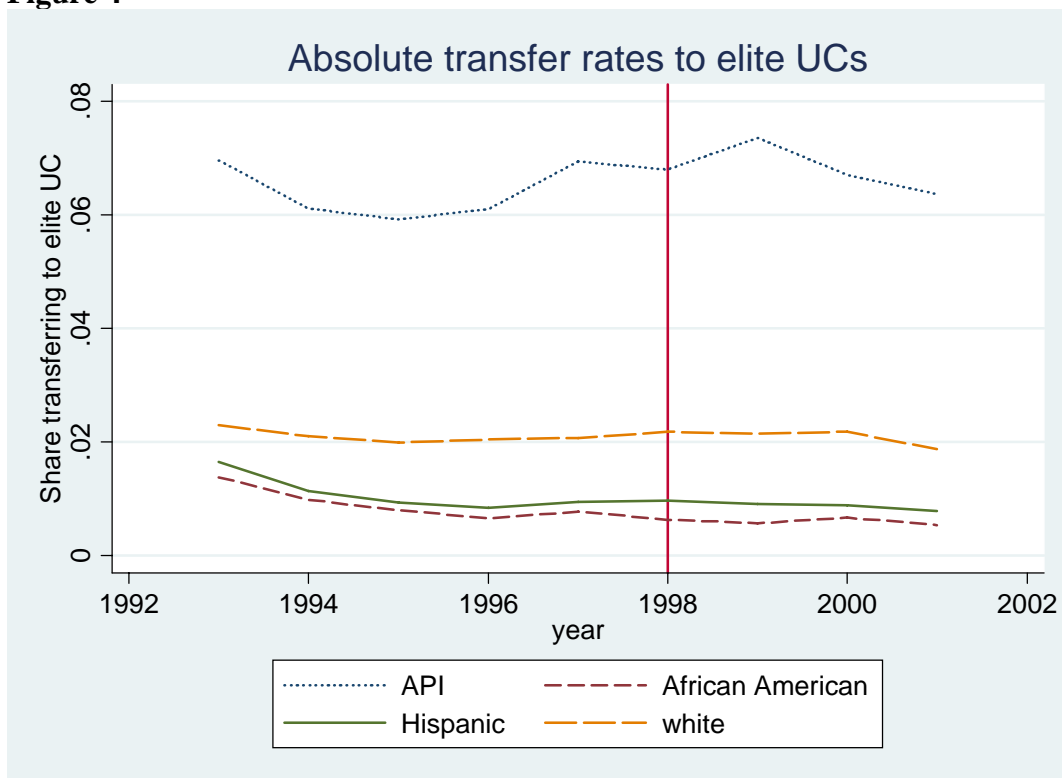


Figure 5

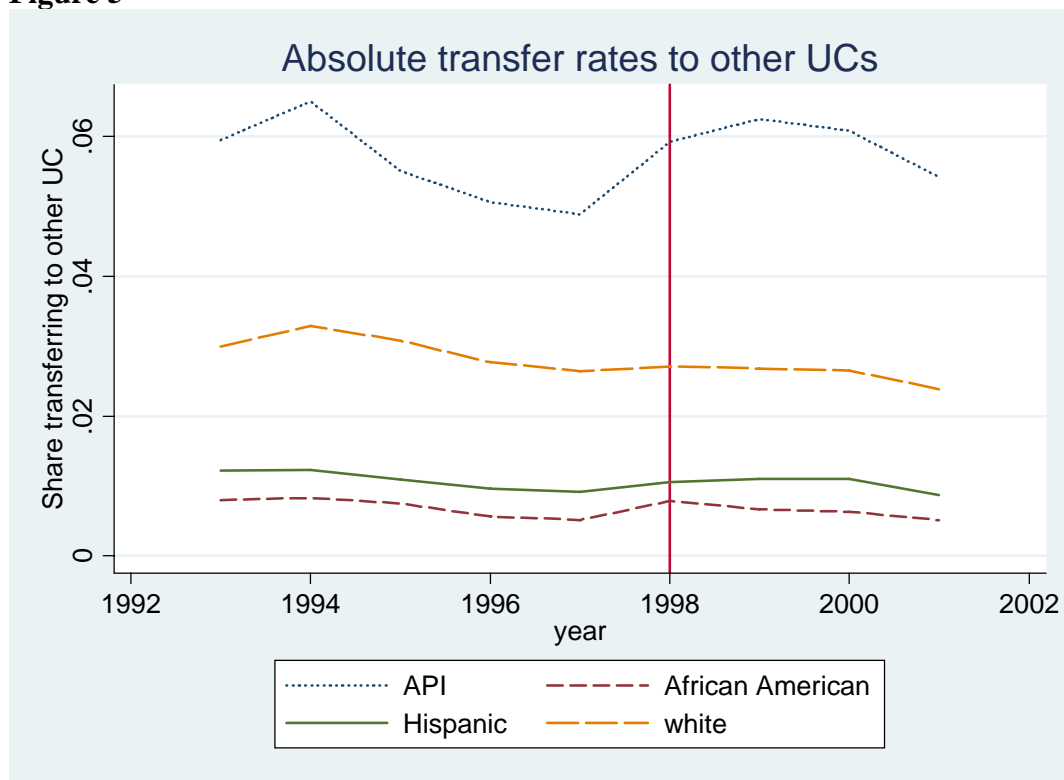


Table 1. Estimated odds ratios for transfer to four-year institutions
[confidence intervals in brackets]

	Model 1	Model 2	Model 3
<i>Race/ethnicity [white omitted]</i>			
African American	0.48*** [0.44,0.53]	0.48*** [0.44,0.53]	0.48*** [0.44,0.52]
Hispanic	0.40*** [0.37,0.43]	0.40*** [0.37,0.43]	0.41*** [0.38,0.44]
Asian/Pacific Islander	1.56*** [1.44,1.69]	1.56*** [1.44,1.69]	1.57*** [1.45,1.70]
<i>After 1997</i>		0.99 [0.96,1.03]	1.00 [0.97,1.04]
<i>Interactions</i>			
African American*After 1997			1.02 [0.95,1.10]
Hispanic*After 1997			0.96 [0.92,1.01]
Asian*After 1997			0.99 [0.93,1.05]
Constant	0.30*** [0.28,0.33]	0.32*** [0.29,0.34]	0.31*** [0.29,0.34]

Note: Model 1 includes year fixed effects. N=484,072.

***p<0.001, **p<0.01, *p<0.05

Table 2. Estimated odds ratios for transfer to different types of four-year institutions [confidence intervals in brackets]

	Model 1				Model 2				Model 3			
	Private & out-of-state	CSU	Elite UC	Other UC	Private & out-of-state	CSU	Elite UC	Other UC	Private & out-of-state	CSU	Elite UC	Other UC
<i>Race/ethnicity [white omitted]</i>												
African American	0.78*** [0.69,0.88]	0.39*** [0.36,0.42]	0.32*** [0.26,0.39]	0.21*** [0.17,0.27]	0.78*** [0.69,0.88]	0.39*** [0.36,0.42]	0.32*** [0.26,0.39]	0.21*** [0.17,0.27]	0.73*** [0.65,0.83]	0.40*** [0.37,0.44]	0.39*** [0.31,0.50]	0.21*** [0.15,0.28]
Hispanic	0.31*** [0.29,0.35]	0.47*** [0.44,0.50]	0.41*** [0.35,0.49]	0.31*** [0.27,0.37]	0.32*** [0.29,0.35]	0.47*** [0.44,0.50]	0.41*** [0.35,0.49]	0.31*** [0.27,0.37]	0.32*** [0.29,0.35]	0.47*** [0.44,0.51]	0.45*** [0.38,0.54]	0.30*** [0.26,0.36]
Asian/Pacific Islander	0.91 [0.81,1.01]	1.48*** [1.37,1.60]	3.65*** [3.01,4.42]	2.34*** [1.94,2.83]	0.91 [0.81,1.01]	1.48*** [1.37,1.60]	3.65*** [3.01,4.42]	2.35*** [1.94,2.83]	0.96 [0.85,1.09]	1.49*** [1.38,1.62]	3.66*** [3.07,4.37]	2.18*** [1.80,2.65]
After 1997					1.07** [1.02,1.11]	0.94*** [0.91,0.97]	1.05 [0.98,1.13]	1.02 [0.94,1.12]	1.08*** [1.03,1.14]	0.95** [0.92,0.99]	1.10** [1.03,1.19]	0.96 [0.88,1.04]
<i>Interactions</i>												
African American*After 1997									1.13* [1.03,1.25]	0.92 [0.83,1.02]	0.59*** [0.44,0.78]	1.03 [0.75,1.41]
Hispanic*After 1997									0.97 [0.90,1.04]	0.98 [0.93,1.03]	0.81** [0.70,0.93]	1.08 [0.92,1.27]
Asian*After 1997									0.87* [0.78,0.97]	0.98 [0.92,1.05]	0.99 [0.90,1.10]	1.17* [1.03,1.33]
Constant	0.10*** [0.09,0.11]	0.15*** [0.14,0.16]	0.02*** [0.02,0.03]	0.03*** [0.02,0.04]	0.09*** [0.09,0.10]	0.16*** [0.15,0.18]	0.02*** [0.02,0.03]	0.03*** [0.03,0.04]	0.09*** [0.09,0.10]	0.16*** [0.15,0.17]	0.02*** [0.02,0.03]	0.03*** [0.03,0.04]

Note: Model 1 includes year fixed effects. N=484,072.

***p<0.001, **p<0.01, *p<0.05