What is the value of a UC degree for disadvantaged students? An evaluation of the 2001-2011 UC Eligibility in the Local Context Policy
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Executive summary
Beginning in 2001, the University of California’s Eligibility in the Local Context (ELC) policy provided undergraduate admissions advantages to California high school students in the top four percent of their graduating classes. This brief analyzes two questions about the ELC policy:

1. How many applicants shifted their enrollments because of ELC, and how did ELC affect the composition of UC students?
2. Did ELC eligibility – and subsequent UC enrollment – benefit targeted applicants in the long run?

UC overhauled ELC in 2012, but this topic brief analyzes the impact of the original policy, which was in place from 2001 to 2011. The first section of the brief uses a causal-inference statistical methodology to estimate the effect of ELC eligibility on applicant outcomes. It shows that ELC-eligible applicants became 12 percentage points more likely to enroll at one of four “Absorbing” UC campuses – San Diego, Davis, Irvine, and Santa Barbara – as a result of those campuses’ significant ELC-friendly admissions policies. Half of these students would have otherwise enrolled at a California State University; the rest would have gone to community college or three other UC campuses (Merced, Riverside, and Santa Cruz).

Two-thirds of these ‘ELC participants’ had family incomes below the California median, and almost half were from unrepresented groups (URG). Ninety percent came from below-average California high schools (by SAT), making them twice as likely to come from those high schools as their freshman California-resident peers at the Absorbing UC campuses. The ELC participants also had far lower SAT scores than their peers – by more than 150 points on average – though the two had similar high school grades.

What happened to these ELC participants in the years after they enrolled at Absorbing UC campuses? Enrolling at UC provided them with broad long-run benefits. On average, in return for enrolling at a university with a higher five-year graduation rate by 30 percentage points, they themselves became 30 percentage points more likely to earn a college degree within five years. They became 20 percentage points more likely to go to graduate school. And their annual early-career California wages (ages 25 to 27) were $20,000 higher than they would have been if they’d chosen against Absorbing UC campus enrollment. ELC’s participants were disadvantaged, but UC enrollment provided them a pipeline to economic mobility.

The last section of this topic brief employs a statistical model of university admissions and enrollment decisions to estimate how ELC impacted the composition of UC students. Model simulations show that ELC had about 600 annual participants – that is, students who only enrolled at the Absorbing UC campuses because of their ELC eligibility – and that ELC increased net enrollment of lower-income students at those campuses by about 100 per year. If the Absorbing UC campuses had provided the same admissions advantages to students in the top 6 or 8 percent of their high school class, the model implies that the policy’s enrollment effects would have grown exponentially, though even a substantially-expanded ELC policy would be unlikely to increase the number of lower-income or URG UC students by more than 2.5 percentage points.

In short, the 2001-2011 ELC policy succeeded in annually benefitting hundreds of eligible students – especially lower-income and URG students – from across the state of California, and especially from California’s lowest-opportunity high schools. ELC also incrementally expanded UC access to disadvantaged students, and UC enrollment provided those students with substantial socioeconomic benefits in the form of improved educational and labor market outcomes, highlighting the value of a UC education.
Introduction
The University of California system has a higher graduation rate than most other public universities in the Association of American Universities (AAU), and UC undergraduate alumni have substantially-higher median earnings in the years following graduation than the average California college graduate. But the UC system is also selective, admitting only 63.1 percent of freshman applicants (compared to 84.3 percent at the California State University system) and only available to the top 15.9 percent of California public high school graduates. Are University of California students more likely to graduate and earn high wages because of the services – academic, professional, and support – provided by UC, or because those students were already intelligent young adults destined to success with or without a UC education? The statistical challenge in answering this question is to transparently estimate plausible counterfactual outcomes for those students: how would UC’s students have fared if they hadn’t had access to UC?

This topic brief presents a comprehensive analysis of UC’s 2001-2011 Eligibility in the Local Context policy. ELC guaranteed admission to the top four percent of graduates (by GPA) from each participating California high school, and ELC-eligible students became much more likely to be admitted to many UC campuses. There are two central motivations for studying UC’s pre-2012 ELC policy. First, ELC was an important undergraduate admissions policy that likely impacted the lives of thousands of young Californians, but relatively little information is publicly available about the program’s magnitude or its contribution to the student composition of UC campuses. Second, the policy presents a valuable case study that can be employed to analyze the value of a UC degree. By comparing the long-run outcomes of students with GPAs just below and just above their high schools’ ELC eligibility thresholds – with only the latter group getting a substantial bump in UC admissions as a result of their ELC eligibility – the brief directly estimates the impact of UC access on the lives of ELC participants.

The brief is organized into three sections. After providing details about how ELC was centrally administered, the first section explains how the 2001-2011 ELC policy worked in practice, focusing on how ELC eligibility shifted students’ admissions and enrollment likelihoods at each UC campus. The second section links all of those UC applicants to longer-run outcomes like undergraduate degree attainment and early-career California wages and shows how ELC affected the lives of impacted students. Finally, the third section presents a statistical model that illuminates ELC’s effects on UC’s socioeconomic and geographic diversity, and then extends the model to simulate how alternative ELC policies (e.g. extending ELC’s admissions advantages to the top 6 or 8 percent of students from each high school) would be expected to shift the composition of each UC campus.

The findings presented below show that the 2001-2011 ELC policy was highly successful but somewhat incremental in magnitude. Because of ELC, about 600 new students annually enrolled at the four campuses that most actively participated in the policy: San Diego, Davis, Irvine, and Santa Barbara. Two-thirds of those students were from lower-income households, and 90 percent were from the bottom half of California high schools as ranked by SAT scores. Almost all of those students would have enrolled at less-selective public universities and colleges if not for ELC. Enrolling at those UC campuses provided striking benefits to ELC participants over the following years: their likelihood of earning a college degree within five years of graduating high school went from 45 to 75 percent, and their wages between ages 25 and 27 increased by an extraordinary $20,000 per year. In total, ELC increased the number of lower-income and underrepresented (URG)
students who enrolled at those four UC campuses by about 100 students per year, and would have had considerably larger effects had its admissions advantages been extended to more students.

In short, the evidence below shows that the 2001-2011 ELC policy substantially improved the lives of thousands of California youths, and provides important evidence of the value of University of California degrees in promoting economic mobility and growth for the state of California.

How did Eligibility in the Local Context work in practice?
The University of California implemented the Eligibility in the Local Context policy in 2001. Students at participating California high schools—which by 2003 included 96 percent of public high schools and 80 percent of private high schools—were guaranteed admission to at least one UC campus if they were in the top four percent of their class.\(^4\) Class rank was determined directly by UC; high schools submitted the top 10 percent of their students’ transcripts to UCOP’s Admissions Operations team, which calculated special ‘ELC GPAs’ using specific eligibility-relevant courses (omitting physical education and many elective courses) and informed students whose ELC GPAs satisfied the determined four percent threshold of their ELC eligibility. Below-threshold students with satisfactory grades also received letters encouraging their UC application.

While ‘ELC-eligible’ students with GPAs above their high schools’ thresholds were guaranteed admission to at least one UC campus, campuses were not coerced to admit them; each campus chose whether to provide admissions advantages to ELC-eligible students. Some campuses provided them with large admissions advantages. Figure 1 shows how UC Irvine used ELC in undergraduate admissions. The x-axis shows each student’s GPA distance from their high school’s ELC eligibility threshold that year: for example, a student with a value of -0.1 was not ELC-eligible, but would have been eligible if their GPA had been 0.1 points higher (bringing them just up to the eligibility threshold). The y-axis shows the proportion of applicants who were admitted to UC Irvine. There are three sets of dots, with light-blue trend lines through each of them below and above the threshold. The first set of dots includes all 2003-2011 applicants to UC Irvine; the other two sets restrict the sample to just applicants from the bottom half ("B50") or bottom quarter ("B25") of California high schools, ranking the schools by their high-GPA students’ average SAT scores.\(^5\)

First consider the red dots. You’ll see that as students’ GPA increases, their likelihood of admission increases; that would be true even without the ELC policy. But look at what happens when the below-threshold line hits 0: it jumps up to nearly 100 percent. In other words, ELC eligibility nearly guaranteed admission to UC Irvine; almost everyone above the threshold was admitted, whereas the admissions rate of students just below the threshold – students who would have been ELC-eligible if their GPA had been just 0.01 points higher – was only 80 percent.

Next, take a look at the B50 points. These are students from lower-opportunity high schools, so you will see that they are less likely to get in to UC Irvine than the average California applicant. But B50 ELC-eligible students are nearly guaranteed admission to UC Irvine as well, as are the ELC-eligible B25 students from the bottom quartile of California high schools. The effect for this latter group is most striking: only about half of applicants with GPAs 0.01 points below their school’s threshold were admitted to UC Irvine, compared to about 90 percent of applicants with GPAs 0.01 points above the threshold. This pattern reflects an important (and intentional) feature of the ELC policy: ELC was relatively much more impactful for students from lower-opportunity California high
schools, since applicants from those schools were less likely to be able to get into UC campuses on the basis of other merits (like high SAT scores). The third section of the brief below will show that 85 percent of ELC participants came from the bottom half of CA high schools (B50) by SAT.

Figure 2 presents comparable figures for each of the nine undergraduate UC campuses. It shows that UC’s campuses can be organized into three groups by the magnitude of the admissions advantage provided to ELC-eligible applicants just above their high schools’ eligibility thresholds:

1. **Berkeley and UCLA**: These campuses have lower admissions rates than the other campuses, and they did not provide estimable admissions advantages to barely ELC-eligible applicants. You can see this in the figures: for all three visualized applicant groups, the blue trend lines are essentially unchanged across the eligibility threshold at both campuses.

2. **San Diego, Irvine, Davis, and Santa Barbara**: These campuses all provide large admissions advantages to ELC-eligible students, and all but San Diego near-guarantee admission to all ELC-eligible applicants. Applicants from B25 high schools become 17-42 percentage points more likely to be admitted to each of these campuses if their GPAs are high enough to provide ELC eligibility.
3. **Riverside, Santa Cruz, and Merced**: These campuses admit nearly all high-GPA applicants from all California high schools, even if those students have GPAs just below their schools' ELC eligibility thresholds. As a result, even if these campuses were to provide large admissions advantages to ELC-eligible applicants, it would hardly matter; after all, nearly all of them could have gotten into each of these campuses even without the ELC policy.

Note: This figure shows the proportion of 2003-2011 freshman applicants admitted to each UC campus by GPA distance to their high school's ELC eligibility threshold for all applicants and those from the bottom half (B50) and quarter (B25) of California high schools. Points are binned averages; third-order polynomial trend lines are in blue. The estimated B50 gap at the eligibility threshold (with parenthetical standard error) is in gray.
These admissions patterns at each UC campus suggest that the primary effect of ELC eligibility on eligible applicants’ enrollment will likely be to increase enrollment at the four UC campuses that provided them large admissions advantages. Table 1 shows just that effect. The table partitions all possible postsecondary enrollment options into groups of institutions, like the CSU system and California private universities, and shows both the baseline proportion of (near-threshold) UC applicants who enroll at each group and the change in their enrollment likelihoods – estimated at the ELC eligibility threshold – caused by ELC eligibility.

The UC campuses are separated into the three groups discussed above. Berkeley and UCLA are categorized as the “Unimpacted” UC campuses: 14 percent of applicants enroll at those campuses, but ELC eligibility only shifts that proportion by a statistically-insignificant 1 percentage point. The four “Absorbing” UC campuses, on the other hand, see an enrollment increase of over 12 percentage points – from 33 to 45 percent – among ELC-eligible students.

Where would those 12 percentage points of students have otherwise enrolled? About half of them (6 percentage points) would have otherwise enrolled at the CSU system. Almost 4 percentage points of them would have otherwise gone to the three “Dispersing” UC campuses, which were unable to provide substantial admissions advantages to ELC-eligible students because of their high baseline admissions rates; ELC-eligible applicants choose to enroll at the Absorbing UC campuses instead. And most of the rest – about 2 percentage points – would have otherwise enrolled at California community colleges. ELC eligibility caused only negligible shifts in private and out-of-state enrollment and a small statistically-insignificant decline in not enrolling at any college.

In sum, these results suggest that the net effect of ELC was to shift about 12 percent of near-threshold eligible applicants from less-selective California colleges and universities into enrollment at one of the four Absorbing UC campuses. The next section turns to the question of how ELC-eligible applicants’ lives were changed by this shift in their undergraduate institution.

Table 1: Impact of ELC eligibility for barely-eligible B50 UC applicants

<table>
<thead>
<tr>
<th>Outcome</th>
<th>UC Unimp.</th>
<th>UC Abs.</th>
<th>UC Disp.</th>
<th>CSU</th>
<th>CC</th>
<th>CA Priv.</th>
<th>Non-CA</th>
<th>No Coll.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline Enroll. (%)</td>
<td>14.0</td>
<td>32.9</td>
<td>9.0</td>
<td>18.8</td>
<td>6.4</td>
<td>7.1</td>
<td>5.1</td>
<td>6.6</td>
</tr>
<tr>
<td>Change in Enroll. (%)</td>
<td>1.0</td>
<td>12.2</td>
<td>-3.6</td>
<td>-6.0</td>
<td>-1.8</td>
<td>-0.4</td>
<td>-0.2</td>
<td>-1.1</td>
</tr>
</tbody>
</table>

(St. Err.) (0.9) (1.3) (0.7) (1.0) (0.6) (0.7) (0.6) (0.7)

Note: This table shows the proportion of B50 UC applicants – that is, those from the bottom half of California high schools by SAT – just below their high schools’ eligibility thresholds who enroll at each type of postsecondary institution (categories described in the text), and the change in those enrollment shares for applicants just above the eligibility threshold. Standard errors in parentheses. See technical appendix for methodological details.
How did UC enrollment impact ELC participants in the long run?

Take a look at Figure 3 to the right. The figure visualizes the top students at a hypothetical California high school, lined up by GPA from higher to lower. It also shows the school’s ELC GPA eligibility threshold: all of the students with above-threshold GPAs are ELC-eligible, while those below the threshold are not.

Consider the pair of students with GPAs just above and just below the school’s threshold. The below-threshold student has a GPA around 4.34, which is a higher GPA than about 95 percent of other students at the high school. But that’s not quite high enough to clear the school’s eligibility threshold; the student just above it, with a GPA of about 4.36, has higher grades than 96 percent of the school’s students, and thus is classified as ELC-eligible.

One of these students is ELC-eligible, and the other isn’t, even though their high school performance was nearly identical. A single A- instead of a B+ in a single course would have been enough to make the difference. The Results Appendix shows that on average, students just above and just below their high schools’ eligibility thresholds are observably very similar to each other; for example, they have the same average SAT scores and the same socioeconomic characteristics. But as the last section showed, these students have very different college admissions experiences; the barely ELC-eligible student would be admitted to most of the UC campuses where he or she applies, whereas the barely ELC-ineligible student would be much less likely to be admitted to many UC campuses. In the end, even though they had nearly-identical high school grades, the barely-eligible student is about 12 percentage points more likely to enroll at one of the four Absorbing UC campuses than the barely-ineligible student.

This section of the topic brief links the UC applicants to educational and labor market outcomes from the National Student Clearinghouse and the CA Employment Development Department in order to ask how barely ELC-eligible students’ lives were changed by their Absorbing UC campus enrollment. It isn’t obvious that outcomes like graduate school enrollment or early-career wages would be impacted by ELC eligibility; such outcomes may hardly depend on where students go to college. The results discussed below, however, suggest that ELC-eligible students’ changed enrollment is very impactful, with UC enrollment providing them large long-run benefits.

Table 2 presents the key findings summarizing how Absorbing UC campus enrollment changes the lives of ELC-eligible students. For example, consider the top left-hand number. This number is estimated by comparing the graduation rates of the schools where barely ELC-ineligible applicants enrolled to the graduation rates of the schools where barely ELC-eligible students enrolled. As it happens, the barely ELC-eligible applicants enrolled at universities with higher average graduation rates by about 3.3 percentage points. But remember: only about 12.2 percentage points of ELC-eligible applicants switched into an Absorbing UC campus as a result of their ELC eligibility! This implies that just those applicants’ switches caused the overall average to increase by 3.3
The first row of Table 2, then, shows that ELC dramatically changed the kind of school where ELC participants enroll. On average, they were going to enroll at an institution with a five-year graduation rate of 50 percent, which is about the average rate of a CSU university; instead they enroll at an Absorbing UC campus with an average graduation rate of 77 percent. Among students from the bottom quarter of California high schools by SAT (B25) the effect was even larger; the average ELC participant ended up at a school with a higher graduation rate by almost 35 percentage points.

As a result of this enrollment change, **ELC participants became 28 percentage points more likely to earn a college degree within five years of graduating high school**. Interestingly, ELC’s effect on students’ own degree attainment is very similar to its effect on the graduation rate of the school where they enroll: ELC participants went to schools with higher graduation rates by 27 percent, and then their own likelihood of degree attainment increased by 29 percent. The next row shows that enrolling at an Absorbing UC campus also **increased students’ likelihood of enrolling in graduate school (within 7 years of graduating high school) by about 20 percentage points**, with a slightly larger effect for B25 applicants.

Finally, the last row of Table 2 shows that **ELC participants earned about $20,000 higher average annual wages** between 7 and 9 years after high school graduation (when most of them were ages 25 to 27) **as a result of enrolling at an Absorbing UC campus**. This is an impressively large increase in average wages, and highlights the value of a UC degree for ELC-eligible students.
In summary, these findings suggest that ELC provided large long-run benefits to the applicants who enrolled at San Diego, Davis, Irvine, and Santa Barbara as a result of their ELC eligibility. They also provide clear evidence of the general value of a UC degree to prospective students. The next section turns to the question of how many students enrolled at UC as a result of their ELC eligibility, as well as how ELC impacted UC’s socioeconomic composition.

What effects did ELC have on the composition of UC enrollment?

Up to this point, this brief has focused on the UC applicants near their high schools’ ELC thresholds in order to carefully estimate how ELC eligibility shifted students’ admissions, enrollments, and longer-run outcomes. This section takes a broader view of the ELC policy, estimating how ELC shifted the overall composition of UC enrollment between 2001 and 2011.

In order to better understand how ELC impacted UC enrollment, a Kapor model of admission and enrollment decisions is estimated over the population of 2010-2013 UC applicants who enrolled at public institutions in California. A complete description of the resulting statistical model is presented in the Technical Appendix. In short, the model uses UC applicant records to jointly estimate applicants’ decisions of where to go to college and universities decisions of which applicants to admit. ELC is built into the admissions component of the model, with each UC campus providing an estimated admissions advantage to ELC-eligible applicants in 2010 and 2011. Following estimation, the model can be used to conduct counterfactual policy ‘simulations’ like the elimination of ELC in order to quantify ELC’s effect on which students enroll at each campus. The model assumes that ELC did not impact enrollment at non-California institutions (as shown above) and that ELC did not impact students’ likelihood of applying to UC (as discussed in a previous brief).

Two model simulations are conducted. The first directly estimates the effects of the ELC policy on UC enrollment. It shows that there were about 600 annual ELC participants between 2001 and 2011; that is, there were about 600 Absorbing UC campus students each year who would not have enrolled at those campuses absent the ELC policy. Table 3 compares the characteristics of those students who enrolled at Absorbing UC campuses as a result of the ELC admissions policy, along with those of all freshman CA-resident Absorbing UC campus students. The bottom two rows show the proportion of students from the bottom half (B50) or quarter (B25) of California high schools, by SAT scores.

| Table 3: Characteristics of ELC participants compared to average Absorbing UC students |
|---------------------------------|-----------------|-----------------|
|                                | ELC Part. Students | All Abs. Students |
| Median Family Inc.             | $44,000          | $63,000         |
| Below-Med. Family Inc.        | 71%              | 56%             |
| URG                             | 44%              | 25%             |
| SAT Score                       | 1067             | 1205            |
| B50 HS                          | 83%              | 35%             |
| B25 HS                          | 55%              | 16%             |

Note: This table shows the simulated characteristics of the students who enrolled at Absorbing UC campuses as a result of the ELC admissions policy, along with those of all freshman CA-resident Absorbing UC campus students. The bottom two rows show the proportion of students from the bottom half (B50) or quarter (B25) of California high schools, by SAT scores.
ELC participants with the other new freshman California-resident students who enrolled at Absorbing UC campuses in 2010 and 2011. It shows that ELC participants came from families with median annual family incomes of $44,000, and that more than 70 percent came from families with incomes below the California median. As a result, the ELC participants had substantially lower median family incomes than their Absorbing UC campus peers. Almost half of ELC participants were from underrepresented groups (URG), mostly Hispanic/Latinx students.

Table 3 also shows that ELC participants had substantially lower SAT scores than their Absorbing UC peers, by about 150 points on the 1600 point scale. In fact, their SAT scores were at the 12th percentile of Absorbing UC campus SATs, suggesting that one important feature of the ELC policy was to expand UC enrollment among low-testing (but high-GPA) California high school graduates. This is in line with the final two rows of Table 3, which show that 83 percent of ELC participants were from the bottom half of California high schools (B50, ranked by SAT scores), and 55 percent were from the bottom quarter of high schools (B25). This compares with only 35 percent of Absorbing UC students coming from B50 schools, implying that ELC expanded UC access to high schools that had previously enrolled few students at UC campuses.

The second counterfactual simulation uses the Kapor model to ask a different question: how would the student composition of UC campuses have been impacted if they had provided admissions advantages to a different student percentile, instead of the top 4 percent? Counterfactual UC enrollment is simulated for hypothetical ELC policies in which each campus provides the same admissions advantage that it provided before 2012, but setting alternative ELC eligibility thresholds at each GPA percentile.

**Figure 4: Estimated effects of alternative ELC policies on Absorbing UC campuses’ enrollment**

Note: This figure shows the estimated changes in the number of lower-income and URG students enrolled at Absorbing UC campuses if ELC policies (with similar admissions advantages to pre-2012 ELC) were adopted at each percentile of applicants from each high school, from first to ninth. Lower-income is defined as having a family income below the CA median. Estimates from Kapor model of UC enrollment; see the Technical appendix for details.
Figure 4 summarizes how those policies would be expected to affect the proportion of lower-income (that is, having a family income below the California median) and URG students who enroll at the Absorbing UC campuses. It shows that the original 4-percent ELC policy had a relatively incremental effect on the number of disadvantaged students who enrolled at those campuses, increasing the number of lower-income and URG students by about 1.5 and 3 percent, respectively. Expanding ELC to a larger proportion of students, however, would have disproportionately magnified this effect, largely because high schools’ slightly lower-GPA students are even more likely to be lower-income or URG than the very top cohort of students. As a result, an ELC policy that provided the same 2001-2011 admissions advantages to the top nine percent of each high school’s graduates would be expected to increase the net number of lower-income and URG students by almost 5 and 10 percent, respectively, or about 350 students per year (each). Such a policy could actually have an even larger effect on UC’s student composition if it encouraged new applications from ELC-eligible students.

Further extensions of the Kapor model could facilitate additional simulations of alternative ELC policies, and may be discussed in future briefs.

Conclusion
This brief presents a comprehensive analysis of UC’s 2001-2011 Eligibility in the Local Context undergraduate admissions policy. The brief shows that ELC eligibility provided substantial admissions advantages at four UC campuses – San Diego, Davis, Irvine, and Santa Barbara – and led about 500 new students each year to enroll at those campuses, all of whom would have otherwise enrolled at less-selective public colleges and universities in California. Two-thirds of those students came from families with below-median California incomes, and almost half were from underrepresented groups. Almost 90 percent of them came from the bottom half of California high schools by SAT score, leading to a meaningful diversification of the student backgrounds of enrolled students at the four “Absorbing” UC campuses.

The ELC policy presents a useful case study in estimating the impact of UC enrollment on the lives of its undergraduate students. A comparison between the UC applicants who were barely ELC-ineligible and barely ELC-eligible – who were similar in every way except for the latter students’ increased admissions likelihood at the Absorbing UC campuses – shows that UC enrollment provides substantial lifelong benefits to its students (compared to the other institutions where students could have enrolled): ELC participants became almost 30 percentage points more likely to earn a college degree within five years of graduating high school, 20 percentage points more likely to enroll in graduate school in the following years, and had higher mid-20s California wages by about $20,000 per year. While it remains unclear which UC services – academic, professional, support, or otherwise – were most important in generating these benefits, these statistics provide important new evidence on the value of a UC degree, both to the individuals who earn them and to the state of California where most of them work following graduation.
Technical appendix

This technical appendix discusses three estimation methods used in the report above: (1) the method used to estimate each high school’s eligibility threshold, (2) the polynomial linear regressions used to estimate reduced-form and instrumental-variable regression discontinuity coefficients around each high school’s eligibility threshold; (3) the two-stage least-squares technique used to measure the characteristics of near-threshold ELC participants; and (4) the statistical model of UC admission used to measure the number of annual ELC participants, the impact of ELC on campuses’ student composition, and how alternatively-structured ELC policies would likely effect that composition.

1. Threshold estimation

We do not directly observe the high-school-specific ELC GPA threshold used to determine students' ELC eligibility, instead only observing the ELC eligibility status (and ELC GPA) of those students who choose to apply to at least one UC campus. Unfortunately, ELC eligibility is not perfectly characterized by high schools’ thresholds; there are student who appear both above and below their schools’ thresholds who appear incorrectly-categorized as either ELC-eligible or ELC-ineligible. The figure below visualizes two possible strategies for measuring each the ELC eligibility threshold in each school-year:

The first strategy (“Minimum Eligible Threshold”) is to set the high school threshold just below the ELC GPA of the lowest-GPA ELC-eligible student. The second strategy (“Minimum Error Threshold”) is to set the threshold at the location where the fewest possible number of students are erroneously categorized by the threshold. Of course, in the large majority of cases these two thresholds are identical, but in some high schools they diverge.

In the analysis above, we chose to implement the second threshold. Nearly all presented results look statistically and substantively similar using the first threshold instead; see Bleemer (2020). A small number of students (1.0% Type 1 Error and 1.9% Type 2 Error among those within 0.3 GPA points of their high school's estimated threshold) are misclassified by the threshold, apparently due to overriding decisions based on students' high school transcripts. In practice, these estimated thresholds yield sharp discontinuities in UC campuses’ admissions decisions, as displayed in Figure 1.

2. Regression discontinuity estimation

The first section of this topic brief presents a series of regression discontinuity model estimates of the effect of ELC eligibility on student outcomes. These estimates are produced using standard fuzzy regression discontinuity methodology. Let \( Y_{it} \) be some outcome observed for student student \( i \) who applied to the UC system in year \( t \). We estimate the local average treatment effect of ELC eligibility using a linear regression:

\[
Y_{it} = \beta ELC_i + f(GPA_i) + \delta X_{it} + \alpha_h + y_t + \epsilon_{it}
\] (1)
where $ELC_i$ indicates ELC eligibility and the $GPA_i$ running variable is the difference between an applicant’s ELC GPA and their school’s ELC eligibility threshold. $x_i$ includes gender-by-ethnicity indicators and quadratic in SAT scores to absorb spurious variation in $Y_{it}$; $a_{hi}$, and $y_{i}$ are high school and application year ($t$) fixed effects. We estimate these models stacked across all participating high schools with the error terms $\epsilon_{it}$ clustered by school-year, the level of treatment assignment.

Because the running variable $GPA_i$ is discrete, our preferred specification of this model is to include (third-order) polynomials of $GPA_i$ on either side of the eligibility threshold estimated by ordinary least squares. We obtain highly statistically- and substantially-similar estimates by local linear regression with bias-corrected clustered standard errors following Calonico, Cattaneo, and Titiunik (2014). In both cases, we restrict the sample to freshman fall California-resident UC applicants within 0.3 GPA points of the eligibility threshold, resulting in a final sample of 171,411 applicants. Because the ELC threshold is slightly fuzzy, the baseline estimates instrument $ELC_i$ with $1_{GPA_i \geq 0}$.

Finding 1 in the topic brief shows that ELC eligibility strictly impacts UC applicants by increasing their admissions likelihood at the four Absorbing UC campuses. As a result, there are four treatments at the ELC eligibility threshold: ELC-eligible students could switch into enrolling at any of those four campuses. Separate estimates of student outcomes caused by each of those treatment effects are available in the Results Appendix. However, under the further assumption that students’ outcomes are largely unimpacted by switching between the Absorbing UC campuses, which finds some support in the finding that student treatment effects rarely differ across those campuses, the effect of ELC participation (that is, enrolling at an Absorbing UC campus as a result of near-threshold ELC eligibility) can be summarized by an instrumental variable regression version of the above equation, replacing ELC eligibility with Absorbing UC campus enrollment as the endogenous variable. Those results are described in further detail in the brief’s text.

3. Complier analysis

Under the assumptions of quasi-random assignment to ELC eligibility near the eligibility threshold and a monotonicity assumption – that no student becomes less likely to enroll at a UC campus as a result of their ELC eligibility – we can characterize ELC participants using the two-stage least squares estimator of Abadie 2002. This involves replacing the endogenous variable in the equation above with an indicator for Absorbing UC campus enrollment and estimating the model for the outcome of the interaction between each fixed applicant characteristic (e.g. low-income indicator) with the Absorbing UC campus indicator. Results are presented in the text.

4. Statistical model of UC admissions and enrollment

The topic brief presents a series of results from an estimated model of UC admission and enrollment embedding the ELC policy. The model implements a version of the Kapor (2020) university decision-making model, ignoring the model’s financial aid components. Full details about the model are available in Bleemer (2020); this section provides intuition for the model’s functioning and explains how it is estimated.

The model proceeds in three steps: application, admission, and enrollment. The set of available universities are simplified into five: the Unimpacted, Absorbing, and Dispersing UC campuses, the CSU system, and the community college system. All applicants ‘apply’ to CSU and community college, but they choose which of the UC campuses to apply to. UC then conducts admissions and chooses who to admit. Finally, applicants observe their available enrollment options and choose where to enroll.

The model is primarily governed by two equations: a statement of applicant preferences over universities, and a statement of university preferences over applicants. Applicants choose where to enroll by maximizing:
where $x_{ij}$ are characteristics of student $i$ that may differ by institution $j$, $v_{ij} \sim N(0, \sigma_v^2)$ is an i.i.d. preference shock always observed by students, and $\epsilon_{ij}$ is a previously-unobserved preference shock modeled by Type I extreme value distribution. In other words, students choose at which university to enroll on the basis of their own characteristics (including school-specific characteristics like distance-to-campus) and preference shocks. Applicant characteristics also include log income, gender, ethnicity, SAT score, high school GPA, and the estimated quality of their nearest community college.

Universities in the model conduct comprehensive admission by choosing who to admit on the basis of student quality measures defined by:

$$
\pi_{ij} = z_i \beta_j^F + q_i + \mu_{ij}^{Admit}
$$

where $z_i$ are student characteristics (including all of the same characteristics as above, but excluding distance-to-campus), $q_i$ is a caliber characteristic of student $i$ unobserved by the student, and $\mu_{ij}^{Admit}$ is a normally-distributed error term. ELC eligibility and the below- and above-threshold GPA running variable are included in $z_i$. Universities are limited by an enrollment constraint, so they choose admissions thresholds $\pi_j$ and admit students with $\pi_{ij} \geq \pi_j$. Students only observe a noisy signal $s_i$ of $q_i$, with the two jointly normally-distributed with errors dependent on student socioeconomic characteristics, reflecting the fact that students do not know how universities value the non-quantitative components of their UC applications.

Finally, students choose where to apply to college and face a small cost to each application. Model estimation is conducted by simulated maximum likelihood using Quasi-Newton gradient descent. Counterfactuals are estimated by changing university admission policies and then allowing the estimated $\pi_j$ values to adjust in order to maintain unchanged enrollment at each UC campus; for example, when ELC is turned ‘off’, the Absorbing UC campuses lower their $\pi_j$ in order to admit more students through their normal comprehensive admissions process.

Results appendix

Table 4 presents a series of robustness checks and extensions of the effects of ELC on students’ educational and labor market outcomes. For each outcome and for the B50 and B25 samples, it shows the ‘reduced form’ estimate at the threshold – that is, the estimated average difference in outcomes below and above the threshold – using the main empirical specification as well as two alternative specifications, one estimated using local linear regression and the other using an alternative method for measuring each high school’s eligibility threshold. Then it shows the “Absorbing UC campus IV” estimate, which match the results presented in the topic brief’s main text. Finally, it shows the “potential outcomes” of students, or the estimated outcome levels of students who did not enroll at the Absorbing campuses (below) and those who did (above). Results are shown for a number of additional outcomes, including the number of years enrolled as an undergraduate (within the first 7 years after high school graduation), STEM degree attainment, number of years employed in California (7-9 years after graduating high school), and log wages in those years.

Table 5 further extends the presented outcome results by scaling them by students’ changes in institutional graduation rate and comparing outcomes for different subgroups of students: the B50 and B25 groups, female and male students, and URM and non-URM students. It shows that there is generally surprisingly little variation in the impact of ELC eligibility on the main presented outcomes among these groups: all of the presented subgroups become similarly more-likely to earn college degrees within five years as a result of enrolling at an Absorbing UC campus because of ELC eligibility, and all become more likely to enroll in...
graduate degrees in the following Absorbing UC campus enrollment (with somewhat larger effects for URM students). Both male and female ELC participants appear to earn substantially higher early-career earnings.

### Table 4: Impact of ELC Eligibility on Schooling and Labor Market Outcomes

<table>
<thead>
<tr>
<th></th>
<th>B50 Sample</th>
<th></th>
<th></th>
<th>B25 Sample</th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Base</td>
<td>Reduced Form</td>
<td>CCT</td>
<td>Min. GPA</td>
<td>Abs. UC IV</td>
<td>Potential Out.</td>
</tr>
<tr>
<td>Inst. Five-Year</td>
<td>3.33</td>
<td>3.05</td>
<td>3.57</td>
<td>26.78</td>
<td>49.89</td>
<td>76.68</td>
</tr>
<tr>
<td>Grad. Rate (%)</td>
<td>(0.51)</td>
<td>(0.75)</td>
<td>(0.51)</td>
<td>(3.83)</td>
<td>(3.67)</td>
<td>(1.15)</td>
</tr>
<tr>
<td>Grad. within</td>
<td>3.50</td>
<td>4.50</td>
<td>2.66</td>
<td>28.59</td>
<td>46.41</td>
<td>75.00</td>
</tr>
<tr>
<td>Five Years (%)</td>
<td>(1.20)</td>
<td>(1.59)</td>
<td>(1.19)</td>
<td>(9.92)</td>
<td>(8.27)</td>
<td>(5.82)</td>
</tr>
<tr>
<td>Number of Year Enrolled</td>
<td>(-0.08)</td>
<td>(-0.12)</td>
<td>(-0.08)</td>
<td>(-0.62)</td>
<td>(-0.93)</td>
<td>(-1.15)</td>
</tr>
<tr>
<td>STEM Degree (%)</td>
<td>(-1.75)</td>
<td>(-1.27)</td>
<td>(-1.14)</td>
<td>(-14.38)</td>
<td>(-7.72)</td>
<td>(-23.04)</td>
</tr>
<tr>
<td>Field of Study (%)</td>
<td>(2.56)</td>
<td>(2.60)</td>
<td>(2.24)</td>
<td>(20.92)</td>
<td>(25.08)</td>
<td>(46.00)</td>
</tr>
<tr>
<td>Enr. Grad. School</td>
<td>(1.75)</td>
<td>(1.37)</td>
<td>(1.24)</td>
<td>(10.20)</td>
<td>(7.73)</td>
<td>(6.65)</td>
</tr>
<tr>
<td># Early-Career</td>
<td>(0.05)</td>
<td>(0.04)</td>
<td>(0.03)</td>
<td>(0.47)</td>
<td>(2.17)</td>
<td>(2.64)</td>
</tr>
<tr>
<td>Years Employed</td>
<td>(2.356)</td>
<td>(2.254)</td>
<td>(2.254)</td>
<td>(20.34)</td>
<td>(27.351)</td>
<td>(47.692)</td>
</tr>
<tr>
<td>Average Early-Career Covered Earnings</td>
<td>(901)</td>
<td>(2.206)</td>
<td>(2.665)</td>
<td>(6.199)</td>
<td>(6.322)</td>
<td>(4.691)</td>
</tr>
<tr>
<td>Average Early-Career Covered Earnings</td>
<td>(0.10)</td>
<td>(0.08)</td>
<td>(0.06)</td>
<td>(0.76)</td>
<td>(10.04)</td>
<td>(10.81)</td>
</tr>
</tbody>
</table>

Note: Reported coefficients are the estimated change in various outcome measures for barely ELC-eligible applicants estimated by Equation 1: reduced-form 2SLS polynomial and "CCT" (_lin) local linear (Calabroic, Cattaneo, and Titunik, 2014) regression discontinuity models; reduced-form polynomial regression discontinuity model using an alternative measure of each high school's ELC threshold (just below the lowest ELC-eligible applicant's ELC GPA) polynomial models with Absorbing UC campus enrollment (Abs. UC). Standard errors in parentheses are clustered by high-school-year. Coefficients estimated for three ELC eligibility and ELC ineligibility. Early-career employment outcomes for 7-9 years after high school graduation. See Appendix Table 5 for annual specifications 6-10 years after high school graduation. Applicants from high schools with approximated ELC thresholds between 395 and 400 are omitted.

### Table 5: Impact of ELC Eligibility on Schooling and Labor Market Outcomes by Subgroup

<table>
<thead>
<tr>
<th></th>
<th>Reduced-Form Polynomial Estimates</th>
<th>Five-Year Graduation Rate IV Estimates</th>
<th>B50 Sample</th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
<td>URM</td>
<td>Non-URM</td>
<td>Female</td>
<td>Male</td>
<td>URM</td>
<td>Non-URM</td>
<td>Female</td>
<td>Male</td>
<td>URM</td>
<td>Non-URM</td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td>Inst. Five-Year</td>
<td>3.33</td>
<td>5.41</td>
<td>3.97</td>
<td>2.27</td>
<td>3.59</td>
<td>3.03</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Grad. Rate (%)</td>
<td>(0.51)</td>
<td>(0.83)</td>
<td>(0.51)</td>
<td>(0.67)</td>
<td>(0.82)</td>
<td>(0.62)</td>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grad. within</td>
<td>3.50</td>
<td>4.83</td>
<td>3.45</td>
<td>3.89</td>
<td>3.97</td>
<td>3.08</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Five Years (%)</td>
<td>(1.20)</td>
<td>(1.49)</td>
<td>(1.20)</td>
<td>(2.05)</td>
<td>(2.12)</td>
<td>(1.45)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Number of Year Enrolled</td>
<td>(-0.078)</td>
<td>(-0.092)</td>
<td>(-0.056)</td>
<td>(-1.03)</td>
<td>(-0.070)</td>
<td>(-0.024)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STEM Degree (%)</td>
<td>(1.50)</td>
<td>(1.34)</td>
<td>(1.25)</td>
<td>(1.45)</td>
<td>(1.48)</td>
<td>(0.33)</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deg. in Intended</td>
<td>2.56</td>
<td>2.76</td>
<td>1.49</td>
<td>4.09</td>
<td>3.06</td>
<td>2.19</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Field of Study (%)</td>
<td>(1.24)</td>
<td>(1.60)</td>
<td>(1.24)</td>
<td>(2.08)</td>
<td>(1.93)</td>
<td>(1.62)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td># Early-Career</td>
<td>(0.054)</td>
<td>(0.065)</td>
<td>(0.035)</td>
<td>(0.012)</td>
<td>(0.074)</td>
<td>(0.016)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Years Employed</td>
<td>(0.034)</td>
<td>(0.048)</td>
<td>(0.042)</td>
<td>(0.057)</td>
<td>(0.044)</td>
<td>(0.011)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average Early-Career</td>
<td>(2.356)</td>
<td>(2.243)</td>
<td>(2.422)</td>
<td>(2.575)</td>
<td>(704)</td>
<td>3.392</td>
<td>(728)</td>
<td>478</td>
<td>670</td>
<td>1082</td>
<td>104</td>
<td>111</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average Early-Career</td>
<td>(1.10)</td>
<td>(0.083)</td>
<td>(0.080)</td>
<td>(0.146)</td>
<td>(-0.008)</td>
<td>(0.176)</td>
<td>(0.033)</td>
<td>(0.021)</td>
<td>(0.018)</td>
<td>(0.146)</td>
<td>(0.000)</td>
<td>(0.006)</td>
<td>(0.03)</td>
<td>(0.03)</td>
</tr>
</tbody>
</table>

Note: Reported coefficients are the estimated change in various outcome measures for barely ELC-eligible applicants from the polynomial specification of Equation 1, with the IV estimates replacing the endogenous variable with applicant’s first institution’s five-year graduation rate. Sample is restricted to the bottom half (B50) of California high schools by SAT; second column is further restricted to bottom quartile (B50) of high schools, and other columns are restricted to female, male, URM, or non-URM applicants. Standard errors in parentheses are clustered by high-school-year. URM includes black, Hispanic, and Native American applicants. See the text for definition of high school SAT quantiles and the outcome variables. Applicants from high schools with approximated ELC thresholds between 395 and 400 are omitted.

Source: UC Corporate Student System, National Student Clearinghouse, and the California Employment Development Department.
Table 6 presents the estimated ‘reduced form’ effect of ELC eligibility on B50 and B25 applicants’ annual wages and log wages between 6 and 11 years after graduating high school. It shows that there is little evidence that the estimated effect of Absorbing UC campus enrollment on student outcomes declines as they grow older; even in their 30th year, it appears that having enrolled at a more-selective university continues to provide substantial relative wage benefits.

The results up to this point have assumed that the only reason that near-threshold ELC-eligible students’ outcomes shifted was a result of their Absorbing UC campus enrollment. However, it’s also possible that they switched between Absorbing UC campuses, which could also have affected their educational and labor market outcomes. I test for differences in the effect of enrolling at each of the four Absorbing UC campuses directly in Table 7, estimated by:

\[ Y_{it} = \sum_{c \in \text{Abs}} (\beta_c \cdot \text{ENR}_{ic} + f_c(GPA_i) \times \text{Dist}_{ic}) + \delta X_i + \gamma_t + \epsilon_{it} \]  

(2)

where Dist_{ic} is the distance from applicant’s home address to each Absorbing UC campus and the four endogenous enrollment indicators (ENR_{ic}) are instrumented by the interactions between ELC eligibility and distance-to-campus. The results are presented in Table 7, which shows that except for wages, there is no measurable difference between the other measured outcomes of ELC eligibility and at which of the Absorbing campuses applicants chose to enroll. This provides additional confidence that the estimates presented in the main text accurately scale the effect of ELC participation and subsequent Absorbing UC campus enrollment on student outcomes.

Table 8 broadens this analysis by relating students’ observed academic ‘merit’ – as defined by \( q_i \) or \( Q_i = z_i \beta_j + q_i \) from the model equation at the top of page 15, or as defined by SAT score and high school GPA – to their return to university selectivity. It shows that among California-resident freshman UC applicants who enroll at public California colleges and universities, there is a sharp positive return (in terms of degree attainment and wages) for enrolling at more-selective universities (as measured by graduation rate), and that that return is not strongly mediated by students’ observed ‘merit’. This provides additional evidence that the low-testing students targeted by ELC can earn large and above-average returns to UC enrollment.

Finally, Figure 5 shows two additional pieces of evidence confirming the baseline outcome findings. Panels (a) and (b) show that barely ELC-eligible students have very similar socioeconomic characteristics to barely ELC-ineligible students (summarizing those characteristics by the weighted average most-correlated with early-career wages), justifying their treatment as quasi-randomly assigned.
Panels (e) and (f) of Figure 5 show the jumps in early-career wages observed for barely ELC-eligible students. Indeed, panels (c) and (d) show that these jumps in early-career wages are substantially above-average for those institutions, assigning ‘value-added’ coefficients to each institution following Chetty et al.
And panels (g) and (h) show that the effect of ELC eligibility on wages is similar for applicants from the first and second quartiles of California high schools by SAT score, suggesting that even highly disadvantaged applicants substantially benefited from Absorbing UC campus enrollment.

Figure 5: The Effect of ELC Eligibility on Students’ Predicted and Actual Early-Career Wages

<table>
<thead>
<tr>
<th>Panel</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>Predicted Wages</td>
</tr>
<tr>
<td>(b)</td>
<td>Predicted Post-Grad. Wage</td>
</tr>
<tr>
<td>(c)</td>
<td>Wage VA</td>
</tr>
<tr>
<td>(d)</td>
<td>Log Wage VA</td>
</tr>
<tr>
<td>(e)</td>
<td>Early-Career Wages</td>
</tr>
<tr>
<td>(f)</td>
<td>Log Early-Career Wages</td>
</tr>
<tr>
<td>(g)</td>
<td>Reduced-Form by Quant.</td>
</tr>
<tr>
<td>(h)</td>
<td>IV by Quant.</td>
</tr>
</tbody>
</table>

Note: Panels (a) and (b) show the effect of ELC eligibility on applicants’ predicted wages on the basis of socioeconomic and academic characteristics, showing that there is no evidence that above-threshold students are observably more likely to have high earnings than below-threshold students irrespective of ELC eligibility. Panel (a) shows that predicted wages are smooth at the eligibility threshold; Panel (b) shows comparisons of above- and below-threshold students in the years before and after the 2001-2011 ELC policy. Panels (c) and (d) present changes in the CFSTY value-added of the institutions where students first enroll in terms of early-career wages and log wages as defined below; see the technical report (Bleemer, 2020) for details on value-added calculation. Panels (e) and (f) show the effect of ELC eligibility on early-career wages and log wages (7-9 years after graduating high school) at the eligibility threshold. Panels (g) and (h) split the sample by high school SAT quartile and show reduced-form and IV estimates of ELC eligibility on institutional graduation rate (s) and early-career earnings, omitting the third and fourth quartiles from (b). 5 indicates reduced-form estimates with $p > 0.1$ for the null hypothesis ($\beta = 0$) when estimated using a local linear model with bias-corrected and cluster-robust confidence intervals following Calonico et al. (2019) in (c) to (f). Source: UC Corporate Student System, National Student Clearinghouse, and the California Employment Development Department.

1 Zachary Bleemer is Graduate Student Analyst at UCOP and Research Associate at the Center for Studies in Higher Education at UC Berkeley, where he is a PhD candidate in Economics. Email: Zachary.Bleemer@ucop.edu.
2 Graduation: See the 2017 UC Accountability Report, figure 3.1.1. Earnings: compares 2015 wages of UC graduates from the Employment Development Department with 2015 wages of young college graduates reported in the American Community Survey; published in Douglass, John and Zachary Bleemer, 2018: Approaching a Tipping Point? A History and Prospectus of Funding for the University of California.
4 Because ELC participation was somewhat lower in the first two years of its implementation, all data presented in this topic brief cover the years 2003-2011, when the policy was implemented in full force. See http://www.ucop.edu/news/cr/factsheet.pdf for more information.
5 In particular, I assign each school-year to a quartile by the average SAT scores of UC applicants from that school who applied in that year, among students whose ELC GPAs were within 0.3 of the school’s ELC eligibility threshold.
6 Berkeley and UCLA did admit about 1,000 below-threshold B50 applicants per year, suggesting the potential for an ELC admissions advantage. Both Berkeley and UCLA implemented holistic review of undergraduate applicants for most of the sample period, and these estimates cannot rule out very small admissions advantages provided to ELC-eligible students.
7 One test of whether ELC-eligible students were characteristically different from ELC-ineligible students is to compare the characteristics of above-threshold and below-threshold applicants to those of above- and below-threshold applicants in 2012-2013, after the ELC admissions advantages ended. Difference-in-difference estimates of predicted early-career earnings (on the basis of socioeconomic and academic characteristics) among 2010-2013 UC applicants, with the same controls as in Equation 1 (see the Technical appendix) and interactions between the two differences and the running variable, among students within 0.1 GPA points of the 4th percentile threshold, yield statistically-insignificant differences of 86.44 (411) among all applicants, 160 (566) among B50 applicants, and -75.66 (706) among B25 applicants, with clustered standard errors in parentheses. I also test whether above-threshold 2003-2011 have differentially-high predicted earnings across the ELC eligibility threshold following Equation 1, and find no evidence of such: while near-threshold students have a baseline predicted wage of...
$87,477, I estimate effects of ELC eligibilit (coef/se) of 83.5/63.2 (all), -105.2/111.5 (URM), -105.2/111.5 (Q2), 61.7/121.3 (Q3), 188.1/136.3 (Q4), -200.8/218.4 (B50 male), and -376.9/151.1 (B50 female). These results all provide additional confidence that above-threshold and below-threshold students only differ on the basis of their ELC eligibility and subsequent Absorbing UC enrollment.

There is a potential concern about high schools with ELC eligibility thresholds at exactly 4.0: maybe straight-A students are qualitatively ‘better’ academically than students with slightly lower GPAs, but their grades don’t reflect it because they already have a maximal (unweighted) average. This could lead to biased estimates of the effect of ELC on above-threshold students. As a result, all applicants from high schools with measured ELC eligibility thresholds between 3.96 and 4.00 are omitted from the analysis. Moreover, I conduct Caetano (2015) tests of the potential bias at 4.0, finding noisy evidence of the opposite effect of the potential bias: 4.0 students actually appear to have lower average earnings overall (-2085, s.e. 419) and among B25 applicants (-2336, s.e. 764), implying the absence of concerning bias in the remaining GPA thresholds (though this suggests that the true effect of ELC may be underestimated in the baseline estimates).

EDD wages only include wages that are covered by California unemployment insurance, which excludes self-employment, federal employment, and out-of-state employment. Wages are winsorized above and below at 5 percent.

Graduation rates are calculated for every U.S. institution as the proportion of UC applicants who enroll at that institution who earn a college degree within five years. These graduation rates have three advantages over the graduation rates made available from public sources like IPEDS. First, they can be calculated for every institution, even community colleges that do not offer Bachelor’s degrees themselves; in that case, the graduation rate measures the proportion of applicants who end up transferring and earning a degree within five years. Second, they include students who transfer between four-year institutions and earn their degrees at the second institution, which is helpful since some ELC-eligible students may themselves choose to switch institutions before graduating. Third, they are calculated only among students ‘like’ the ELC-eligible students, in that they applied to at least one UC campus when they graduated high school; this makes the graduation rates more relevant to the sample population. The full set of institutional graduation rates is available in Bleemer (2020).

See Kapor (2020) for a more-detailed description of the Kapor model, which builds on a number of previous academic studies modeling university admissions and enrollment decisions.

In fact, this simulation is conducted in two ways: by removing ELC from the 2010-2011 years (that is, setting the Absorbing UC campuses’ ELC admissions advantage to 0) or by adding ELC to the 2012-2013 years (by allowing an Absorbing UC campus admissions advantage to students in the top four percent of their graduating high school classes in those years). The two provide very similar estimates; the reported estimates are the average between the two.

This estimate is in line with an earlier estimate of the magnitude of the 2001-2011 ELC policy from an earlier UCOP report, which showed that the average number of of annual new URM ELC students was between 231 and 432.

Family incomes are not reported by about 12 percent of UC applicants. For the purpose of this brief, those students' family incomes are predicted by linear regression on the remaining sample of applicants, on the basis of high school and Zip code fixed effects, parental occupation and education indicators, SAT scores and high school GPA, gender-ethnicity indicators, and year of application.

I estimate these counterfactuals using 2012-2013 UC applicants, since UC determined which students were in the first through ninth percentiles of their high school classes in those years (but not earlier). These counterfactuals implicitly assume that no UC campuses (except for UC Merced) provided large advantages to any specific percentile of student in those years. See Bleemer (2019).