# ONLINE APPENDIX 

# Clearing Up Transfer Admissions Standards: The Impact On Access And Outcomes 

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## APPENDIX A—REGRESSION DISCONTINUITY DESIGN

GAA eligibility is officially determined by the cumulative GPA at the time of graduation, but the application deadline for transfer students is in the spring. ${ }^{1}$ This means that it is possible that the GPA that students use when deciding to apply, and therefore the GPA that universities use when deciding who to admit, may differ from the final GPA used for GAA eligibility. We might then expect the GAA effects to be strongest for students whose GPAs are farther from the cut-off. While this limits the accuracy of using cumulative GPA as the running variable in the RDD, this additional approach may provide an additional source of information to test the effects.

The RDD identifies the local average treatment effect of admissions standards clarity and guaranteed acceptance by comparing marginally eligible and ineligible students, following other higher education studies observing discontinuities at GPA cut-offs (Mulhern 2020; Andrews 2016; Zimmerman 2014). Using a local linear regression, I estimate the impact of GAA eligibility at highly selective public four-years using:

$$
\begin{equation*}
Y_{i s t}=c_{1}+\beta_{1} \text { Eligible }_{i s t}+\beta_{2} \text { Distance }_{\text {ist }}+\beta_{3}\left(\text { Eligible }_{i s t} * \text { Distance }_{\text {ist }}\right)+\epsilon_{\text {ist }} \tag{4}
\end{equation*}
$$

where Eligible $_{\text {ist }}$ is an indicator for whether the community college graduate meets the 3.4 GPA cut-off for guaranteed admissions at highly selective public four-years. The causal effect of GAA on the outcomes of interest in transferring to and completing at highly selective public fouryears, $Y_{i s t}$, can be estimated by $\beta_{1}$. Distance ist is the running variable, the points away from meeting the 3.4 GPA threshold. The model uses optimal bandwidths following Calonico et al. (2020). The covariate balance tests in Appendix Table 4 show that there are discontinuities at the cut-off associated with gender for regional transfer and Hispanic (positive) and Asian (negative) for probability of highly selective public four-year transfer, so the regression specification will control for student characteristics.

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## APPENDIX B—ADDITIONAL FIGURES AND TABLES

## Appendix Figure 1-Screen Shot of Flagships’ Newspaper Announcement Excerpts

## A. University of Virginia

## Body

The University of Virginia will guarantee admission to students attending the state's community colleges, provided they meet a strict set of academic requirements.

The program takes effect immediately and would allow the students admission to the College of Arts and Sciences, the largest school at Virginia's flagship university.

Virginia Commonwealth University in Richmond also announced a guaranteed admission program for community college students on Wednesday.

The U.Va. program is aimed at attracting students who may have thought they wouldn't qualify for admission or couldn't afford tuition, U.Va. President John Casteen III said Wednesday.
"Two years at community college, enjoying the financial advantage of lower tuition, followed by guaranteed admission into the University of Virginia is an unbeatable combination," Virginia Community College System Chancellor Glenn DuBois said in a statement.

To qualify, community college students must complete an associate's degree within two years before their application to U.Va. and maintain a cumulative grade point average of at least 3.4. Students are required to have received a grade of C or higher in every community college course except for introductory English classes, where they must have at least a B.

Community college students who don't meet the requirements can still apply, but they're not guaranteed admission.
The students will be eligible to apply for university housing and financial aid from the school.
Source: US States News. (April 12, 2006 Wednesday). U.Va. to offer guaranteed admission program. The Associated Press State \& Local Wire.

## B. Virginia Tech

## Body

The Virginia Community College System issued the following news release:
To further help state residents gain access to higher education, Virginia Tech and the Virginia Community College System have adopted an additional guaranteed admission agreement that will facilitate the smooth transfer of students graduating from in-state community colleges to the university.

The agreement takes effect in time for the 2007-08 academic year and will be reviewed every three years in order to improve the transfer process.

In order to qualify for guaranteed admission to the summer or fall term, students must begin at and graduate from a Virginia community college and complete a transfer-oriented degree program with a cumulative grade point average (GPA) of 3.40 or higher on a four-point scale.

In addition, students must earn a grade of B or better in English, mathematics specific to the intended major, sciences with labs specific to the intended major, and social sciences. Successful portfolio review and audition are required for all fine arts and music applicants. Students must earn a grade of C or higher in each community college course applicable to the transfer-oriented associate degree program.

Source: Us Fed News. (July 24, 2007 Tuesday). Virginia’s Community Colleges Announce Broader Guaranteed Admission Agreement With Virginia Tech. Us Fed News.

## C. William \& Mary

## Body

The Virginia Community College System issued the following news release:
The College of William and Mary is the latest state college or university to guarantee admission to qualified graduates from Virginia's 23 community colleges.

William and Mary will guarantee admission to Virginia community college graduates with a grade-point-average of not less than 3.6 who complete a transfer-oriented associate's degree.
"Graduates of the Commonwealth's community colleges have made many contributions to William and Mary over the years, and we look forward to welcoming more of them to the campus. This agreement will extend our educational benefits to women and men from across the state," said William and Mary President Gene R. Nichol.
"Thomas Jefferson would be delighted," says Glenn DuBois, chancellor of the Virginia Community College System (VCCS). "Here's a clear pathway for all Virginians to pursue a tremendous education."

To qualify for guaranteed admission, students must also complete a "letter of intent" to transfer to William and Mary at least one year before transferring, but after completion of 15 credit hours at a Virginia community college. "The letter of intent will allow the community college and William and Mary to start advising students right away about their transfer program," says Monty Sullivan, vice chancellor for academic services for Virginia's community colleges.

In addition, a minimum of 45 credit hours of the transferable credits must have been earned at a VCCS institution after graduation from high school. Once the letter of intent is signed, the students should remain enrolled in their community college each semester (except for summers) until graduation. Students must also have a grade of "B" or better in Advanced Composition as well as VCCS equivalent courses that meet William and Mary's general education requirements.

VCCS students who do not meet these requirements may still apply and will be considered for admission, although admission will not be guaranteed.

The full agreement is available on the VCCS website at http://www.vccs.edu/vccsasr/agreements.htm.
Source: US States News. (June 2, 2006 Friday). College Of William And Mary To Guarantee Admission To Virginia Community College Graduates.

## Appendix Figure 2-Sensitivity Analysis

A.

Robustness for Selective Public Transfer


Notes: test for the sensitivity of the estimate for the first year after treatment
B.

C.


Figures A-C display the sensitivity analysis by constructing robust confidence sets under varying assumptions on the class of possible violations of parallel trends. The red confidence interval in A and B represent the event study coefficient for cohorts graduating in 2008 and 2010, respectively, after the GAA policy. The remaining blue confidence intervals represent potential different values of M .

## A. Public Four-Year Transfer



## C. Regional Transfer



## B. Public Four-Year Graduation



## D. Highly Selective Public Transfer



Notes: These figures plot the total number of community college graduates who transferred to (or completed at) different institution types by college cohort and GPA group. Figure A's dependent variable is the number transferring to all public 4-year institutions. Figure B's outcome is the total number of graduates from public fouryear institutions. Figure C displays the number transferring to regional colleges. Figure D displays the number transferring to highly selective public four-year institutions.


Notes: This figure plots the ratio of transfer to non-transfer junior students enrolling in each of the highly selective institutions by cohort. For example, 2004 plots the ratio of community college graduates transferring to a highly selective public against those who enrolled as freshmen and became juniors in 2004 at the same institution.

## A: Predictors of GPA at a Highly Selective Public Four-Year



## B: Predictors of BA Completion at a Highly Selective Public Four-Year



Notes: A and B show pairwise correlations between the variables on the Y axis and GPA at the highly selective public institution (A) and ever completing a bachelor's degree there (B). The sample is restricted to community college graduates without missing SAT data.

## Appendix Figure 6-GPA Distributions by Cohort



Notes: The distributions of GPA ranging from 2.0 to 4.0 are displayed for students in the graduating cohorts 2005, 2007, 2009, and 2011

## Appendix Figure 7-McCrary Tests for the Cut-Offs, Pre- and Post-GAA



Notes: The density of observations along the cumulative GPA distribution between 3.3 to 3.5 are displayed for the pre-policy graduating cohorts (2004-2006) in blue and post-policy graduating cohorts (after 2007) in red.

Appendix Table 1-Transfer Characteristics at Baseline (2004-2006)

|  | Transfer Anywhere (1) | Transfer to Public Four-year (2) | Transfer to <br> Regional (3) | Transfer to H.S.P (4) | Transfer \& Complete at H.S.P (5) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Panel A: Student Characteristics |  |  |  |  |  |
| Female | 0.601 | 0.576 | 0.606 | 0.453 | 0.448 |
| Black | 0.124 | 0.119 | 0.132 | 0.057 | 0.044 |
| Hispanic | 0.046 | 0.050 | 0.054 | 0.033 | 0.036 |
| Asian | 0.080 | 0.089 | 0.095 | 0.081 | 0.095 |
| Other Race | 0.008 | 0.008 | 0.010 | 0.003 | 0.001 |
| Age by AA Graduation | 24.63 | 24.32 | 24.95 | 22.99 | 22.49 |
| Citizen by the Time Started College | 0.992 | 0.992 | 0.992 | 0.988 | 0.987 |
| Had a Pell Grant during CC | 0.261 | 0.251 | 0.251 | 0.260 | 0.244 |
| Dependent | 0.213 | 0.213 | 0.190 | 0.277 | 0.291 |
| Maximum Expected Family Contribution | 0.167 | 0.155 | 0.154 | 0.175 | 0.155 |
| Community College GPA by AA Graduation | 3.201 | 3.207 | 3.145 | 3.513 | 3.578 |
| College Debt from Four-Year | 9562 | 9054 | 8579 | 10062 | 9058 |
| Panel B: Transfer Outcomes |  |  |  |  |  |
| Miles between Community College and Public 4-yr | 43.57 | 43.23 | 37.29 | 95.55 | 95.49 |
| Ever earned BA from any 4-yr | 0.865 | 0.879 | 0.785 | 0.901 | 1 |
| Earned BA from Public 4-yr within 3 Years of AA | 0.529 | 0.620 | 0.537 | 0.696 | 1 |
| Earned BA from Flagship 4-yr within 3 Years of AA | 0.064 | 0.075 | 0.001 | 0.682 | 1 |
| Earned BA from Regional 4-yr within 3 Years of AA | 0.382 | 0.447 | 0.509 | 0.012 | 0 |
| N | 11080 | 9454 | 8269 | 1024 | 698 |

Notes: This table presents mean values for each of the samples labeled in columns 1-5. H.S.P. stands for highly selective public four-year institution. The sample includes community college graduates from cohorts 2004-2006.

|  | $(1)$ | $(2)$ | $(3)$ |
| :--- | :---: | :---: | :---: |
|  |  |  |  |
| Eligible x Post | $0.041^{* *}$ | $0.031^{* *}$ | 0.017 |
|  | $(0.017)$ | $(0.013)$ | $(0.013)$ |
| Observations |  |  |  |
| R-squared | 58449 | 58448 | 29826 |
| Baseline Mean | 0.034 | 0.100 | 0.089 |
| Percent Change | 0.522 | 0.522 | 0.522 |
| Cohort FE | 0.078 | 0.060 | 0.033 |
| School FE | YES | YES | YES |
| Controls | YES | YES | YES |
| 3 Cohorts Pre/Post | NO | YES | YES |

Notes: Columns 1-3 report the average effects of eligibility for guaranteed admissions at selective public four-year colleges on ever completing a bachelor's degree at a public four-year institution in Virginia. An indicator for whether the student ever earned a B.A. from a public four-year is regressed on an interaction of a treatment variable and indicator for pre- or post-GAA (2007), treatment (which is the share of highly selective publics the student is eligible for based on GPA: $0,2 / 3$, or 1 ), school fixed effects, cohort fixed effects, and student characteristics: race, Pell, gender, age, age-squared, citizenship, and grade point average. Heteroskedasticity robust standard errors clustered by GPA are in parentheses. The sample is community college graduates with a 2.8-3.9 GPA. ${ }^{* * *} \mathrm{p}<0.01, * * \mathrm{p}<0.05, * \mathrm{p}<0.1$.

## Appendix Table 3-Triple-Differences Effects On Transfer And Completion Rates

|  | Transfer to Highly Selective Public (1) | BA at Highly Selective Public within 3 years of AA (2) | BA at Any Public <br> Four-Year within 3 years of AA (3) | Debt at Four-Year (4) |
| :---: | :---: | :---: | :---: | :---: |
| Panel A: Pre-GAA Transfer Rates |  |  |  |  |
| Eligible x Post x Transfer | $\begin{gathered} 0.113 \\ (0.200) \end{gathered}$ | $\begin{gathered} -0.018 \\ (0.168) \end{gathered}$ | $\begin{gathered} 0.290 \\ (0.234) \end{gathered}$ | $\begin{gathered} -16,157.954 * * \\ (7,322.534) \end{gathered}$ |
| Panel B: Distance to Closest Highly Selective Public |  |  |  |  |
| Eligible x Post x Close | $\begin{gathered} 0.146 \\ (0.099) \end{gathered}$ | $\begin{gathered} 0.062 \\ (0.081) \end{gathered}$ | $\begin{gathered} 0.069 \\ (0.106) \end{gathered}$ | $\begin{gathered} -4,716.299 \\ (3,147.171) \end{gathered}$ |
| Panel C: Average Distance to All of the Highly Selective Publics |  |  |  |  |
| Eligible x Post x Distance | $\begin{gathered} 0.004 \\ (0.020) \end{gathered}$ | $\begin{aligned} & -0.001 \\ & (0.017) \end{aligned}$ | $\begin{gathered} 0.028 \\ (0.026) \end{gathered}$ | $\begin{gathered} -1,489.503 * \\ (774.635) \end{gathered}$ |
| Observations | 58448 | 58448 | 58448 | 58448 |

Notes: Columns 1-4 report the average effects of eligibility for GAAs on dependent variables specified in each of the columns. These dependent variables are regressed on an interaction of the variable specified in each panel, a treatment variable, and indicator for whether the student graduates after the GAAs are available; an interaction of the variable specified in each panel and a treatment variable; a treatment variable, interaction of eligibility indicator and post; an interaction of the variable specified in each panel and post, eligibility based on GPA, school fixed effects, graduating cohort fixed effects, and a vector of controls for student characteristics. The treatment variable is the share of highly selective publics the student is eligible for based on GPA $(0,2 / 3$, or 1$)$ and the post indicator is graduating on or after 2007. In Panel A, the third interaction term is the pre-2007 (baseline) transfer rate at the community college. Panel B's third interaction term is the log distance to the closest highly selective public college. Panel C's third interaction term is the average distance to all of the Highly selective Public colleges. Heteroskedasticity robust standard errors are clustered by cumulative community college GPA by the year of graduation are in parentheses. *** $\mathrm{p}<0.01$, ** $\mathrm{p}<0.05$, * $\mathrm{p}<0.1$.

Appendix Table 4 - Covariate Balance Test

| VARIABLES | Female <br> $(1)$ | Black <br> $(2)$ | Hispanic <br> $(3)$ | Asian <br> $(4)$ | Age <br> $(5)$ | Pell <br> $(6)$ | Citizen <br> $(7)$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |
| GAA Eligible | -0.009 | -0.008 | $0.026^{* *}$ | $-0.020^{*}$ | 0.090 | 0.024 | $0.028^{* *}$ |
|  | $(0.022)$ | $(0.015)$ | $(0.011)$ | $(0.012)$ | $(0.412)$ | $(0.022)$ | $(0.012)$ |
| Observations | 8568 | 8568 | 8568 | 8568 | 8568 | 8568 | 8568 |
|  |  |  |  |  |  |  |  |

Notes: The table above shows regression discontinuity coefficients from equation (4) using each of these demographic groups as the dependent variable. Each column reports these results by gender, racial group, age, pell grant recipient status, and U.S. citizenship status. Each coefficient is generated by local linear regression using a bandwidth $+/-0.2$ GPA points from the GPA eligibility cutoff. The sample consists of the 2008-2011 community college cohorts. Heteroskedasticity robust standard errors clustered at cumulative community college GPA are in parentheses. *** $\mathrm{p}<0.01$, ** $\mathrm{p}<0.05$, * $\mathrm{p}<0.1$.

Appendix Table 5-REGRESSION Discontinuity Estimates

|  | Main | Controls | All Post <br> Cohorts <br> $(3)$ | BW=0.1 | BW=0.3 | Donut <br> RD <br> $(6)$ | Pre- <br> Period <br> $(7)$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (1) | $(2)$ |  | $(5)$ | $(5)$ |  |  |  |
| GAA Eligible | 0.012 | 0.012 | 0.010 | 0.009 | 0.014 | 0.042 | -0.017 |
|  | $(0.013)$ | $(0.012)$ | $(0.008)$ | $(0.018)$ | $(0.010)$ | $(0.048)$ | $(0.017)$ |
| Observations | 8568 | 8568 | 18668 | 4320 | 12599 | 4248 | 3994 |
| Cohort FE | YES | YES | YES | YES | YES | YES | YES |
| Controls |  | YES | YES | YES | YES | YES | YES |
| All cohorts |  |  | YES |  |  |  |  |

Notes: The table above shows regression discontinuity coefficients from equation (4). The dependent variable is defined as ever transferring to a highly selective public four-year college. Each coefficient is generated by local linear regression using a bandwidth $+/-0.2$ GPA points from the GPA eligibility cutoff in columns $1-3$. Columns 4 and 5 report coefficients using bandwidths of 0.1 and 0.3 , respectively. Column 6 omits the observations directly above and below the 3.4 GPA cut-off. The sample consists of the 2008-2011 community college cohorts, with the exception of column 7, which reports results for cohorts in 2004-2006. Heteroskedasticity robust standard errors clustered at cumulative community college GPA and are in parentheses.

Appendix Table 6-Effect of GAA on Transfer and Completion for Exiting Cohorts

|  | Ever Transferred |  |  | Completed within 3 Years |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (1) | (2) | (3) | (4) | (5) | (6) |
| Panel A: Selective Public Four-Year Eligible x Post | $\begin{gathered} 0.006 * * * \\ (0.002) \end{gathered}$ | $\begin{gathered} 0.009^{*} * * \\ (0.002) \end{gathered}$ | $\begin{gathered} 0.006^{* *} \\ (0.002) \end{gathered}$ | $\begin{gathered} 0.006 * * \\ (0.002) \end{gathered}$ | $\begin{gathered} 0.008 * * * \\ (0.002) \end{gathered}$ | $\begin{gathered} 0.005 * * \\ (0.002) \end{gathered}$ |
| R-squared <br> Baseline Mean <br> Percent Change | $\begin{aligned} & 0.017 \\ & 0.029 \\ & 0.222 \end{aligned}$ | $\begin{aligned} & 0.037 \\ & 0.029 \\ & 0.323 \end{aligned}$ | $\begin{aligned} & 0.037 \\ & 0.029 \\ & 0.205 \end{aligned}$ | $\begin{aligned} & 0.015 \\ & 0.026 \\ & 0.215 \end{aligned}$ | $\begin{aligned} & 0.034 \\ & 0.026 \\ & 0.315 \end{aligned}$ | $\begin{aligned} & 0.034 \\ & 0.026 \\ & 0.207 \end{aligned}$ |
| Panel B: Regional Public Four-Year Eligible x Post | $\begin{aligned} & -0.025^{*} \\ & (0.014) \end{aligned}$ | $\begin{gathered} -0.014 \\ (0.012) \end{gathered}$ | $\begin{aligned} & -0.015 \\ & (0.009) \end{aligned}$ | $\begin{aligned} & -0.010^{*} \\ & (0.006) \end{aligned}$ | $\begin{aligned} & -0.003 \\ & (0.004) \end{aligned}$ | $\begin{aligned} & -0.004 \\ & (0.004) \end{aligned}$ |
| R-squared <br> Baseline Mean <br> Percent Change | $\begin{gathered} 0.039 \\ 0.137 \\ -0.180 \end{gathered}$ | $\begin{gathered} 0.087 \\ 0.137 \\ -0.099 \end{gathered}$ | $\begin{gathered} 0.081 \\ 0.137 \\ -0.112 \end{gathered}$ | $\begin{gathered} 0.026 \\ 0.072 \\ -0.144 \end{gathered}$ | $\begin{gathered} 0.059 \\ 0.072 \\ -0.047 \end{gathered}$ | $\begin{gathered} 0.052 \\ 0.072 \\ -0.062 \end{gathered}$ |
| Panel C: Private Four-Year Eligible x Post | $\begin{gathered} -0.000 \\ (0.003) \end{gathered}$ | $\begin{gathered} 0.001 \\ (0.003) \end{gathered}$ | $\begin{gathered} 0.001 \\ (0.003) \end{gathered}$ | $\begin{gathered} 0.003 \\ (0.002) \end{gathered}$ | $\begin{aligned} & 0.003 * \\ & (0.002) \end{aligned}$ | $\begin{gathered} 0.004^{* *} \\ (0.002) \end{gathered}$ |
| R-squared Baseline Mean Percent Change | $\begin{gathered} 0.017 \\ 0.036 \\ -0.006 \end{gathered}$ | $\begin{aligned} & 0.020 \\ & 0.036 \\ & 0.019 \end{aligned}$ | $\begin{aligned} & 0.023 \\ & 0.036 \\ & 0.030 \end{aligned}$ | $\begin{aligned} & 0.008 \\ & 0.014 \\ & 0.186 \end{aligned}$ | $\begin{aligned} & 0.010 \\ & 0.014 \\ & 0.237 \end{aligned}$ | $\begin{aligned} & 0.011 \\ & 0.014 \\ & 0.273 \end{aligned}$ |
| Panel D: Any Public Four-Year Eligible x Post | $\begin{gathered} -0.018 \\ (0.015) \end{gathered}$ | $\begin{gathered} -0.004 \\ (0.012) \end{gathered}$ | $\begin{aligned} & -0.009 \\ & (0.010) \end{aligned}$ | $\begin{aligned} & -0.005 \\ & (0.006) \end{aligned}$ | $\begin{gathered} 0.004 \\ (0.004) \end{gathered}$ | $\begin{aligned} & -0.000 \\ & (0.004) \end{aligned}$ |
| R-squared <br> Baseline Mean <br> Percent Change | $\begin{gathered} 0.037 \\ 0.166 \\ -0.110 \end{gathered}$ | $\begin{gathered} 0.105 \\ 0.166 \\ -0.026 \end{gathered}$ | $\begin{gathered} 0.097 \\ 0.166 \\ -0.057 \end{gathered}$ | $\begin{gathered} 0.027 \\ 0.093 \\ -0.052 \end{gathered}$ | $\begin{aligned} & 0.074 \\ & 0.093 \\ & 0.047 \end{aligned}$ | $\begin{gathered} 0.066 \\ 0.093 \\ -0.000 \end{gathered}$ |
| Observations <br> Cohort FE <br> School FE <br> Controls <br> 3 Cohorts Pre/Post | $\begin{gathered} 226976 \\ \text { YES } \\ \text { YES } \\ \text { NO } \\ \text { NO } \\ \hline \end{gathered}$ | $\begin{gathered} 226976 \\ \text { YES } \\ \text { YES } \\ \text { YES } \\ \text { NO } \\ \hline \end{gathered}$ | $\begin{gathered} 124518 \\ \text { YES } \\ \text { YES } \\ \text { YES } \\ \text { YES } \\ \hline \end{gathered}$ | $\begin{gathered} 226976 \\ \text { YES } \\ \text { YES } \\ \text { NO } \\ \text { NO } \end{gathered}$ | $\begin{gathered} 226976 \\ \text { YES } \\ \text { YES } \\ \text { YES } \\ \text { NO } \\ \hline \end{gathered}$ | $\begin{gathered} 124518 \\ \text { YES } \\ \text { YES } \\ \text { YES } \\ \text { YES } \\ \hline \end{gathered}$ |

Notes: Columns 1-3 report the average effects of eligibility for guaranteed admissions at selective public four-year colleges on ever transferring, by different four-year destinations (specified by the panel). Columns 4-6 report the effects on completing a bachelor's degree within three years of earning an associate degree. Dependent variables are regressed on an interaction of a treatment variable and indicator for pre- or post-GAA (2007), treatment (which is the share of highly selective publics the student is eligible for based on GPA: $0,2 / 3$, or 1 ), school fixed effects, cohort fixed effects, and student characteristics: race, Pell, gender, age, age-squared, citizenship, and grade point average. Heteroskedasticity robust standard errors clustered by GPA are in parentheses. The sample is students exiting the community college with a 2.8-3.9 GPA. *** $\mathrm{p}<0.01,{ }^{* *} \mathrm{p}<0.05,{ }^{*} \mathrm{p}<0.1$.

Appendix Table 7-Effect of GAA on Transfer and Completion for Entering Cohorts

|  | Ever Transferred |  |  | Completed within 3 Years |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (1) | (2) | (3) | (4) | (5) | (6) |
| Panel A: Selective Public Four-Year Eligible x Post | $\begin{gathered} 0.014 * * * \\ (0.005) \end{gathered}$ | $\begin{gathered} 0.016 * * * \\ (0.005) \end{gathered}$ | $\begin{gathered} 0.013 * * * \\ (0.005) \end{gathered}$ | $\begin{gathered} 0.012 * * * \\ (0.005) \end{gathered}$ | $\begin{gathered} 0.014 * * * \\ (0.004) \end{gathered}$ | $\begin{gathered} 0.011 * * \\ (0.004) \end{gathered}$ |
| R-squared <br> Baseline Mean <br> Percent Change | $\begin{aligned} & 0.020 \\ & 0.033 \\ & 0.439 \end{aligned}$ | $\begin{aligned} & 0.043 \\ & 0.033 \\ & 0.494 \end{aligned}$ | $\begin{aligned} & 0.043 \\ & 0.033 \\ & 0.407 \end{aligned}$ | $\begin{aligned} & 0.015 \\ & 0.023 \\ & 0.537 \end{aligned}$ | $\begin{aligned} & 0.032 \\ & 0.023 \\ & 0.592 \end{aligned}$ | $\begin{aligned} & 0.030 \\ & 0.023 \\ & 0.480 \end{aligned}$ |
| Panel B: Regional Four-Year Eligible x Post | $\begin{gathered} 0.004 \\ (0.015) \end{gathered}$ | $\begin{gathered} 0.012 \\ (0.013) \end{gathered}$ | $\begin{gathered} 0.013 \\ (0.015) \end{gathered}$ | $\begin{gathered} 0.008 \\ (0.009) \end{gathered}$ | $\begin{gathered} 0.012 \\ (0.008) \end{gathered}$ | $\begin{gathered} 0.014 \\ (0.009) \end{gathered}$ |
| R-squared <br> Baseline Mean <br> Percent Change | $\begin{aligned} & 0.028 \\ & 0.231 \\ & 0.017 \end{aligned}$ | $\begin{aligned} & 0.099 \\ & 0.231 \\ & 0.052 \end{aligned}$ | $\begin{aligned} & 0.091 \\ & 0.231 \\ & 0.056 \end{aligned}$ | $\begin{aligned} & 0.020 \\ & 0.108 \\ & 0.071 \end{aligned}$ | $\begin{aligned} & 0.056 \\ & 0.108 \\ & 0.108 \end{aligned}$ | $\begin{aligned} & 0.050 \\ & 0.108 \\ & 0.130 \end{aligned}$ |
| Panel C: Private Four-Year <br> Eligible x Post | $\begin{gathered} 0.005 \\ (0.003) \end{gathered}$ | $\begin{gathered} 0.005 \\ (0.003) \end{gathered}$ | $\begin{gathered} 0.005 \\ (0.004) \end{gathered}$ | $\begin{aligned} & 0.005^{*} \\ & (0.003) \end{aligned}$ | $\begin{gathered} 0.006 * * \\ (0.003) \end{gathered}$ | $\begin{aligned} & 0.006^{*} \\ & (0.003) \end{aligned}$ |
| R-squared <br> Baseline Mean <br> Percent Change | $\begin{aligned} & 0.031 \\ & 0.074 \\ & 0.068 \end{aligned}$ | $\begin{aligned} & 0.035 \\ & 0.074 \\ & 0.068 \end{aligned}$ | $\begin{aligned} & 0.038 \\ & 0.074 \\ & 0.062 \end{aligned}$ | $\begin{aligned} & 0.014 \\ & 0.036 \\ & 0.150 \end{aligned}$ | $\begin{aligned} & 0.017 \\ & 0.036 \\ & 0.156 \end{aligned}$ | $\begin{aligned} & 0.018 \\ & 0.036 \\ & 0.162 \end{aligned}$ |
| Panel D: Any Public Four-Year <br> Eligible x Post | $\begin{gathered} 0.018 \\ (0.019) \end{gathered}$ | $\begin{aligned} & 0.028^{*} \\ & (0.016) \end{aligned}$ | $\begin{gathered} 0.026 \\ (0.019) \end{gathered}$ | $\begin{gathered} 0.020 \\ (0.013) \end{gathered}$ | $\begin{gathered} 0.025^{* *} \\ (0.011) \end{gathered}$ | $\begin{gathered} 0.025 * * \\ (0.013) \end{gathered}$ |
| R-squared <br> Baseline Mean <br> Percent Change | $\begin{aligned} & 0.028 \\ & 0.264 \\ & 0.069 \end{aligned}$ | $\begin{aligned} & 0.125 \\ & 0.264 \\ & 0.107 \end{aligned}$ | $\begin{aligned} & 0.114 \\ & 0.264 \\ & 0.100 \end{aligned}$ | $\begin{aligned} & 0.022 \\ & 0.131 \\ & 0.152 \end{aligned}$ | $\begin{aligned} & 0.074 \\ & 0.131 \\ & 0.192 \end{aligned}$ | $\begin{aligned} & 0.066 \\ & 0.131 \\ & 0.190 \end{aligned}$ |
| Observations | 154490 | 154490 | 87877 | 154490 | 154490 | 87877 |
| Cohort FE | YES | YES | YES | YES | YES | YES |
| School FE | YES | YES | YES | YES | YES | YES |
| Controls | NO | YES | YES | NO | YES | YES |
| Pre-Recession (Cohorts 2004-08) | NO | NO | YES | NO | NO | YES |

Notes: Columns 1-3 report the average effects of eligibility for guaranteed admissions at selective public four-year colleges on ever transferring, by different four-year destinations (specified by the panel). Columns 4-6 report the effects on completing a bachelor's degree within three years of earning an associate degree. Dependent variables are regressed on an interaction of a treatment variable and indicator for pre- or post-GAA (2004), treatment (which is the share of highly selective publics the student is eligible for based on GPA: $0,2 / 3$, or 1 ), school fixed effects, cohort fixed effects, and student characteristics: race, Pell, gender, age, age-squared, citizenship, and grade point average. Heteroskedasticity robust standard errors clustered by GPA are in parentheses. The sample is students entering the community college between 2004-2011 and who have earned GPAs between 2.8-3.9. ${ }^{* * *} \mathrm{p}<0.01,{ }^{* *} \mathrm{p}<0.05, * \mathrm{p}<0.1$.

## Appendix Table 8-Composition Changes For the Graduating Sample

|  | female <br> (1) | Black (2) | Hispanic (3) | Asian (4) | Race: other | age <br> (6) | Pell <br> (7) | citizen (8) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Panel A. Main Graduates Sample |  |  |  |  |  |  |  |  |
| Eligible x Post | $\begin{gathered} -0.016 \\ (0.012) \end{gathered}$ | $\begin{gathered} 0.016 * * \\ (0.008) \end{gathered}$ | $\begin{aligned} & -0.009^{*} \\ & (0.005) \end{aligned}$ | $\begin{gathered} 0.001 \\ (0.007) \end{gathered}$ | $\begin{gathered} 0.000 \\ (0.002) \end{gathered}$ | $\begin{aligned} & -0.415 \\ & (0.356) \end{aligned}$ | $\begin{gathered} -0.028 \\ (0.018) \end{gathered}$ | $\begin{gathered} -0.021 * * * \\ (0.004) \end{gathered}$ |
| Panel B. Main Graduates Sample Cohorts until 2010 |  |  |  |  |  |  |  |  |
| Eligible x Post | $\begin{aligned} & -0.006 \\ & (0.013) \end{aligned}$ | $\begin{aligned} & 0.016^{*} \\ & (0.009) \end{aligned}$ | $\begin{gathered} 0.000 \\ (0.006) \end{gathered}$ | $\begin{gathered} 0.001 \\ (0.008) \end{gathered}$ | $\begin{gathered} 0.001 \\ (0.002) \end{gathered}$ | $\begin{aligned} & -0.050 \\ & (0.340) \end{aligned}$ | $\begin{aligned} & -0.026 \\ & (0.018) \end{aligned}$ | $\begin{aligned} & -0.008 \\ & (0.005) \end{aligned}$ |
| Cohort FE | YES | YES | YES | YES | YES | YES | YES | YES |
| School FE | YES | YES | YES | YES | YES | YES | YES | YES |
| Controls | NO | NO | NO | NO | NO | NO | NO | NO |

Notes: Columns 1-8 report the effects of GAA eligibility on the composition of students using characteristics described in each header. These dependent variables are regressed on an interaction of a treatment variable and indicator for preor post-GAA (2007), treatment (which is the share of highly selective publics the student is eligible for based on GPA: $0,2 / 3$, or 1 ), school fixed effects, cohort fixed effects, and student characteristics: race, Pell, gender, age, age-squared, citizenship, and grade point average. Heteroskedasticity robust standard errors clustered by GPA are in parentheses. The sample is community college graduates with a 2.8-3.9 GPA. ${ }^{* * *} \mathrm{p}<0.01,{ }^{* *} \mathrm{p}<0.05,{ }^{*} \mathrm{p}<0.1$.

|  | 4-Year Transfer Destinations |  |  |  | Completing Within 3 Years of AA |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Highly Selective Public | Regional | Any <br> Public | Private | Highly Selective Public | Regional | Any Public | Private |
|  | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| Eligible x Post | $\begin{gathered} 0.045 * * * \\ (0.009) \end{gathered}$ | $\begin{gathered} 0.002 \\ (0.009) \end{gathered}$ | $\begin{gathered} 0.046 * * * \\ (0.012) \end{gathered}$ | $\begin{gathered} -0.025 * * * \\ (0.005) \end{gathered}$ | $\begin{gathered} 0.033 * * * \\ (0.007) \end{gathered}$ | $\begin{aligned} & 0.017 * \\ & (0.009) \end{aligned}$ | $\begin{gathered} 0.050 * * * \\ (0.013) \end{gathered}$ | $\begin{gathered} -0.007 * \\ (0.004) \end{gathered}$ |
| Observations | 95024 | 95024 | 95024 | 95024 | 95024 | 95024 | 95024 | 95024 |
| R -squared | 0.102 | 0.074 | 0.103 | 0.071 | 0.083 | 0.058 | 0.096 | 0.040 |
| Cohort FE | YES | YES | YES | YES | YES | YES | YES | YES |
| School FE | YES | YES | YES | YES | YES | YES | YES | YES |
| Controls | YES | YES | YES | YES | YES | YES | YES | YES |
| 3 Cohorts Pre/Post | NO | NO | NO | NO | NO | NO | NO | NO |

Notes: Columns 1-8 report the effects of GAA eligibility on the composition of students using characteristics described in each header. These dependent variables are regressed on an interaction of a treatment variable and indicator for preor post-GAA (2007), treatment (which is the share of highly selective publics the student is eligible for based on GPA: $0,2 / 3$, or 1 ), school fixed effects, cohort fixed effects, and student characteristics: race, Pell, gender, age, age-squared, citizenship, and grade point average. Heteroskedasticity robust standard errors clustered by GPA are in parentheses. The sample is all community college graduates between 2004-2014. *** $\mathrm{p}<0.01, * * \mathrm{p}<0.05$, * $\mathrm{p}<0.1$.


[^0]:    ${ }^{1}$ There is also a Fall deadline, but only a minority of students apply and gain transfer admissions in the Fall.

