

Appendix Material to Accompany

CROSSING THE FINISH LINE

COMPLETING COLLEGE AT AMERICA'S
PUBLIC UNIVERSITIES

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APPENDIX B

Data Collection, Cleaning, and Imputation

THIS STUDY RELIES HEAVILY on two new databases created by research staff at The Andrew W. Mellon Foundation: (1) a “Flagships Database,” and (2) a “State Systems Database.” We describe each in this appendix. We first describe the data collection process and the restrictions imposed to create as much uniformity across institutions as possible in the students included in our study (first-time, full-time freshmen and full-time transfer students of traditional college-going age). We then turn to the creation of composite variables from multiple data sources and the imputation of missing values of two key variables: family income quartile and high school GPA. Finally, we briefly discuss further restrictions imposed on the sample of students due to missing data.

The Flagships Database was assembled between September 2005 and August 2006. The core of the database is an institutional file that contains detailed demographic, academic, and financial aid data on essentially every student who entered one of 21 selective public universities in the fall of 1999 (although most universities excluded from their data students who began their studies on a part-time basis).¹ The institutional file is linked with secondary data files provided by the College Board, ACT, the National Student Clearinghouse, and the Higher Education Research Institute (HERI). Additionally, the home addresses of the students have been matched to their corresponding geographical codes (“geocodes”) and can be linked to census data down to the block level.

The State Systems Database, which covers a wider range of institutions in four states—Maryland, North Carolina, Ohio, and Virginia—was assembled between June 2006 and June 2008. This database, also on the 1999 entering cohort, includes institutional files from every public university in Maryland, North Carolina, and Ohio as well as every public and private college and university in Virginia.² Additionally, we have data on every North Carolina student who was a high school senior in 1999. These

1. A handful of students were not included, such as those who explicitly forbade the release of their educational records for research purposes (or any purpose), as well as, at one school, those who were not at least 18 years of age on the first day of classes in fall 1999.

2. The Ohio file includes only students at the main campuses of its public universities; those at branch campuses are excluded.

files are linked with secondary data files provided by the College Board and the National Student Clearinghouse, and the students' home addresses have been linked to their corresponding geocodes.

As in the case of the College and Beyond Database, the Foundation's confidentiality agreements with the universities and secondary data providers mandate that these databases be maintained with "restricted access." The next three sections focus on the Flagships Database, after which we briefly return to the State Systems Database, which is similar in construction but different in scope.

THE SELECTION OF FLAGSHIP UNIVERSITIES AND DATA COLLECTION

The flagship universities in our study were selected from among the membership of the Association of American Universities (AAU), an organization whose members are the leading research-intensive universities in the United States, both public and private. In August 2005, Nils Haselmo, then president of the AAU, sent a message to the presidents and chancellors of the member universities informing them of the Mellon Foundation's proposed study of opportunity and the related data collection effort. Shortly thereafter, William G. Bowen, then president of the Foundation, wrote to the presidents and chancellors of the 21 public universities that were selected in an effort to obtain data from a representative group based on factors such as geography, enrollment, graduation rates, and selectivity.³

Within a month of receipt of this invitation, 24 universities had agreed to participate. At their annual retreat in mid-September, the trustees of the Foundation strongly endorsed the new research agenda and proposed data collection. Around the same time, a meeting of data contacts from a handful of the participating universities was convened by the Foundation to discuss exactly which variables should be included in the data request. The final data request was submitted to the universities shortly thereafter.

Ultimately, three of the institutions declined to participate because of state laws, institutional mandates, or other policies that prohibited them from contributing the necessary data. Additionally, two of the invited par-

3. Of the 21 universities invited to participate, 5 had previously contributed data to the College and Beyond Database. Pennsylvania State University contributed data on the 1951, 1976, 1989, and 1995 cohorts; the University of Michigan–Ann Arbor and the University of North Carolina–Chapel Hill contributed data on the 1951, 1976, and 1989 cohorts; and the University of California–Los Angeles, the University of Illinois at Urbana-Champaign, and the University of Virginia contributed data on the 1995 cohort.

ticipants (the University of Texas–Austin and the University of Washington) later decided to submit only “directory information,” data on a limited set of variables that universities are explicitly permitted to release under federal law without students’ consent. Data on many of the variables missing from the two “directory information” schools were obtained by incorporating data from secondary sources (described later), but the lack of any financial aid or academic performance data forced us to exclude these schools from some parts of our analysis. Thus, the final set of universities includes 19 full participants and 2 partial participants.

With the cooperation of numerous institutional researchers, attorneys, provosts, presidents, and other administrators, we were able to complete data collection from the 21 institutions in August 2006. The resulting new database is one of a kind and serves as a testament to the commitment of the participating institutions, along with the Foundation, to a common research agenda that, we hope, will provide benefits to both the participating institutions and society at large.

THE INSTITUTIONAL FILE

The institutional data file contains information on a uniquely rich set of variables for 95,923 first-time freshmen and 29,719 transfer students at the 21 flagship universities. The data fall into three main categories: personal characteristics, which are constant across time; academic enrollment and performance measures, which were collected for every semester the student was enrolled; and financial aid data, which were collected for every year the student applied for aid and/or received it.

The personal characteristics file includes information about the students’ demographics, pre-college characteristics, and academic outcomes. Demographic variables include gender, race/ethnicity, citizenship status, country of residence or citizenship, state of residence (for purposes of calculating tuition), and home town, state, and zip code. Pre-college characteristics include SAT scores, ACT scores, name and College Board code of the student’s high school, high school rank-in-class, high school grade point average (GPA), and college credits upon arrival (e.g., from Advanced Placement courses). Additionally, data were collected on the previous institutions attended by incoming transfer students and their academic performance at those institutions, as measured by grades received and degree(s) attained. Academic outcomes variables include graduation status, graduation date, graduation honors, and final cumulative college GPA.

The academic enrollment and performance data include, for each semester, information on whether the student was enrolled, the name of the sub-unit of the university he or she attended (e.g., arts and sciences, engineering, nursing), whether the student was enrolled in an honors

program or college, the name(s) and Classification of Instructional Programs code(s) of the student's major(s) and minor(s), the number of credit hours the student attempted (and his or her corresponding full- or part-time status), the number of credit hours the student successfully completed, and whether the student was living in a residence hall. A few schools also were able to provide data on whether the student was studying abroad as well as, for students who did not live on campus, the zip code of the student's off-campus address.

The financial aid data include information from two main sources: the student's and parents' responses to the Free Application for Federal Student Aid (FAFSA) and the amounts of aid disbursed by source and type. The FAFSA responses are available only for students who applied for financial aid and include data on the student's independent or dependent status, parents' income and assets, student's income and assets, expected family contribution (EFC), student's budget (cost of attendance), and student's calculated need (budget minus EFC). Some schools also were able to provide information on the student's and parents' marital status and each parent's educational attainment from the FAFSA form. The data on aid amounts are available primarily for students who applied for aid but also for some students who did not fill out the FAFSA but received purely merit-based aid.⁴ In addition to information on the total amount of financial aid received, the following breakdowns are included: (1) grants and scholarships, loans, and work-study earnings; (2) need-based and non-need-based aid;⁵ and (3) federal, state, institutional, and private aid. Data were also collected on the amount of federal Pell Grants and Supplementary Educational Opportunity Grants the student received as a possible metric for comparisons across universities. Finally, data were collected on whether the student paid resident (in-state) or non-resident (out-of-state) tuition each year.⁶

SECONDARY DATA SOURCES

The institutional file is linked to data from four secondary sources: the College Board, ACT, the National Student Clearinghouse, and the HERI.⁷

4. The FAFSA is primarily an application for need-based aid, although it is also required for some non-need-based federal loan programs.

5. Only aid based purely on need is included in the need-based category; aid based on a mix of merit and need is included in the non-need-based category.

6. Some schools reported the resident versus non-resident tuition data by semester.

7. The organizations that provided the secondary data matched the institutional records to their records using the student's name, Social Security number,

The College Board and ACT data provide vital demographic information not available from the institutions, such as self-reported family income and parental education.⁸ For the two universities that provided only directory information (discussed earlier), we relied on the secondary data sources for essentially all of the demographic information, including race/ethnicity and gender. The College Board and ACT also provided extensive survey responses about the students' academic preparation in high school (e.g., courses taken, grades received, rank-in-class), extracurricular activities in high school, educational aspirations, and plans for college (e.g., intended major, type of college most interested in).⁹ The HERI file contains responses to a survey administered during the freshman year to students at six of the universities in our study.¹⁰ These survey data include responses to a broad range of questions regarding the student's first-year college experience.

The students' home addresses at the time they took the SAT and/or the ACT were matched to the corresponding geocodes so that students could be linked with the characteristics of the neighborhoods in which they lived during high school (and, in many cases, where they grew up). We are able to match students to census data down to the block level, although the variable of which we make the most use, median family income, is available beginning at only the block group level.

The Student Clearinghouse data allow us to track students who left the institution where they began their studies without graduating and enrolled in another institution. The Clearinghouse file contains the name and type (two- versus four-year and public versus private) of every institution the student attended after August 1, 1999, as well as the dates of

and date of birth (the College Board and ACT also employed a small number of other variables in their matching algorithm, such as high school attended and home zip code). Not all schools provided Social Security numbers; the match rates were lower, on average, for the schools that did not provide Social Security numbers than for those that did. All names and Social Security numbers were stripped from the database and destroyed after the matching was completed. One school (Rutgers) made the matches on its own in cooperation with the College Board and the Clearinghouse (ACT data were not obtained, which was not particularly problematic because most Rutgers students took the SAT) and provided de-identified data to Mellon.

8. Data on parental education are available only from the College Board; ACT does not collect this information.

9. The College Board survey, also called the Student Descriptive Questionnaire, is filled out when students take the SAT. The ACT survey is filled out when students register to take the test, which they must do at least three weeks prior to taking the test.

10. These six universities are Iowa State, Michigan, Ohio State, Stony Brook, UCLA, and UNC-Chapel Hill.

each period for which he or she was enrolled. At the time we completed the matches, the institutions that submitted enrollment data to the Clearinghouse represented 91 percent of post-secondary enrollment in the United States. The Clearinghouse data also include information on degrees received (name and type of institution granting the degree and degree title), but the coverage of the degree data is only about half that of the enrollment data.¹¹

THE DATA FROM THE FOUR STATE SYSTEMS

The State Systems Database is structured in a fashion similar to the Flags Database, with separate institutional and secondary data files for each state. The Maryland file, which includes data maintained by the University System of Maryland as well as information submitted by the individual institutions solely for this study, contains data on 10,565 freshmen and 6,824 incoming transfer students at nine public universities. The availability of data on the variables that were not incorporated in the system data varies substantially across institutions.

The North Carolina university file, which is maintained by the University of North Carolina System, contains records for 27,465 freshmen and 10,052 transfer students at 16 public universities. The North Carolina pre-college file, which is maintained by the North Carolina Education Research Data Center, contains records for 61,322 students who were high school seniors in 1999, of which 17,389 are also among the incoming freshmen in the university file. The pre-college file includes data on students' high school, race/ethnicity, gender, and standardized test scores.¹²

The Ohio file, which is maintained by the Ohio Board of Regents, contains data on 35,726 freshmen and 12,288 transfers at the main campuses of 13 public universities (branch campuses are not included).

The Virginia file, which is maintained by the State Council of Higher Education for Virginia, contains data on 34,195 freshmen and 13,043 transfer students at 42 public and private colleges and universities. Several of these institutions had incomplete data or matriculated a small number of students, so our analysis considers only a sub-set of the origi-

11. At the time we completed the matches, the institutions that submitted degree data to the Clearinghouse represented approximately half of postsecondary enrollment in the United States.

12. Scores on tests administered to eighth-graders in reading and math as well as on "end-of-course" exams administered to high school students in algebra, biology, U.S. history, and English are available for a majority of students in these data.

nal 42 institutions. (The next section of this appendix explains in detail which institutions were excluded and the effects of these exclusions on the database.)

The institutional records from all four states include data on a total of 107,951 freshmen and 42,207 transfer students (as well as the North Carolina high school seniors) and contain information on variables similar to those included in the Flagships Database. The data from Maryland, North Carolina, and Virginia were matched to the databases maintained by the College Board and the National Student Clearinghouse.¹³ The matched records obtained from these organizations are identical in structure to those described for the flagships. Staff of the Ohio Board of Regents provided us with the College Board and ACT records corresponding to the Ohio state system data (although Clearinghouse data were not available). However, these matched records were available only for Ohio residents.

THE INITIAL RESTRICTION OF THE SAMPLE

Our main data set has been restricted to include only first-time, full-time freshmen as well as full-time transfer students who first matriculated at one of the universities in our database in the fall of 1999. Some students actually started during the summer of 1999 but are included in our data because their institution considers them part of the fall entering cohort.

Thus, students in the '99 cohort who began their studies on a part-time basis were excluded. We also excluded the small number of students who appear in the demographic file but not in the enrollment file. These students either have erroneous records or dropped out so soon after enrolling that they are not captured in the enrollment data.

We also imposed an age cut-off of 24 in order to try to restrict the sample to traditional college-age (i.e., dependent) students. Students' actual dependency status is available only for students who applied for financial aid, and we did not want to restrict our sample based on this limited information. Although it is possible for students who are younger than 24 to be independent (e.g., by being married or a veteran of the armed services), the number who fall into this category is probably small.

Finally, we excluded the small number of students who were neither citizens nor permanent residents of the United States, because their socioeconomic status (SES) is difficult to measure and compare to that of their classmates due to the varied countries in which they grew up.

13. Most college-bound students in these three states take the SAT, so we did not match the institutional records to the ACT (as we did for the flagships).

APPENDIX TABLE B.1

Number of Freshmen and Transfer Students Dropped at Each Stage
of Sample Restriction and Reasons Dropped

<i>Reason Dropped</i>	<i>Flagships</i>		<i>State Systems (Total)</i>	
	<i>Freshmen</i>	<i>Transfers</i>	<i>Freshmen</i>	<i>Transfers</i>
Not Observed in Enrollment Data	457	472	156	116
Not Enrolled in Fall 1999	313	395	91	66
Part-Time in Fall 1999	3,497	3,643	8,543	10,861
Not a Citizen or Permanent Resident of the United States	1,810	1,452	1,078	874
Born before January 1, 1976	119	4,158	1,231	6,994
<i>Total Dropped</i>	<i>6,196</i>	<i>10,120</i>	<i>11,099</i>	<i>18,911</i>
	<i>State Systems by State</i>			
<i>Reason Dropped</i>	<i>Maryland</i>		<i>North Carolina</i>	
	<i>Freshmen</i>	<i>Transfers</i>	<i>Freshmen</i>	<i>Transfers</i>
Not Observed in Enrollment Data	29	84	35	10
Not Enrolled in Fall 1999	43	64	0	0
Part-Time in Fall 1999	193	1,245	2,897	2,196
Not a Citizen or Permanent Resident of the United States	75	151	238	192
Born before January 1, 1976	77	1,030	251	2,096
<i>Total Dropped</i>	<i>417</i>	<i>2,574</i>	<i>3,421</i>	<i>4,494</i>
<i>Reason Dropped</i>	<i>Ohio</i>		<i>Virginia</i>	
	<i>Freshmen</i>	<i>Transfers</i>	<i>Freshmen</i>	<i>Transfers</i>
Not Observed in Enrollment Data	92	22	0	0
Not Enrolled in Fall 1999	48	2	0	0
Part-Time in Fall 1999	2,278	3,293	3,175	4,127
Not a Citizen or Permanent Resident of the United States	211	251	554	280
Born before January 1, 1976	621	1,380	282	2,488
<i>Total Dropped</i>	<i>3,250</i>	<i>4,948</i>	<i>4,011</i>	<i>6,895</i>

Source: Flagships Database and State Systems Database.

Notes: The conditions are imposed in the order listed; the numbers would not be the same if the order were changed (e.g., if students over age 24 were dropped before part-time students were dropped rather than after). Students in the Virginia state system are not dropped based on the first two criteria due to the fact that several institutions did not report any enrollment data, and dropping based on missing enrollment data would have caused them to be dropped from the analysis.

The original Flagships Database included 95,923 freshmen and 29,719 incoming transfer students (there were also 6 students who were not identified as either freshmen or transfers, so they were excluded). After imposing the restrictions described earlier, the sample was reduced to 89,727 freshmen and 19,599 transfers. The number of students dropped at each point in the restriction of the sample is shown in Appendix Table B.1. It is important to remember that the conditions were imposed in the order listed; the numbers would not be exactly the same if the order were changed (e.g., students above age 24 were dropped before part-time students were dropped rather than after).

The age restriction clearly had a large impact on the pool of transfer students. Although this restriction proved to be useful in that it allowed us to compare freshmen to transfers who were similar to them at least in terms of age, future researchers working with these data may want to analyze the college outcomes of older transfer students due to the sizable part of the transfer pool that they comprise. Also, it should be noted that the part-time freshmen were concentrated at a small number of institutions (at the flagships, 60 percent of part-time freshmen were from two institutions), because most institutions submitted data only on their first-time, full-time freshmen (the part-time students were dropped to allow for cleaner comparisons across schools).

The State Systems Database was subjected to the same restrictions, as shown in Appendix Table B.1. In addition, we dropped schools that enrolled fewer than 200 first-time, full-time freshmen in the fall of 1999 (which led us to exclude an additional 172 freshmen in North Carolina and 989 freshmen in Virginia). For Virginia, we also dropped five schools with substantially missing or erroneous data on important variables such as graduation rates and full-time status (leading us to exclude an additional 2,001 freshmen). After imposing all of these restrictions, the remaining numbers of freshmen are 10,148 at 8 universities in Maryland, 23,872 at 15 universities in North Carolina, 32,376 at 13 universities in Ohio, and 27,194 at 28 colleges and universities in Virginia.¹⁴ Among the remaining students in Virginia, 21,786 were enrolled in the public institutions that are the focus of our study (although we also examine the private colleges and universities in Chapter 10).¹⁵

14. For the transfers file, we also dropped schools that enrolled fewer than 100 full-time transfer students in Virginia and North Carolina but did not impose this restriction in Maryland and Ohio. This minor inconsistency was the result of changes made over the course of data collection and analysis. After all restrictions were imposed, the number of remaining transfer students was 4,250 in Maryland, 5,398 in North Carolina, 7,340 in Ohio, and 4,682 in Virginia.

15. The private colleges and universities in Virginia remaining in the data are Bridgewater College, Eastern Mennonite University, Ferrum College, Hampton

CREATION OF COMPOSITE VARIABLES

In order to make the maximum use of our data, we created composite variables when we had information on the same characteristic (e.g., race/ethnicity) from multiple sources. Variables were coded as follows (note that, among the state systems, ACT data were collected only for Ohio):

- For race and gender, we first used data provided by the institution, then filled in missing values with data from the following sources (listed in the order in which we filled in the missing values): the SAT questionnaire, the ACT questionnaire, and the Advanced Placement (AP) questionnaire. In practice, the vast majority of values were from the institution, the SAT, or the ACT.
- For home state, we first used the students' address when they took the SAT or ACT, then filled in missing values with the home state provided by the institution.
- We calculated students' state residency status using primarily data provided by their institutions on whether they paid resident or non-resident tuition in their first semester or year of college. Non-resident students who paid resident tuition under a tuition reciprocity agreement were coded as in-state students. Missing values of the state residency status variable were filled in based on whether the students' home state matched the state in which their institution is located.
- For test scores, we first used the students' most recent SAT scores as provided by the College Board. We then filled in missing values using their most recent ACT scores as provided by the ACT (converted to the SAT scale using concordance tables published by the College Board). We then filled in missing values using the SAT and ACT scores provided by the institutions. The coding was done in this way to reflect our preference for the most recent scores (which is what the College Board and ACT provided us) rather than the highest score on each section (which is what many institutions use, in keeping with their admissions policies).
- High school GPA was provided by many, but not all, institutions. We filled in missing values using the imputation procedure described later.

University, Hollins University, Lynchburg College, Mary Baldwin College, Marymount University, Roanoke College, Shenandoah University, the University of Richmond, Virginia Wesleyan College, and Washington and Lee University. The public universities in Virginia, the other state systems, and the flagships are all listed in Tables 1.1 and 1.2.

- We identified students' high schools by their College Entrance Examination Board codes, first using data provided by the institution and then using data from the SAT, ACT, and AP databases.
- We calculated family income quartile using the students' family income as reported on their FAFSA. Missing values were filled in using the imputation procedure described later.
- Parental education was available from only a small number of institutions, and we filled in missing values using data first from the HERI freshmen survey and then from the SAT questionnaire (the ACT questionnaire does not include questions about parental education). Because several of the universities in our study are located in states where most students do not take the SAT, we excluded these universities from all parts of our analysis that include data on parental education.¹⁶

THE IMPUTATION OF MISSING FAMILY INCOME DATA

Our database contains a rich set of measures of students' SES, including measures of family income, parental education, and the characteristics of the neighborhoods where the students lived when they were in high school. Perhaps most central to the purposes of our study is the measurement of family income, which is important for college outcomes in terms of both its short-run impact on a family's ability to pay for college and its long-run effects on the student's academic preparation, motivation, and other factors correlated with success in college.

We were able to measure the family income of 92 percent of the first-time, full-time freshmen at the flagship universities by drawing on three sources of income data: the incomes that students' families reported when they filled out the FAFSA, the family incomes that students reported on the survey that accompanies the SAT and the ACT, and the median family income of the census block group where the students' family lived at the time the student took the SAT or ACT (usually during the junior or senior year of high school).¹⁷ The FAFSA incomes are most likely to

16. The flagship universities without sufficient parental education data are the University of Illinois at Urbana-Champaign, the University of Iowa, the University of Minnesota–Twin Cities, the University of Nebraska–Lincoln, and the University of Wisconsin–Madison. We also exclude the Ohio system from the parental education analyses for the same reason. We are able to include Iowa State due to the availability of data from the Higher Education Research Institute's freshman survey.

17. Hereafter, the median family income of the student's census block group will be referred to as "census income." According to the U.S. Census Bureau,

be accurate, because they are usually reported with the aid of parents and are subject to random audits by the federal government.¹⁸ However, FAFSA incomes are observed only for students who apply for financial aid. Thus, non-applicants are not observed, and in our data, FAFSA incomes are not observed for any students at a small number of schools that were unable or unwilling to provide these data.

We begin this section by describing the imputation procedure used at the flagship universities. We will then describe any differences in the procedures used for the state systems, which are very similar and differ at all only due to data limitations.

We based our measure of “actual” income primarily on FAFSA data from the students’ freshman year (which are based on earnings in 1998), although we also filled in missing values using the same data from the students’ sophomore year (based on earnings in 1999).¹⁹ We did this using predicted values from a linear regression of family income in the sophomore year on family income in the freshman year. This procedure was intended to capture overall changes in students’ family income from freshman to sophomore year (among those who applied for aid in both years), including inflation, nationwide economic changes, and systematic changes that resulted from having to finance a college education.

We then calculated predicted incomes in a series of steps that we will describe in the order that they were used (i.e., if a predicted income was successfully calculated in the first step, we used that prediction rather than a prediction from later steps). We first calculated imputed incomes

block groups are “geographic subdivisions of census tracts; their primary purpose is to provide a geographic summary unit for census block data. A block group must comprise a reasonably compact and contiguous cluster of census blocks. Each census tract contains a minimum of one block group and may have a maximum of nine block groups.” Census tracts are “small, relatively permanent geographic subdivisions of a county or equivalent entity. The primary purpose of census tracts is to provide a nationwide set of geographic units that have stable boundaries.” See <http://www.census.gov/geo/www/psapage.html>.

18. Although the FAFSA incomes are clearly the most accurate measure of a student’s parents’ income (as reported on their tax return) for the year for which they are reported, they are not necessarily the best measure of a family’s long-run SES. For example, a family that is able to hide a large portion of its income from the IRS will appear to have a smaller income than it actually does. Random fluctuations in true income (e.g., due to temporary leave or layoffs) might also misrepresent SES.

19. This was done mainly to accommodate income data from one institution that were available for 2000–2001 but not 1999–2000, but it was also applied to the other institutions in the interest of consistency. The correlation between incomes for these two years is 0.86.

using data on the student's expected family contribution, which is calculated by the federal government based on the data provided on the FAFSA.²⁰ Incomes were imputed as the predicted values from a linear regression of the natural logarithm of family income (as reported on the FAFSA) on the natural logarithm of EFC.²¹

We had real incomes for 55 percent of freshmen. The EFC imputation procedure added another 6 percent of students. For the remainder of students we imputed income quartiles for those for whom we had self-reported data from the HERI, SAT, or ACT surveys. First we classified the students for whom we had actual incomes into income quartiles based on the national distribution of family incomes of families with 16-year-old children.²² We then ran an ordered probit regression of the actual income quartile on dummy variables corresponding to the responses to the survey question on family income as well the natural logarithm of the median family income in the student's census block group (recall that we matched students to the census block of the address where they resided when they took the SAT or ACT).²³ The predicted values from an ordered probit regression indicate the probability that the student falls into each of the quartiles. Their imputed quartile was selected as the quartile with the maximum predicted probability. Imputed quartiles were filled in sequentially using the following combinations of predictor variables:

1. HERI self-reported income and the natural logarithm of census income
2. HERI self-reported income

20. This procedure was used only because there were three flagship universities that provided data on EFC but not family income for a substantial number of their first-year students. We applied it to all universities in the interest of consistency.

21. We used a log-log specification to improve fit. The correlation between the untransformed income and EFC measures is 0.72, whereas for the logged measured it is 0.77. In the prediction regression we dropped as outliers students with EFCs greater than \$100,000.

22. The income quartiles are taken from the national income distribution of families with 16-year-old children in the IPUMS (Integrated Public Use Microdata Series) sample of 1 percent of the 2000 Census. The incomes for the quartiles were as follows: bottom quartile, less than \$29,344 (in 1998 dollars); second quartile, \$29,344–52,053; third quartile, \$52,054–82,288; and top quartile, more than \$82,288.

23. We chose an ordered probit model because it produced a better in-sample fit than did the other models we tried, including Heckman selection models and ordinary least squares regressions. We also found that including a larger number of predictors in the equation (such as additional characteristics of the neighborhood where the student grew up) did not improve the in-sample fit.

3. SAT self-reported income and the natural logarithm of census income
4. SAT self-reported income
5. ACT self-reported income and the natural logarithm of census income
6. ACT self-reported income

The survey questions we gave preference in this list were those that had a larger number of possible responses, each of which corresponded to a smaller range of incomes and thus made the question a better predictor of income quartile. We also ran equations without census income included in order to be able to predict incomes for students for whom census income data were not available (e.g., their home address could not be matched to a census block group) but for whom self-reported incomes were available.²⁴ These students represented a minority of the sample, and we found that the prediction equation with census income excluded was almost as accurate as the prediction equation with census income included.²⁵

We generated predicted incomes for all students for whom self-reported income data were available, including both those with and without FAFSA incomes available. The predicted incomes of students for whom FAFSA incomes were available allowed us to measure the accuracy of the in-sample predictions. A cross-tabulation between FAFSA income quartile and predicted income quartile (among the 48,311 students for whom we had both measures) demonstrates the accuracy of the predictions for these students (Appendix Table B.2). If the prediction were perfect, all of the off-diagonal numbers on the table would be zero. Although this is not the case, the prediction algorithm is generally quite accurate. For example, among students in the top income quartile, 66 percent were predicted to be in the top quartile and another 33 percent were predicted to be in the third quartile. Among those in the bottom quartile, 58 percent were predicted to be in the bottom quartile and another 31 percent were predicted to be in the second quartile. In general, the predicted quartile is usually

24. Census data alone are not reliable in predicting FAFSA income, so we did not predict incomes for students for whom census income data were available but self-reported income data were not.

25. The measure of self-reported income mapped fairly closely to that of FAFSA income when quartiles were generated from both (i.e., students generally had a reasonably good sense of their parents' income). Among students for whom FAFSA income data were not available (the ones for whom we relied on predicted income data), we found that our measure of predicted income yielded higher incomes on average than did the measure of raw self-reported income. This finding suggests that students tend to underreport their family incomes (of course we cannot say whether this is deliberate) and is consistent with the literature on this issue (McPherson and Reischl, correspondence with Bowen et al., cited in Bowen, Kurzweil, and Tobin, p. 327).

APPENDIX TABLE B.2
Actual versus Predicted Income Quartiles of Freshmen, Flagships

<i>Predicted Quartile</i>	<i>Actual Quartile</i>				<i>Total</i>
	<i>Bottom</i>	<i>Second</i>	<i>Third</i>	<i>Top</i>	
Bottom	4,751	892	56	25	5,724
Second	2,593	6,266	1,812	94	10,765
Third	621	2,686	10,506	5,159	18,972
Top	287	340	1,835	10,388	12,850
<i>Total</i>	<i>8,252</i>	<i>10,184</i>	<i>14,209</i>	<i>15,666</i>	<i>48,311</i>

Source: Flagships Database.

within one quartile of the actual quartile (so high-income students are rarely predicted to be low-income and vice versa).

Such a comparison of predicted and actual incomes was obviously not possible for the students for whom FAFSA incomes were not available. A simple tabulation of predicted income quartile shows that, as one would expect, these students were predominantly high-income: 6 percent were (predicted) to be in the bottom quartile, 8 percent in the second quartile, 23 percent in the third quartile, and 64 percent in the top quartile.²⁶ Excluding students at the four institutions that did not provide FAFSA income data for any students, so that not having a FAFSA income in the data is synonymous with not applying for financial aid, the pattern is even more pronounced: 3 percent were in the (predicted) bottom quartile, 4 percent in the second quartile, 19 percent in the third quartile, and 74 percent in the top quartile. These numbers support the contention that very few low-income students at these selective universities failed to apply for financial aid (for which they would almost certainly have been eligible).

The measure of a student's family income quartile used throughout our analysis was based primarily on the FAFSA income and was then filled in with the predicted income quartile for the students for whom FAFSA incomes were not available.²⁷ Although using exclusively predicted incomes would provide a more consistent measure, we believe that using FAFSA incomes wherever possible allows for a more accurate, if marginally less consistent, measure.

26. The percentages do not add to 100 percent due to rounding.

27. The composite income measure is the FAFSA income for 60 percent and the predicted income for 40 percent of the students in our sample for whom at least one of these measures is available. Students without a real or predicted income, who make up 8 percent of our sample, are excluded from all parts of the analysis that consider family income.

We used the same procedure for transfer students (with the equations run separately from those for the freshmen), except that HERI survey data were not used because the HERI survey is given only to freshmen.

For students in the Maryland state system, several versions of the estimating equation were all found to produce very noisy results that did not line up well with actual income quartiles (likely because of the smaller number of students in the Maryland state system compared to those in the flagships and the other state systems). Predicted income quartiles for both freshmen and transfers in Maryland were taken directly from the SAT survey responses, which were matched as closely as possible to the income quartile bands.

For students in the North Carolina state system, actual family incomes were available only for financial aid applicants at the University of North Carolina–Chapel Hill, but EFCs were available for aid applicants at all institutions. We estimated the relationship between family income quartile and EFC in an ordered probit regression of income quartile on EFC and its square using data from the Virginia state system, then used the estimated parameters to predict family income quartile using the EFCs in the North Carolina data. We repeated this procedure (using the Virginia data) to estimate the relationship between income quartile and self-reported income on the SAT survey (both with and without using the natural logarithm of census income as a predictor) in order to fill in remaining missing values. We then repeated this procedure for the North Carolina transfers (using the Virginia transfers to estimate the parameters of the prediction equations).

The procedure used for freshmen and transfers in Ohio was identical to that used for the flagships, except HERI and census income data were not available for any students in that state system. The procedure used in Virginia was also similar to that used for the flagships, except EFC, HERI, and ACT data were not used. Only self-reported incomes from the SAT survey and census incomes were used to predict family income quartile in Virginia. The cross-tabulations of actual and predicted income quartiles of freshmen at each of the four state systems are shown in Appendix Table B.3. It is difficult to draw any conclusions based on the numbers for Maryland and North Carolina, where actual incomes were available only for financial aid applicants at the flagships. However, the numbers for Ohio and Virginia resemble those for the flagships in showing a reasonably good fit.

THE IMPUTATION OF MISSING HIGH SCHOOL GPA DATA

Another vitally important variable used throughout our study is high school GPA, which we find to be an incredibly powerful predictor of out-

APPENDIX TABLE B.3

Actual versus Predicted Income Quartiles of Freshmen, State Systems

<i>Maryland</i>					
<i>Predicted Quartile</i>	<i>Actual Quartile</i>				<i>Total</i>
	<i>Bottom</i>	<i>Second</i>	<i>Third</i>	<i>Top</i>	
Bottom	429	129	18	14	590
Second	167	359	111	26	663
Third	64	391	272	116	843
Top	29	156	170	190	545
<i>Total</i>	<i>689</i>	<i>1,035</i>	<i>571</i>	<i>346</i>	<i>2,641</i>
<i>North Carolina</i>					
<i>Predicted Quartile</i>	<i>Actual Quartile</i>				<i>Total</i>
	<i>Bottom</i>	<i>Second</i>	<i>Third</i>	<i>Top</i>	
Bottom	100	11	6	1	118
Second	54	119	37	2	212
Third	32	91	228	47	398
Top	15	19	72	219	325
<i>Total</i>	<i>201</i>	<i>240</i>	<i>343</i>	<i>269</i>	<i>1,053</i>
<i>Ohio</i>					
<i>Predicted Quartile</i>	<i>Actual Quartile</i>				<i>Total</i>
	<i>Bottom</i>	<i>Second</i>	<i>Third</i>	<i>Top</i>	
Bottom	1,992	436	27	16	2,471
Second	1,419	3,184	1,289	39	5,931
Third	245	1,092	5,303	2,169	8,809
Top	35	93	572	2,584	3,284
<i>Total</i>	<i>3,691</i>	<i>4,805</i>	<i>7,191</i>	<i>4,808</i>	<i>20,495</i>
<i>Virginia</i>					
<i>Predicted Quartile</i>	<i>Actual Quartile</i>				<i>Total</i>
	<i>Bottom</i>	<i>Second</i>	<i>Third</i>	<i>Top</i>	
Bottom	1,288	497	75	22	1,882
Second	452	1,529	639	98	2,718
Third	220	872	2,525	842	4,459
Top	87	211	793	3,538	4,629
<i>Total</i>	<i>2,047</i>	<i>3,109</i>	<i>4,032</i>	<i>4,500</i>	<i>13,688</i>

Source: State Systems Database.

Notes: Sample sizes are very small in Maryland and North Carolina because actual incomes are available only for financial aid applicants at the flagships in those states.

comes in college (Chapter 6). Among the flagship universities, 12 provided high school GPAs for more than 90 percent of their freshmen, 1 provided it for about half of its entering class, and another 8 did not provide this information. All told, we have actual high school GPAs for 51 percent of the freshmen in our data set. Fortunately, we were able to impute high school GPAs for an additional 41 percent of the students using self-reported information from the College Board and ACT surveys as well as data on the number of AP exams taken. We first describe the imputation procedure used for the freshmen at the flagships, then discuss any differences in the procedures used to estimate high school GPA for the transfers and the students in the state systems.

The SAT survey contained more detailed questions relating to students' academic experiences in high school than did the ACT, so for students who took the SAT and filled out the survey we imputed high school GPA as the predicted values from a linear regression of actual high school GPA on the following set of variables:

- A continuous variable indicating the number of AP exams taken by the student, as computed from data provided by the College Board (the only non-self-reported measure used to impute high school GPA).²⁸
- Dummy variables corresponding to the student's self-reported cumulative high school GPA (A+, A, A-, B+, B, B-, C+, C, C-, D+, D, E, or F). Students who did not respond to this question were excluded from the imputation procedure.
- Dummy variables corresponding to the student's self-reported high school rank (highest tenth, second tenth, second fifth, middle fifth, fourth fifth, lowest fifth, or no response).
- Dummy variables corresponding to the student's self-reported average grade (excellent, good, fair, passing, failing, or no response) in each of the following subjects: social sciences/history, natural sciences, mathematics, foreign and classical languages, English, and arts and music.
- Dummy variables corresponding to whether the student reported taking at least one AP, accelerated, or honors course in each of the subjects just listed.
- Dummy variables corresponding to the number of years the student reported taking courses (none, 0.5 year, 1 year, 2 years, 3 years, 4 years, more than 4 years, or no response) in each of the subjects just listed.

28. Data on AP exams taken were not available for one university (Rutgers), so the imputation algorithm was run separately with all variables except the number of AP exams.

Among the 31,616 freshmen with both an actual high school GPA and a predicted high school GPA from the SAT data available, the correlation between the two measures was 0.79.

We next imputed high school GPAs as the predicted values from a linear regression of actual high school GPAs on the number of AP exams taken and the following variables from the ACT survey:

- Dummy variables corresponding to the student's self-reported overall high school GPA (A- to A, B to B+, B- to B, C to B-, C- to C, D to C-, or D- to D).
- Dummy variables corresponding to the student's best estimate of his or her high school rank (top quarter, second quarter, third quarter, or fourth quarter).
- Dummy variables corresponding to the program of high school courses taken by the student (business or commercial, vocational-occupational, college preparatory, or "other or general").
- Dummy variables corresponding to the number of years of courses taken by the student (none, 0.5 year, 1 year, 1.5 years, 2 years, 2.5 years, 3 years, 3.5 years, or 4 years or more) in each of the following subjects: English, mathematics, social studies (history, civics, geography, economics), natural sciences (biology, chemistry, physics), Spanish, German, French, another foreign language, business or commercial, and vocational-occupational.
- Dummy variables corresponding to whether the student reported taking at least one AP, accelerated, or honors course in each of the following subjects: English, mathematics, social studies, natural sciences, and foreign language.

Among the 20,165 students with both an actual high school GPA and a predicted high school GPA (from the ACT data) available, the correlation between the two measures was 0.76. Combining the two measures (first using the SAT predictions, then the ACT predictions to fill in missing values) yielded a correlation between actual and imputed high school GPA of 0.80 among the 41,371 students for whom both measures were available.

For some students in the database we have an actual high school GPA but could not predict a high school GPA (due to missing SAT and ACT survey data). Although we often use a measure of high school GPA that is a combination of actual and predicted values, we sometimes use only the predicted values because they comprise the only measure that is consistent across universities. In order to increase the number of students for whom we have a predicted high school GPA, we used the actual GPAs at each university to create a "pseudo-predicted" high school GPA. This was calculated as the predicted values from a linear regression of predicted

high school GPA on actual high school GPA interacted with university dummies (in order to reflect the fact that the different high school GPA scales at each university likely lead to different relationships between actual and predicted high school GPA). As a result, both our “combined” (actual and predicted) and “adjusted” (predicted and pseudo-predicted) measures are available for the same number of students: 82,775 freshmen, or about 92 percent of the sample.

We used the same procedure to impute missing high school GPAs of the transfer students at the flagships. We also used it for freshmen and transfer students in Maryland and North Carolina and for freshmen in Virginia, with the exception that we used only SAT data. Actual high school GPAs were not available for any transfers in Virginia, so the North Carolina transfers data were used to estimate the parameters of the prediction equation, which we then used to predict high school GPAs for the Virginia transfers.

The same imputation procedure that we used for the flagships was used for freshmen and transfers in Ohio using both SAT and ACT data, with the exception that we used the parameters estimated from the equation using the flagships data to impute the Ohio high school GPAs due to the absence of any actual high school GPAs in the Ohio data. The Ohio prediction equation also included a continuous variable indicating the number of specific subject areas (out of 35 total) in which the student reported taking at least one AP, accelerated, or honors course.²⁹

The correlation coefficients between actual and predicted high school GPAs (not including the “pseudo-predicted” high school GPAs, because they are strongly correlated with actual high school GPAs by construction) are shown in Appendix Table B.4. The correlations are all in the 0.80–0.90 range with only one exception (0.73 for Maryland freshmen).

EXCLUSION OF CASES WITH MISSING DATA

The restricted sample described earlier (with missing values of family income quartile and high school GPA filled in using the imputation procedures just described) forms the core data file analyzed in our study—although other data files, such as the North Carolina high school file, are

29. A version of this variable was also used to predict high school GPA at the flagships and in the other three state systems. However, a coding error (not discovered until the conclusion of the analysis) resulted in the miscalculation of this variable at the flagships and non-Ohio state systems. This led the variable to have a coefficient very close to zero in the prediction equations, and thus the results are essentially the same as if we had omitted it from the equations entirely.

APPENDIX TABLE B.4

Correlation Coefficients between Actual and Predicted High School GPAs,
Freshmen and Transfer Students

	<i>Freshmen</i>	<i>Transfers</i>
Flagships	0.80	0.88
	41,371	2,190
Maryland System	0.73	0.84
	3,164	212
North Carolina System	0.86	0.86
	19,486	1,467
Ohio System	—	—
	0	0
Virginia System	0.89	—
	13,353	0

Source: Flagships Database and State Systems Database.

Notes: Correlation coefficients are computed using data on students for whom both actual and predicted high school GPAs are available, the number of whom appears beneath each coefficient.

also used. Throughout the study we use various subsets of this file, each of which drops students with missing values on variables used in a particular part of the analysis.

The analysis of patterns of educational attainment presented in Chapters 3 and 4 excludes students with missing data on the variables of interest (SES, race/ethnicity, and gender) as well as the control variables (state residency status, SAT/ACT scores, and high school GPA). These restrictions were made throughout (as opposed to just when absolutely necessary) so that the raw and regression-adjusted results are based on identical sets of students and thus can be compared. For the flagships, dropping students with missing values of state residency status, race/ethnicity, gender, or SAT/ACT scores excluded 2,174 freshmen, 63 percent of whom were at the two universities that provided only directory information (thus requiring us to rely on SAT/ACT survey data for almost all of the key variables, including race/ethnicity and gender). Dropping students with missing high school GPAs excluded another 5,335 freshmen. Dropping students with missing data on family income quartile excluded an additional 4,333 freshmen. Finally, dropping students with missing parental education (at the 16 flagships where information on this variable was widely available) excluded 3,978 freshmen. (Keep in mind that these numbers apply only when the restrictions are imposed in this order.)

The file used for the flagships analysis in Chapters 3 and 4 includes 73,907 out of the original 89,727 students, or about 82 percent. Missing

data were only slightly more common in the data for the four state systems. Imposing the same restrictions as earlier reduced the number of students from 88,282 to 68,700 (about 78 percent of the original data).³⁰ Although we do not believe that the dropped students at the flagships and in the state systems are a random sample of all students, exploratory analyses gave us confidence that excluding them does not significantly bias our results.³¹

A sample similar to the one described earlier is used elsewhere in the study, because the key variables are similar throughout. However, the use of additional variables (such as high school characteristics in Chapter 5 and financial aid data in Chapter 9) often requires us to exclude additional students with missing data on these variables. In situations in which we focus on a smaller number of variables, such as in the analysis of the predictive power of SAT/ACT scores and high school GPAs in Chapter 6, we include students with missing data on variables not needed for that particular analysis. Finally, we sometimes exclude entire institutions for which we do not have data on a key variable, such as college grades, as is the case for the two flagships that were able to provide only directory information. Such restrictions are noted in the main text or in notes.

30. Essentially none of the non-resident students in the Ohio system were matched to the SAT and ACT records, so we were not able to impute the high school GPA or family income quartile for these students (and recall that we do not have any actual high school GPAs from Ohio). As a result, most of our analyses exclude these students.

31. For example, we calculated graduation rates by income quartile for all students for whom data on this variable are available and obtained results qualitatively similar to those presented in Chapter 3, where we exclude students with missing values on any of the control variables.

APPENDIX C

High School Data (the National High School Database and the North Carolina High School Senior Database)

IN THIS APPENDIX to Chapter 5, we first describe the National High School Database that research staff at The Andrew W. Mellon Foundation assembled from various sources. We then describe the unusually rich data we have for the 1999 graduating cohort of high school seniors in North Carolina and the definition of the high school level variable used in Chapter 5.

DESCRIPTION OF THE NATIONAL HIGH SCHOOL DATABASE

We assembled data describing every high school in the United States from various sources. (A high school is defined as any school that listed its highest grade offered as 12th grade.) Data on the total enrollment, location, and racial composition of public schools are from the National Center for Education Statistics (NCES) Common Core of Data Public Elementary/Secondary School Universe Survey Data for 1998–1999 (the year that most of the first-time freshmen in our study were high school seniors). The same data on private schools are from the NCES Private School Universe Survey for 1999–2000. This year was chosen because the private school survey is conducted only every other year.

Data on the number of students at each high school who took the SAT, their average SAT score, and AP test-taking patterns were provided by the College Board. Similar data on ACT test-taking at each high school were provided by the ACT. (We calculate the percentage taking the SAT/ACT as the maximum of the percentage taking the SAT and the percentage taking the ACT because we do not know which students took both.) The address of each high school was matched to its corresponding census block group, which was in turn matched to the median family income in that block group in 2000 U.S. Census data.

High schools in the Common Core of Data and Private School Universe Survey are identified by an NCES code. Our Flagships Database and State Systems Database, as well as the College Board and ACT records,

identify high schools by their College Entrance Examination Board (CEEB) code. The NCES and CEEB codes were linked using a crosswalk created by researchers at the Mellon Foundation for the purposes of this study.¹

Summaries of the characteristics of high schools attended by various student populations are provided in Table 5.1.

NORTH CAROLINA HIGH SCHOOLS IN 1999

Thanks to the cooperation of the North Carolina Department of Public Instruction, the University of North Carolina System, the North Carolina Education Research Data Center, and the keepers of a number of national databases, it was possible to assemble a remarkable set of data describing the characteristics of more than 300 public high schools in North Carolina and the characteristics of the roughly 60,000 graduating seniors in 1999. The College Board contributed data on national test-taking behavior—both SAT scores and AP grades—and on family background characteristics such as family income and parental education for those students who took the SAT. (We do not have comparable family background data for other high school seniors, who amount to roughly half of the total high school population.) Data from the Common Core of Data for all U.S. high schools were used to identify the location of the schools and to obtain information on a variety of school characteristics, including size, percentage of minority students, and student-teacher ratios. School addresses were then used to match individual schools to the neighborhoods in which they are located—and thus to obtain census data on the average family income of the neighborhoods. Finally, records for individual seniors were matched with records maintained by the National Student Clearinghouse so that we could see if graduating seniors went on to college and, if so, to which college or university. Institutional records provided by public four-year colleges and universities in North Carolina allowed us to determine which matriculants graduated and how successful they were in college.

Appendix Table 5.10 contains descriptive data on the distribution of 1999 seniors among high schools in North Carolina with varying characteristics. It can be compared with Table 5.1, which contains comparable national data.

1. This crosswalk was built on previous versions of such a crosswalk provided to us by Edward Freeland and Jesse Rothstein at Princeton University as well as staff at the College Board.

As explained in the text, we assigned each high school to one of three academic levels (I, II, III) on the basis of how they scored on a combination of four measures: percentage of seniors taking the SAT, average SAT scores of the students who took the SAT, “adjusted” SAT scores for all students,² and number of Advanced Placement courses taken by students. We put schools in the Level I category if they scored well (in the top third of the distribution of high schools) on at least three out of the four measures, in Level III if they were in the bottom third of the distribution on three of the four measures, and in Level II if they did not meet the criteria for inclusion in either Level I or Level III.³ As implied by Appendix Table 5.10, this procedure placed 13,739 students in Level I schools, 32,412 students in Level II, and 14,473 students in Level III.

There is one major complication. In North Carolina, families have some opportunity to select the high school their children attend. They exercise this choice first by deciding where to live—in a district with excellent high schools or elsewhere. Then, within school districts, we are told that policies vary widely. In some districts, parents are given some choice as to which public high school within the district their child will attend. In other districts, there is less or no choice. We cannot begin to plumb the depths of this set of complications. All we can do is note the direction of bias in the results that we now report. Because there is some degree of parental choice as to the high school attended, we assume that those parents most concerned about their children’s educational future will opt, in general and to the extent that they can, for their children to go to Level I schools. So whatever evidence we find suggesting that attendance at Level I schools has a positive effect on subsequent outcomes should be understood as a “maximum” estimate, driven in part by the unobservable characteristics of the students attracted to the Level I schools.

2. “Adjusted” SAT scores are calculated by combining the actual SAT scores for those students who took the SAT (roughly half of all seniors) and predicted SAT scores for the other students based on Algebra I and English I examinations taken by students in their freshman or sophomore year of high school, which were available for almost all students.

3. More precisely, Level I schools met the following criteria on at least three of the four measures: 57–80 percent of the students took the SAT, the average SAT score among those who took the test was in the 1005–1490 range, the predicted SAT score was in the 944–1490 range, and AP tests were taken in 18–30 courses. Level III schools met the following criteria on at least three of the four measures: fewer than 46.3 percent of the students took the SAT, the average SAT score among those who took the test was below 955, the predicted SAT score was below 887, and AP tests were taken in fewer than 12 courses. Level II schools are all those that did not meet the criteria for inclusion in either Level I or Level III.

APPENDIX D

Financial Aid Data**THE DATA IN CHAPTER 8**

IN THE MAIN, the data presented in Chapter 8 are taken directly from the *Trends in College Pricing* and *Trends in Student Aid* publications of the College Board, available online at www.collegeboard.com/trends. Both publications use data from the College Board's Annual Survey of Colleges, a survey of 3,500 postsecondary institutions across the country. We supplement this information with data from the National Postsecondary Student Aid Study, a widely used federal source of student aid research. Both sources are nationally representative.

THE DATA IN CHAPTER 9

The data used in Chapter 9 come exclusively from the Flagships Database and the State Systems Database used in the rest of this volume. However, we are restricted to a subset of institutions for which we have varying degrees of detail regarding students' financial aid information. In all analyses we also restrict our sample to in-state, dependent, non-transfer students. Throughout the chapter we keep flagships and state system selectivity cluster (SEL) A institutions separate from state system SEL B institutions.

Our broadest analyses use only data on students' total grants (and, consequently, net price), which are available for 20 flagship and SEL A institutions and for 15 SEL B institutions. Information on students' total loans is available for the same flagship and SEL A institutions but not for the SEL B institutions. Instead, we use total federal loan data for the 8 SEL B institutions in Virginia and, due to inconsistencies, exclude the remaining 7 SEL B institutions. In practice, total federal loans (including both student and parent loans) approximate the total loan figure because of the importance of federal loan programs in financing millions of students' higher education; Figures 9.9a and 9.9b show this for our data.

Detailed financial aid data are available for some institutions, allowing us to perform more specific analyses. We have grant and loan data for 11 flagships by source, distinguishing between federal, state, institutional, and private aid. For 7 of these flagships, we also have information on the

type of federal loan, whether subsidized Stafford loan, unsubsidized Stafford loan, or Parent Loan for Undergraduate Students.

For our analysis of net price and graduation, we use adjusted graduation rates to control for student demographic and academic characteristics within each university. There are just two differences between these adjusted graduation rates and those used in Chapter 10: these are estimated separately by income quartile and exclude independent students (as reported in the Free Application for Federal Student Aid; we therefore assume that all independent students apply for aid).

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APPENDIX TABLE 1.1
 Characteristics of 21 Flagship Universities by Selectivity Cluster

<i>Cluster</i>	<i>University</i>	<i>Size</i>	<i>Average SAT/ACT</i>	<i>White</i>	<i>Black</i>	<i>Hispanic</i>	<i>Asian</i>	<i>Out-of-State</i>	<i>Transfers</i>
				<i>%</i>	<i>%</i>	<i>%</i>	<i>%</i>	<i>%</i>	<i>%</i>
SEL I	University of California—Berkeley	3,619	1315	31	4	9	45	10	31
	University of California—Los Angeles	4,131	1285	34	4	13	40	5	35
	University of Maryland—College Park	3,892	1240	64	14	5	13	33	36
	University of Michigan	5,515	1240	68	7	4	14	28	13
	University of North Carolina—Chapel Hill	3,390	1245	81	11	2	5	21	17
	University of Virginia	2,922	1310	76	10	3	10	30	16
SEL II	Pennsylvania State University	5,061	1205	86	5	4	5	33	5
	Rutgers, The State University of New Jersey	5,291	1180	56	9	9	21	11	19
	University of Florida	3,717	1265	70	11	12	6	5	33
	University of Illinois at Urbana-Champaign	6,466	1200	71	8	6	13	7	14
	University of Texas—Austin	6,925	1195	64	4	14	18	4	22
	University of Washington	4,622	1160	54	2	3	26	15	30
	University of Wisconsin—Madison	5,215	1220	78	3	4	6	40	17

SEL III	Iowa State University	4,032	1110	89	4	2	2	24	29
	Ohio State University	6,056	1125	81	10	2	6	13	22
	Purdue University	6,834	1100	91	4	2	3	25	12
	Stony Brook University–State University of New York	2,309	1120	36	11	9	30	3	37
	University of Iowa	3,810	1125	87	2	2	3	37	25
	University of Minnesota–Twin Cities	4,456	1125	81	4	2	10	41	29
	University of Nebraska–Lincoln	3,599	1110	92	2	2	2	15	20
	University of Oregon	2,454	1115	79	2	3	7	28	35
	Total/Average	94,316	1188	71	6	5	13	20	22

Source: College Board Annual Survey of Colleges.

Notes: “Size” indicates the number of entering full-time, first-time freshmen. For universities where more students submitted SAT scores than submitted ACT scores, “Average SAT/ACT” is calculated as the average of the 25th and 75th percentiles of the math score distribution plus the same average for the verbal score distribution. For universities where more students submitted ACT scores, “Average SAT/ACT” is calculated as the SAT-scale equivalent of the average of the 25th and 75th percentiles of the ACT composite score distribution. “Percent Transfers” is calculated as the total number of entering transfer students divided by the total number of entering students (with part-time students included in both numbers). All data describe the 1999 entering cohort except the following (with cohort year used in parentheses): all Rutgers data (2000); percent transfers at the University of California–Los Angeles (2000); percent out-of-state at Pennsylvania State University (2000); number of full-time freshmen and percent transfers at the University of Washington (2000); number of full-time freshmen, race/ethnicity breakdown, and percent transfers at the University of Wisconsin (1998, 2006, and 2000, respectively); and number of full-time freshmen and percent transfers at Stony Brook University (2000).

APPENDIX TABLE 1.2
 Characteristics of Universities in Four State Systems by Selectivity Cluster or HBCU Status

<i>State</i>	<i>Cluster</i>	<i>University</i>	<i>Size</i>	<i>Average SAT/ACT</i>	<i>% White</i>	<i>% Black</i>	<i>% Hispanic</i>	<i>% Asian</i>	<i>% Out-of-State</i>	<i>% Transfers</i>
Maryland	SEL A	University of Maryland–Baltimore County	1,400	1165	63	14	2	20	12	43
	SEL B	Frostburg State University	938	975	77	16	3	2	10	26
		Salisbury University	856	1115	88	4	1	2	23	40
	HBCU	Towson University	2,084	1070	82	9	2	3	27	46
Bowie State University		339	895	7	88	3	2	11	51	
Coppin State University		440	825	0	98	1	0	11	29	
		University of Maryland–Eastern Shore	570	965	4	89	1	1	26	14
North Carolina	SEL A	North Carolina State University	3,528	1175	84	10	2	4	11	23
	SEL B	University of North Carolina–Asheville	456	1155	92	2	2	2	16	38
		Appalachian State University	2,199	1085	94	4	1	1	13	25
	SEL B	East Carolina University	3,257	1010	80	14	2	2	21	24
		University of North Carolina–Charlotte	2,078	1030	77	15	2	5	15	42
			University of North Carolina–Greensboro	1,911	1030	73	20	1	3	13
		University of North Carolina–Pembroke	475	975	58	16	2	3	5	41
		University of North Carolina–Wilmington	1,650	1080	93	4	1	2	17	35
		Western Carolina University	1,151	990	91	6	1	1	9	26

Ohio	HBCU	Elizabeth City State University	402	805	18	81	1	0	48	20
		Fayetteville State University	799	860	7	89	2	1	16	30
		North Carolina A&T University	1,538	905	2	96	0	0	20	17
		North Carolina Central University	624	865	2	97	0	0	11	29
	Winston-Salem State University	476	945	3	96	0	0	9	28	
	SEL A	Miami University	3,586	1180	89	4	2	2	27	8
	SEL B	Bowling Green State University	3,516	1030	89	4	3	1	6	15
		Cleveland State University	1,049	910	64	20	4	3	4	52
		Kent State University	3,317	970	87	8	1	1	10	21
		Ohio University	3,436	1090	95	3	1	1	10	13
		Shawnee State University	528	890	90	3	0	1	7	25
		University of Akron	3,002	970	80	15	1	2	2	24
		University of Cincinnati	3,710	1050	78	15	1	3	0	22
		University of Toledo	2,701	1060	76	15	3	2	3	25
		Wright State University	2,132	1030	86	12	1	1	2	29
		Youngstown State University	1,933	970	84	8	2	1	9	20
	HBCU	Central State University	304	830	10	89	1	0	26	18
Virginia	SEL A	College of William and Mary	1,299	1320	86	4	3	7	44	10
		James Madison University	3,039	1170	90	4	2	5	29	17
		University of Mary Washington	812	1205	91	3	3	3	35	18
		Virginia Tech	4,653	1165	88	4	2	6	28	15
	SEL B	Christopher Newport University	693	1030	81	14	2	3	3	41
		George Mason University	2,035	1055	66	8	7	18	12	49
		Longwood University	818	1045	87	9	1	3	10	21
		Old Dominion University	1,505	1025	60	29	3	8	11	45

(continued)

APPENDIX TABLE 1.2 (Continued)

State	Cluster	University	Size	Average SAT/ACT	% White	% Black	% Hispanic	% Asian	% Out-of-State	% Transfers
Virginia		Radford University	1,655	975	89	8	2	2	15	28
		University of Virginia's College at Wise	300	995	92	5	2	1	6	35
		Virginia Commonwealth University	2,409	1020	59	25	3	10	5	35
		Virginia Military Institute	398	1135	85	5	4	6	47	7
	HBCU	Norfolk State University	1,098	815	3	95	1	1	31	18
		Virginia State University	942	805	0	98	1	0	40	15
		Total/Average	78,041	1048	75	18	2	3	15	25

Source: College Board Annual Survey of Colleges.

Notes: "Size" indicates the number of entering full-time, first-time freshmen. For universities where more students submitted SAT scores than submitted ACT scores, "Average SAT/ACT" is calculated as the average of the 25th and 75th percentiles of the math score distribution plus the same average for the verbal score distribution. For universities where more students submitted ACT scores, "Average SAT/ACT" is calculated as the SAT-scale equivalent of the average of the 25th and 75th percentiles of the ACT composite score distribution. "Percent Transfers" is calculated as the total number of entering transfer students divided by the total number of entering students (with part-time students included in both numbers). All data describe the 1999 entering cohort except the following (with cohort year used in parentheses): average SAT/ACT at Coppin State University (2000); number of full-time freshmen, race/ethnicity breakdown, and percent transfers at University of Maryland-Eastern Shore (1998, 2006, and 1998, respectively); percent out-of-state at Shawnee State University (2000); percent out-of-state at the University of Cincinnati (2006); number of full-time freshmen and percent transfers at the University of Toledo (1998); race/ethnicity breakdown at Wright State University (2000); race/ethnicity breakdown at George Mason University (2000); number of full-time freshmen, average SAT/ACT, and percent transfers at Norfolk State University (2000).

APPENDIX TABLE 3.1aSix-Year Graduation Rates by Socioeconomic Status and Selectivity Cluster,
1999 Entering Cohort, Flagships

		<i>SEL Is</i>	<i>SEL IIs</i>	<i>SEL IIIs</i>
Unadjusted	Middle SES	0.049 [0.018]**	0.070 [0.012]**	0.043 [0.024]
	High SES	0.103 [0.021]**	0.145 [0.015]**	0.135 [0.029]**
Adjusted	Middle SES	0.039 [0.013]**	0.046 [0.010]**	0.033 [0.023]
	High SES	0.086 [0.014]**	0.117 [0.013]**	0.119 [0.029]**
Observations		20,077	17,755	15,699

Source: Flagships Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. Coefficients indicate the predicted difference in graduation probability (from a probit model) between the listed group and the reference group (low-SES students), holding all control variables at their respective means. Adjusted differences control for SAT/ACT scores, high school GPA, state residency, race/ethnicity, gender, and university attended.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 3.1bSix-Year Graduation Rates by Socioeconomic Status and Selectivity Cluster,
1999 Entering Cohort, State Systems

		<i>Maryland</i>		<i>North Carolina</i>		<i>Virginia</i>	
		<i>SEL As</i>	<i>SEL Bs</i>	<i>SEL As</i>	<i>SEL Bs</i>	<i>SEL As</i>	<i>SEL Bs</i>
Unadjusted	Middle SES	0.048 [0.004]**	0.076 [0.001]**	0.051 [0.016]**	0.052 [0.018]**	0.071 [0.004]**	0.054 [0.020]**
	High SES	0.153 [0.024]**	0.100 [0.030]**	0.149 [0.020]**	0.114 [0.012]**	0.126 [0.009]**	0.074 [0.020]**
Adjusted	Middle SES	0.029 [0.011]**	0.087 [0.012]**	0.035 [0.014]*	0.070 [0.010]**	0.066 [0.007]**	0.067 [0.021]**
	High SES	0.110 [0.007]**	0.117 [0.006]**	0.112 [0.017]**	0.145 [0.011]**	0.110 [0.008]**	0.105 [0.021]**
Observations		4,039	2,855	6,371	9,750	9,696	6,416

Source: State Systems Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. Coefficients indicate the predicted difference in graduation probability (from a probit model) between the listed group and the reference group (low-SES students), holding all control variables at their respective means. Adjusted differences control for SAT/ACT scores, high school GPA, state residency, race/ethnicity, gender, and university attended.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 3.2a
Six-Year Graduation Rates by Parental Education and Selectivity Cluster,
1999 Entering Cohort, Flagships

		<i>SEL Is</i>	<i>SEL IIs</i>	<i>SEL IIIs</i>
Unadjusted	Some College	0.019 [0.012]	0.027 [0.014]	0.002 [0.018]
	College Degree	0.071 [0.013]**	0.109 [0.005]**	0.104 [0.025]**
	Graduate Degree	0.095 [0.012]**	0.125 [0.009]**	0.114 [0.030]**
Adjusted without Income	Some College	0.012 [0.011]	0.020 [0.009]*	0.001 [0.016]
	College Degree	0.054 [0.010]**	0.088 [0.006]**	0.086 [0.026]**
	Graduate Degree	0.072 [0.007]**	0.103 [0.010]**	0.102 [0.026]**
Adjusted with Income	Some College	0.004 [0.011]	0.010 [0.009]	-0.005 [0.015]
	College Degree	0.034 [0.009]**	0.066 [0.007]**	0.072 [0.021]**
	Graduate Degree	0.047 [0.005]**	0.075 [0.008]**	0.080 [0.020]**
Observations		20,077	17,755	15,699

Source: Flagships Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. Coefficients indicate the predicted difference in graduation probability (from a probit model) between the listed group and the reference group (students whose parents had no education beyond high school), holding all control variables at their respective means. Adjusted differences control for SAT/ACT scores, high school GPA, state residency, race/ethnicity, gender, and university attended.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 3.2b
Six-Year Graduation Rates by Parental Education and Selectivity Cluster,
1999 Entering Cohort, State Systems

		<i>Maryland</i>		<i>North Carolina</i>		<i>Virginia</i>	
		<i>SEL As</i>	<i>SEL Bs</i>	<i>SEL As</i>	<i>SEL Bs</i>	<i>SEL As</i>	<i>SEL Bs</i>
Unadjusted	Some College	0.049	0.016	-0.002	-0.011	-0.007	0.030
		[0.040]	[0.035]	[0.012]	[0.009]	[0.031]	[0.024]
	College Degree	0.131	0.075	0.074	0.067	0.060	0.073
		[0.027]**	[0.024]**	[0.002]**	[0.012]**	[0.016]**	[0.016]**
	Graduate Degree	0.153	0.090	0.121	0.098	0.081	0.063
		[0.038]**	[0.031]**	[0.019]**	[0.017]**	[0.022]**	[0.011]**
Adjusted without Income	Some College	0.053	0.011	-0.027	0.005	-0.007	0.034
		[0.047]	[0.044]	[0.016]	[0.009]	[0.031]	[0.025]
	College Degree	0.112	0.073	0.039	0.087	0.052	0.090
		[0.020]**	[0.037]*	[0.007]**	[0.013]**	[0.016]**	[0.019]**
	Graduate Degree	0.120	0.098	0.064	0.116	0.060	0.086
		[0.018]**	[0.051]	[0.015]**	[0.013]**	[0.016]**	[0.012]**
Adjusted with Income	Some College	0.045	0.006	-0.036	-0.001	-0.013	0.029
		[0.041]	[0.045]	[0.016]*	[0.009]	[0.029]	[0.024]
	College Degree	0.092	0.062	0.015	0.070	0.033	0.077
		[0.011]**	[0.042]	[0.008]	[0.012]**	[0.015]*	[0.017]**
	Graduate Degree	0.096	0.084	0.030	0.091	0.035	0.069
		[0.006]**	[0.058]	[0.015]*	[0.014]**	[0.016]*	[0.012]**
Observations		4,039	2,855	6,371	9,750	9,696	6,416

Source: State Systems Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. Coefficients indicate the predicted difference in graduation probability (from a probit model) between the listed group and the reference group (students whose parents had no education beyond high school), holding all control variables at their respective means. Adjusted differences control for SAT/ACT scores, high school GPA, state residency, race/ethnicity, gender, and university attended.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 3.3a
Six-Year Graduation Rates by Family Income and Selectivity Cluster,
1999 Entering Cohort, Flagships

		<i>All 21 Universities</i>			<i>16 Universities with Parental Education Data</i>		
		<i>SEL Is</i>	<i>SEL IIs</i>	<i>SEL IIIs</i>	<i>SEL Is</i>	<i>SEL IIs</i>	<i>SEL IIIs</i>
Unadjusted	Second Quartile	0.012	0.060	0.027	0.012	0.057	0.011
		[0.023]	[0.013]**	[0.018]	[0.023]	[0.022]**	[0.022]
	Third Quartile	0.049	0.095	0.065	0.049	0.103	0.057
		[0.030]	[0.012]**	[0.020]**	[0.030]	[0.017]**	[0.018]**
	Top Quartile	0.087	0.139	0.117	0.087	0.134	0.101
		[0.025]**	[0.011]**	[0.025]**	[0.025]**	[0.019]**	[0.029]**
Adjusted without Parental Education	Second Quartile	0.016	0.029	0.010	0.016	0.025	-0.003
		[0.013]	[0.013]*	[0.018]	[0.013]	[0.017]	[0.024]
	Third Quartile	0.049	0.059	0.041	0.049	0.069	0.036
		[0.017]**	[0.013]**	[0.019]*	[0.017]**	[0.014]**	[0.021]
	Top Quartile	0.075	0.104	0.096	0.075	0.100	0.086
		[0.017]**	[0.012]**	[0.024]**	[0.017]**	[0.016]**	[0.030]**
Adjusted with Parental Education	Second Quartile				0.010	0.016	-0.009
					[0.013]	[0.017]	[0.023]
	Third Quartile				0.036	0.051	0.022
					[0.016]*	[0.013]**	[0.019]
	Top Quartile				0.055	0.068	0.056
					[0.016]**	[0.015]**	[0.025]*
	Observations	20,077	27,987	25,843	20,077	17,755	15,699

Source: Flagships Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. Coefficients indicate the predicted difference in graduation probability (from a probit model) between the listed group and the reference group (students from families in the bottom income quartile), holding all control variables at their respective means. Adjusted differences control for SAT/ACT scores, high school GPA, state residency, race/ethnicity, gender, and university attended.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 3.3b
Six-Year Graduation Rates by Family Income and Selectivity Cluster, 1999 Entering Cohort, State Systems

	Maryland		North Carolina		Ohio		Virginia	
	SEL As	SEL Bs	SEL As	SEL Bs	SEL As	SEL Bs	SEL As	SEL Bs
Unadjusted	0.055 [0.085]	0.053 [0.062]	-0.011 [0.024]	-0.021 [0.046]	0.011 [0.024]	0.096 [0.020]**	0.029 [0.015]	0.030 [0.018]
Third Quartile	0.124 [0.073]	0.106 [0.027]**	0.071 [0.016]**	0.028 [0.046]	0.099 [0.032]**	0.154 [0.017]**	0.070 [0.016]**	0.053 [0.015]**
Top Quartile	0.157 [0.077]*	0.063 [0.063]	0.122 [0.006]**	0.054 [0.041]	0.168 [0.054]**	0.210 [0.031]**	0.109 [0.014]**	0.056 [0.026]*
Adjusted without Parental Education	0.018 [0.078]	0.035 [0.074]	0.024 [0.027]	0.003 [0.038]	-0.010 [0.018]	0.055 [0.017]**	0.021 [0.013]	0.026 [0.015]
Third Quartile	0.070 [0.060]	0.107 [0.024]**	0.080 [0.027]**	0.057 [0.039]	0.066 [0.030]*	0.093 [0.009]**	0.058 [0.016]**	0.058 [0.017]**
Top Quartile	0.096 [0.062]	0.070 [0.031]*	0.119 [0.022]**	0.106 [0.035]**	0.118 [0.051]*	0.125 [0.014]**	0.092 [0.014]**	0.084 [0.023]**
Adjusted with Parental Education	0.010 [0.076]	0.026 [0.069]	0.023 [0.026]	0.000 [0.034]	0.023 [0.034]	0.016 [0.013]	0.016 [0.013]	0.020 [0.015]
Third Quartile	0.050 [0.061]	0.086 [0.015]**	0.073 [0.025]**	0.046 [0.036]	0.086 [0.025]**	0.048 [0.016]**	0.048 [0.016]**	0.045 [0.016]**
Top Quartile	0.065 [0.065]	0.036 [0.023]	0.103 [0.015]**	0.079 [0.032]*	0.079 [0.032]*	0.074 [0.013]**	0.074 [0.013]**	0.059 [0.022]**
Observations	4,039	2,855	6,371	9,750	6,770	17,559	9,696	6,416

Source: State Systems Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. Coefficients indicate the predicted difference in graduation probability (from a probit model) between the listed group and the reference group (students from families in the bottom income quartile), holding all control variables at their respective means. Adjusted differences control for SAT/ACT scores, high school GPA, state residency, race/ethnicity, gender, and university attended.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 3.4

Six-Year Graduation Rates by SES, Stepwise Regressions, 1999 Entering Cohort,
16 Flagships and Three State Systems

<i>16 Flagships</i>					
Middle SES	0.052 [0.012]**	0.057 [0.008]**	0.039 [0.009]**	0.049 [0.010]**	0.038 [0.010]**
High SES	0.144 [0.017]**	0.151 [0.014]**	0.114 [0.010]**	0.122 [0.011]**	0.107 [0.011]**
Race/Ethnicity, Gender, and State Residency?	No	Yes	Yes	Yes	Yes
High School GPA, SAT/ACT Scores?	No	No	Yes	No	Yes
University Dummies?	No	No	No	Yes	Yes
Observations	53,531	53,531	53,531	53,531	53,531
<i>Three State Systems</i>					
Middle SES	0.076 [0.009]**	0.076 [0.008]**	0.068 [0.008]**	0.052 [0.006]**	0.061 [0.007]**
High SES	0.180 [0.016]**	0.180 [0.015]**	0.148 [0.007]**	0.109 [0.009]**	0.125 [0.007]**
State Dummies?	Yes	Yes	Yes	No	No
Race/Ethnicity, Gender, and State Residency?	No	Yes	Yes	Yes	Yes
High School GPA, SAT/ACT Scores?	No	No	Yes	No	Yes
University Dummies?	No	No	No	Yes	Yes
Observations	39,127	39,127	39,127	39,127	39,127

Source: Flagships Database and State Systems Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. Coefficients indicate the predicted difference in graduation probability (from a probit model) between the listed group and the reference group (low SES).

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 3.5

Six-Year Graduation Rates by Race/Ethnicity and Gender, Stepwise Regressions,
1999 Entering Cohort, 21 Flagships and Four State Systems

<i>21 Flagships</i>					
Black Males	-0.160	-0.118	-0.016	-0.169	-0.060
	[0.015]**	[0.014]**	[0.010]	[0.018]**	[0.014]**
Hispanic Males	-0.086	-0.052	-0.043	-0.103	-0.066
	[0.021]**	[0.018]**	[0.015]**	[0.013]**	[0.012]**
White Females	0.045	0.048	0.045	0.043	0.040
	[0.006]**	[0.006]**	[0.007]**	[0.007]**	[0.008]**
Black Females	-0.028	0.016	0.076	-0.028	0.039
	[0.019]	[0.017]	[0.012]**	[0.017]	[0.014]**
Hispanic Females	0.010	0.042	0.053	-0.006	0.029
	[0.019]	[0.018]*	[0.014]**	[0.014]	[0.015]
Income and State Residency?	No	Yes	Yes	Yes	Yes
High School GPA, SAT/ACT Scores?	No	No	Yes	No	Yes
University Dummies?	No	No	No	Yes	Yes
Observations	73,907	73,907	73,907	73,907	73,907
<i>Four State Systems</i>					
Black Males	-0.148	-0.105	-0.002	-0.105	-0.028
	[0.021]**	[0.019]**	[0.017]	[0.023]**	[0.017]
Hispanic Males	-0.100	-0.078	-0.057	-0.101	-0.078
	[0.018]**	[0.018]**	[0.020]**	[0.021]**	[0.020]**
White Females	0.053	0.062	0.046	0.063	0.041
	[0.007]**	[0.007]**	[0.006]**	[0.005]**	[0.006]**
Black Females	-0.058	0.000	0.068	0.024	0.057
	[0.023]*	[0.021]	[0.018]**	[0.019]	[0.014]**
Hispanic Females	-0.003	0.030	0.051	0.028	0.036
	[0.022]	[0.021]	[0.022]*	[0.019]	[0.019]
State Dummies?	Yes	Yes	Yes	No	No
Income and State Residency?	No	Yes	Yes	Yes	Yes
High School GPA, SAT/ACT Scores?	No	No	Yes	No	Yes
University Dummies?	No	No	No	Yes	Yes
Observations	63,456	63,456	63,456	63,456	63,456

Source: Flagships Database and State Systems Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. Coefficients indicate the predicted difference in graduation probability (from a probit model) between the listed group and the reference group (white males).

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 3.6a

Six-Year Graduation Rates by Race/Ethnicity, Gender, and Selectivity Cluster,
1999 Entering Cohort, Flagships

		<i>SEL Is</i>	<i>SEL IIs</i>	<i>SEL IIIs</i>
Unadjusted	Black Males	-0.199 [0.018]**	-0.199 [0.023]**	-0.166 [0.027]**
	Hispanic Males	-0.125 [0.016]**	-0.125 [0.027]**	-0.122 [0.024]**
	Asian Males	0.009 [0.017]	-0.015 [0.014]	-0.024 [0.053]
	White Females	0.032 [0.011]**	0.048 [0.008]**	0.037 [0.013]**
	Black Females	-0.046 [0.029]	-0.069 [0.028]*	-0.064 [0.027]*
	Hispanic Females	-0.030 [0.013]*	-0.037 [0.020]	-0.012 [0.029]
	Asian Females	0.057 [0.019]**	0.047 [0.016]**	0.044 [0.046]
	Adjusted	Black Males	-0.071 [0.019]**	-0.053 [0.027]*
	Hispanic Males	-0.070 [0.009]**	-0.054 [0.016]**	-0.046 [0.026]
	Asian Males	0.004 [0.012]	0.010 [0.010]	0.019 [0.070]
	White Females	0.026 [0.007]**	0.054 [0.010]**	0.032 [0.015]*
	Black Females	0.027 [0.020]	0.043 [0.022]	0.034 [0.038]
	Hispanic Females	0.020 [0.007]**	0.026 [0.017]	0.060 [0.057]
	Asian Females	0.054 [0.012]**	0.075 [0.015]**	0.079 [0.052]
	Observations	20,077	27,987	25,843

Source: Flagships Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. Coefficients indicate the predicted difference in graduation probability (from a probit model) between the listed group and the reference group (white males), holding all control variables at their respective means. Adjusted differences control for family income quartile, SAT/ACT scores, high school GPA, state residency, and university attended.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 3.6b
Six-Year Graduation Rates by Race, Gender, and Selectivity Cluster, 1999 Entering Cohort, State Systems

	Maryland		North Carolina		Ohio		Virginia	
	SEL As	SEL Bs	SEL As	SEL Bs	SEL As	SEL Bs	SEL As	SEL Bs
Unadjusted								
Black Males	-0.115 [0.039]**	-0.147 [0.053]**	-0.188 [0.020]**	-0.013 [0.041]	-0.190 [0.063]**	-0.208 [0.036]**	-0.122 [0.017]**	-0.032 [0.030]
White Females	0.058 [0.025]*	0.101 [0.026]**	0.070 [0.007]**	0.061 [0.015]**	0.061 [0.019]**	0.066 [0.009]**	0.038 [0.019]*	0.079 [0.032]**
Black Females	0.022 [0.058]	0.048 [0.035]	0.033 [0.030]	0.061 [0.039]	-0.098 [0.045]*	-0.160 [0.032]**	0.055 [0.022]*	0.020 [0.038]
Adjusted								
Black Males	-0.027 [0.022]	-0.076 [0.035]*	-0.096 [0.009]**	0.086 [0.034]*	-0.020 [0.033]	-0.067 [0.032]*	-0.063 [0.017]**	-0.013 [0.022]
White Females	0.041 [0.009]**	0.066 [0.030]*	0.034 [0.013]**	0.020 [0.014]	0.047 [0.020]*	0.047 [0.008]**	0.019 [0.011]	0.044 [0.026]
Black Females	0.082 [0.035]*	0.081 [0.014]**	0.059 [0.025]*	0.118 [0.032]**	0.047 [0.001]**	-0.022 [0.021]	0.055 [0.016]**	0.026 [0.026]
Observations	4,039	2,855	6,371	9,750	6,770	17,559	9,696	6,416

Source: State Systems Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. Coefficients indicate the predicted difference in graduation probability (from a probit model) between the listed group and the reference group (white males), holding all control variables at their respective means. Adjusted differences control for family income quartile, SAT/ACT scores, high school GPA, state residency, and university attended.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 3.7a

Transfer Graduation Rates by Socioeconomic Status and Selectivity Cluster,
1999 Entering Cohort, 16 Flagships and Three State Systems (Percent)

	<i>All</i>	<i>Low SES</i>	<i>Middle SES</i>	<i>High SES</i>
Flagship SEL Is	3.3	2.6	3.5	3.4
Flagship SEL IIs	4.6	4.1	4.9	4.6
Flagship SEL IIIs	3.9	4.3	4.1	3.7
State System SEL As	7.0	7.2	7.5	6.8
State System SEL Bs	14.2	11.6	13.6	16.1
All 16 Flagships	3.9	3.7	4.2	3.8
All Three State Systems	10.5	10.2	11.1	10.3

Source: Flagships Database and State Systems Database.

Notes: Each cell indicates the percentage of all students in a given subgroup who appear in the Clearinghouse data as having received a four-year degree but did not graduate from their original institution. Ohio is excluded from state systems because Clearinghouse data are not available. The five flagships without parental education data available are excluded.

APPENDIX TABLE 3.7b

Transfer Graduation Rates by Race, Gender, and Selectivity Cluster, 1999
Entering Cohort, 21 Flagships and Three State Systems (Percent)

	<i>All</i>	<i>White Males</i>	<i>Black Males</i>	<i>White Females</i>	<i>Black Females</i>
Flagship SEL I	3.3	3.0	3.2	4.5	3.1
Flagship SEL IIs	5.0	4.7	4.5	5.7	5.6
Flagship SEL IIIs	6.3	5.4	3.8	7.2	4.6
State System SEL As	7.0	6.2	7.0	8.1	5.1
State System SEL Bs	14.2	14.4	11.7	15.2	10.1
All Flagships	5.0	4.6	3.8	6.0	4.4
All Three State Systems	10.5	9.9	9.4	11.7	8.2

Source: Flagships Database and State Systems Database.

Notes: Each cell indicates the percentage of all students in a given subgroup that appear in the Clearinghouse data as having received a four-year degree but did not graduate from their original institution. Ohio is excluded from state systems because Clearinghouse data are not available.

APPENDIX TABLE 3.8
Six-Year Graduation Rates by First-Year GPA and Selectivity Cluster,
1999 Entering Cohort, Flagships and State System SEL Bs

	<i>Flagship SEL Is</i>		<i>Flagship SEL IIs</i>	
First-Year GPA	0.150 [0.003]**	0.140 [0.005]**	0.205 [0.009]**	0.197 [0.009]**
Controls?	No	Yes	No	Yes
Observations	19,495	19,495	20,529	20,529
	<i>Flagship SEL IIIs</i>		<i>State System SEL Bs</i>	
First-Year GPA	0.313 [0.017]**	0.304 [0.017]**	0.298 [0.018]**	0.287 [0.015]**
Controls?	No	Yes	No	Yes
Observations	24,383	24,383	33,404	33,404

Source: Flagships Database and State Systems Database.

Notes: Robust standard errors in brackets. Coefficients indicate the predicted difference in graduation probability (from a probit model) associated with increasing first-year GPA by 1 point, holding all control variables at their respective means. All regressions include university dummy variables. Controls include race/ethnicity, gender, SAT/ACT scores, high school GPA, state residency status, and family income quartile.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 3.9
Six-Year Graduation Rates by Family Income, 1999 Entering Cohort,
Flagships and State System SEL Bs

	<i>Flagships</i>		<i>State System SEL Bs</i>	
Second Quartile	0.016 [0.009]	0.019 [0.007]*	0.036 [0.014]*	0.023 [0.012]
Third Quartile	0.042 [0.010]**	0.037 [0.008]**	0.079 [0.011]**	0.062 [0.010]**
Top Quartile	0.079 [0.010]**	0.063 [0.007]**	0.105 [0.011]**	0.085 [0.010]**
Standard Controls?	Yes	Yes	Yes	Yes
First-Year GPA?	No	Yes	No	Yes
Observations	64,407	64,407	33,404	33,404

Source: Flagships Database and State Systems Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. Coefficients indicate the predicted difference in graduation probability (from a probit model) between the listed group and the reference group (students from families in the bottom income quartile), holding all control variables at their respective means. Standard controls include SAT/ACT scores, high school GPA, state residency, race/ethnicity, gender, and university attended.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 3.10
Six-Year Graduation Rates by Race/Ethnicity and Gender, 1999 Entering
Cohort, Flagships and State System SEL Bs

	<i>Flagships</i>		<i>State System SEL Bs</i>	
Black Males	-0.076 [0.013]**	-0.060 [0.015]**	-0.026 [0.024]	-0.017 [0.020]
Hispanic Males	-0.066 [0.014]**	-0.037 [0.012]**	-0.074 [0.036]*	-0.062 [0.037]
White Females	0.040 [0.008]**	-0.002 [0.009]	0.047 [0.008]**	0.002 [0.008]
Black Females	0.023 [0.013]	0.017 [0.014]	0.037 [0.021]	0.035 [0.020]
Hispanic Females	0.024 [0.016]	0.004 [0.016]	0.029 [0.027]	0.008 [0.028]
Standard Controls?	Yes	Yes	Yes	Yes
First-Year GPA?	No	Yes	No	Yes
Observations	64,407	64,407	33,404	33,404

Source: Flagships Database and State Systems Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. Coefficients indicate the predicted difference in graduation probability (from a probit model) between the listed group and the reference group (white males), holding all control variables at their respective means. Standard controls include SAT/ACT scores, high school GPA, state residency, family income quartile, and university attended.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 4.1a
Adjusted Major at Graduation by Socioeconomic Status, 1999 Entering Cohort, Flagships

	<i>Engineering, Math, and Physical Sciences</i>	<i>Life Sciences</i>	<i>Humanities</i>	<i>Social Sciences</i>	<i>Communications and Education</i>	<i>Business</i>	<i>Professional and Other</i>
Middle SES	-0.010 [0.007]	0.002 [0.006]	0.017 [0.006]**	-0.027 [0.009]**	0.009 [0.004]*	0.018 [0.006]**	-0.009 [0.006]
High SES	-0.006 [0.007]	-0.006 [0.005]	0.014 [0.005]*	-0.036 [0.008]**	0.015 [0.004]**	0.036 [0.006]**	-0.016 [0.006]**
Observations	40,539	40,539	40,539	40,539	40,539	40,539	40,539

Source: Flagships Database.

Notes: Standard errors appear in brackets. The reported coefficients are marginal effects from a multinomial logit model, which indicate the predicted difference in the probability of choosing a given major between the listed group and the reference group (low-SES students), holding all control variables constant at their means. Control variables include high school GPA, SAT/ACT scores, race/ethnicity, gender, state residency status, and institution attended.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 4.1b
Adjusted Major at Graduation by Socioeconomic Status and Selectivity Cluster, 1999 Entering Cohort, State Systems

SEL As

	<i>Engineering, Math, and Physical Sciences</i>	<i>Life Sciences</i>	<i>Humanities</i>	<i>Social Sciences</i>	<i>Communications and Education</i>	<i>Business</i>	<i>Professional and Other</i>
Middle SES	0.013 [0.014]	0.003 [0.011]	0.010 [0.013]	-0.039 [0.017]*	-0.001 [0.007]	0.010 [0.013]	0.004 [0.009]
High SES	0.003 [0.013]	-0.002 [0.010]	0.003 [0.012]	-0.045 [0.016]**	0.007 [0.007]	0.033 [0.012]**	0.001 [0.008]
Observations	15,021	15,021	15,021	15,021	15,021	15,021	15,021

SEL Bs

	<i>Engineering, Math, and Physical Sciences</i>	<i>Life Sciences</i>	<i>Humanities</i>	<i>Social Sciences</i>	<i>Communications and Education</i>	<i>Business</i>	<i>Professional and Other</i>
Middle SES	-0.006 [0.007]	0.006 [0.005]	0.022 [0.011]*	-0.027 [0.012]*	-0.006 [0.010]	0.002 [0.013]	0.009 [0.011]
High SES	-0.008 [0.007]	0.007 [0.005]	0.044 [0.011]**	-0.029 [0.012]*	-0.011 [0.010]	-0.003 [0.013]	-0.001 [0.011]
Observations	9,940	9,940	9,940	9,940	9,940	9,940	9,940

Source: State Systems Database.

Notes: Standard errors appear in brackets. The reported coefficients are marginal effects from a multinomial logit model, which indicate the predicted difference in the probability of choosing a given major between the listed group and the reference group (low-SES students), holding all control variables constant at their means. Control variables include high school GPA, SAT/ACT scores, race/ethnicity, gender, state residency status, and institution attended.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 4.2a
Adjusted Major at Graduation by Parental Education, 1999 Entering Cohort, Flagships

	<i>Communications and Education</i>					<i>Business</i>	<i>Professional and Other</i>
	<i>Engineering, Math, and Physical Sciences</i>	<i>Life Sciences</i>	<i>Humanities</i>	<i>Social Sciences</i>	<i>Education</i>		
Some College	0.003 [0.009]	0.005 [0.006]	-0.001 [0.006]	0.000 [0.010]	0.001 [0.005]	-0.012 [0.008]	0.004 [0.007]
College Degree	0.009 [0.008]	-0.004 [0.006]	0.021 [0.006]**	-0.032 [0.009]**	0.008 [0.005]	0.003 [0.007]	-0.005 [0.006]
Graduate Degree	-0.014 [0.008]	0.012 [0.006]*	0.025 [0.006]**	-0.009 [0.009]	0.002 [0.005]	-0.007 [0.007]	-0.009 [0.006]
Observations	40,539	40,539	40,539	40,539	40,539	40,539	40,539

Source: Flagships Database.

Notes: Standard errors appear in brackets. The reported coefficients are marginal effects from a multinomial logit model, which indicate the predicted difference in the probability of choosing a given major between the listed group and the reference group (students whose parents never attended college), holding all control variables constant at their means. Control variables include family income quartile, high school GPA, SAT/ACT scores, race/ethnicity, gender, state residency status, and institution attended.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 4.2b
Adjusted Major at Graduation by Parental Education and Selectivity Cluster, 1999 Entering Cohort, State Systems

SEL As

	<i>Engineering, Math, and Physical Sciences</i>		<i>Life Sciences</i>		<i>Humanities</i>		<i>Social Sciences</i>		<i>Communications and Education</i>		<i>Business</i>		<i>Professional and Other</i>	
Some College	-0.017 [0.016]	0.029 [0.012]*	0.001 [0.013]	0.006 [0.018]	-0.003 [0.015]	-0.007 [0.015]	-0.009 [0.010]							
College Degree	-0.021 [0.014]	0.010 [0.010]	0.018 [0.011]	-0.003 [0.017]	0.000 [0.007]	0.000 [0.014]	-0.009 [0.009]							
Graduate Degree	-0.033 [0.015]*	0.022 [0.010]*	0.031 [0.012]**	0.003 [0.017]	0.004 [0.007]	-0.018 [0.014]	-0.009 [0.009]							
Observations	15,021	15,021	15,021	15,021	15,021	15,021	15,021							15,021

SEL Bs

	<i>Engineering, Math, and Physical Sciences</i>		<i>Life Sciences</i>		<i>Humanities</i>		<i>Social Sciences</i>		<i>Communications and Education</i>		<i>Business</i>		<i>Professional and Other</i>	
Some College	-0.001 [0.008]	-0.002 [0.006]	0.023 [0.012]	0.002 [0.014]	-0.001 [0.011]	-0.014 [0.015]	-0.007 [0.012]							
College Degree	-0.008 [0.007]	0.004 [0.006]	0.037 [0.012]**	-0.025 [0.013]	0.005 [0.011]	-0.021 [0.014]	0.007 [0.012]							
Graduate Degree	0.000 [0.008]	0.006 [0.006]	0.054 [0.013]**	-0.010 [0.014]	0.003 [0.012]	-0.050 [0.015]**	-0.003 [0.013]							
Observations	9,940	9,940	9,940	9,940	9,940	9,940	9,940							9,940

Source: State Systems Database.

Notes: Standard errors appear in brackets. The reported coefficients are marginal effects from a multinomial logit model, which indicate the predicted difference in the probability of choosing a given major between the listed group and the reference group (students whose parents never attended college), holding all control variables constant at their means. Control variables include family income quartile, high school GPA, SAT/ACT scores, race/ethnicity, gender, state residency status, and institution attended.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 4.3a
Adjusted Major at Graduation by Family Income, 1999 Entering Cohort, Flagships

	Engineering, Math, and Physical Sciences			Communications and Education			Business	Professional and Other
	Life Sciences	Humanities	Social Sciences	Education	Business	Professional and Other		
Second Quartile	-0.002 [0.008]	0.012 [0.008]	-0.011 [0.010]	0.015 [0.005]**	-0.006 [0.007]	-0.003 [0.007]		
Third Quartile	0.013 [0.008]	0.002 [0.007]	-0.023 [0.009]*	0.016 [0.005]**	0.005 [0.007]	-0.003 [0.006]		
Top Quartile	0.000 [0.007]	-0.015 [0.006]*	-0.017 [0.009]	0.019 [0.005]**	0.038 [0.007]**	-0.010 [0.006]		
Observations	40,539	40,539	40,539	40,539	40,539	40,539		

Source: Flagships Database.

Notes: Standard errors appear in brackets. The reported coefficients are marginal effects from a multinomial logit model, which indicate the predicted difference in the probability of choosing a given major between the listed group and the reference group (students from families in the bottom income quartile), holding all control variables constant at their means. Control variables include parental education, high school GPA, SAT/ACT scores, race/ethnicity, gender, state residency status, and institution attended.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 4.3b
Adjusted Major at Graduation by Family Income and Selectivity Cluster, 1999 Entering Cohort, State Systems

SEL As

	<i>Communications and Education</i>				<i>Business</i>	<i>Professional and Other</i>
	<i>Engineering, Math, and Physical Sciences</i>	<i>Life Sciences</i>	<i>Humanities</i>	<i>Social Sciences</i>		
Second Quartile	0.010 [0.016]	-0.016 [0.014]	-0.014 [0.018]	0.025 [0.021]	-0.017 [0.016]	0.000 [0.011]
Third Quartile	0.026 [0.015]	-0.016 [0.013]	-0.021 [0.017]	-0.008 [0.019]	-0.004 [0.015]	0.011 [0.010]
Top Quartile	0.020 [0.015]	-0.014 [0.013]	-0.047 [0.016]**	-0.016 [0.019]	0.044 [0.015]**	0.000 [0.010]
Observations	15,021	15,021	15,021	15,021	15,021	15,021

SEL Bs

	<i>Communications and Education</i>				<i>Business</i>	<i>Professional and Other</i>
	<i>Engineering, Math, and Physical Sciences</i>	<i>Life Sciences</i>	<i>Humanities</i>	<i>Social Sciences</i>		
Second Quartile	-0.018 [0.009]*	-0.002 [0.007]	0.015 [0.014]	-0.008 [0.015]	-0.020 [0.016]	0.024 [0.014]
Third Quartile	-0.020 [0.009]*	-0.002 [0.007]	0.036 [0.014]**	-0.010 [0.015]	-0.014 [0.016]	0.016 [0.014]
Top Quartile	-0.013 [0.009]	-0.001 [0.007]	0.014 [0.014]	-0.009 [0.015]	0.025 [0.017]	-0.002 [0.014]
Observations	9,940	9,940	9,940	9,940	9,940	9,940

Source: State Systems Database.

Notes: Standard errors appear in brackets. The reported coefficients are marginal effects from a multinomial logit model, which indicate the predicted difference in the probability of choosing a given major between the listed group and the reference group (students from families in the bottom income quartile), holding all control variables constant at their means. Control variables include parental education, high school GPA, SAT/ACT scores, race/ethnicity, gender, state residency status, and institution attended.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 4.4a
 Unadjusted Major at Graduation by Race/Ethnicity and Gender, 1999 Entering Cohort, Flagships

	<i>Engineering, Math, and Physical Sciences</i>		<i>Life Sciences</i>		<i>Humanities</i>		<i>Social Sciences</i>		<i>Communications and Education</i>		<i>Business</i>		<i>Professional and Other</i>	
Black Males	-0.114		-0.010		0.006		0.101		0.023		-0.039		0.032	
	[0.014]**		[0.008]		[0.010]		[0.015]**		[0.009]*		[0.011]**		[0.011]**	
Hispanic Males	-0.076		0.012		0.022		0.072		0.007		-0.032		-0.004	
	[0.013]**		[0.008]		[0.009]*		[0.013]**		[0.008]		[0.011]**		[0.008]	
Asian Males	0.089		0.044		-0.046		0.009		-0.045		-0.040		-0.011	
	[0.009]**		[0.006]**		[0.004]**		[0.007]		[0.003]**		[0.006]**		[0.005]*	
White Females	-0.237		0.017		0.057		0.020		0.111		-0.051		0.082	
	[0.004]**		[0.003]**		[0.003]**		[0.004]**		[0.003]**		[0.003]**		[0.003]**	
Black Females	-0.253		-0.005		0.045		0.108		0.071		-0.075		0.109	
	[0.007]**		[0.006]		[0.008]**		[0.011]**		[0.008]**		[0.007]**		[0.009]**	
Hispanic Females	-0.244		0.012		0.059		0.131		0.054		-0.075		0.063	
	[0.008]**		[0.007]		[0.009]**		[0.012]**		[0.009]**		[0.008]**		[0.009]**	
Asian Females	-0.166		0.080		0.002		0.068		0.004		-0.031		0.042	
	[0.007]**		[0.006]**		[0.005]		[0.008]**		[0.004]		[0.006]**		[0.006]**	
Observations	55,342		55,342		55,342		55,342		55,342		55,342		55,342	

Source: Flagships Database.

Notes: Standard errors appear in brackets. The reported coefficients are marginal effects from a multinomial logit model, which indicate the predicted difference in the probability of choosing a given major between the listed group and the reference group (white males).

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 4.4b
Adjusted Major at Graduation by Race/Ethnicity and Gender, 1999 Entering Cohort, Flagships

	Communications and							Professional and Other
	Engineering, Math, and Physical Sciences	Life Sciences	Humanities	Social Sciences	Education	Business		
Black Males	0.070 [0.020]**	0.015 [0.012]	-0.023 [0.009]**	-0.027 [0.014]*	-0.013 [0.006]*	-0.021 [0.013]	-0.001 [0.009]	
Hispanic Males	0.014 [0.015]	0.020 [0.010]*	0.009 [0.010]	-0.009 [0.013]	-0.001 [0.007]	-0.014 [0.012]	-0.019 [0.008]*	
Asian Males	0.036 [0.009]**	0.034 [0.006]**	-0.045 [0.005]**	-0.022 [0.009]*	-0.030 [0.004]**	0.026 [0.009]**	0.001 [0.006]	
White Females	-0.175 [0.004]**	0.018 [0.003]**	0.045 [0.004]**	-0.002 [0.005]	0.088 [0.003]**	-0.050 [0.004]**	0.076 [0.004]**	
Black Females	-0.098 [0.014]**	0.031 [0.010]**	0.017 [0.008]*	-0.005 [0.011]	0.024 [0.006]**	-0.040 [0.010]**	0.071 [0.009]**	
Hispanic Females	-0.137 [0.012]**	0.032 [0.010]**	0.049 [0.010]**	0.038 [0.013]**	0.035 [0.008]**	-0.055 [0.010]**	0.038 [0.009]**	
Asian Females	-0.133 [0.006]**	0.056 [0.006]**	-0.006 [0.006]	-0.015 [0.008]	0.033 [0.006]**	0.033 [0.009]**	0.032 [0.006]**	
Observations	55,342	55,342	55,342	55,342	55,342	55,342	55,342	

Source: Flagships Database.

Notes: Standard errors appear in brackets. The reported coefficients are marginal effects from a multinomial logit model, which indicate the predicted difference in the probability of choosing a given major between the listed group and the reference group (white males), holding all control variables constant at their means. Control variables include family income quartile, high school GPA, SAT/ACT scores, state residency status, and institution attended.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 4.5a
 Unadjusted Major at Graduation by Race, Gender, and Selectivity Cluster, 1999 Entering Cohort, State Systems

SEL As

	<i>Communications and Education</i>					<i>Professional and Other</i>
	<i>Engineering, Math, and Physical Sciences</i>	<i>Life Sciences</i>	<i>Humanities</i>	<i>Social Sciences</i>	<i>Education</i>	
Black Males	-0.075 [0.020]**	-0.018 [0.010]	0.010 [0.013]	0.089 [0.020]**	0.028 [0.013]*	0.046 [0.014]**
White Females	-0.229 [0.006]**	0.022 [0.004]**	0.056 [0.005]**	0.025 [0.006]**	0.084 [0.005]**	0.098 [0.005]**
Black Females	-0.234 [0.010]**	0.006 [0.009]	0.030 [0.011]**	0.094 [0.015]**	0.090 [0.012]**	0.098 [0.012]**
Observations	19,923	19,923	19,923	19,923	19,923	19,923

SEL Bs

	<i>Communications and Education</i>					<i>Professional and Other</i>
	<i>Engineering, Math, and Physical Sciences</i>	<i>Life Sciences</i>	<i>Humanities</i>	<i>Social Sciences</i>	<i>Education</i>	
Black Males	-0.077 [0.016]**	-0.008 [0.008]	0.016 [0.016]	0.033 [0.016]*	-0.009 [0.015]	0.020 [0.016]
White Females	-0.164 [0.005]**	0.006 [0.003]	0.052 [0.006]**	0.021 [0.005]**	0.121 [0.006]**	0.098 [0.006]**
Black Females	-0.149 [0.008]**	0.011 [0.007]	0.010 [0.011]	0.082 [0.012]**	0.015 [0.011]	0.116 [0.013]**
Observations	18,293	18,293	18,293	18,293	18,293	18,293

Source: State Systems Database.

Notes: Standard errors appear in brackets. The reported coefficients are marginal effects from a multinomial logit model, which indicate the predicted difference in the probability of choosing a given major between the listed group and the reference group (white males).

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 4.5b
Adjusted Major at Graduation by Race, Gender, and Selectivity Cluster, 1999 Entering Cohort, State Systems

SEL As

	<i>Engineering, Math, and Physical Sciences</i>	<i>Life Sciences</i>	<i>Humanities</i>	<i>Social Sciences</i>	<i>Communications and Education</i>	<i>Business</i>	<i>Professional and Other</i>
Black Males	0.081 [0.027]**	0.003 [0.016]	-0.005 [0.014]	-0.001 [0.021]	-0.015 [0.008]	-0.064 [0.018]**	0.001 [0.009]
White Females	-0.164 [0.006]**	0.022 [0.005]**	0.047 [0.006]**	0.001 [0.008]	0.063 [0.005]**	-0.058 [0.007]**	0.090 [0.005]**
Black Females	-0.084 [0.018]**	0.045 [0.014]**	0.009 [0.012]	0.001 [0.016]	0.020 [0.008]*	-0.031 [0.017]	0.040 [0.010]**
Observations	19,923	19,923	19,923	19,923	19,923	19,923	19,923

SEL Bs

	<i>Engineering, Math, and Physical Sciences</i>	<i>Life Sciences</i>	<i>Humanities</i>	<i>Social Sciences</i>	<i>Communications and Education</i>	<i>Business</i>	<i>Professional and Other</i>
Black Males	0.002 [0.019]	0.002 [0.010]	-0.001 [0.016]	0.001 [0.016]	-0.019 [0.015]	0.020 [0.024]	-0.006 [0.015]
White Females	-0.113 [0.005]**	-0.002 [0.003]	0.043 [0.006]**	0.015 [0.006]*	0.109 [0.007]**	-0.145 [0.008]**	0.093 [0.007]**
Black Females	-0.073 [0.011]**	0.025 [0.009]**	-0.002 [0.011]	0.051 [0.013]**	0.012 [0.012]	-0.090 [0.016]**	0.076 [0.013]**
Observations	18,293	18,293	18,293	18,293	18,293	18,293	18,293

Source: State Systems Database.

Notes: Standard errors appear in brackets. The reported coefficients are marginal effects from a multinomial logit model, which indicate the predicted difference in the probability of choosing a given major between the listed group and the reference group (white males), holding all control variables constant at their means. Control variables include family income quartile, high school GPA, SAT/ACT scores, state residency status, and institution attended.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 4.6a

Probability of Finishing on Time by Socioeconomic Status and Selectivity Cluster, 1999 Entering Cohort, Flagships, Unadjusted and Adjusted

		<i>SEL Is</i>	<i>SEL IIs</i>	<i>SEL IIIs</i>
Unadjusted	Middle SES	0.111 [0.014]**	0.062 [0.022]**	0.008 [0.028]
	High SES	0.183 [0.020]**	0.124 [0.031]**	0.016 [0.042]
Adjusted	Middle SES	0.040 [0.005]**	0.043 [0.019]*	0.022 [0.014]
	High SES	0.068 [0.006]**	0.096 [0.021]**	0.039 [0.012]**
Observations		17,279	13,760	10,588

Source: Flagships Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. Coefficients indicate the predicted difference in the probability of finishing on time (from a probit model) between the listed group and the reference group (low-SES students), holding all control variables at their respective means. Adjusted differences control for SAT/ACT scores, high school GPA, state residency status, race/ethnicity, gender, and university attended.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 4.6b

Probability of Finishing on Time by Socioeconomic Status and Selectivity Cluster,
1999 Entering Cohort, State Systems, Unadjusted and Adjusted

		<i>Maryland</i>		<i>North Carolina</i>		<i>Virginia</i>	
		<i>SEL As</i>	<i>SEL Bs</i>	<i>SEL As</i>	<i>SEL Bs</i>	<i>SEL As</i>	<i>SEL Bs</i>
Unadjusted	Middle SES	0.092	0.055	0.033	0.008	0.005	0.010
		[0.019]**	[0.019]**	[0.005]**	[0.023]	[0.021]	[0.030]
	High SES	0.188	0.129	0.094	0.025	0.055	0.034
		[0.011]**	[0.038]**	[0.008]**	[0.024]	[0.013]**	[0.022]
Adjusted	Middle SES	0.065	0.047	0.032	0.013	-0.005	0.012
		[0.025]**	[0.023]*	[0.005]**	[0.024]	[0.021]	[0.039]
	High SES	0.118	0.104	0.057	0.031	0.026	0.025
		[0.019]**	[0.034]**	[0.009]**	[0.018]	[0.015]	[0.038]
Observations		2,935	1,655	4,847	5,072	7,794	3,303

Source: State Systems Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. Coefficients indicate the predicted difference in the probability of finishing on time (from a probit model) between the listed group and the reference group (low-SES students), holding all control variables at their respective means. Adjusted differences control for SAT/ACT scores, high school GPA, state residency status, race/ethnicity, gender, and university attended.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 4.7a

Probability of Finishing on Time by Parental Education and Selectivity Cluster, 1999 Entering Cohort, Flagships, Unadjusted and Adjusted

		<i>SEL Is</i>	<i>SEL IIs</i>	<i>SEL IIIs</i>
Unadjusted	Some College	0.084 [0.017]**	0.020 [0.016]	-0.028 [0.024]
	College Degree	0.149 [0.016]**	0.076 [0.021]**	0.006 [0.032]
	Graduate Degree	0.170 [0.020]**	0.087 [0.018]**	0.018 [0.032]
Adjusted without Family Income	Some College	0.029 [0.009]**	-0.003 [0.012]	-0.029 [0.014]*
	College Degree	0.052 [0.009]**	0.050 [0.016]**	0.019 [0.011]
	Graduate Degree	0.058 [0.008]**	0.050 [0.014]**	0.019 [0.016]
Adjusted with Family Income	Some College	0.018 [0.008]*	-0.013 [0.011]	-0.030 [0.014]*
	College Degree	0.031 [0.009]**	0.028 [0.014]	0.016 [0.010]
	Graduate Degree	0.030 [0.009]**	0.020 [0.011]	0.015 [0.017]
Observations		17,279	13,760	10,588

Source: Flagships Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. Coefficients indicate the predicted difference in the probability of finishing on time (from a probit model) between the listed group and the reference group (students whose parents had no education beyond high school), holding all control variables at their respective means. Adjusted differences control for SAT/ACT scores, high school GPA, state residency status, race/ethnicity, gender, and university attended.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 4.7b

Probability of Finishing on Time by Parental Education and Selectivity Cluster, 1999 Entering Cohort, State Systems, Unadjusted and Adjusted

		<i>Maryland</i>		<i>North Carolina</i>		<i>Virginia</i>	
		<i>SEL As</i>	<i>SEL Bs</i>	<i>SEL As</i>	<i>SEL Bs</i>	<i>SEL As</i>	<i>SEL Bs</i>
Unadjusted	Some College	0.031 [0.043]	0.049 [0.062]	0.033 [0.032]	-0.015 [0.023]	0.004 [0.022]	0.045 [0.027]
	College Degree	0.124 [0.023]**	0.108 [0.041]**	0.079 [0.030]**	0.007 [0.025]	0.020 [0.020]	0.040 [0.027]
	Graduate Degree	0.162 [0.014]**	0.123 [0.057]*	0.130 [0.018]**	0.043 [0.026]	0.053 [0.011]**	0.067 [0.025]**
Adjusted without Family Income	Some College	0.014 [0.033]	0.038 [0.081]	0.002 [0.026]	-0.011 [0.020]	-0.014 [0.023]	0.051 [0.028]
	College Degree	0.077 [0.008]**	0.087 [0.059]	0.038 [0.025]	0.011 [0.022]	-0.005 [0.020]	0.042 [0.034]
Adjusted with Family Income	Some College	0.101 [0.007]**	0.109 [0.082]	0.033 [0.026]	0.040 [0.027]	0.007 [0.020]	0.066 [0.018]**
	College Degree	0.007 [0.032]	0.035 [0.082]	-0.006 [0.020]	-0.011 [0.022]	-0.018 [0.021]	0.051 [0.028]
	Graduate Degree	0.055 [0.008]**	0.077 [0.062]	0.025 [0.017]	0.012 [0.026]	-0.014 [0.021]	0.041 [0.031]
	Observations	2,935	1,655	4,847	5,072	7,794	3,303

Source: State Systems Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. Coefficients indicate the predicted difference in the probability of finishing on time (from a probit model) between the listed group and the reference group (students whose parents had no education beyond high school), holding all control variables at their respective means. Adjusted differences control for SAT/ACT scores, high school GPA, state residency status, race/ethnicity, gender, and university attended.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 4.8a

Probability of Finishing on Time by Family Income and Selectivity Cluster,
1999 Entering Cohort, Flagships, Unadjusted and Adjusted

		<i>All 21 Universities</i>			<i>16 Universities with Parental Education Data</i>		
		<i>SEL Is</i>	<i>SEL IIs</i>	<i>SEL IIIs</i>	<i>SEL Is</i>	<i>SEL IIs</i>	<i>SEL IIIs</i>
Unadjusted	Second Quartile	0.044 [0.010]**	0.015 [0.019]	0.016 [0.011]	0.091 [0.017]**	0.006 [0.017]	-0.018 [0.024]
	Third Quartile	0.049 [0.006]**	0.062 [0.017]**	0.020 [0.014]	0.132 [0.024]**	0.078 [0.019]**	-0.023 [0.039]
	Top Quartile	0.081 [0.004]**	0.087 [0.017]**	0.030 [0.010]**	0.189 [0.013]**	0.109 [0.023]**	-0.011 [0.045]
Adjusted without Parental Education	Second Quartile	0.044 [0.010]**	0.016 [0.019]	0.015 [0.011]	0.044 [0.010]**	-0.009 [0.017]	0.011 [0.010]
	Third Quartile	0.049 [0.006]**	0.062 [0.017]**	0.019 [0.013]	0.049 [0.006]**	0.058 [0.016]**	0.010 [0.013]
	Top Quartile	0.081 [0.004]**	0.087 [0.017]**	0.029 [0.010]**	0.081 [0.004]**	0.079 [0.017]**	0.023 [0.009]**
Adjusted with Parental Education	Second Quartile				0.039 [0.010]**	-0.012 [0.016]	0.009 [0.011]
	Third Quartile				0.041 [0.007]**	0.051 [0.014]**	0.006 [0.014]
	Top Quartile				0.070 [0.006]**	0.067 [0.014]**	0.013 [0.010]
Observations		17,279	22,068	17,083	17,279	13,760	10,588

Source: Flagships Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. Coefficients indicate the predicted difference in the probability of finishing on time (from a probit model) between the listed group and the reference group (students from families in the bottom income quartile), holding all control variables at their respective means. Adjusted differences control for SAT/ACT scores, high school GPA, state residency status, race/ethnicity, gender, and university attended.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 4.8b

Probability of Finishing on Time by Family Income and Selectivity Cluster,
1999 Entering Cohort, State Systems, Unadjusted and Adjusted

	Maryland		North Carolina		Ohio		Virginia	
	SEL As	SEL Bs	SEL As	SEL Bs	SEL As	SEL Bs	SEL As	SEL Bs
Unadjusted	0.076	0.026	-0.002	-0.075	0.043	0.027	0.009	0.067
	[0.018]**	[0.014]	[0.050]	[0.035]*	[0.032]	[0.019]	[0.030]	[0.026]*
Second Quartile								
Third Quartile	0.130	0.070	0.021	-0.046	0.053	0.057	0.046	0.057
	[0.010]**	[0.073]	[0.029]	[0.044]	[0.029]	[0.025]*	[0.023]*	[0.039]
Top Quartile	0.200	0.132	0.056	-0.051	0.131	0.109	0.071	0.066
	[0.005]**	[0.076]	[0.050]	[0.037]	[0.044]**	[0.028]**	[0.017]**	[0.025]**
Adjusted	0.054	0.015	0.068	-0.056	-0.001	0.019	0.002	0.028
without	[0.022]*	[0.028]	[0.040]	[0.027]*	[0.006]	[0.020]	[0.033]	[0.028]
Parental	0.078	0.046	0.070	-0.034	-0.013	0.050	0.037	0.027
Education	[0.016]**	[0.050]	[0.015]**	[0.030]	[0.014]	[0.018]**	[0.031]	[0.043]
Top Quartile	0.121	0.097	0.087	-0.027	0.032	0.086	0.044	0.026
	[0.014]**	[0.015]**	[0.040]*	[0.025]	[0.011]**	[0.017]**	[0.031]	[0.037]
Adjusted	0.046	0.005	0.067	-0.056			0.003	0.026
with	[0.020]*	[0.032]	[0.037]	[0.027]*			[0.033]	[0.028]
Parental	0.059	0.026	0.066	-0.036			0.038	0.019
Education	[0.014]**	[0.054]	[0.013]**	[0.030]			[0.031]	[0.041]
Top Quartile	0.093	0.065	0.080	-0.038			0.044	0.014
	[0.009]**	[0.007]**	[0.038]*	[0.027]			[0.032]	[0.035]
Observations	2,935	1,655	4,847	5,072	4,902	8,353	7,794	3,303

Source: State Systems Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. Coefficients indicate the predicted difference in the probability of finishing on time (from a probit model) between the listed group and the reference group (students from families in the bottom income quartile), holding all control variables at their respective means. Adjusted differences control for SAT/ACT scores, high school GPA, state residency status, race/ethnicity, gender, and university attended.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 4.9a

Probability of Finishing on Time by Race/Ethnicity, Gender, and Selectivity Cluster, 1999 Entering Cohort, Flagships, Unadjusted and Adjusted

		<i>SEL Is</i>	<i>SEL IIs</i>	<i>SEL IIIs</i>
Unadjusted	Black Males	-0.241 [0.059]**	-0.124 [0.042]**	-0.129 [0.028]**
	Hispanic Males	-0.229 [0.041]**	-0.073 [0.044]	-0.058 [0.026]*
	Asian Males	-0.106 [0.058]	0.015 [0.037]	0.083 [0.067]
	White Females	0.094 [0.022]**	0.152 [0.018]**	0.172 [0.016]**
	Black Females	-0.022 [0.039]	0.009 [0.051]	0.075 [0.069]
	Hispanic Females	-0.152 [0.038]**	0.097 [0.057]	0.153 [0.031]**
	Asian Females	-0.001 [0.026]	0.112 [0.035]**	0.188 [0.048]**
	Adjusted	Black Males	-0.143 [0.038]**	-0.057 [0.032]
Hispanic Males	-0.098 [0.017]**	-0.070 [0.025]**	-0.094 [0.034]**	
Asian Males	-0.015 [0.045]	0.003 [0.021]	0.014 [0.027]	
White Females	0.094 [0.015]**	0.132 [0.010]**	0.130 [0.011]**	
Black Females	0.076 [0.033]*	0.056 [0.027]*	0.049 [0.035]	
Hispanic Females	0.022 [0.021]	0.093 [0.039]*	0.065 [0.026]*	
Asian Females	0.084 [0.010]**	0.087 [0.015]**	0.076 [0.013]**	
	Observations	17,279	22,068	17,083

Source: Flagships Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. Coefficients indicate the predicted difference in the probability of finishing on time (from a probit model) between the listed group and the reference group (white males), holding all control variables at their respective means. Adjusted differences control for family income quartile, SAT/ACT scores, high school GPA, state residency status, and university attended.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 4.9b
 Probability of Finishing on Time by Race, Gender, and Selectivity Cluster,
 1999 Entering Cohort, State Systems, Unadjusted and Adjusted

	Maryland		North Carolina		Ohio		Virginia	
	SEL As	SEL Bs	SEL As	SEL Bs	SEL As	SEL Bs	SEL As	SEL Bs
Unadjusted	-0.257 [0.048]**	-0.268 [0.122]*	-0.143 [0.032]**	-0.070 [0.029]*	-0.202 [0.101]*	-0.110 [0.069]	-0.090 [0.096]	-0.165 [0.054]**
White Females	0.133 [0.023]**	0.123 [0.034]**	0.199 [0.060]**	0.163 [0.013]**	0.206 [0.059]**	0.202 [0.027]**	0.157 [0.070]*	0.087 [0.054]
Black Females	-0.006 [0.000]**	0.082 [0.140]	0.157 [0.025]**	0.120 [0.056]*	-0.062 [0.084]	0.053 [0.026]*	0.136 [0.061]*	-0.003 [0.072]
Adjusted	-0.158 [0.042]**	-0.140 [0.081]	-0.100 [0.014]**	0.014 [0.039]	-0.076 [0.035]*	-0.059 [0.066]	-0.088 [0.069]	-0.069 [0.033]*
White Females	0.106 [0.050]*	0.129 [0.039]**	0.141 [0.014]**	0.127 [0.011]**	0.172 [0.019]**	0.166 [0.016]**	0.100 [0.011]**	0.082 [0.030]**
Black Females	0.103 [0.037]**	0.227 [0.069]**	0.144 [0.047]**	0.158 [0.056]**	0.046 [0.016]**	0.160 [0.036]**	0.086 [0.009]**	0.113 [0.035]**
Observations	2,935	1,655	4,847	5,072	4,902	8,353	7,794	3,303

Source: State Systems Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. Coefficients indicate the predicted difference in the probability of finishing on time (from a probit model) between the listed group and the reference group (white males), holding all control variables at their respective means. Adjusted differences control for family income quartile, SAT/ACT scores, high school GPA, state residency status, and university attended.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 4.10a

Rank-in-Class at Graduation by Socioeconomic Status and Selectivity Cluster,
1999 Entering Cohort, Flagships, Unadjusted and Adjusted

		<i>SEL Is</i>	<i>SEL IIs</i>	<i>SEL IIIs</i>
Unadjusted	Middle SES	6.3 [1.0]**	4.9 [0.7]*	3.3 [0.9]*
	High SES	12.6 [0.8]**	9.0 [1.7]*	7.5 [1.5]**
Adjusted	Middle SES	-0.9 [0.8]	0.6 [0.1]*	-0.4 [0.9]
	High SES	1.1 [1.1]	3.3 [0.4]*	1.7 [0.9]
Observations		17,170	8,550	10,626

Source: Flagships Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. Coefficients indicate the predicted difference in rank-in-class (in percentile points) relative to the reference group (low-SES students). Adjusted differences control for SAT/ACT scores, high school GPA, state residency status, race/ethnicity, gender, major, and university attended.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 4.10b

Rank-in-Class at Graduation by Socioeconomic Status and Selectivity Cluster,
1999 Entering Cohort, State Systems, Unadjusted and Adjusted

		<i>Maryland</i>		<i>North Carolina</i>		<i>Virginia</i>	
		<i>SEL As</i>	<i>SEL Bs</i>	<i>SEL As</i>	<i>SEL Bs</i>	<i>SEL As</i>	<i>SEL Bs</i>
Unadjusted	Middle SES	6.0	-0.2	6.8	3.9	2.7	0.5
		[2.7]	[3.5]	[2.2]	[1.7]	[1.7]	[1.5]
	High SES	10.5	-1.3	13.0	4.2	8.1	1.9
		[4.0]	[2.3]	[3.7]	[2.1]	[1.8]*	[2.2]
Adjusted	Middle SES	2.4	-0.5	0.5	2.5	0.2	-0.4
		[0.5]	[2.5]	[1.5]	[1.1]	[1.2]	[0.7]
	High SES	4.5	1.0	2.1	2.8	3.6	-0.4
		[1.4]	[1.5]	[0.8]	[1.3]	[1.3]	[0.7]
	Observations	2,936	1,656	4,847	5,072	7,872	3,428

Source: State Systems Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. Coefficients indicate the predicted difference in rank-in-class (in percentile points) relative to the reference group (low-SES students). Adjusted differences control for SAT/ACT scores, high school GPA, state residency status, race/ethnicity, gender, major, and university attended.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 4.11a

Rank-in-Class at Graduation by Parental Education and Selectivity Cluster,
1999 Entering Cohort, Flagships, Unadjusted and Adjusted

		<i>SEL Is</i>	<i>SEL IIs</i>	<i>SEL IIIs</i>
Unadjusted	Some College	2.8 [0.5]**	-0.6 [2.2]	0.7 [1.3]
	College Degree	8.5 [0.6]**	5.3 [0.4]**	5.2 [1.2]*
	Graduate Degree	13.4 [1.0]**	6.0 [0.8]*	8.2 [2.2]*
Adjusted without Family Income	Some College	-2.6 [0.5]**	-0.8 [2.0]	-0.8 [1.3]
	College Degree	-0.9 [1.0]	2.7 [0.9]	0.7 [0.9]
	Graduate Degree	2.0 [0.9]	2.6 [0.2]**	2.8 [1.5]
Adjusted with Family Income	Some College	-2.3 [0.5]**	-0.9 [2.0]	-0.7 [1.2]
	College Degree	-0.6 [0.7]	2.3 [0.7]	0.7 [0.7]
	Graduate Degree	2.0 [0.6]*	1.9 [0.4]*	2.7 [1.4]
Observations		17,170	8,550	10,626

Source: Flagships Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. Coefficients indicate the predicted difference in rank-in-class (in percentile points) relative to the reference group (no college). Adjusted differences control for SAT/ACT scores, high school GPA, state residency status, race/ethnicity, gender, major, and university attended.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 4.11b

Rank-in-Class at Graduation by Parental Education and Selectivity Cluster, 1999 Entering Cohort, State Systems, Unadjusted and Adjusted

		<i>Maryland</i>		<i>North Carolina</i>		<i>Virginia</i>	
		<i>SEL As</i>	<i>SEL Bs</i>	<i>SEL As</i>	<i>SEL Bs</i>	<i>SEL As</i>	<i>SEL Bs</i>
Unadjusted	Some College	-0.5 [3.3]	5.1 [1.4]	3.0 [0.6]*	0.3 [1.0]	-1.1 [1.8]	0.4 [1.5]
	College Degree	4.8 [3.5]	2.4 [2.3]	8.7 [2.9]	2.7 [1.4]	3.9 [1.4]*	0.8 [2.3]
	Graduate Degree	7.8 [4.2]	3.1 [0.5]*	14.2 [3.0]*	5.7 [1.5]**	7.2 [2.9]	3.4 [2.4]
Adjusted without Family Income	Some College	-1.5 [2.1]	2.5 [2.3]	-1.3 [1.2]	-0.7 [0.8]	-2.9 [1.2]	-0.2 [1.0]
	College Degree	1.9 [1.7]	0.5 [2.1]	0.9 [0.9]	1.1 [1.0]	0.7 [0.6]	-0.2 [1.7]
Adjusted with Family Income	Some College	3.4 [1.8]	2.5 [0.9]	2.9 [0.7]	3.2 [1.2]*	3.2 [1.1]*	0.3 [1.3]
	College Degree	1.6 [1.3]	0.2 [2.1]	0.8 [1.0]	1.2 [1.1]	0.4 [0.4]	0.0 [1.8]
	Graduate Degree	3.1 [1.2]	2.0 [2.0]	2.6 [0.9]	3.3 [1.2]*	2.7 [1.0]	0.6 [1.5]
Observations		2,936	1,656	4,847	5,072	7,872	3,428

Source: State Systems Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. Coefficients indicate the predicted difference in rank-in-class (in percentile points) relative to the reference group (no college). Adjusted differences control for SAT/ACT scores, high school GPA, state residency status, race/ethnicity, gender, major, and university attended.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 4.12a

Rank-in-Class at Graduation by Family Income and Selectivity Cluster,
1999 Entering Cohort, Flagships, Unadjusted and Adjusted

		<i>19 Universities</i>			<i>14 Universities with Parental Education Data</i>		
		<i>SEL Is</i>	<i>SEL IIs</i>	<i>SEL IIIs</i>	<i>SEL Is</i>	<i>SEL IIs</i>	<i>SEL IIIs</i>
Unadjusted	Second Quartile	2.3 [1.1]	3.8 [1.0]*	1.2 [1.3]	2.3 [1.1]	2.2 [0.3]*	0.3 [1.5]
	Third Quartile	4.7 [0.8]**	6.1 [0.7]**	2.4 [1.2]	4.7 [0.8]**	5.3 [0.9]*	2.7 [1.5]
	Top Quartile	10.4 [1.0]**	8.9 [1.2]**	4.5 [1.5]*	10.4 [1.0]**	7.6 [1.0]*	4.5 [1.6]
Adjusted without Parental Education	Second Quartile	-1.7 [1.0]	-0.1 [1.0]	-1.2 [1.2]	-1.7 [1.0]	-1.4 [1.2]	-2.4 [1.3]
	Third Quartile	-2.5 [1.0]	-0.1 [0.5]	-1.5 [0.8]	-2.5 [1.0]	-0.3 [1.0]	-1.6 [1.1]
	Top Quartile	0.2 [0.9]	2.0 [0.6]*	0.4 [1.0]	0.2 [0.9]	1.6 [0.8]	-0.2 [1.4]
Adjusted with Parental Education	Second Quartile				-1.7 [1.0]	-1.6 [1.3]	-2.5 [1.3]
	Third Quartile				-2.8 [0.9]*	-0.8 [1.0]	-2.0 [1.1]
	Top Quartile				-0.8 [0.7]	0.6 [1.3]	-1.1 [1.3]
Observations		17,170	16,858	17,121	17,170	8,550	10,626

Source: Flagships Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. Coefficients indicate the predicted difference in rank-in-class (in percentile points) relative to the reference group (bottom quartile). Adjusted differences control for SAT/ACT scores, high school GPA, state residency status, race/ethnicity, gender, major, and university attended.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 4.12b

Rank-in-Class at Graduation by Family Income and Selectivity Cluster, 1999 Entering Cohort,
State Systems, Unadjusted and Adjusted

	Maryland			North Carolina			Ohio			Virginia		
	SEL As	SEL Bs	SEL As	SEL As	SEL Bs	SEL As	SEL As	SEL Bs	SEL As	SEL As	SEL Bs	
Unadjusted	1.1 [0.1]	4.2 [2.6]	5.9 [3.0]	5.9 [3.0]	-3.3 [3.5]	2.5 [1.2]	2.5 [1.2]	5.1 [0.9]**	1.4 [2.7]	1.4 [2.7]	3.9 [2.3]	
Third Quartile	5.8	3.0	6.7	6.7	-1.4	5.6	5.6	4.6	3.7	3.7	3.8	
Top Quartile	[1.8]	[4.3]	[1.4]*	[1.4]*	[4.4]	[0.7]	[0.7]	[0.9]**	[1.9]	[1.9]	[1.9]	
Adjusted	8.3 [3.2]	-0.2 [4.4]	12.5 [4.1]	12.5 [4.1]	-1.9 [4.3]	7.5 [1.0]	7.5 [1.0]	5.7 [1.2]**	6.9 [2.0]*	6.9 [2.0]*	2.8 [2.7]	
without	-1.5	1.2	0.7	0.7	-2.3	-0.3	-0.3	0.8	-1.4	-1.4	0.7	
Parental	[1.2]	[3.4]	[1.9]	[1.9]	[1.7]	[1.7]	[1.7]	[0.6]	[1.7]	[1.7]	[1.6]	
Education	0.2	3.0	-0.5	-0.5	-1.5	0.5	0.5	0.0	-0.6	-0.6	0.1	
Top Quartile	[0.1]	[4.6]	[0.2]	[0.2]	[2.4]	[1.1]	[1.1]	[0.8]	[0.7]	[0.7]	[1.0]	
Adjusted	1.4	1.8	1.5	1.5	-1.0	1.4	1.4	1.0	1.6	1.6	-0.3	
with	[1.0]	[4.7]	[1.5]	[1.5]	[2.2]	[1.0]	[1.0]	[0.7]	[0.6]*	[0.6]*	[1.1]	
Parental	-1.8	1.3	0.7	0.7	-2.3				-1.4	-1.4	0.7	
Education	[1.1]	[3.7]	[1.9]	[1.9]	[1.5]				[1.7]	[1.7]	[1.5]	
Top Quartile	-0.6	2.9	-0.9	-0.9	-1.7				-1.0	-1.0	0.1	
Top Quartile	[0.1]	[5.1]	[0.3]	[0.3]	[2.2]				[0.8]	[0.8]	[1.0]	
Top Quartile	0.0	1.6	0.5	0.5	-1.8				0.4	0.4	-0.4	
Top Quartile	[1.0]	[5.6]	[1.5]	[1.5]	[2.1]				[0.4]	[0.4]	[1.1]	
Observations	2,936	1,656	4,847	4,847	5,072	4,902	4,902	8,353	7,872	7,872	3,428	

Source: State Systems Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. Coefficients indicate the predicted difference in rank-in-class (in percentile points) relative to the reference group (bottom quartile). Adjusted differences control for SAT/ACT scores, high school GPA, state residency status, race/ethnicity, gender, major, and university attended.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 4.13a

Rank-in-Class at Graduation by Race/Ethnicity, Gender, and Selectivity Cluster, 1999 Entering Cohort, Flagships, Unadjusted and Adjusted

		<i>SEL Is</i>	<i>SEL IIs</i>	<i>SEL IIIs</i>
Unadjusted	Black Males	-26.1 [1.8]**	-20.8 [1.7]**	-19.7 [1.2]**
	Hispanic Males	-14.7 [1.3]**	-9.5 [3.8]	-11.1 [1.5]**
	Asian Males	-7.6 [1.7]**	-1.8 [0.4]**	-2.5 [2.0]
	White Females	7.3 [1.2]**	10.2 [0.6]**	8.2 [0.7]**
	Black Females	-19.9 [2.6]**	-15.3 [3.4]*	-9.2 [3.0]*
	Hispanic Females	-8.7 [1.0]**	-3.1 [2.6]	-1.8 [3.0]
	Asian Females	0.1 [1.3]	4.0 [1.2]*	1.5 [2.0]
	Adjusted	Black Males	-7.7 [1.1]**	-3.2 [1.4]
	Hispanic Males	-7.6 [1.5]**	-1.8 [1.9]	-5.8 [1.8]*
	Asian Males	-8.3 [1.8]**	-3.6 [0.3]**	-2.9 [1.0]*
	White Females	8.3 [1.1]**	9.3 [0.9]**	6.5 [0.6]**
	Black Females	-2.6 [2.4]	0.6 [1.6]	0.0 [2.1]
	Hispanic Females	3.9 [1.8]	4.7 [1.3]*	2.6 [2.1]
	Asian Females	0.1 [1.7]	3.1 [1.9]	0.9 [1.3]
Observations		17,170	16,858	17,121

Source: Flagships Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. Coefficients indicate the predicted difference in rank-in-class (in percentile points) relative to the reference group (white males). Adjusted differences control for SAT/ACT scores, high school GPA, state residency status, family income quartile, major, and university attended.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 4.13b

Rank-in-Class at Graduation by Race, Gender, and Selectivity Cluster, 1999 Entering Cohort,
State Systems, Unadjusted and Adjusted

	Maryland		North Carolina		Ohio		Virginia		
	SEL As	SEL Bs	SEL As	SEL Bs	SEL As	SEL Bs	SEL As	SEL Bs	
Unadjusted	Black Males	-21.5 [3.4]	-15.4 [3.9]	-23.9 [6.6]	-14.0 [2.3]**	-22.5 [1.9]	-21.0 [1.7]**	-20.9 [0.9]**	-13.2 [2.4]**
	White Females	11.4 [2.4]	14.4 [1.1]**	6.2 [1.1]*	13.9 [0.7]**	9.5 [4.3]	11.2 [1.4]**	8.9 [2.2]*	9.0 [1.5]**
	Black Females	-7.5 [2.5]	-2.0 [4.5]	-17.9 [4.3]	-2.5 [2.9]	-14.3 [1.2]	-10.5 [2.2]**	-16.9 [3.0]**	-6.0 [4.3]
Adjusted	Black Males	-7.2 [0.9]	-5.2 [3.2]	-5.0 [1.5]	-3.7 [0.7]**	-4.6 [0.7]	-9.1 [1.4]**	-4.3 [1.2]*	-8.1 [1.5]**
	White Females	10.8 [3.8]	11.4 [1.6]*	8.6 [1.0]*	9.0 [0.5]**	9.5 [2.9]	7.3 [1.4]**	8.4 [1.1]**	4.7 [0.8]**
	Black Females	5.1 [2.6]	6.3 [6.2]	-0.3 [0.9]	2.8 [3.0]	1.6 [3.0]	-0.8 [1.6]	-0.3 [1.7]	-2.8 [1.9]
Observations	2,936	1,656	4,847	5,072	4,902	8,353	7,872	3,428	

Source: State Systems Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. Coefficients indicate the predicted difference in rank-in-class (in percentile points) relative to the reference group (white males). Adjusted differences control for SAT/ACT scores, high school GPA, state residency status, family income quartile, major, and university attended.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 4.14a
 Predicting Rank-in-Class at Graduation by Race/Ethnicity, Gender, and Selectivity Cluster, 1999 Entering Cohort, Flagships

	SEL Is			SEL IIs			SEL IIIs							
Black Males	-26.1 [1.8]**	-23.9 [1.8]**	-12.0 [1.6]**	-15.3 [1.1]**	-7.7 [1.1]**	-19.4 [1.6]**	-8.9 [1.0]**	-8.2 [1.9]*	-3.2 [1.4]	-19.7 [1.2]**	-18.3 [1.4]**	-8.1 [2.2]**	-11.3 [1.4]**	-7.2 [1.8]**
Hispanic Males	-14.7 [1.3]**	-14.0 [1.6]**	-8.0 [2.3]*	-12.0 [1.1]**	-7.6 [1.5]**	-8.6 [3.7]	-3.4 [2.5]	-4.6 [2.7]	-1.8 [1.9]	-11.1 [1.5]**	-10.9 [2.1]**	-5.8 [2.6]	-7.9 [1.5]**	-5.8 [1.8]**
Asian Males	-7.6 [1.7]**	-7.6 [1.9]**	-8.1 [1.8]**	-8.1 [1.8]**	-8.3 [1.8]**	-1.9 [0.8]	-2.8 [0.6]**	-3.4 [0.6]**	-3.6 [0.3]**	-2.5 [2.0]	-4.6 [2.9]	-3.6 [2.3]	-3.6 [0.9]**	-2.9 [1.0]**
White Females	7.3 [1.2]**	7.6 [1.2]**	10.3 [1.2]**	5.9 [1.0]**	8.3 [1.1]**	10.2 [0.9]**	12.2 [0.7]**	7.5 [1.2]**	9.3 [0.9]**	8.2 [0.7]**	9.3 [0.7]**	10.8 [0.5]**	4.7 [0.5]**	6.5 [0.6]**
Black Females	-19.9 [2.6]**	-17.3 [2.7]**	-4.2 [2.9]	-11.7 [2.3]**	-2.6 [2.4]	-13.4 [3.1]*	-0.9 [1.9]	-6.5 [2.5]	0.6 [1.6]	-9.2 [3.0]*	-7.1 [2.0]**	3.9 [1.3]*	-5.8 [2.7]	0.0 [2.1]
Hispanic Females	-8.7 [1.0]**	-7.3 [1.8]**	4.1 [2.4]	-4.6 [1.4]*	3.9 [1.8]	-2.3 [2.8]	5.6 [1.7]**	-0.3 [2.1]	4.7 [1.3]*	-1.8 [3.0]	-0.1 [2.3]	7.2 [1.8]**	-1.8 [2.0]	2.6 [2.1]
Asian Females	0.1 [1.3]	-0.3 [1.9]	1.9 [2.0]	-2.1 [1.5]	0.1 [1.7]	3.5 [1.9]	6.0 [2.1]*	0.7 [1.9]	3.1 [1.9]	1.5 [2.0]	1.6 [1.6]	5.4 [1.0]**	-2.5 [1.5]	0.9 [1.3]
Standard Controls?	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
SAT/ACT Scores?	No	No	Yes	No	Yes	No	Yes	No	Yes	No	No	Yes	No	Yes
High School GPA?	No	No	No	Yes	Yes	No	No	Yes	Yes	No	No	No	Yes	Yes
Observations	17,170	17,170	17,170	17,170	17,170	16,858	16,858	16,858	16,858	17,121	17,121	17,121	17,121	17,121
R-squared	0.08	0.11	0.22	0.20	0.27	0.06	0.08	0.20	0.24	0.04	0.06	0.22	0.26	0.31

Source: Flagships Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. Coefficients indicate the predicted difference in rank-in-class (in percentile points) relative to the reference group (white males). Standard controls include state residency status, family income quartile, major, and university attended.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 4.14b
 Predicting Rank-in-Class at Graduation by Race, Gender, and Selectivity Cluster, 1999 Entering Cohort, State Systems

	SELAs										SELBs		
Black Males	-22.0 [1.7]**	-20.3 [1.5]**	-8.4 [0.9]**	-11.4 [1.0]**	-4.9 [0.5]**	-15.7 [1.3]**	-15.6 [1.2]**	-6.9 [0.8]**	-10.4 [1.0]**	-6.7 [0.9]**			
White Females	8.6 [1.3]**	10.3 [1.1]**	12.8 [1.1]**	6.8 [0.9]**	9.3 [0.9]**	11.9 [0.8]**	11.2 [0.7]**	13.0 [0.7]**	5.8 [0.7]**	7.9 [0.7]**			
Black Females	-14.3 [2.3]**	-11.5 [2.0]**	2.1 [1.6]	-6.9 [1.7]**	1.7 [1.4]	-5.2 [1.7]**	-5.4 [1.7]**	6.1 [1.4]**	-6.1 [1.4]**	0.5 [1.4]			
Standard Controls?	No	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes			
SAT/ACT Scores?	No	No	Yes	No	Yes	No	No	Yes	No	Yes			
High School GPA?	No	No	No	Yes	Yes	No	No	No	Yes	Yes			
Observations	20,557	20,557	20,557	20,557	20,557	18,509	18,509	18,509	18,509	18,509			
R-squared	0.06	0.08	0.21	0.22	0.28	0.06	0.09	0.24	0.30	0.34			

Source: State Systems Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. Coefficients indicate the predicted difference in rank-in-class (in percentile points) relative to the reference group (white males). Standard controls include state residency status, family income quartile, major, and university attended.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 4.15a

Summary Outcomes by Socioeconomic Status, 1999 Entering Cohort,
Flagships and State System SEL As, Unadjusted and Adjusted

		<i>Best</i>	<i>2nd</i>	<i>3rd</i>	<i>Disappointing</i>
Unadjusted	Middle SES	0.067 [0.006]**	0.025 [0.006]**	-0.032 [0.006]**	-0.060 [0.006]**
	High SES	0.163 [0.005]**	0.049 [0.006]**	-0.060 [0.005]**	-0.152 [0.005]**
Adjusted 1	Middle SES	0.050 [0.006]**	0.024 [0.007]**	-0.023 [0.006]**	-0.051 [0.006]**
	High SES	0.121 [0.006]**	0.052 [0.006]**	-0.042 [0.005]**	-0.132 [0.006]**
Adjusted 2	Middle SES	0.031 [0.007]**	0.029 [0.007]**	-0.009 [0.005]	-0.051 [0.006]**
	High SES	0.086 [0.006]**	0.050 [0.007]**	-0.017 [0.005]**	-0.118 [0.006]**
Observations		55,605	55,605	55,605	55,605

Source: Flagships Database and State Systems Database.

Notes: Standard errors appear in brackets. The reported coefficients are marginal effects from a multinomial logit model, which indicate the predicted difference in the probability of being in a given summary outcome group between the listed subgroup and the reference group (low-SES students), holding all control variables constant at their means. Control variables include high school GPA and SAT/ACT scores; "Adjusted 2" also includes race/ethnicity, gender, state residency status, and institution attended.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 4.15b

Summary Outcomes by Socioeconomic Status, 1999 Entering Cohort,
State System SEL Bs, Unadjusted and Adjusted

		<i>Best</i>	<i>2nd</i>	<i>3rd</i>	<i>Disappointing</i>
Unadjusted	Middle SES	0.038 [0.008]**	0.026 [0.008]**	0.011 [0.008]	-0.076 [0.010]**
	High SES	0.076 [0.008]**	0.050 [0.008]**	0.017 [0.008]*	-0.144 [0.010]**
Adjusted 1	Middle SES	0.039 [0.008]**	0.036 [0.009]**	0.016 [0.008]	-0.090 [0.011]**
	High SES	0.083 [0.008]**	0.072 [0.009]**	0.023 [0.008]**	-0.178 [0.011]**
Adjusted 2	Middle SES	0.040 [0.008]**	0.038 [0.009]**	0.018 [0.008]*	-0.095 [0.011]**
	High SES	0.080 [0.008]**	0.074 [0.009]**	0.029 [0.009]**	-0.183 [0.011]**
Observations		16,315	16,315	16,315	16,315

Source: State Systems Database.

Notes: Standard errors appear in brackets. The reported coefficients are marginal effects from a multinomial logit model, which indicate the predicted difference in the probability of being in a given summary outcome group between the listed subgroup and the reference group (low SES students), holding all control variables constant at their means. Control variables include SAT/ACT scores and high school GPA; "Adjusted 2" also includes race/ethnicity, gender, state residency status, and institution attended.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 4.16a

Summary Outcomes by Race/Ethnicity and Gender, 1999 Entering Cohort,
Flagships and State System SEL As, Unadjusted and Adjusted

		<i>Best</i>	<i>2nd</i>	<i>3rd</i>	<i>Disappointing</i>
Unadjusted	Black Males	-0.175 [0.007]**	-0.087 [0.010]**	0.085 [0.011]**	0.177 [0.012]**
	Hispanic Males	-0.115 [0.009]**	-0.022 [0.012]	0.052 [0.012]**	0.086 [0.012]**
	Asian Males	0.002 [0.007]	0.015 [0.008]*	0.013 [0.007]	-0.030 [0.006]**
	White Females	0.151 [0.004]**	0.018 [0.004]**	-0.108 [0.003]**	-0.060 [0.003]**
	Black Females	-0.090 [0.007]**	0.042 [0.009]**	0.013 [0.008]	0.035 [0.008]**
	Hispanic Females	-0.011 [0.011]	0.033 [0.012]**	-0.010 [0.010]	-0.012 [0.010]
	Asian Females	0.100 [0.008]**	0.055 [0.008]**	-0.065 [0.006]**	-0.089 [0.005]**
	Adjusted 1	Black Males	-0.102 [0.010]**	-0.033 [0.012]**	0.053 [0.011]**
	Hispanic Males	-0.097 [0.009]**	-0.018 [0.013]	0.044 [0.012]**	0.070 [0.012]**
	Asian Males	-0.051 [0.006]**	-0.003 [0.008]	0.037 [0.008]**	0.018 [0.008]*
	White Females	0.166 [0.004]**	0.020 [0.004]**	-0.121 [0.003]**	-0.065 [0.003]**
	Black Females	0.011 [0.010]	0.077 [0.011]**	-0.046 [0.008]**	-0.041 [0.007]**
	Hispanic Females	0.041 [0.012]**	0.041 [0.012]**	-0.043 [0.010]**	-0.040 [0.009]**
	Asian Females	0.053 [0.007]**	0.059 [0.008]**	-0.056 [0.007]**	-0.056 [0.006]**
Adjusted 2	Black Males	-0.098 [0.010]**	-0.065 [0.013]**	0.065 [0.012]**	0.098 [0.011]**
	Hispanic Males	-0.083 [0.010]**	-0.029 [0.013]*	0.039 [0.012]**	0.073 [0.012]**
	Asian Males	-0.029 [0.007]**	0.002 [0.009]	0.032 [0.008]**	-0.005 [0.007]
	White Females	0.160 [0.004]**	0.015 [0.004]**	-0.117 [0.003]**	-0.058 [0.003]**
	Black Females	0.021 [0.011]*	0.047 [0.011]**	-0.034 [0.009]**	-0.034 [0.007]**
	Hispanic Females	0.065 [0.013]**	0.021 [0.013]	-0.052 [0.010]**	-0.035 [0.009]**
	Asian Females	0.081 [0.008]**	0.051 [0.009]**	-0.065 [0.007]**	-0.067 [0.006]**
	Observations		76,573	76,573	76,573

Source: Flagships Database and State Systems Database.

Notes: Standard errors appear in brackets. The reported coefficients are marginal effects from a multinomial logit model, which indicated the predicted difference in the probability of being in a given summary outcome group between the listed subgroup and the reference group (white males), holding all control variables constant at their means. Control variables include SAT/ACT scores and high school GPA; "Adjusted 2" also includes income quartile, state residency status, and institution attended.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 4.16b
 Summary Outcomes by Race and Gender, 1999 Entering Cohort,
 State System SEL Bs, Unadjusted and Adjusted

		<i>Best</i>	<i>2nd</i>	<i>3rd</i>	<i>Disappointing</i>
Unadjusted	Black Males	-0.073 [0.007]**	-0.064 [0.010]**	0.024 [0.013]	0.113 [0.015]**
	White Females	0.126 [0.005]**	0.035 [0.005]**	-0.077 [0.005]**	-0.085 [0.006]**
	Black Females	0.007 [0.007]	-0.013 [0.008]	-0.027 [0.009]**	0.032 [0.011]**
Adjusted 1	Black Males	-0.031 [0.009]**	-0.031 [0.013]*	0.012 [0.013]	0.051 [0.016]**
	White Females	0.099 [0.004]**	0.043 [0.005]**	-0.074 [0.005]**	-0.068 [0.007]**
	Black Females	0.053 [0.009]**	0.014 [0.010]	-0.044 [0.009]**	-0.023 [0.012]
Adjusted 2	Black Males	-0.029 [0.008]**	-0.023 [0.014]	0.011 [0.014]	0.041 [0.017]*
	White Females	0.081 [0.004]**	0.044 [0.006]**	-0.075 [0.005]**	-0.050 [0.007]**
	Black Females	0.059 [0.009]**	0.031 [0.011]**	-0.048 [0.010]**	-0.043 [0.013]**
	Observations	33,874	33,874	33,874	33,874

Source: State Systems Database.

Notes: Standard errors appear in brackets. The reported coefficients are marginal effects from a multinomial logit model, which indicate the predicted difference in the probability of being in a given summary outcome group between the listed subgroup and the reference group (white males), holding all control variables constant at their means. Control variables include high school GPA and SAT/ACT scores; "Adjusted 2" also includes income quartile, state residency status, and institution attended.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 5.1
Six-Year Graduation Rates by Mean SAT/ACT Score of High School,
National Data

<i>Flagships and State System SEL As</i>				
Mean SAT/ACT Score	0.044 [0.004]**	0.033 [0.004]**	0.021 [0.004]**	0.009 [0.004]*
Controls for High School Size and Neighborhood Wealth?	No	Yes	Yes	Yes
Standard Controls Excluding SAT/ACT?	No	No	Yes	Yes
Standard Controls Including SAT/ACT?	No	No	No	Yes
Observations	61,640	61,640	61,640	61,640
<i>State System SEL Bs</i>				
Mean SAT/ACT Score	0.042 [0.006]**	0.039 [0.007]**	0.027 [0.006]**	0.011 [0.006]
Controls for High School Size and Neighborhood Wealth?	No	Yes	Yes	Yes
Standard Controls Excluding SAT/ACT?	No	No	Yes	Yes
Standard Controls Including SAT/ACT?	No	No	No	Yes
Observations	28,527	28,527	28,527	28,527

Source: Flagships Database, State Systems Database, and National High School Database.

Notes: Robust standard errors adjusted for clustering at the high school level appear in brackets. Coefficients indicate the increase in six-year graduation rates associated with every 100-point increase in the mean SAT/ACT score of the high school. Standard controls include race/ethnicity, gender, university dummy variables, and family income.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 5.2
Six-Year Graduation Rates by High School Rank, National Data

<i>Flagships and State System SEL As</i>				
Rank 2	0.048	0.030	0.042	0.029
	[0.008]**	[0.008]**	[0.007]**	[0.007]**
Rank 1	0.105	0.069	0.059	0.034
	[0.009]**	[0.010]**	[0.009]**	[0.008]**
Controls for High School Size and Neighborhood Wealth?	No	Yes	Yes	Yes
Standard Controls Excluding SAT/ACT?	No	No	Yes	Yes
Standard Controls Including SAT/ACT?	No	No	No	Yes
Observations	61,640	61,640	61,640	61,640
<i>State System SEL Bs</i>				
Rank 2	0.073	0.068	0.042	0.033
	[0.011]**	[0.012]**	[0.010]**	[0.010]**
Rank 1	0.100	0.089	0.049	0.024
	[0.015]**	[0.016]**	[0.015]**	[0.014]
Controls for High School Size and Neighborhood Wealth?	No	Yes	Yes	Yes
Standard Controls Excluding SAT/ACT?	No	No	Yes	Yes
Standard Controls Including SAT/ACT?	No	No	No	Yes
Observations	28,527	28,527	28,527	28,527

Source: Flagships Database, State Systems Database, and National High School Database.

Notes: Robust standard errors adjusted for clustering at the high school level appear in brackets. Coefficients indicate the predicted difference in six-year graduation rates between each high school rank group and the reference group (here, Rank 3 high schools). Here high school rank is built from mean SAT/ACT scores and the percentage of seniors taking the SAT/ACT. Standard controls include race/ethnicity, gender, university dummy variables, and family income.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 5.3
 Four-Year College Attendance by Academic Level of High School,
 North Carolina

High School Academic Level II	-0.185 [0.013]**	-0.183 [0.014]**	-0.118 [0.014]**	-0.055 [0.019]**
High School Academic Level III	-0.254 [0.015]**	-0.244 [0.015]**	-0.143 [0.016]**	-0.053 [0.024]*
Control for Race/Ethnicity and Gender?	No	Yes	Yes	Yes
Control for Eighth-Grade Test Scores?	No	No	Yes	Yes
Control for Other High School Characteristics?	No	No	No	Yes
Pseudo <i>R</i> -squared	0.02	0.03	0.22	0.22
Observations	37,859	37,859	37,859	37,859

Source: North Carolina High School Seniors Database.

Notes: Robust standard errors adjusted for clustering at the high school level appear in brackets. Coefficients indicate the predicted difference in four-year college attendance rates between the listed group and the reference group (Level I). Level I is defined as 18–30 AP courses offered, 1005–1490 observed SAT, 944–1490 predicted SAT, 57.32–80.04 percent taking the SAT, or three of the four categories. Level III is defined as fewer than 12 AP courses offered, below 955 observed SAT, below 887 predicted SAT, fewer than 46.3 percent taking the SAT, or three of the four categories. Level II is defined as a school that does not fit into Level I or Level III. Other high school characteristics include number of seniors, location, and wealth of the neighborhood in which the high school is located.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 5.4

Six-Year Graduation Rates by Academic Level of High School, North Carolina

<i>SEL As</i>					
High School Academic Level II	-0.039 [0.005]**	-0.036 [0.005]**	-0.041 [0.015]**	-0.025 [0.014]	-0.005 [0.013]
High School Academic Level III	-0.060 [0.048]	-0.042 [0.043]	-0.061 [0.062]	-0.034 [0.061]	-0.001 [0.056]
Control for Eighth-Grade Test Scores?	No	Yes	Yes	Yes	Yes
Control for Race/Ethnicity and Gender?	No	No	Yes	Yes	Yes
Control for Family Income and Parental Education?	No	No	No	Yes	Yes
Control for Other High School Characteristics?	No	No	No	No	Yes
Pseudo <i>R</i> -squared	0.00	0.01	0.06	0.06	0.07
Observations	2,990	2,990	2,990	2,990	2,990
<i>SEL Bs</i>					
High School Academic Level II	-0.052 [0.007]**	-0.048 [0.006]**	-0.043 [0.009]**	-0.028 [0.010]**	-0.040 [0.014]**
High School Academic Level III	-0.049 [0.014]**	-0.037 [0.013]**	-0.040 [0.024]	-0.017 [0.025]	-0.030 [0.034]
Control for Eighth-Grade Test Scores?	No	Yes	Yes	Yes	Yes
Control for Race/Ethnicity and Gender?	No	No	Yes	Yes	Yes
Control for Family Income and Parental Education?	No	No	No	Yes	Yes
Control for Other High School Characteristics?	No	No	No	No	Yes
Pseudo <i>R</i> -squared	0.00	0.01	0.03	0.03	0.04
Observations	5,281	5,281	5,281	5,281	5,281

Source: North Carolina High School Seniors Database.

Notes: Robust standard errors adjusted for clustering at the high school level appear in brackets. Coefficients indicate the predicted difference in six-year graduation rates between the listed group and the reference group (Level I). Level I is defined as 18–30 AP courses offered, 1005–1490 observed SAT, 944–1490 predicted SAT, 57.32–80.04 percent taking the SAT, or three of the four categories. Level III is defined as fewer than 12 AP courses offered, below 955 observed SAT, below 887 predicted SAT, fewer than 46.3 percent taking the SAT, or three of the four categories. Level II is defined as a school that does not fit into Level I or Level III. Other high school characteristics include number of seniors and location and wealth of the neighborhood in which the high school is located.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 5.5

Six-Year Graduation Rates by Academic Level of High School and within University-Reported High School GPA Ranges, North Carolina

<i>SEL As</i>						
	<i>All Students</i>		<i>2.5–2.99</i>	<i>3.0–3.49</i>	<i>3.5–4.0</i>	<i>Above 4.0</i>
High School Academic Level II	–0.039	–0.006	—	0.076	–0.009	–0.014
	[0.005]**	[0.013]	—	[0.053]	[0.051]	[0.008]
High School Academic Level III	–0.062	–0.003	—	0.152	0.053	–0.077
	[0.046]	[0.055]	—	[0.075]*	[0.077]	[0.016]**
Standard Controls?	No	Yes	—	Yes	Yes	Yes
Pseudo <i>R</i> -Squared	0.00	0.07	—	0.14	0.07	0.05
Observations	2,996	2,996	—	200	1,092	1,655
<i>SEL Bs</i>						
	<i>All Students</i>		<i>Below 2.5</i>	<i>2.5–2.99</i>	<i>3.0–3.49</i>	<i>3.5–4.0</i>
High School Academic Level II	–0.052	–0.042	–0.050	–0.028	–0.093	–0.045
	[0.007]**	[0.014]**	[0.138]	[0.036]	[0.030]**	[0.030]
High School Academic Level III	–0.050	–0.033	–0.065	–0.088	–0.103	–0.037
	[0.014]**	[0.034]	[0.133]	[0.085]	[0.074]	[0.033]
Standard Controls?	No	Yes	Yes	Yes	Yes	Yes
Pseudo <i>R</i> -Squared	0.00	0.04	0.18	0.04	0.05	0.04
Observations	5,310	5,310	147	792	1,799	2,556

Source: North Carolina High School Seniors Database.

Notes: Robust standard errors adjusted for clustering at the high school level appear in brackets. Coefficients indicate the predicted difference in six-year graduation rates between the listed group and the reference group (Level I). Level I is defined as 18–30 AP courses offered, 1005–1490 observed SAT, 944–1490 predicted SAT, 57.32–80.04 percent taking the SAT, or three of the four categories. Level III is defined as fewer than 12 AP courses offered, below 955 observed SAT, below 887 predicted SAT, fewer than 46.3 percent taking the SAT, or three of the four categories. Level II is defined as a school that does not fit into Level I or Level III. Standard controls include race/ethnicity, gender, eighth-grade test scores, family income, parental education, indicators for university attended, the number of seniors in the high school, the wealth of the neighborhood of the high school, and the location of the high school.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 5.6

Undermatch Rates by Parental Education and Family Income, North Carolina

<i>Parental Education</i>					
Some College	-0.114	-0.119	-0.109	-0.107	-0.084
	[0.022]**	[0.022]**	[0.023]**	[0.023]**	[0.024]**
College Degree	-0.203	-0.205	-0.175	-0.159	-0.106
	[0.022]**	[0.022]**	[0.021]**	[0.022]**	[0.023]**
Graduate Degree	-0.300	-0.296	-0.258	-0.225	-0.142
	[0.021]**	[0.021]**	[0.022]**	[0.023]**	[0.024]**
Control for Race/Ethnicity and Gender?	No	Yes	Yes	Yes	Yes
Control for High School Characteristics and Academic Level?	No	No	Yes	Yes	Yes
Control for SAT Scores and High School GPA?	No	No	No	Yes	Yes
Control for Family Income?	No	No	No	No	Yes
Pseudo <i>R</i> -squared	0.03	0.04	0.05	0.08	0.09
Observations	5,211	5,211	5,211	5,211	5,211
<i>Family Income</i>					
Second Quartile	-0.037	-0.042	-0.039	-0.041	-0.029
	[0.025]	[0.025]	[0.026]	[0.026]	[0.026]
Third Quartile	-0.169	-0.177	-0.163	-0.154	-0.123
	[0.023]**	[0.024]**	[0.024]**	[0.025]**	[0.025]**
Top Quartile	-0.308	-0.313	-0.283	-0.267	-0.224
	[0.023]**	[0.023]**	[0.024]**	[0.024]**	[0.025]**
Control for Race/Ethnicity and Gender?	No	Yes	Yes	Yes	Yes
Control for High School Characteristics and Academic Level?	No	No	Yes	Yes	Yes
Control for SAT Scores and High School GPA?	No	No	No	Yes	Yes
Control for Parental Education?	No	No	No	No	Yes
Pseudo <i>R</i> -squared	0.04	0.05	0.06	0.09	0.09
Observations	5,211	5,211	5,211	5,211	5,211

Source: North Carolina High School Seniors Database.

Notes: Robust standard errors adjusted for clustering at the high school level appear in brackets. Coefficients indicate the predicted difference in the undermatch rate between the listed group and the reference group (no college in the case of parental education and bottom quartile in the case of family income). High school characteristics include number of seniors, location, and the wealth of the neighborhood in which the high school is located.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 5.7

Undermatch Rates by Academic Level of High School, North Carolina

High School Academic Level II	0.150 [0.022]**	0.145 [0.021]**	0.076 [0.020]**	0.042 [0.025]	0.020 [0.025]
High School Academic Level III	0.185 [0.036]**	0.173 [0.036]**	0.075 [0.037]*	0.025 [0.042]	-0.016 [0.041]
Control for Race/Ethnicity and Gender?	No	Yes	Yes	Yes	Yes
Control for Family Income and Parental Education?	No	No	Yes	Yes	Yes
Other High School Characteristics?	No	No	No	Yes	Yes
Control for SAT Scores and High School GPA?	No	No	No	No	Yes
Pseudo <i>R</i> -squared	0.02	0.03	0.06	0.07	0.09
Observations	5,211	5,211	5,211	5,211	5,211

Source: North Carolina High School Seniors Database.

Notes: Robust standard errors adjusted for clustering at the high school level appear in brackets. Coefficients indicate the predicted difference in the undermatch rate between the listed group and the reference group (Level I). Level I is defined as 18–30 AP courses taken, 1005–1490 observed SAT, 944–1490 predicted SAT, 57.32–80.04 percent taking the SAT, or three of the four categories. Level III is defined as fewer than 12 AP courses taken, below 955 observed SAT, below 887 predicted SAT, fewer than 46.3 percent taking the SAT, or three of the four categories. Level II is defined as a school that does not fit into Level I or Level III. High school characteristics include number of seniors, location, and the wealth of the neighborhood in which the high school is located.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 5.8
 Graduation Rates by Undermatch Status, North Carolina

<i>Six-Year Graduation Rates</i>				
Undermatched from a SEL A to a SEL B (0/1)	-0.143 [0.017]**	-0.107 [0.017]**	-0.091 [0.017]**	-0.084 [0.019]**
Include Standard Controls?	No	Yes	Yes	Yes
Control for Family Income and Parental Education?	No	No	Yes	Yes
High School Fixed Effects?	No	No	No	Yes
Pseudo <i>R</i> -squared	0.02	0.06	0.07	0.13
Observations	3,608	3,608	3,608	3,439
<i>Four-Year Graduation Rates</i>				
Undermatched from a SEL A to a SEL B (0/1)	-0.149 [0.018]**	-0.117 [0.020]**	-0.097 [0.020]**	-0.099 [0.022]**
Include Standard Controls?	No	Yes	Yes	Yes
Control for Family Income and Parental Education?	No	No	Yes	Yes
High School Fixed Effects?	No	No	No	Yes
Pseudo <i>R</i> -squared	0.01	0.07	0.08	0.14
Observations	3,608	3,608	3,608	3,521

Source: North Carolina High School Seniors Database.

Notes: Standard errors adjusted for clustering at the university level appear in brackets. Standard controls include SAT scores, adjusted high school GPA, race/ethnicity, and gender. These regressions are run only on students who attended a SEL A or a SEL B and had the academic qualifications to be presumed eligible for a SEL A.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 5.9

College-Going Patterns of Students in the Top Quartile of the Eighth-Grade Test Score Distribution by Academic Level of High School, North Carolina (Percent)

	<i>Enrolled at a Two-Year College</i>	<i>No College Enrollment</i>	<i>Sub-Totals</i>
Level I High School	5	15	20
Level II High School	13	18	31
Level III High School	15	23	38
All Levels	11	18	29

Source: North Carolina High School Seniors Database.

Notes: Level I is defined as 18–30 AP courses offered, 1005–1490 observed SAT, 944–1490 predicted SAT, 57.32–80.04 percent taking the SAT, or three of the four categories. Level III is defined as fewer than 12 AP courses offered, below 955 observed SAT, below 887 predicted SAT, fewer than 46.3 percent taking the SAT, or three of the four categories. Level II is defined as a school that does not fit into Level I or Level III.

APPENDIX TABLE 5.10
Summary Statistics, North Carolina High Schools

<i>All Students (Percent)</i>	
Number of AP Courses Offered	
Fewer than 10	19
10–14	35
15–19	22
20–30	24
Percent Taking the SAT	
Under 50	43
50–66.4	37
66.5 percent or more	20
SAT Scores (Based on Observed Data)	
Below 900	14
900–999	50
1000–1099	34
1100 and above	Fewer than 1
SAT Scores (Based on Predicted Values)	
Below 900	40
900–999	44
1000–1099	14
1100 and above	Fewer than 1
Academic Level of High School	
Level I	23
Level II	53
Level III	24
Size (Number of Seniors in Database)	
Fewer than 100	8
100–300	67
More than 300	25
Location	
Town and Rural	55
Urban Fringe	16
City	29
Wealth of Neighborhood (Average Family Income)	
Less than 50K	62
50K–69.9K	28
70K–107K	10
Percent Black	
Fewer than 10	20
10–19.9	19
20–49.9	45
50– 66.6	10
66.7 and above	6

Source: North Carolina High School Seniors Database.

Note: Predicted SAT scores are based on end-of-course English I and Algebra I examinations taken by North Carolina students in their freshman or sophomore year or on their actual SAT score if they took the SAT.

APPENDIX TABLE 6.1
 Graduation Rates by SAT/ACT Scores and Adjusted High School GPA, 1999 Entering Cohort, Flagships

Six-Year Graduation Rates

	SEL Is		SEL IIs		SEL IIIs	
SAT/ACT (Standardized)	0.018 [0.003]**	0.018 [0.002]**	0.009 [0.002]**	0.016 [0.004]**	0.010 [0.005]	0.013 [0.005]**
Adjusted High School GPA (Standardized)	0.045 [0.004]**	0.044 [0.004]**	0.039 [0.004]**	0.067 [0.003]**	0.062 [0.003]**	0.109 [0.006]**
University Dummies?	Yes	Yes	Yes	Yes	Yes	Yes
Sample Restricted?	No	Yes	Yes	Yes	Yes	Yes
Controls Included?	No	No	Yes	No	Yes	No
Observations	21,923	20,541	20,541	31,569	29,247	28,115

Four-Year Graduation Rates

	SEL Is		SEL IIs		SEL IIIs	
SAT/ACT (Standardized)	0.043 [0.004]**	0.044 [0.004]**	0.029 [0.002]**	0.021 [0.007]**	0.024 [0.008]**	0.009 [0.009]
Adjusted High School GPA (Standardized)	0.074 [0.006]**	0.075 [0.006]**	0.073 [0.006]**	0.085 [0.006]**	0.077 [0.006]**	0.097 [0.006]**
University Dummies?	Yes	Yes	Yes	Yes	Yes	Yes
Sample Restricted?	No	Yes	Yes	No	Yes	Yes
Controls Included?	No	No	Yes	No	Yes	No
Observations	21,923	20,541	20,541	31,569	29,247	28,115

Source: Flagships Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. SAT/ACT scores and high school GPA are standardized to have a mean of zero and a standard deviation of one within each selectivity cluster. Reported coefficients are calculated from probit regressions as the predicted increase in graduation probability associated with increasing either SAT/ACT scores or high school GPA by one standard deviation, holding all control variables at their respective means. "Sample Restricted" indicates that observations with missing values on any of the control variables are excluded. Control variables are state residency status, race/ethnicity, gender, and family income quartile.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 6.2
 Graduation Rates by SAT/ACT Scores and Adjusted High School GPA, 1999 Entering Cohort, State Systems

Six-Year Graduation Rates

	SEL As		SEL Bs		HBCUs				
SAT/ACT (Standardized)	0.012 [0.004]**	0.011 [0.004]**	0.007 [0.004]	0.012 [0.008]	0.013 [0.008]	0.012 [0.007]	-0.007 [0.006]	-0.006 [0.007]	0.007 [0.006]
Adjusted High School GPA (Standardized)	0.072 [0.007]**	0.073 [0.007]**	0.068 [0.006]**	0.116 [0.008]**	0.117 [0.008]**	0.115 [0.008]**	0.108 [0.012]**	0.109 [0.012]**	0.104 [0.011]**
University Dummies?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample Restricted?	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Controls Included?	No	No	Yes	No	No	Yes	No	No	Yes
Observations	30,301	28,083	28,083	41,573	38,382	38,382	6,481	6,122	6,122

Four-Year Graduation Rates

	SEL As		SEL Bs		HBCUs				
SAT/ACT (Standardized)	0.011 [0.011]	0.011 [0.011]	0.016 [0.009]	0.009 [0.005]	0.010 [0.005]	0.018 [0.005]**	0.015 [0.006]**	0.016 [0.006]**	0.026 [0.006]**
Adjusted High School GPA (Standardized)	0.108 [0.009]**	0.108 [0.009]**	0.094 [0.010]**	0.104 [0.004]**	0.104 [0.004]**	0.095 [0.004]**	0.093 [0.005]**	0.092 [0.005]**	0.084 [0.004]**
University Dummies?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample Restricted?	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Controls Included?	No	No	Yes	No	No	Yes	No	No	Yes
Observations	30,301	28,083	28,083	41,573	38,382	38,382	6,481	6,122	6,122

Source: State Systems Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. SAT/ACT scores and high school GPA are standardized to have a mean of zero and a standard deviation of one within each selectivity cluster. Reported coefficients are calculated from probit regressions as the predicted increase in graduation probability associated with increasing either SAT/ACT scores or high school GPA by one standard deviation, holding all control variables at their respective means. "Sample Restricted" indicates that observations with missing values on any of the control variables are excluded. Control variables are state residency status, race/ethnicity, gender, and family income quartile.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 6.3
 Graduation Rates by SAT Scores, ACT Scores, and Adjusted High School GPA, 1999 Entering Cohort

	Flagships					
	Six-Year Graduation Rates			Four-Year Graduation Rates		
Adjusted High School GPA (Standardized)	0.070 [0.005]**	0.067 [0.005]**	0.069 [0.005]**	0.067 [0.006]**	0.088 [0.006]**	0.089 [0.005]**
SAT Scores (Standardized)	0.011 [0.004]**	0.007 [0.004]		0.018 [0.009]	0.020 [0.009]*	
ACT Scores (Standardized)			0.014 [0.005]**	0.008 [0.005]		0.030 [0.008]**
Additional Controls?	No	Yes	No	Yes	No	No
Observations	25,046	24,083	25,046	24,083	24,083	25,046
						24,083
Ohio SEL Bs						
	Six-Year Graduation Rates			Four-Year Graduation Rates		
Adjusted High School GPA (Standardized)	0.152 [0.012]**	0.148 [0.010]**	0.154 [0.013]**	0.152 [0.012]**	0.106 [0.006]**	0.118 [0.007]**
SAT Scores (Standardized)	0.010 [0.009]	0.006 [0.010]		-0.002 [0.008]	0.013 [0.007]	
ACT Scores (Standardized)			0.007 [0.008]	-0.001 [0.007]		0.007 [0.007]
Additional Controls?	No	Yes	No	Yes	No	No
Observations	7,533	7,326	7,533	7,326	7,311	7,533
						7,311

Source: Flagships Database and State Systems Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. SAT scores, ACT scores, and high school GPA are standardized to have a mean of zero and a standard deviation of one separately for the flagships and Ohio SEL Bs. Reported coefficients are calculated from probit regressions as the predicted increase in graduation probability associated with increasing either SAT scores, ACT scores, or high school GPA by one standard deviation, holding all control variables at their respective means. All regressions include university indicators and are based only on students who took both the SAT and the ACT. "Additional Controls" include race/ethnicity, gender, state residency status, and family income quartile.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 6.4
 Graduation Rates by SAT/ACT Scores and High School GPA,
 1999 Entering Cohort, Flagship SEL Is

<i>Six-Year Graduation Rates (Percent) by GPA</i>						
<i>SAT/ACT Score/ No. Observations</i>	<i>Below 3.33</i>	<i>3.33–3.66</i>	<i>3.67–3.99</i>	<i>4.00–4.19</i>	<i>4.20+</i>	<i>Totals</i>
Below 1000	61.0	73.3	76.2	80.8	81.0	71.5
Observations	356	315	382	125	21	1,199
1000–1090	72.5	79.0	83.7	83.4	79.7	80.6
Observations	305	477	777	325	69	1,953
1100–1190	72.6	79.3	86.2	89.4	93.7	84.7
Observations	390	831	1,816	962	223	4,222
1200–1290	71.1	81.0	86.8	89.0	94.2	86.1
Observations	350	926	2,283	1,585	479	5,623
1300 and Above	68.2	80.8	89.5	91.6	93.1	89.6
Observations	223	851	3,012	2,975	1,865	8,926
Totals	69.1	79.6	86.9	89.9	92.9	86.0
Observations	1,624	3,400	8,270	5,972	2,657	21,923

<i>Four-Year Graduation Rates (Percent) by GPA</i>						
<i>SAT/ACT Score/ No. Observations</i>	<i>Below 3.33</i>	<i>3.33–3.66</i>	<i>3.67–3.99</i>	<i>4.00–4.19</i>	<i>4.20+</i>	<i>Totals</i>
Below 1000	31.7	45.4	44.2	50.4	52.4	41.6
Observations	356	315	382	125	21	1,199
1000–1090	38.4	55.1	59.3	59.7	47.8	54.7
Observations	305	477	777	325	69	1,953
1100–1190	44.6	58.1	64.1	70.1	68.2	62.7
Observations	390	831	1,816	962	223	4,222
1200–1290	45.4	60.2	65.6	70.2	72.9	65.4
Observations	350	926	2,283	1,585	479	5,623
1300 and Above	43.0	58.2	68.4	74.5	76.5	70.5
Observations	223	851	3,012	2,975	1,865	8,926
Totals	40.6	57.1	64.7	71.3	74.2	64.7
Observations	1,624	3,400	8,270	5,972	2,657	21,923

Source: Flagships Database.

Note: Adjusted high school GPAs are used.

APPENDIX TABLE 6.5

Graduation Rates by SAT/ACT Scores and High School GPA,
1999 Entering Cohort, Flagship SEL IIs

<i>6-Year Graduation Rates (Percent) by GPA</i>						
<i>SAT/ACT Score/ No. Observations</i>	<i>Below 3.33</i>	<i>3.33–3.66</i>	<i>3.67–3.99</i>	<i>4.00–4.19</i>	<i>4.20+</i>	<i>Totals</i>
Below 1000	58.0	70.0	73.6	83.3		67.6
Observations	1,045	820	954	156		2,975
1000–1090	65.9	75.0	79.5	84.1	83.3	76.2
Observations	865	1,274	2,052	428	48	4,667
1100–1190	67.6	78.3	82.4	86.6	87.5	80.2
Observations	1,039	1,941	4,077	1,055	160	8,272
1200–1290	67.0	78.8	82.4	87.7	87.1	81.5
Observations	697	1,544	3,841	1,478	317	7,877
1300 and Above	59.9	72.2	83.7	87.9	93.6	83.2
Observations	421	1,049	3,196	2,128	980	7,774
Totals	63.9	75.8	81.7	87.1	91.2	79.5
Observations	4,067	6,628	14,120	5,245	1,505	31,565

<i>Four-Year Graduation Rates (Percent) by GPA</i>						
<i>SAT/ACT Score/ No. Observations</i>	<i>Below 3.33</i>	<i>3.33–3.66</i>	<i>3.67–3.99</i>	<i>4.00–4.19</i>	<i>4.20+</i>	<i>Totals</i>
Below 1000	26.4	40.6	46.0	50.0		37.8
Observations	1,045	820	954	156		2,975
1000–1090	37.0	48.2	51.4	58.6	60.4	48.6
Observations	865	1,274	2,052	428	48	4,667
1100–1190	39.7	47.8	54.4	62.6	66.9	52.3
Observations	1,039	1,941	4,077	1,055	160	8,272
1200–1290	37.4	49.2	53.9	61.4	66.9	53.4
Observations	697	1,544	3,841	1,478	317	7,877
1300 and Above	34.4	44.5	54.8	63.2	71.9	56.8
Observations	421	1,049	3,196	2,128	980	7,774
Totals	34.8	46.8	53.3	61.8	70.0	51.8
Observations	4,067	6,628	14,120	5,245	1,505	31,565

Source: Flagships Database.

Notes: Adjusted high school GPAs are used. Blank cells indicate that there were data on fewer than 15 students.

APPENDIX TABLE 6.6
 Graduation Rates by SAT/ACT Scores and High School GPA,
 1999 Entering Cohort, Flagship SEL IIIs

<i>Six-Year Graduation Rates (Percent) by GPA</i>						
<i>SAT/ACT Score/ No. Observations</i>	<i>Below 3.00</i>	<i>3.00–3.32</i>	<i>3.33–3.66</i>	<i>3.67–3.99</i>	<i>4.00+</i>	<i>Totals</i>
Below 900	46.1	54.8	57.1	70.7		53.7
Observations	794	935	387	215		2,331
900–990	47.7	58.1	65.0	70.3	79.5	60.1
Observations	994	1,893	1,080	988	39	4,994
1000–1090	49.1	60.0	66.0	72.0	82.9	63.7
Observations	913	1,872	1,503	1,773	105	6,166
1100–1190	46.4	58.6	64.9	75.3	79.9	66.9
Observations	668	1,708	1,636	3,172	314	7,498
1200 and Above	43.7	52.4	64.6	78.6	86.7	73.6
Observations	311	911	1,354	4,107	1,531	8,214
Totals	47.1	57.6	64.6	75.5	85.3	65.9
Observations	3,680	7,319	5,960	10,255	1,989	29,203

<i>Four-Year Graduation Rates (Percent) by GPA</i>						
<i>SAT/ACT Score/ No. Observations</i>	<i>Below 3.00</i>	<i>3.00–3.32</i>	<i>3.33–3.66</i>	<i>3.67–3.99</i>	<i>4.00+</i>	<i>Totals</i>
Below 900	15.9	21.8	28.7	32.6		21.9
Observations	794	935	387	215		2,331
900–990	17.6	26.8	33.1	36.4	33.3	28.3
Observations	994	1,893	1,080	988	39	4,994
1000–1090	20.0	27.1	33.5	38.1	47.6	31.1
Observations	913	1,872	1,503	1,773	105	6,166
1100–1190	18.6	25.9	32.5	39.6	47.5	33.4
Observations	668	1,708	1,636	3,172	314	7,498
1200 and Above	13.8	20.2	31.3	42.9	53.3	39.3
Observations	311	911	1,354	4,107	1,531	8,214
Totals	17.7	25.2	32.3	40.2	51.7	32.8
Observations	3,680	7,319	5,960	10,255	1,989	29,203

Source: Flagships Database.

Notes: Adjusted high school GPAs are used. Blank cells indicate that there were data on fewer than 15 students.

APPENDIX TABLE 6.7

Graduation Rates by SAT/ACT Scores and High School GPA,
1999 Entering Cohort, State System SEL Bs

<i>Six-Year Graduation Rates (Percent) by GPA</i>						
<i>SAT/ACT Score/ No. Observations</i>	<i>Below 2.67</i>	<i>2.67–2.99</i>	<i>3.00–3.32</i>	<i>3.33–3.66</i>	<i>3.67+</i>	<i>Totals</i>
Below 800	25.8	29.4	39.4	45.3	46.9	33.5
Observations	516	1,333	775	298	113	3,035
800–890	32.1	39.5	49.2	53.7	61.9	45.3
Observations	731	1,998	1,907	894	367	5,897
900–990	33.6	40.0	52.4	57.9	62.4	49.5
Observations	949	3,051	3,590	2,021	1,321	10,932
1000–1090	34.7	43.1	53.5	58.8	66.4	54.2
Observations	616	1,948	2,935	2,322	2,033	9,854
1100 and Above	34.5	38.7	51.0	57.0	71.5	58.9
Observations	385	1,373	2,458	2,782	4,857	11,855
Totals	32.3	38.9	51.0	57.0	68.2	51.5
Observations	3,197	9,703	11,665	8,317	8,691	41,573

<i>Four-Year Graduation Rates (Percent) by GPA</i>						
<i>SAT/ACT Score/ No. Observations</i>	<i>Below 2.67</i>	<i>2.67–2.99</i>	<i>3.00–3.32</i>	<i>3.33–3.66</i>	<i>3.67+</i>	<i>Totals</i>
Below 800	7.6	9.8	15.4	23.2	26.5	12.8
Observations	516	1,333	775	298	113	3,035
800–890	11.4	14.0	21.6	30.1	35.1	19.9
Observations	731	1,998	1,907	894	367	5,897
900–990	13.8	15.6	24.7	31.2	37.8	24.0
Observations	949	3,051	3,590	2,021	1,321	10,932
1000–1090	12.2	17.7	27.0	32.5	42.4	28.7
Observations	616	1,948	2,935	2,322	2,033	9,854
1100 and Above	13.0	16.3	24.9	31.0	45.0	33.2
Observations	385	1,373	2,458	2,782	4,857	11,855
Totals	11.8	15.0	24.2	31.1	42.6	26.3
Observations	3,197	9,703	11,665	8,317	8,691	41,573

Source: State Systems Database.

Note: Adjusted high school GPAs are used.

APPENDIX TABLE 6.8
 Graduation Rates by SAT/ACT Score and High School GPA,
 1999 Entering Cohort, State System HBCUs

<i>Six-Year Graduation Rates (Percent) by GPA</i>						
<i>SAT/ACT Score/ No. Observations</i>	<i>Below 2.67</i>	<i>2.67–2.99</i>	<i>3.00–3.32</i>	<i>3.33–3.66</i>	<i>3.67+</i>	<i>Totals</i>
Below 800	32.9	37.7	43.2	50.3	68.6	38.0
Observations	1,132	811	563	169	35	2,710
800–890	29.0	36.9	45.1	49.5	60.6	38.1
Observations	628	534	408	186	66	1,822
900–990	28.8	36.2	45.0	56.1	67.8	42.2
Observations	264	307	282	173	87	1,113
1000–1090	26.0	27.8	43.4	47.5	72.6	43.9
Observations	77	126	136	120	106	565
1100 and Above	26.9	28.0	50.9	52.0	65.9	49.4
Observations	26	50	57	50	88	271
Totals	30.9	36.3	44.4	51.1	67.5	39.8
Observations	2,127	1,828	1,446	698	382	6,481

<i>Four-Year Graduation Rates (Percent) by GPA</i>						
<i>SAT/ACT Score/ No. Observations</i>	<i>Below 2.67</i>	<i>2.67–2.99</i>	<i>3.00–3.32</i>	<i>3.33–3.66</i>	<i>3.67+</i>	<i>Totals</i>
Below 800	11.5	16.0	23.1	27.8	51.4	16.8
Observations	1,132	811	563	169	35	2,710
800–890	11.1	18.2	26.0	31.2	33.3	19.4
Observations	628	534	408	186	66	1,822
900–990	9.8	18.2	27.3	40.5	55.2	24.9
Observations	264	307	282	173	87	1,113
1000–1090	15.6	12.7	29.4	36.7	51.9	29.6
Observations	77	126	136	120	106	565
1100 and Above	15.4	20.0	26.3	38.0	52.3	34.7
Observations	26	50	57	50	88	271
Totals	11.4	16.9	25.4	34.1	49.5	20.8
Observations	2,127	1,828	1,446	698	382	6,481

Source: State Systems Database.

Note: Adjusted high school GPAs are used.

APPENDIX TABLE 6.9a
 Graduation Rates by SAT/ACT Score and Adjusted High School GPA, 1999 Entering Cohort, Flagships

		<i>Six-Year Graduation Rates</i>							
		<i>SEL Is</i>		<i>SEL IIs</i>		<i>SEL IIIs</i>			
SAT/ACT (Standardized)	0.009 [0.002]**	0.014 [0.003]**	-0.014 [0.005]**	0.010 [0.005]	0.009 [0.006]	-0.013 [0.007]	0.011 [0.006]	0.009 [0.006]	-0.007 [0.008]
Adjusted High School GPA (Standardized)	0.040 [0.004]**	0.047 [0.005]**	0.074 [0.005]**	0.062 [0.003]**	0.068 [0.004]**	0.096 [0.007]**	0.107 [0.006]**	0.111 [0.007]**	0.142 [0.007]**
Controls Included?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample Restricted?	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
High School Dummies?	No	No	Yes	No	No	Yes	No	No	Yes
Observations	20,531	13,673	13,673	29,184	23,635	23,635	28,097	24,281	24,281

		<i>Four-Year Graduation Rates</i>							
		<i>SEL Is</i>		<i>SEL IIs</i>		<i>SEL IIIs</i>			
SAT/ACT (Standardized)	0.029 [0.002]**	0.028 [0.005]**	0.001 [0.007]	0.024 [0.008]**	0.016 [0.009]	-0.001 [0.012]	0.017 [0.009]	0.014 [0.010]	0.009 [0.012]
Adjusted High School GPA (Standardized)	0.073 [0.006]**	0.078 [0.006]**	0.116 [0.005]**	0.077 [0.006]**	0.084 [0.007]**	0.112 [0.009]**	0.087 [0.007]**	0.096 [0.007]**	0.118 [0.007]**
Controls Included?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample Restricted?	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
High School Dummies?	No	No	Yes	No	No	Yes	No	No	Yes
Observations	20,531	16,793	16,793	29,184	25,672	25,672	28,097	24,122	24,122

Source: Flagships Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. SAT/ACT scores and high school GPA are standardized to have a mean of zero and a standard deviation of one within each selectivity cluster (before the sample is restricted). Reported coefficients are calculated from probit regressions as the predicted increase in graduation probability associated with increasing either SAT/ACT scores or high school GPA by one standard deviation, holding all control variables at their respective means. Control variables are university dummies, state residency status, race/ethnicity, gender, and family income quartile. In all three columns, the sample is restricted to students with non-missing values on all control variables. "Sample Restricted" indicates that the sample is restricted to students that came from high schools (1) that sent at least two students to the universities and (2) whose students did not all either graduate or fail to graduate.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 6.9b
 Graduation Rates by SAT/ACT Scores and Adjusted High School GPA, 1999 Entering Cohort, State Systems

		<i>Six-Year Graduation Rates</i>							
		<i>SEL As</i>			<i>SEL Bs</i>			<i>HBCUs</i>	
SAT/ACT (Standardized)	0.007 [0.004]	0.006 [0.004]	-0.013 [0.005]**	0.012 [0.007]	0.011 [0.007]	-0.007 [0.007]	0.007 [0.006]	0.004 [0.007]	-0.013 [0.011]
Adjusted High School GPA (Standardized)	0.068 [0.006]**	0.074 [0.007]**	0.097 [0.006]**	0.115 [0.008]**	0.119 [0.008]**	0.147 [0.009]**	0.103 [0.011]**	0.100 [0.010]**	0.130 [0.011]**
Controls Included?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample Restricted?	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
High School Dummies?	No	No	Yes	No	No	Yes	No	No	Yes
Observations	28,067	24,344	24,344	38,352	36,559	36,559	6,114	5,172	5,172

		<i>Four-Year Graduation Rates</i>							
		<i>SEL As</i>			<i>SEL Bs</i>			<i>HBCUs</i>	
SAT/ACT (Standardized)	0.016 [0.009]	0.013 [0.009]	-0.009 [0.009]	0.018 [0.005]**	0.015 [0.005]**	0.005 [0.005]	0.027 [0.006]**	0.029 [0.008]**	0.014 [0.009]
Adjusted High School GPA (Standardized)	0.094 [0.010]**	0.099 [0.010]**	0.132 [0.010]**	0.095 [0.004]**	0.102 [0.004]**	0.119 [0.004]**	0.084 [0.004]**	0.095 [0.007]**	0.110 [0.009]**
Controls Included?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample Restricted?	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
High School Dummies?	No	No	Yes	No	No	Yes	No	No	Yes
Observations	28,067	25,335	25,335	38,352	35,668	35,668	6,114	4,646	4,646

Source: State Systems Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. SAT/ACT scores and high school GPA are standardized to have a mean of zero and a standard deviation of one within each selectivity cluster (before the sample is restricted). Reported coefficients are calculated from probit regressions as the predicted increase in graduation probability associated with increasing either SAT/ACT scores or high school GPA by one standard deviation, holding all control variables at their respective means. Control variables are university dummies, state residency status, race/ethnicity, gender, and family income quartile. In all three columns, the sample is restricted to students with non-missing values on all control variables. "Sample Restricted" indicates that the sample is restricted to students that came from high schools (1) that sent at least two students to the universities and (2) whose students did not all either graduate or fail to graduate.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 6.9c

Six-Year Graduation Rates by SAT/ACT Scores and Actual or Adjusted High School GPA, 1999
Entering Cohort

<i>Flagships</i>						
	<i>SEL Is</i>		<i>SEL IIs</i>		<i>SEL IIIs</i>	
SAT/ACT	0.016	0.018	0.016	0.016	0.005	0.007
(Standardized)	[0.003]**	[0.002]**	[0.006]**	[0.004]**	[0.008]	[0.009]
Actual High School GPA (Standardized)	0.062		0.057		0.119	
	[0.006]**		[0.006]**		[0.031]**	
Adjusted High School GPA (Standardized)		0.045		0.050		0.100
		[0.004]**		[0.005]**		[0.016]**
University Dummies?	Yes	Yes	Yes	Yes	Yes	Yes
Observations	17,358	17,358	12,458	12,458	10,174	10,174
<i>State Systems</i>						
	<i>SEL As</i>		<i>SEL Bs</i>		<i>HBCUs</i>	
SAT/ACT	0.010	0.015	-0.014	-0.011	-0.029	-0.016
(Standardized)	[0.010]	[0.006]*	[0.007]	[0.008]	[0.014]*	[0.011]
Actual High School GPA (Standardized)	0.089		0.115		0.159	
	[0.011]**		[0.007]**		[0.016]**	
Adjusted High School GPA (Standardized)		0.066		0.088		0.132
		[0.005]**		[0.006]**		[0.012]**
University Dummies?	Yes	Yes	Yes	Yes	Yes	Yes
Observations	9,518	9,518	16,190	16,190	2,880	2,880

Source: Flagships Database and State Systems Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. SAT/ACT scores and high school GPA are standardized to have a mean of zero and a standard deviation of one within each selectivity cluster. Reported coefficients are calculated from probit regressions as the predicted increase in graduation probability associated with increasing either SAT/ACT scores or high school GPA by one standard deviation, holding all control variables at their respective means. Universities where both actual and adjusted high school GPAs were available for fewer than 70 percent of students are excluded, as are all students for whom both measures of high school GPA are not available. The only control variables included are university dummies.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 6.10

Six-Year Graduation Rates by University-Reported High School GPA and Level of High School, 1999 North Carolina High School Seniors

<i>SEL A Graduation Rates (Percent) by Level</i>			
<i>GPA/No. Observations</i>	<i>Level I</i>	<i>Level II</i>	<i>Level III</i>
Below 2.5			
Observations			
2.5–2.99	36.7	37.9	
Observations	30	29	
3.0–3.49	63.6	54.1	52.3
Observations	176	172	44
3.5–4.0	71.5	65.3	68.8
Observations	755	864	263
Above 4.0	88.7	83.4	75.1
Observations	1,113	1,308	333
<i>SEL B Graduation Rates (Percent) by Level</i>			
<i>GPA/No. Observations</i>	<i>Level I</i>	<i>Level II</i>	<i>Level III</i>
Below 2.5	36.3	27.3	36.0
Observations	146	132	25
2.5–2.99	43.6	35.3	28.3
Observations	590	685	184
3.0–3.49	53.9	45.6	43.6
Observations	1,077	1,629	484
3.5–4.0	66.2	60.9	62.1
Observations	1,126	2,340	686
Above 4.0			
Observations			
<i>HBCU Graduation Rates (Percent) by Level</i>			
<i>GPA/No. Observations</i>	<i>Level I</i>	<i>Level II</i>	<i>Level III</i>
Below 2.5	33.5	31.9	27.6
Observations	224	492	312
2.5–2.99	43.6	39.7	38.4
Observations	133	501	328
3.0–3.49	65.1	56.8	51.2
Observations	43	310	248
3.5–4.0		67.0	73.8
Observations		94	103
Above 4.0			
Observations			

Source: North Carolina High School Seniors Database.

Note: Blank cells indicate that there were data on fewer than 15 students.

APPENDIX TABLE 6.11
 Bachelor's Degree Attainment by SAT and High School GPA,
 1999 North Carolina High School Seniors

SAT Scores (Standardized)	0.061	0.044	0.017
	[0.004]**	[0.005]**	[0.005]**
Adjusted High School GPA (Standardized)	0.154	0.155	0.185
	[0.004]**	[0.005]**	[0.005]**
Controls?	No	Yes	Yes
High School Dummies?	No	No	Yes
Observations	26,455	26,455	26,455

Source: North Carolina High School Seniors Database.

Notes: Robust standard errors appear in brackets. SAT scores and high school GPA are standardized to have a mean of zero and a standard deviation of one across the entire sample of students included in the table. Reported coefficients are calculated from probit regressions as the predicted increase in bachelor's degree attainment probability associated with increasing either SAT scores or high school GPA by one standard deviation, holding all control variables at their respective means. Regressions include all 1999 North Carolina high school seniors who took the SAT and for whom an adjusted high school GPA could be calculated. Bachelor's degree attainment data are from the National Student Clearinghouse. Controls include race/ethnicity, gender, family income quartile, and parental education.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 6.12
 Six-Year Graduation Rates by SAT/ACT Scores, Adjusted High School GPA,
 Race, and Gender, 1999 Entering Cohort

	<i>Flagship SEL Is</i>											
	<i>Men</i>		<i>Women</i>		<i>Men</i>		<i>Women</i>					
	<i>White</i>	<i>Black</i>	<i>White</i>	<i>Black</i>	<i>White</i>	<i>Black</i>	<i>White</i>	<i>Black</i>				
SAT/ACT (Standardized)	0.017 [0.006]**	0.026 [0.015]	0.012 [0.008]	0.002 [0.011]	0.001 [0.009]	0.058 [0.020]**	0.015 [0.004]**	0.033 [0.016]**				
Adjusted High School GPA (Standardized)	0.049 [0.006]**	0.072 [0.023]**	0.029 [0.006]**	0.020 [0.014]	0.068 [0.003]**	0.090 [0.015]**	0.042 [0.003]**	0.047 [0.013]**				
Observations	6,273	680	7,217	1,106	10,951	650	12,066	1,008				
	<i>Flagship SEL IIs</i>						<i>State System SEL Bs</i>					
	<i>Men</i>		<i>Women</i>		<i>Men</i>		<i>Women</i>		<i>Men</i>		<i>Women</i>	
	<i>White</i>	<i>Black</i>	<i>White</i>	<i>Black</i>	<i>White</i>	<i>Black</i>	<i>White</i>	<i>Black</i>	<i>White</i>	<i>Black</i>	<i>White</i>	<i>Black</i>
	SAT/ACT (Standardized)	-0.002 [0.005]	0.019 [0.018]	0.019 [0.006]**	0.045 [0.028]	0.007 [0.007]	0.029 [0.027]	0.015 [0.007]**	0.016 [0.016]	0.099 [0.006]**	0.094 [0.021]**	0.106 [0.008]**
Adjusted High School GPA (Standardized)	0.119 [0.006]**	0.080 [0.024]**	0.093 [0.008]**	0.096 [0.025]**	0.119 [0.011]**	0.094 [0.021]**	0.106 [0.008]**	0.099 [0.010]**	0.099 [0.008]**	0.106 [0.021]**	0.106 [0.008]**	0.099 [0.010]**
Observations	12,299	526	12,182	838	15,294	1,466	19,216	2,922	19,216	1,466	19,216	2,922

Source: Flagships Database and State Systems Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. SAT/ACT scores and high school GPA are standardized to have a mean of zero and a standard deviation of one within each selectivity cluster. Reported coefficients are calculated from probit regressions as the predicted increase in graduation probability associated with increasing either SAT/ACT scores or high school GPA by one standard deviation, holding all control variables at their respective means. All regressions include university dummy variables (but no other controls).

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 6.13

Six-Year Graduation Rates by SAT/ACT Scores, Adjusted High School GPA, and Family Income Quartile, 1999 Entering Cohort

	Flagship SEL Is				Flagship SEL IIs			
	Bottom	Second	Third	Top	Bottom	Second	Third	Top
SAT/ACT (Standardized)	0.029 [0.008]**	0.021 [0.008]*	-0.006 [0.007]	0.009 [0.004]*	0.012 [0.006]*	0.009 [0.010]	0.012 [0.006]	0.001 [0.004]
Adjusted High School GPA (Standardized)	0.047 [0.018]*	0.046 [0.009]**	0.067 [0.008]**	0.036 [0.004]**	0.089 [0.012]**	0.075 [0.006]**	0.076 [0.003]**	0.056 [0.005]**
Observations	2,436	2,782	4,456	10,940	3,439	3,981	7,774	14,140
	Flagship SEL IIIs				State System SEL Bs			
	Bottom	Second	Third	Top	Bottom	Second	Third	Top
SAT/ACT (Standardized)	0.023 [0.016]	0.001 [0.012]	0.015 [0.006]*	-0.005 [0.006]	0.024 [0.011]*	0.007 [0.010]	0.003 [0.008]	-0.001 [0.007]
Adjusted High School GPA (Standardized)	0.111 [0.008]**	0.128 [0.008]**	0.108 [0.012]**	0.105 [0.006]**	0.111 [0.007]**	0.113 [0.009]**	0.128 [0.009]**	0.118 [0.011]**
Observations	4,051	5,156	8,491	10,559	5,657	8,883	12,442	11,551

Source: Flagships Database and State Systems Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. SAT/ACT scores and high school GPA are standardized to have a mean of zero and a standard deviation of one within each selectivity cluster. Reported coefficients are calculated from probit regressions as the predicted increase in graduation probability associated with increasing either SAT/ACT scores or high school GPA by one standard deviation, holding all control variables at their respective means. All regressions include university dummy variables (but no other control variables).

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 6.14

Six-Year Graduation Rates by SAT/ACT Scores, Adjusted High School GPA,
Race/Ethnicity, and Gender, 1999 Entering Cohort, Flagships

	<i>All Flagships</i>					
	<i>Men</i>			<i>Women</i>		
	<i>White</i>	<i>Black</i>	<i>Hispanic</i>	<i>White</i>	<i>Black</i>	<i>Hispanic</i>
SAT/ACT (Standardized)	0.004 [0.005]	0.037 [0.012]**	0.033 [0.009]**	0.018 [0.003]**	0.029 [0.011]**	0.024 [0.009]**
Adjusted High School GPA (Standardized)	0.092 [0.004]**	0.092 [0.013]**	0.077 [0.011]**	0.064 [0.004]**	0.058 [0.012]**	0.057 [0.015]**
Observations	29,523	1,856	1,982	31,465	2,952	2,259

Source: Flagships Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. SAT/ACT scores and high school GPA are standardized to have a mean of zero and a standard deviation of one across all flagships. Reported coefficients are calculated from probit regressions as the predicted increase in graduation probability associated with increasing either SAT/ACT scores or high school GPA by one standard deviation, holding all control variables at their respective means. All regressions include university dummy variables (but no other control variables).

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 6.15
SAT Scores and High School GPA by Student Characteristics,
1999 North Carolina High School Seniors

	<i>SAT</i>	<i>High School GPA</i>	<i>SAT</i>	<i>High School GPA</i>
Black Males	-0.874 [0.021]**	-0.653 [0.023]**	-0.849 [0.022]**	-0.685 [0.023]**
Hispanic Males	-0.297 [0.070]**	-0.073 [0.082]	-0.337 [0.069]**	-0.101 [0.082]
White Females	-0.174 [0.013]**	0.291 [0.014]**	-0.174 [0.013]**	0.291 [0.014]**
Black Females	-0.917 [0.018]**	-0.279 [0.020]**	-0.874 [0.019]**	-0.300 [0.020]**
Hispanic Females	-0.481 [0.072]**	0.180 [0.066]**	-0.541 [0.072]**	0.185 [0.066]**
Some College	0.136 [0.014]**	0.045 [0.016]**	0.114 [0.014]**	0.063 [0.015]**
College Degree	0.384 [0.015]**	0.210 [0.016]**	0.318 [0.015]**	0.271 [0.016]**
Graduate Degree	0.657 [0.018]**	0.430 [0.019]**	0.550 [0.018]**	0.482 [0.020]**
Second Income Quartile	0.120 [0.015]**	0.085 [0.016]**	0.111 [0.015]**	0.098 [0.016]**
Third Income Quartile	0.145 [0.016]**	0.087 [0.017]**	0.124 [0.016]**	0.139 [0.017]**
Top Income Quartile	0.280 [0.019]**	0.129 [0.021]**	0.209 [0.019]**	0.236 [0.021]**
High School Dummies?	No	No	Yes	Yes
Observations	26,455	26,455	26,455	26,455
<i>R</i> -squared	0.25	0.14	0.29	0.18

Source: North Carolina High School Seniors Database.

Notes: Robust standard errors appear in brackets. Race/ethnicity and gender coefficients are relative to white males, parental education coefficients are relative to no college, and income quartile coefficients are relative to the bottom quartile. Both SAT scores and high school GPA are standardized to have a mean of zero and a standard deviation of one across all students with non-missing data on both dependent variables and all of the independent variables.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 6.16
 Rank-in-Class at Exit by SAT/ACT Scores and Adjusted High School GPA, 1999 Entering Cohort, Flagships

<i>19 Flagships</i>											
	<i>SEL Is</i>			<i>SEL IIs</i>			<i>SEL IIIs</i>				
SAT/ACT (Standardized)	7.3	7.2	4.9	4.7	5.2	3.5	4.3	4.8	3.5		
	[0.8]**	[0.6]**	[0.4]**	[0.5]**	[0.7]**	[0.9]*	[0.8]**	[0.7]**	[0.8]**		
Adjusted High School GPA (Standardized)	8.5	7.8	10.2	9.5	8.4	9.9	11.7	10.9	12.3		
	[0.9]**	[0.8]**	[0.6]**	[0.6]**	[0.5]**	[0.7]**	[0.5]**	[0.5]**	[0.5]**		
University Dummies?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Controls Included?	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes		
High School Dummies?	No	No	Yes	No	No	Yes	No	No	Yes		
Observations	20,394	20,394	20,384	21,984	21,984	21,929	28,115	28,115	28,097		

<i>14 Flagships with Parental Education Data Available</i>											
	<i>SEL Is</i>			<i>SEL IIs</i>			<i>SEL IIIs</i>				
SAT/ACT (Standardized)	7.4	6.9	4.8	4.5	4.6	2.7	3.7	4.0	2.7		
	[0.8]**	[0.5]**	[0.3]**	[0.6]*	[0.4]**	[0.4]*	[1.0]*	[0.9]*	[1.0]		
Adjusted High School GPA (Standardized)	8.4	7.9	10.1	9.5	8.7	10.4	12.2	11.3	12.9		
	[0.8]**	[0.7]**	[0.5]**	[1.0]*	[0.8]**	[1.2]*	[0.5]**	[0.6]**	[0.6]**		
University Dummies?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		
Controls Included?	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes		
High School Dummies?	No	No	Yes	No	No	Yes	No	No	Yes		
Observations	19,936	19,936	19,926	10,840	10,840	10,801	15,702	15,702	15,692		

Source: Flagships Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. SAT/ACT scores and high school GPA are standardized to have a mean of zero and a standard deviation of one within each selectivity cluster. Observations with missing values on any of the control variables are excluded. Control variables are state residency status, race/ethnicity, gender, and family income quartile. The bottom panel also includes parental education as a control variable.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 6.17
 Rank-in-Class at Exit by SAT/ACT Scores and Adjusted High School GPA, 1999 Entering Cohort, State Systems

<i>All Four State Systems</i>											
<i>SEL As</i>				<i>SEL Bs</i>				<i>HBCUs</i>			
SAT/ACT (Standardized)	6.2	6.5	4.5	4.6	4.7	3.2	3.7	3.9	3.9	1.8	
	[0.9]**	[0.7]**	[0.5]**	[0.2]**	[0.3]**	[0.2]**	[0.4]**	[0.5]**	[0.5]**	[0.5]**	
Adjusted High School GPA (Standardized)	11.2	10.1	12.0	11.6	10.9	12.6	9.9	9.0	9.0	11.0	
	[0.8]**	[0.7]**	[0.6]**	[0.4]**	[0.4]**	[0.3]**	[0.4]**	[0.4]**	[0.4]**	[0.7]**	
University Dummies?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Controls Included?	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	Yes	
High School Dummies?	No	No	Yes	No	No	Yes	No	No	No	Yes	
Observations	28,046	28,046	28,030	38,052	38,052	38,023	5,117	5,117	5,117	5,111	
<i>Three State Systems with Parental Education Data Available</i>											
<i>SEL As</i>				<i>SEL Bs</i>				<i>HBCUs</i>			
SAT/ACT (Standardized)	6.4	6.2	4.3	4.7	4.7	3.2	3.7	3.8	3.8	1.7	
	[1.3]**	[0.9]**	[0.7]**	[0.3]**	[0.3]**	[0.3]**	[0.4]**	[0.5]**	[0.5]**	[0.5]**	
Adjusted High School GPA (Standardized)	10.5	9.5	11.5	10.8	10.2	11.9	9.4	8.6	8.6	10.7	
	[0.8]**	[0.7]**	[0.7]**	[0.5]**	[0.4]**	[0.4]**	[0.4]**	[0.5]**	[0.5]**	[0.8]**	
University Dummies?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Controls Included?	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	Yes	
High School Dummies?	No	No	Yes	No	No	Yes	No	No	No	Yes	
Observations	20,093	20,093	20,090	18,891	18,891	18,888	4,231	4,231	4,231	4,231	

Source: State Systems Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. SAT/ACT scores and high school GPA are standardized to have a mean of zero and a standard deviation of one within each selectivity cluster. Observations with missing values on any of the control variables are excluded. Control variables are state residency status, race/ethnicity gender, and family income quartile. The bottom panel also includes parental education as a control variable.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 6.18

Graduation Rates by SAT/ACT Scores, High School GPA, and Average of SAT II Scores,
1999 Entering Cohort

<i>Six-Year Graduation Rates</i>						
	<i>Flagship SEL Is</i>			<i>State System SEL As</i>		
SAT/ACT (Standardized)	0.018 [0.003]**	0.014 [0.002]**	0.002 [0.003]	0.010 [0.005]*	0.002 [0.007]	0.000 [0.007]
Adjusted High School GPA (Standardized)	0.045 [0.004]**	0.035 [0.004]**	0.034 [0.003]**	0.061 [0.003]**	0.042 [0.004]**	0.042 [0.004]**
Average of SAT II Scores (Standardized)			0.015 [0.004]**			0.002 [0.006]
Sample Restricted?	No	Yes	Yes	No	Yes	Yes
Observations	21,923	14,074	14,074	23,324	11,431	11,431
<i>Four-Year Graduation Rates</i>						
	<i>Flagship SEL Is</i>			<i>State System SEL As</i>		
SAT/ACT (Standardized)	0.043 [0.004]**	0.038 [0.006]**	0.017 [0.004]**	0.009 [0.014]	-0.002 [0.015]	-0.022 [0.019]
Adjusted High School GPA (Standardized)	0.074 [0.006]**	0.064 [0.007]**	0.061 [0.007]**	0.099 [0.010]**	0.081 [0.008]**	0.078 [0.009]**
Average of SAT II Scores (Standardized)			0.028 [0.009]**			0.027 [0.008]**
Sample Restricted?	No	Yes	Yes	No	Yes	Yes
Observations	21,923	14,074	14,074	23,324	11,431	11,431

Source: Flagships Database and State Systems Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. SAT/ACT scores, high school GPA, and average SAT II scores are standardized to have a mean of zero and a standard deviation of one within each selectivity cluster, and the standardization is done separately for the set of observations in each regression. All regressions include university dummies. "Sample Restricted" indicates that students who did not take an SAT II exam are excluded.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 6.19a

Six-Year Graduation Rates by SAT/ACT Scores, High School GPA, and Average of AP Test Scores, 1999 Entering Cohort

	<i>Flagship SEL Is</i>			<i>Flagship SEL IIs</i>		
SAT/ACT (Standardized)	0.018 [0.003]**	0.010 [0.001]**	-0.004 [0.001]*	0.015 [0.005]**	0.008 [0.005]	-0.009 [0.005]
Adjusted High School GPA (Standardized)	0.045 [0.004]**	0.030 [0.003]**	0.028 [0.003]**	0.061 [0.003]**	0.050 [0.003]**	0.048 [0.002]**
Average of AP Scores (Standardized)			0.026 [0.001]**			0.033 [0.006]**
Sample Restricted?	No	Yes	Yes	No	Yes	Yes
Observations	21,923	17,143	17,143	27,887	16,349	16,349
	<i>State System SEL As</i>			<i>State System SEL Bs</i>		
SAT/ACT (Standardized)	0.010 [0.005]*	0.007 [0.004]	-0.006 [0.003]	-0.013 [0.006]*	-0.012 [0.007]	-0.013 [0.007]
Adjusted High School GPA (Standardized)	0.061 [0.003]**	0.047 [0.003]**	0.045 [0.004]**	0.091 [0.005]**	0.087 [0.005]**	0.087 [0.005]**
Average of AP Scores (Standardized)			0.024 [0.006]**			0.005 [0.005]
Sample Restricted?	No	Yes	Yes	No	Yes	Yes
Observations	23,324	15,713	15,713	23,402	9,490	9,490

Source: Flagships Database and State Systems Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. SAT/ACT scores, high school GPA, and average AP scores are standardized to have a mean of zero and a standard deviation of one within each selectivity cluster, and the standardization is done separately for the set of observations in each regression. All regressions include university dummies. "Sample Restricted" indicates that students who did not take an AP exam are excluded. Rutgers and the Ohio system are excluded (from the Flagship SEL IIs and State System results, respectively) because AP scores are not available.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 6.19b

Four-Year Graduation Rates by SAT/ACT Scores, High School GPA, and Average of AP Test Scores, 1999 Entering Cohort

	<i>Flagship SEL Is</i>			<i>Flagship SEL IIs</i>		
SAT/ACT (Standardized)	0.043 [0.004]**	0.033 [0.006]**	0.007 [0.009]	0.018 [0.007]*	0.011 [0.008]	-0.016 [0.007]*
Adjusted High School GPA (Standardized)	0.074 [0.006]**	0.053 [0.006]**	0.049 [0.007]**	0.079 [0.007]**	0.065 [0.006]**	0.062 [0.005]**
Average of AP Scores (Standardized)			0.049 [0.005]**			0.054 [0.006]**
Sample Restricted?	No	Yes	Yes	No	Yes	Yes
Observations	21,923	17,143	17,143	27,887	16,349	16,349
	<i>State System SEL As</i>			<i>State System SEL Bs</i>		
SAT/ACT (Standardized)	0.009 [0.014]	0.004 [0.011]	-0.021 [0.012]	0.000 [0.006]	-0.001 [0.007]	-0.006 [0.007]
Adjusted High School GPA (Standardized)	0.099 [0.010]**	0.080 [0.007]**	0.078 [0.007]**	0.104 [0.004]**	0.111 [0.006]**	0.111 [0.006]**
Average of AP Scores (Standardized)			0.049 [0.010]**			0.021 [0.006]**
Sample Restricted?	No	Yes	Yes	No	Yes	Yes
Observations	23,324	15,713	15,713	23,402	9,490	9,490

Source: Flagships Database and State Systems Database.

Notes: Robust standard errors adjusted for clustering at the university level appear in brackets. SAT/ACT scores, high school GPA, and average AP scores are standardized to have a mean of zero and a standard deviation of one within each selectivity cluster, and the standardization is done separately for the set of observations in each regression. All regressions include university dummies. "Sample Restricted" indicates that students who did not take an AP exam are excluded. Rutgers and the Ohio system are excluded (from the Flagship SEL IIs and State System results, respectively) because AP scores are not available.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 7.1a
Transfer Admissions at Flagships and State System SEL As

University	Admitted			Admit Rate (%)	Number Enrolled	% Transfers	From	
	Applied	Admitted	Rate (%)				Two-Year (%)	Four-Year (%)
Iowa State University	2,888	2,283	79	1,655	29	53	47	
North Carolina State University	2,948	1,547	52	1,035	23	30	70	
Ohio State University	4,728	3,182	67	1,715	22			
Rutgers, The State University of New Jersey	6,360	2,444	38	1,246	19			
Stony Brook University-SUNY	4,183	2,603	62	1,432	37			
University of California-Berkeley	7,750	2,371	31	1,606	31	89	11	
University of California-Los Angeles	10,350	3,796	37	2,268	35	92	8	
University of Florida	5,238	2,374	45	1,845	33	78	22	
University of Illinois at Urbana-Champaign	2,576	1,382	54	1,066	14	67	33	
University of Iowa	3,107	2,040	66	1,318	25	60	40	
University of MD-Baltimore County	1,907	1,585	83	1,068	43	66	44	
University of Maryland-College Park	4,813	3,379	70	2,181	36	53	47	
University of Nebraska-Lincoln	1,483	1,149	77	916	20	48	52	
University of North Carolina-Chapel Hill	1,868	1,040	56	712	17	25	75	
University of North Carolina-Asheville	629	433	69	287	38	50	50	
University of Oregon	2,342	1,983	85	1,371	35	30	70	
University of Texas-Austin	6,649	3,128	47	2,038	22	54	46	
University of Virginia	2,221	791	36	540	16	34	66	
University of Wisconsin-Madison	3,080	1,773	58	1,138	17	23	77	

Source: College Board Annual Survey of Colleges.

Notes: "Percent Transfers" is the number of entering transfers divided by the total number of entering students (transfers and freshmen). All data describe the 1999 entering class, with the following exceptions (and the entering class described noted in parentheses): all data from Rutgers University and the University of California-Los Angeles (2000); percentage of transfers at Stony Brook University and the University of Wisconsin-Madison (2000); and percentage from two- and four-year colleges at the University of Illinois at Urbana-Champaign (2003), the University of Nebraska-Lincoln (2000), and the University of North Carolina-Chapel Hill (2003).

APPENDIX TABLE 7.1b
Transfer Admissions at State System SEL Bs

University	Admit			Number Enrolled	% Transfers	From	
	Applied	Admitted	Rate (%)			Two-Year (%)	Four-Year (%)
Appalachian State University	1,389	1,112	80	739	25	59	41
Bowie State University	1,033	570	55	382	51	76	24
Coppin State University	469	286	61	200	29	60	40
East Carolina University	1,821	1,583	87	1,050	24	63	37
Elizabeth City State University	164	138	84	102	20	74	26
Fayetteville State University	408	349	86	347	30		
Frostburg State University	618	483	78	340	26		
North Carolina A&T University	677	555	82	317	17	45	55
North Carolina Central University	545	446	82	273	29		
Salisbury University	1,064	791	74	574	40	84	16
Towson University	3,222	2,689	83	1,776	46	62	38
University of Maryland—Eastern Shore				100			
University of North Carolina—Charlotte	2,692	2,337	87	1,555	42	54	46
University of North Carolina—Greensboro	1,795	1,588	88	926	32	47	53
University of North Carolina—Pembroke	471	452	96	334	41	80	20
University of North Carolina—Wilmington	1,947	1,313	67	915	35	63	37
Western Carolina University	734	660	90	409	26	78	22
Winston-Salem State University	405	360	89	187	28	30	70

Source: College Board Annual Survey of Colleges.

Notes: "Percent Transfers" is the number of entering transfers divided by the total number of entering students (transfers and freshmen). All data describe the 1999 entering class, with the following exceptions (and the entering class described noted in parentheses): percentage from two- and four-year colleges at Bowie State University (2001) and Coppin State University (2000).

APPENDIX TABLE 7.2
 Characteristics of Freshmen and Transfers, 1999 Entering Cohort

	<i>Flagships and State System SEL As</i>			<i>State System SEL Bs</i>		
	<i>Freshmen</i>	<i>Transfers 2</i>	<i>Transfers 4</i>	<i>Freshmen</i>	<i>Transfers 2</i>	<i>Transfers 4</i>
Number	70,621	8,542	7,236	16,488	2,871	1,753
High School GPA	3.69	3.21	3.37	3.35	2.97	3.24
SAT/ACT Scores	1177	1032	1100	1024	938	1009
Age	18.4	20.8	20.3	18.4	20.7	20.5
% White	72.1	73.2	78.6	83.1	89.3	81.6
% Black	6.7	4.4	6.3	10.8	5.8	14.1
% Hispanic	5.7	6.5	3.9	1.5	1.3	1.5
% Asian	13.4	13.2	8.8	2.6	2.4	1.5

Source: Flagships Database and State Systems Database.

Notes: “Transfers 2” is transfers from two-year institutions, and “Transfers 4” is transfers from four-year institutions.

APPENDIX TABLE 7.3
 Bachelor’s Degree Attainment Rates of Transfer Students (Relative to Freshmen),
 1999 Entering Cohort

	<i>Flagships and State System SEL As</i>			<i>State System SEL Bs</i>		
Transfers from	0.007	0.001	0.081	0.089	0.082	0.136
Two-Year	[0.018]	[0.014]	[0.010]**	[0.013]**	[0.011]**	[0.012]**
Transfers from	0.010	0.026	0.071	0.108	0.110	0.130
Four-Year	[0.016]	[0.012]*	[0.009]**	[0.016]**	[0.011]**	[0.006]**
University Dummies?	No	Yes	Yes	No	Yes	Yes
High School GPA and SAT/ACT?	No	No	Yes	No	No	Yes
Observations	76,806	76,806	76,806	18,141	18,141	18,141

Source: Flagships Database and State Systems Database.

Notes: Robust standard errors adjusted for clustering by university appear in brackets. Coefficients are marginal effects from a probit model and indicate the predicted difference in attaining a bachelor’s degree between the listed group and the reference group (freshmen), holding any control variables at their means. “Attaining a bachelor’s degree” is defined as either graduating from the original institution or earning a degree from a later institution (if it is reported in the Clearinghouse degree data).

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 7.4a
Six-Year Graduation Rates (Percent) and Numbers of Freshmen Enrollees and Transfer Students by Family Income, 1999 Entering Cohort

		<i>All Students</i>	<i>Bottom Quartile</i>	<i>Second Quartile</i>	<i>Third Quartile</i>	<i>Top Quartile</i>
Flagships and State System SEL As	Freshmen	75.3 70,621	68.3 8,861	69.9 10,438	73.7 17,203	80.2 28,232
	Transfers 2	74.9 8,542	76.4 1,691	73.5 1,714	72.9 1,872	78.6 1,805
		Transfers 4	74.2 7,236	68.0 971	71.8 1,098	73.9 1,521
	State System SEL Bs	Freshmen	52.9 16,488	49.0 1,825	50.3 3,880	54.9 4,011
Transfers 2		65.1 2,871	64.4 360	67.0 588	62.0 513	63.2 372
		Transfers 4	64.6 1,753	59.3 263	62.2 267	66.1 336

Source: Flagships Database and State Systems Database.

Notes: Beneath each graduation rate is its corresponding cell size. "Transfers 2" is transfers from two-year institutions, and "Transfers 4" is transfers from four-year institutions.

APPENDIX TABLE 7.4b
Six-Year Graduation Rates (Percent) and Numbers of Freshmen Enrollees and Transfer Students by High School GPA, 1999 Entering Cohort

		<i>All Students</i>	<i>H.S. GPA</i>				
			<i>Below 2.50</i>	<i>2.50–2.99</i>	<i>3.00–3.49</i>	<i>3.50–3.99</i>	<i>4.00+</i>
Flagships and State System SEL As	Freshmen	75.3 70,621	37.1 105	49.9 3,628	63.8 15,486	78.5 31,873	88.7 15,108
	Transfers 2	74.9 8,542	61.4 414	71.0 1,337	76.9 2,034	83.9 1,581	84.2 101
		Transfers 4	74.2 7,236	58.3 211	63.4 916	74.4 1,846	80.5 2,071
	State System SEL Bs	Freshmen	52.9 16,488	33.6 396	40.5 2,944	52.0 6,524	60.4 4,867
Transfers 2		65.1 2,871	60.5 294	64.4 595	66.5 514	71.7 230	81.8 22
		Transfers 4	64.6 1,753	58.9 107	61.5 273	65.2 454	70.1 364

Source: Flagships Database and State Systems Database.

Notes: Beneath each graduation rate is its corresponding cell size. "Transfers 2" is transfers from two-year institutions, and "Transfers 4" is transfers from four-year institutions.

APPENDIX TABLE 7.4c
Six-Year Graduation Rates (Percent) of Freshmen Enrollees and Transfer Students
by SAT/ACT Scores, 1999 Entering Cohort

		SAT/ACT					
		<i>All Students</i>	<i>Below 900</i>	<i>900– 990</i>	<i>1000– 1090</i>	<i>1100– 1190</i>	<i>1200+</i>
Flagships and State System SEL As	Freshmen	75.3	57.5	63.8	69.3	74.5	82.0
		70,621	2,736	6,665	11,321	17,127	31,916
	Transfers 2	74.9	69.3	75.0	78.0	77.4	79.3
		8,542	1,195	1,522	1,442	1,299	944
	Transfers 4	74.2	62.4	72.1	75.0	77.6	79.3
		7,236	651	1,075	1,351	1,540	1,776
State System SEL Bs	Freshmen	52.9	47.7	51.7	54.4	55.7	57.7
		16,488	2,750	4,127	4,652	2,966	1,811
	Transfers 2	65.1	66.1	64.6	65.1	68.6	58.7
		2,871	601	438	307	137	63
	Transfers 4	64.6	63.3	64.5	65.2	66.2	73.9
		1,753	283	304	299	234	134

Source: Flagships Database and State Systems Database.

Notes: Beneath each graduation rate is its corresponding cell size. “Transfers 2” is transfers from two-year institutions, and “Transfers 4” is transfers from four-year institutions.

APPENDIX TABLE 7.5
Major at Graduation of Freshmen Enrollees and Transfer Students
(Percentage of Students in Each Field), 1999 Entering Cohort

	<i>Flagships and State System SEL As</i>			<i>State System SEL Bs</i>		
	<i>Freshmen</i>	<i>Transfers</i>	<i>Transfers</i>	<i>Freshmen</i>	<i>Transfers</i>	<i>Transfers</i>
		<i>2</i>	<i>4</i>		<i>2</i>	<i>4</i>
Engineering, Math, and Physical Sciences	20	15	14	8	9	7
Life Sciences	9	8	8	4	3	6
Humanities	11	13	14	13	11	11
Social Sciences	23	29	27	15	14	17
Communications and Education	11	10	11	21	23	17
Business	14	11	11	23	23	22
Professional and Other	12	14	14	17	17	19

Source: Flagships Database and State Systems Database.

Notes: “Transfers 2” is transfers from two-year institutions, and “Transfers 4” is transfers from four-year institutions.

APPENDIX TABLE 7.6
 Rank-in-Class at Graduation of Transfer Students (Relative to Freshmen),
 1999 Entering Cohort

	<i>Flagships and State System SEL As</i>			<i>State System SEL Bs</i>		
Transfers from	-10.6	-10.5	9.4	-5.2	-5.2	9.2
Two-Year	[1.1]**	[1.0]**	[1.4]**	[1.7]*	[1.7]*	[1.0]**
Transfers from	-3.4	-3.2	7.2	0.7	1.2	5.4
Four-Year	[0.8]**	[0.8]**	[0.9]**	[1.9]	[1.7]	[0.9]**
University and Major?	No	Yes	Yes	No	Yes	Yes
High School GPA and SAT/ACT?	No	No	Yes	No	No	Yes
Observations	50,531	50,531	50,531	9,954	9,954	9,954

Source: Flagships Database and State Systems Database.

Notes: Robust standard errors adjusted for clustering by university appear in brackets. Coefficients indicate the average difference in rank-in-class at graduation between the listed group and the reference group (freshmen enrollees).

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 7.7a

Average Rank-in-Class at Graduation of Freshmen Enrollees and Transfer Students
by High School GPA, 1999 Entering Cohort

		<i>High School GPA</i>					
		<i>All</i>	<i>Below</i>	<i>2.50–</i>	<i>3.00–</i>	<i>3.50–</i>	
		<i>Students</i>	<i>2.50</i>	<i>2.99</i>	<i>3.49</i>	<i>3.99</i>	<i>4.00+</i>
Flagships and State System SEL As	Freshmen	51.1	20.2	27.6	38.4	52.4	62.0
		44,602	31	1,615	8,451	21,854	11,402
	Transfers 2	41.3	27.2	30.5	40.5	51.0	51.6
		5,508	253	910	1,479	1,211	76
	Transfers 4	47.5	27.0	32.4	42.7	56.9	68.6
		4,367	119	546	1,256	1,470	217
State System SEL Bs	Freshmen	50.8	32.1	34.2	44.2	59.8	77.1
		8,716	133	1,193	3,392	2,938	684
	Transfers 2	45.9	33.7	39.5	49.1	64.5	67.9
		1,868	178	383	342	165	18
	Transfers 4	51.6	24.8	38.8	49.5	65.1	79.2
		1,133	63	168	296	255	39

Source: Flagships Database and State Systems Database.

Notes: Beneath each average rank is its corresponding cell size. “Transfers 2” is transfers from two-year institutions, and “Transfers 4” is transfers from four-year institutions.

APPENDIX TABLE 7.7b

Average Rank-in-Class at Graduation of Freshmen Enrollees and Transfer Students
by SAT/ACT Scores, 1999 Entering Cohort

		<i>SAT/ACT</i>					
		<i>All</i>	<i>Below</i>	<i>900–</i>	<i>1000–</i>	<i>1100–</i>	
		<i>Students</i>	<i>900</i>	<i>990</i>	<i>1090</i>	<i>1190</i>	<i>1200+</i>
Flagships and State System SEL As	Freshmen	51.1	27.8	36.4	42.7	48.9	58.6
		44,602	1,365	3,693	6,464	10,736	22,177
	Transfers 2	41.3	29.1	37.7	40.7	44.9	52.5
		5,508	748	1,004	968	893	686
	Transfers 4	47.5	29.2	37.3	44.5	50.8	59.2
		4,367	367	665	835	1,006	1,151
State System SEL Bs	Freshmen	50.8	37.2	43.9	50.7	58.5	69.8
		8,716	1,311	2,133	2,530	1,652	1,045
	Transfers 2	45.9	36.9	46.4	48.8	60.9	70.5
		1,868	397	283	200	94	37
	Transfers 4	51.6	35.5	44.1	56.2	63.6	67.2
		1,133	179	196	195	155	99

Source: Flagships Database and State Systems Database.

Notes: Beneath each average rank is its corresponding cell size. “Transfers 2” is transfers from two-year institutions, and “Transfers 4” is transfers from four-year institutions.

APPENDIX TABLE 7.8

Academic Predictors of Transfers' College Outcomes, 1999 Entering Cohort

<i>Transfers from Two-Year Schools</i>				
	<i>Graduation Rate</i>		<i>Rank-in-Class</i>	
Standardized Transfer GPA	0.069	0.065	15.5	13.7
	[0.008]**	[0.010]**	[0.7]**	[0.9]**
Standardized Adjusted High School GPA		0.018		2.6
		[0.010]		[0.8]*
Standardized SAT/ACT Score		-0.012		2.3
		[0.006]*		[0.4]**
Observations	3,145	3,145	3,138	3,138
<i>Transfers from Four-Year Schools</i>				
	<i>Graduation Rate</i>		<i>Rank-in-Class</i>	
Standardized Transfer GPA	0.062	0.054	15.8	12.8
	[0.010]**	[0.009]**	[1.3]**	[1.3]**
Standardized Adjusted High School GPA		0.033		5.6
		[0.009]**		[1.4]**
Standardized SAT/ACT Score		-0.011		4.2
		[0.008]		[0.6]**
Observations	2,268	2,268	2,268	2,268

Source: Flagships Database.

Notes: Robust standard errors adjusted for clustering within universities appear in brackets. "Graduation Rate" is six-year graduation status, and "Rank-in-Class" is measured at exit. SAT/ACT scores, transfer GPA, and adjusted high school GPA are all standardized to have a mean of zero and a standard deviation of one so that the coefficients on these variables can be compared. All regressions include institutional dummies. This table is based on data from only eight flagship universities: Iowa State University, the University of California–Berkeley and –Los Angeles, the University of Illinois at Urbana-Champaign, the University of North Carolina–Chapel Hill, and the Universities of Iowa, Maryland, and Oregon, because the transfer GPA is available only at these universities.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 7.9

Comparison of Predictors for Freshmen Enrollees versus Transfers, 1999 Entering Cohort

<i>Flagships and State System SEL As</i>						
	<i>Six-Year Graduation Rates</i>			<i>Rank-in-Class at Exit</i>		
	<i>Freshmen</i>	<i>Transfers 2</i>	<i>Transfers 4</i>	<i>Freshmen</i>	<i>Transfers 2</i>	<i>Transfers 4</i>
Standardized Adjusted High School GPA	0.084 [0.004]**	0.040 [0.008]**	0.062 [0.011]**	12.1 [0.6]**	6.1 [0.7]**	8.5 [0.7]**
Standardized SAT/ACT Score	0.015 [0.003]**	-0.012 [0.007]	-0.004 [0.005]	6.1 [0.6]**	4.1 [0.5]**	5.1 [0.5]**
Observations	57,056	5,040	4,829	57,056	5,040	4,829
<i>State System SEL Bs</i>						
	<i>Six-Year Graduation Rates</i>			<i>Rank-in-Class at Exit</i>		
	<i>Freshmen</i>	<i>Transfers 2</i>	<i>Transfers 4</i>	<i>Freshmen</i>	<i>Transfers 2</i>	<i>Transfers 4</i>
Standardized Adjusted High School GPA	0.087 [0.004]**	0.045 [0.012]**	0.046 [0.020]*	10.9 [0.5]**	6.7 [0.6]**	7.9 [1.3]**
Standardized SAT/ACT Score	-0.013 [0.007]	-0.022 [0.011]*	0.011 [0.012]	4.7 [0.3]**	4.5 [0.5]**	5.3 [0.5]**
Observations	15,547	1,436	1,166	15,547	1,436	1,166

Source: Flagships Database and State Systems Database.

Notes: Robust standard errors in brackets. SAT/ACT scores and adjusted high school GPA are both standardized to have a mean of zero and a standard deviation of one so that the coefficients on these variables can be compared. All regressions include institutional dummies. Rutgers is excluded because high school GPA is not available for any transfer students.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 7.10

Outcomes and Characteristics of Freshmen Enrollees and Transfers
at HBCUs, 1999 Entering Cohort

	<i>Freshmen</i>	<i>Transfers 2</i>	<i>Transfers 4</i>
Number	5,045	276	322
Graduation Rate (%)	39.7	53.3	52.2
Rank-in-Class	49.5	49.5	54.4
High School GPA	2.96	2.72	2.84
SAT/ACT Scores	847	806	866

Source: State Systems Database.

Notes: Data are from HBCUs in Maryland and North Carolina. "Transfer 2" is transfers from two-year institutions, and "Transfers 4" is transfers from four-year institutions.

APPENDIX TABLE 7.11

Outcomes and Characteristics of Freshmen Enrollees and Transfer Students
with High School GPAs below 3.0, 1999 Entering Cohort

		<i>Number</i>	<i>Grad %</i>	<i>Rank</i>	<i>% Bot Y</i>	<i>% Top Y</i>
Flagships and	Freshmen	3,733	50	27.5	17	38
State System	Transfers 2	1,751	69	29.8	19	30
SEL As	Transfers 4	1,127	62	31.4	18	40
State System	Freshmen	3,340	40	34.0	10	39
SEL Bs	Transfers 2	889	63	37.6	16	28
	Transfers 4	380	61	35.0	18	37

Source: Flagships Database and State Systems Database.

Notes: "Transfers 2" is transfers from two-year institutions, and "Transfers 4" is transfers from four-year institutions. "Grad %" is six-year graduation rate. "Rank" is rank-in-class at graduation. "% Bot Y" and "% Top Y" are the percentages of students in the bottom and top income quartiles, respectively.

APPENDIX TABLE 7.12

Educational Attainment of the Population Aged 25–34 by State, 2000
(Percentage in Each Category)

<i>State</i>	<i>Some College, No Degree</i>	<i>Associate's Degree</i>	<i>Bachelor's Degree or Higher</i>
Massachusetts	18	8	41
Connecticut	20	7	35
Colorado	24	8	35
New Jersey	20	7	35
Minnesota	27	11	35
Maryland	23	6	34
New York	18	9	33

(continued)

APPENDIX TABLE 7.12 (Continued)

<i>State</i>	<i>Some College, No Degree</i>	<i>Associate's Degree</i>	<i>Bachelor's Degree or Higher</i>
Virginia	23	6	33
Illinois	22	7	32
Vermont	19	10	31
New Hampshire	22	11	30
Kansas	27	7	30
Delaware	22	7	30
Nebraska	27	10	30
Rhode Island	21	9	29
Pennsylvania	18	8	29
Washington	26	9	29
North Dakota	29	15	29
Wisconsin	24	10	28
Iowa	25	11	28
Georgia	23	6	28
South Dakota	26	11	27
Missouri	25	7	27
Montana	29	8	27
Oregon	27	7	27
Hawaii	26	10	26
North Carolina	23	8	26
California	22	7	26
Michigan	26	8	26
Ohio	23	8	26
Utah	30	10	25
Texas	24	6	24
Indiana	23	8	23
Florida	23	9	23
Wyoming	31	10	23
Tennessee	23	6	23
Maine	22	10	23
Arizona	27	7	23
South Carolina	23	8	23
Idaho	29	8	22
Alabama	25	7	22
Oklahoma	26	7	22
Alaska	32	7	21
Louisiana	25	5	21
Kentucky	23	6	21
New Mexico	27	7	20
Arkansas	24	5	19
Mississippi	25	8	18
West Virginia	21	6	18
Nevada	26	6	17

Source: 2000 U.S. Census.

APPENDIX TABLE 8.1

Average Tuition and Fees (Constant 2008 Dollars) and Percent Change,
1978–79 to 2008–09

<i>Academic Year</i>	<i>Private Four-Year Institutions</i>		<i>Public Four-Year Institutions (In-state Rates)</i>	
	<i>Published Tuition and Fees</i>	<i>Year-to-Year Change (%)</i>	<i>Published Tuition and Fees</i>	<i>Year-to-Year Change (%)</i>
1978–79	9,903	—	2,303	—
1979–80	9,704	–2.1	2,221	–3.7
1980–81	9,620	–0.9	2,138	–3.8
1981–82	9,877	2.6	2,183	2.0
1982–83	10,466	5.6	2,326	6.2
1983–84	11,214	6.7	2,528	8.0
1984–85	11,740	4.5	2,595	2.6
1985–86	12,490	6.0	2,689	3.5
1986–87	13,375	6.6	2,840	5.3
1987–88	13,623	1.8	2,870	1.0
1988–89	14,857	8.3	2,929	2.0
1989–90	15,318	3.0	2,999	2.3
1990–91	15,755	2.8	3,218	6.8
1991–92	15,846	0.6	3,403	5.4
1992–93	16,357	3.1	3,654	6.9
1993–94	16,767	2.4	3,862	5.4
1994–95	17,370	3.5	4,009	3.7
1995–96	17,620	1.4	4,055	1.1
1996–97	18,205	3.2	4,168	2.7
1997–98	18,892	3.6	4,264	2.2
1998–99	19,825	4.7	4,376	2.6
1999–2000	20,476	3.2	4,436	1.3
2000–2001	20,459	–0.1	4,465	0.7
2001–02	21,534	5.0	4,667	4.3
2002–03	22,057	2.4	5,005	6.8
2003–04	22,666	2.7	5,556	9.9
2004–05	23,280	2.6	5,953	6.7
2005–06	23,617	1.4	6,182	3.7
2006–07	24,113	2.1	6,274	1.5
2007–08	25,075	3.8	6,538	4.0
2008–09	25,143	0.3	6,585	0.7

Source: Trends in College Pricing (College Board 1999, 2008a) and authors' calculations.

Note: “—” indicates that the change from the previous year cannot be calculated because data from the previous year are not available.

APPENDIX TABLE 8.2
Average Percent Change in Published and Net Tuition (Constant 2008 Dollars), 1993–94 to 2008–09

Academic Year	Private Four-Year Institutions			Public Four-Year Institutions				
	Published Tuition and Fees	Year-to-Year Percent Change	Average Net Tuition and Fees	Year-to-Year Percent Change	Published Tuition (In-state) and Fees	Year-to-Year Percent Change	Average Net Tuition and Fees	Year-to-Year Percent Change
1993–94	16,800	—	10,600	—	3,900	—	2,300	—
1994–95	17,400	3.4	10,700	0.9	4,000	2.5	2,200	-4.5
1995–96	17,600	1.1	10,800	0.9	4,100	2.4	2,100	-4.8
1996–97	18,200	3.3	11,300	4.4	4,200	2.4	2,200	4.5
1997–98	18,900	3.7	11,800	4.2	4,300	2.3	2,200	0.0
1998–99	19,800	4.5	12,200	3.3	4,400	2.3	2,200	0.0
1999–2000	20,500	3.4	12,700	3.9	4,400	0.0	2,200	0.0
2000–2001	20,500	0.0	12,600	-0.8	4,500	2.2	2,100	-4.8
2001–02	21,500	4.7	13,500	6.7	4,700	4.3	2,000	-5.0
2002–03	22,100	2.7	13,800	2.2	5,000	6.0	2,200	9.1
2003–04	22,700	2.6	13,900	0.7	5,600	10.7	2,100	-4.8
2004–05	23,300	2.6	14,300	2.8	6,000	6.7	2,400	12.5
2005–06	23,600	1.3	14,400	0.7	6,200	3.2	2,700	11.1
2006–07	24,100	2.1	14,600	1.4	6,300	1.6	2,700	2.1
2007–08	25,100	4.0	15,100	3.3	6,500	3.1	2,800	3.6
2008–09	25,100	0.0	14,900	-1.3	6,600	1.5	2,900	3.4

Source: Trends in College Pricing (College Board 1999, 2008a) and authors' calculations.

Note: “—” indicates that the change from the previous year cannot be calculated because data from the previous year are not available.

APPENDIX TABLE 8.3

Average Amount Borrowed (Constant 2008 Dollars) from Federal and Private Sources (among Borrowers) by Family Income Quartile, 1992–93 to 2003–04

<i>Income Quartile</i>	<i>1992–93</i>	<i>1995–96</i>	<i>1999–2000</i>	<i>2003–04</i>
Bottom	4,503	5,274	6,026	6,144
Percent Borrowing	39	47	46	48
Second	4,807	5,355	5,922	6,408
Percent Borrowing	34	46	48	48
Third	5,098	5,384	6,405	6,637
Percent Borrowing	19	35	42	47
Top	5,613	5,423	6,579	6,695
Percent Borrowing	12	21	31	36

Source: Trends in Student Aid (College Board 2007, 2008b).

Notes: Income categories are based on 1991, 1994, 1998, and 2002 quartiles of families in U.S. Census Bureau data with heads of households ages 45–54. For 2002, low-income is less than \$40,000, low- to middle-income is between \$40,000 and \$69,999, middle- to high-income is between \$70,000 and \$99,999, and high-income is \$100,000 and higher. Student loans from both federal and non-federal sources are included. Data for 1992–93 and 1995–96 include loans from friends and family.

APPENDIX TABLE 8.4

Average Amount Borrowed (Constant 2008 Dollars) from Federal and Private Sources (among Borrowers) by Sector, 1992–93 to 2003–04

<i>Sector</i>	<i>1992–93</i>	<i>1995–96</i>	<i>1999–2000</i>	<i>2003–04</i>
Public Four-Year Universities	4,330	5,199	5,535	5,870
Percent Borrowing	26	41	45	47
Private Four-Year Universities	5,522	6,049	7,605	7,976
Percent Borrowing	44	55	62	63
Public Two-Year Colleges	2,588	3,120	3,705	3,465
Percent Borrowing	6	10	12	17
For-Profit Education Institutions	5,131	5,053	6,347	7,359
Percent Borrowing	51	64	71	74

Source: Trends in Student Aid (College Board 2007, 2008b).

Notes: Student loans from both federal and non-federal sources are included. Data for 1992–93 and 1995–96 include loans from friends and family.

APPENDIX TABLE 9.1a
 Average Financial Aid Packages (1999 Dollars) by Race/Ethnicity and Family Income,
 1999 Entering Cohort, Flagships and State System SEL AS

<i>Income Quartile</i>	<i>Total Grants</i>					
	<i>All Races/ Ethnicities</i>	<i>White</i>	<i>Black</i>	<i>Hispanic</i>	<i>Asian</i>	<i>Other Races</i>
Bottom Quartile	6,539	5,705	7,660	7,801	7,230	6,433
Percent Receiving Grants	92	90	95	96	92	95
Second Quartile	4,348	3,919	5,710	5,667	5,123	4,101
Percent Receiving Grants	81	79	89	87	81	87
Third Quartile	2,937	2,749	4,002	3,922	3,440	2,383
Percent Receiving Grants	55	54	70	67	47	74
Top Quartile	2,783	2,602	4,450	3,883	3,176	1,608
Percent Receiving Grants	35	35	51	51	24	65

<i>Income Quartile</i>	<i>Total Loans</i>					
	<i>All Races/ Ethnicities</i>	<i>White</i>	<i>Black</i>	<i>Hispanic</i>	<i>Asian</i>	<i>Other Races</i>
Bottom Quartile	3,302	3,516	3,171	2,983	2,976	2,506
Percent Borrowing	60	61	61	64	56	81
Second Quartile	4,144	4,288	3,958	3,473	3,644	2,884
Percent Borrowing	61	62	64	62	54	75
Third Quartile	5,028	5,057	5,122	4,809	4,766	3,530
Percent Borrowing	48	49	56	50	39	68
Top Quartile	5,331	5,339	5,378	4,946	5,335	2,566
Percent Borrowing	23	23	36	26	18	56

Net Price

<i>Income Quartile</i>	<i>All Races/ Ethnicities</i>	<i>White</i>	<i>Black</i>	<i>Hispanic</i>	<i>Asian</i>	<i>Other Races</i>
Bottom Quartile	-2,769	-2,017	-4,050	-4,043	-3,194	-2,794
Second Quartile	-370	21	-1,813	-1,781	-942	-448
Third Quartile	1,481	1,595	236	408	1,709	1,478
Top Quartile	2,124	2,180	697	774	2,769	2,377

Sticker Price

<i>Income Quartile</i>	<i>All Races/ Ethnicities</i>	<i>White</i>	<i>Black</i>	<i>Hispanic</i>	<i>Asian</i>	<i>Other Races</i>
Bottom Quartile	3,548	3,437	3,565	3,679	3,763	3,566
Second Quartile	3,541	3,505	3,559	3,539	3,743	3,624
Third Quartile	3,564	3,539	3,532	3,468	3,817	3,736
Top Quartile	3,716	3,687	3,762	3,567	4,017	3,884

Cost of Attendance Analysis

<i>Income Quartile</i>	<i>Cost of Attendance</i>	<i>Average Grants</i>	<i>Average Loans</i>	<i>Total Aid</i>	<i>"Gap"</i>
Bottom Quartile	12,204	6,314	2,225	8,539	3,665
Second Quartile	12,197	3,915	2,982	6,897	5,300
Third Quartile	12,220	2,103	3,272	5,375	6,845
Top Quartile	12,372	1,658	2,208	3,866	8,506

Source: Flagships Database and State Systems Database.

Notes: The flagship and SEL A universities in this analysis are James Madison, Iowa State, Ohio State, Pennsylvania State, Purdue, and Stony Brook Universities; the University of California–Los Angeles, the University of North Carolina–Chapel Hill, the Universities of Florida, Illinois, Iowa, Maryland, Minnesota, Nebraska, Oregon, Virginia, Wisconsin, and Mary Washington; the College of William and Mary; and Virginia Polytechnic Institute and State University. Only full-time, dependent, in-state first-year students are included.

APPENDIX TABLE 9.1b
 Average Financial Aid Packages (1999 Dollars) by Race/Ethnicity and Family Income,
 1999 Entering Cohort, State System SEL Bs

<i>Income Quartile</i>	<i>Total Grants</i>					
	<i>All Races/ Ethnicities</i>	<i>White</i>	<i>Black</i>	<i>Hispanic</i>	<i>Asian</i>	<i>Other Races</i>
Bottom Quartile	5,111	4,950	5,426	4,877	5,023	4,251
Percent Receiving Grants	93	91	97	92	86	91
Second Quartile	3,106	2,959	3,444	3,048	3,748	2,599
Percent Receiving Grants	77	74	87	77	74	85
Third Quartile	2,232	2,202	2,309	2,341	2,401	2,674
Percent Receiving Grants	41	38	57	43	46	30
Top Quartile	2,356	2,256	2,369	2,508	4,306	2,428
Percent Receiving Grants	22	21	37	22	23	27

<i>Income Quartile</i>	<i>Total Federal Loans^a</i>					
	<i>All Races/ Ethnicities</i>	<i>White</i>	<i>Black</i>	<i>Hispanic</i>	<i>Asian</i>	<i>Other Races</i>
Bottom Quartile	2,651	2,592	2,745	2,493	2,619	2,625
Percent Borrowing	66	61	79	59	55	100
Second Quartile	3,198	3,175	3,455	2,921	2,818	2,625
Percent Borrowing	67	66	84	63	51	33
Third Quartile	4,031	4,005	4,557	3,615	3,281	4,811
Percent Borrowing	59	56	78	61	55	57
Top Quartile	4,620	4,566	4,887	4,273	4,707	5,494
Percent Borrowing	34	32	68	35	27	67

Net Price

<i>Income Quartile</i>	<i>All Races/ Ethnicities</i>				
	<i>White</i>	<i>Black</i>	<i>Hispanic</i>	<i>Asian</i>	<i>Other Races</i>
Bottom Quartile	-2,100	-2,612	-1,676	-1,567	-2,141
Second Quartile	-254	-693	130	-338	-624
Third Quartile	1,248	1,198	1,755	1,890	283
Top Quartile	1,636	1,740	2,149	1,773	671

<i>Income Quartile</i>	<i>Sticker Price</i>				
	<i>White</i>	<i>Black</i>	<i>Hispanic</i>	<i>Asian</i>	<i>Other Races</i>
Bottom Quartile	2,753	2,784	3,101	3,233	2,106
Second Quartile	2,512	2,588	2,893	3,090	1,954
Third Quartile	2,596	2,831	3,075	3,249	2,183
Top Quartile	2,634	2,835	3,148	3,387	2,254

Source: State Systems Database.

Notes: Based on data from Appalachian and East Carolina Universities; the University of North Carolina at Charlotte, Greensboro, Wilmington, and Pembroke; Christopher Newport, George Mason, Longwood, Old Dominion, Radford, and Virginia Commonwealth Universities; the University of Virginia College-Wise; and Virginia Military Academy. Only full-time, dependent, in-state freshmen are included.

^a Except "Total Federal Loans," which is based only on the eight Virginia institutions. See Chapter 9, note 8.

APPENDIX TABLE 9.2a

Changes in Financial Aid Packages (Constant 2002 Dollars) among Full-Time, Dependent, In-State FAFSA-Filers (Grant Aid) by EFC, 1999 Entering Cohort

<i>Average Total Grants among Recipients</i>				
<i>EFC Quartile</i>	<i>First Year</i>	<i>Second Year</i>	<i>Third Year</i>	<i>Fourth Year</i>
Bottom Quartile	7,367	7,259	7,521	7,574
Percent Receiving Grants	99	98	97	95
Second Quartile	4,739	4,423	4,454	4,590
Percent Receiving Grants	90	84	86	85
Third Quartile	3,321	3,106	3,070	3,258
Percent Receiving Grants	71	56	59	60
Top Quartile	2,823	2,745	2,929	3,253
Percent Receiving Grants	57	39	40	41
<i>Average Federal Grants among Recipients</i>				
<i>EFC Quartile</i>	<i>First Year</i>	<i>Second Year</i>	<i>Third Year</i>	<i>Fourth Year</i>
Bottom Quartile	3,092	3,117	3,283	3,256
Percent Receiving Grants	94	95	94	90
Second Quartile	1,861	1,691	1,706	1,753
Percent Receiving Grants	50	41	44	42
Third Quartile	1,913	1,692	1,802	1,922
Percent Receiving Grants	8	4	5	8
Top Quartile	2,287	2,453	3,206	2,818
Percent Receiving Grants	2	1	1	2
<i>Average Institutional Grants among Recipients</i>				
<i>EFC Quartile</i>	<i>First Year</i>	<i>Second Year</i>	<i>Third Year</i>	<i>Fourth Year</i>
Bottom Quartile	2,601	2,443	2,536	2,749
Percent Receiving Grants	62	58	59	64
Second Quartile	2,474	2,479	2,552	2,517
Percent Receiving Grants	57	57	58	65
Third Quartile	2,451	2,508	2,387	2,483
Percent Receiving Grants	45	40	45	46
Top Quartile	2,510	2,488	2,650	2,925
Percent Receiving Grants	33	30	30	32

APPENDIX TABLE 9.2a (Continued)

<i>Average State Grants among Recipients</i>				
<i>EFC Quartile</i>	<i>First Year</i>	<i>Second Year</i>	<i>Third Year</i>	<i>Fourth Year</i>
Bottom Quartile	2,971	3,458	3,426	3,217
Percent Receiving Grants	75	72	70	68
Second Quartile	2,439	2,902	2,846	2,820
Percent Receiving Grants	52	44	43	41
Third Quartile	1,467	2,029	2,075	2,092
Percent Receiving Grants	33	17	17	18
Top Quartile	1,054	1,841	1,899	1,875
Percent Receiving Grants	26	6	6	7
<i>Average Private Grants among Recipients</i>				
<i>EFC Quartile</i>	<i>First Year</i>	<i>Second Year</i>	<i>Third Year</i>	<i>Fourth Year</i>
Bottom Quartile	2,075	2,571	2,855	2,945
Percent Receiving Grants	27	10	11	11
Second Quartile	1,921	2,371	2,687	2,652
Percent Receiving Grants	35	14	16	13
Third Quartile	1,808	2,308	2,386	2,403
Percent Receiving Grants	34	14	13	13
Top Quartile	1,739	1,951	2,068	2,149
Percent Receiving Grants	27	11	10	10

Source: Flagships Database.

Notes: Based on data from Iowa State, Ohio State, and Stony Brook Universities; the University of California–Los Angeles; and the Universities of Florida, Illinois, Iowa, Maryland, Minnesota, Nebraska, and Oregon. EFC quartiles are calculated from the four-year mean values in this sample. Includes full-time, in-state, dependent students who filed a FAFSA each year, including non-graduates.

APPENDIX TABLE 9.2b

Changes in Financial Aid Packages (Constant 2002 Dollars) among Full-Time, Dependent, In-State FAFSA-Fileers (Loan Aid) by EFC, 1999 Entering Cohort

<i>Average Total Loans among Borrowers</i>				
<i>EFC Quartile</i>	<i>First Year</i>	<i>Second Year</i>	<i>Third Year</i>	<i>Fourth Year</i>
Bottom Quartile	3,617	4,009	4,674	5,173
Percent Borrowing	69	71	72	71
Second Quartile	4,825	5,104	5,883	6,290
Percent Borrowing	72	75	75	74
Third Quartile	5,722	5,978	6,799	7,146
Percent Borrowing	74	78	80	79
Top Quartile	6,553	6,886	7,661	7,967
Percent Borrowing	72	75	78	78
<i>Average Federal Loans among Borrowers</i>				
<i>EFC Quartile</i>	<i>First Year</i>	<i>Second Year</i>	<i>Third Year</i>	<i>Fourth Year</i>
Bottom Quartile	3,460	3,806	4,490	4,977
Percent Borrowing	69	71	72	71
Second Quartile	4,357	4,555	5,443	5,718
Percent Borrowing	72	74	75	74
Third Quartile	5,124	5,219	6,165	6,406
Percent Borrowing	74	77	79	78
Top Quartile	6,047	6,289	7,068	7,300
Percent Borrowing	72	74	78	78
<i>Average Institutional Loans among Borrowers</i>				
<i>EFC Quartile</i>	<i>First Year</i>	<i>Second Year</i>	<i>Third Year</i>	<i>Fourth Year</i>
Bottom Quartile	1,801	2,049	2,603	1,573
Percent Borrowing	0	0	0	0
Second Quartile	1,602	1,760	1,647	2,150
Percent Borrowing	3	2	1	1
Third Quartile	1,436	1,912	1,609	2,165
Percent Borrowing	2	2	1	1
Top Quartile	1,445	2,696	3,797	1,737
Percent Borrowing	1	0	0	0

APPENDIX TABLE 9.2b (Continued)

<i>Average State Loans among Borrowers</i>				
<i>EFC Quartile</i>	<i>First Year</i>	<i>Second Year</i>	<i>Third Year</i>	<i>Fourth Year</i>
Bottom Quartile	—	3,380	3,377	4,281
Percent Borrowing	—	0	0	1
Second Quartile	—	3,404	4,424	4,351
Percent Borrowing	—	1	1	1
Third Quartile	—	4,318	4,507	4,560
Percent Borrowing	—	1	1	2
Top Quartile	—	4,316	4,312	4,831
Percent Borrowing	—	1	1	2
<i>Average Private Loans among Borrowers</i>				
<i>EFC Quartile</i>	<i>First Year</i>	<i>Second Year</i>	<i>Third Year</i>	<i>Fourth Year</i>
Bottom Quartile	3,738	4,071	4,328	2,501
Percent Borrowing	3	3	3	3
Second Quartile	4,655	4,696	5,031	2,700
Percent Borrowing	7	8	6	7
Third Quartile	5,657	5,820	5,749	2,646
Percent Borrowing	8	9	8	9
Top Quartile	6,605	6,364	6,504	3,011
Percent Borrowing	6	7	6	7

Source: Flagships Database.

Notes: Based on data from Iowa State, Ohio State, and Stony Brook Universities; the University of California–Los Angeles; and the Universities of Florida, Illinois, Iowa, Maryland, Minnesota, Nebraska, and Oregon. EFC quartiles are calculated from the four-year mean values in this sample. Includes full-time, in-state, dependent students who filed a FAFSA each year, including non-graduates.

APPENDIX TABLE 9.2c
Changes in Family Income, Tuition, and EFC (Constant 2002 Dollars) among Full-Time, Dependent, In-State FAFSA-Filers, 1999 Entering Cohort

<i>EFC Quartile</i>	<i>Average Family Income</i>				<i>Average EFC</i>				
	<i>First Year</i>	<i>Second Year</i>	<i>Third Year</i>	<i>Fourth Year</i>	<i>EFC Quartile</i>	<i>First Year</i>	<i>Second Year</i>	<i>Third Year</i>	<i>Fourth Year</i>
Bottom Quartile	22,860	20,289	20,308	20,996	Bottom Quartile	826	649	720	791
Second Quartile	45,499	43,473	44,521	45,287	Second Quartile	4,226	3,566	3,715	3,936
Third Quartile	66,934	67,032	68,758	68,370	Third Quartile	9,006	8,597	8,861	8,776
Top Quartile	101,638	103,809	106,997	105,592	Top Quartile	21,054	22,655	22,639	20,965
	<i>Average Tuition</i>				<i>Average Net Tuition</i>				
<i>EFC Quartile</i>	<i>First Year</i>	<i>Second Year</i>	<i>Third Year</i>	<i>Fourth Year</i>	<i>EFC Quartile</i>	<i>First Year</i>	<i>Second Year</i>	<i>Third Year</i>	<i>Fourth Year</i>
Bottom Quartile	3,595	4,032	4,341	4,776	Bottom Quartile	-3,714	-3,098	-2,937	-2,423
Second Quartile	3,516	3,981	4,357	4,862	Second Quartile	-740	284	524	973
Third Quartile	3,565	3,989	4,410	4,935	Third Quartile	1,211	2,258	2,586	2,965
Top Quartile	3,654	4,169	4,581	5,093	Top Quartile	2,050	3,086	3,409	3,749

Source: Flagships Database.

Notes: Based on data from Iowa State, Ohio State, and Stony Brook Universities; the University of California–Los Angeles; and the Universities of Florida, Illinois, Iowa, Maryland, Minnesota, Nebraska, and Oregon. EFC quartiles are calculated from the four-year mean values in this sample. Includes full-time, in-state, dependent students who filed a FAFSA each year, including non-graduates.

APPENDIX TABLE 9.3a

Regression of Four-Year Adjusted Graduation Rates on Net Price
(1999 Dollars) among Freshmen at Flagship Universities
by Family Income, 1999 Entering Cohort

<i>Income Quartile</i>	<i>Average Net Price (\$1,000s)</i>	<i>R-Squared</i>
Bottom Quartile	-0.045 [0.019]*	0.25
Second Quartile	-0.031 [0.023]	0.11
Third Quartile	-0.002 [0.022]	0.00
Top Quartile	0.008 [0.019]	0.01

Source: Flagships Database.

Note: Standard errors in brackets. OLS regression coefficients indicate the increase in four-year graduation rates associated with a \$1,000 decrease in net price for the listed income quartile. For example, the first cell on the left implies that, for bottom-quartile students, a \$1,000 lower net price is associated with an increase of 4.5 percentage points in the four-year graduation rate.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 9.3b

Regression of Six-Year Adjusted Graduation Rates on Net Price
(1999 Dollars) among Freshmen at Flagship Universities
by Family Income, 1999 Entering Cohort

<i>Income Quartile</i>	<i>Average Net Price (\$1,000s)</i>	<i>R-squared</i>
Bottom Quartile	-0.030 [0.012]*	0.30
Second Quartile	-0.033 [0.012]*	0.34
Third Quartile	-0.003 [0.011]	0.01
Top Quartile	0.000 [0.010]	0.00

Source: Flagships Database.

Note: Standard errors appear in brackets. OLS regression coefficients indicate the increase in six-year graduation rates associated with a \$1,000 decrease in net price for the listed income quartile. For example, the first cell on the left implies that, for bottom-quartile students, a \$1,000 lower net price is associated with an increase of 3.0 percentage points in the six-year graduation rate.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 10.1a
 Regressions of Adjusted Six-Year Graduation Rates on Institutional
 Characteristics, 1999 Entering Cohort

<i>Flagships and State System SEL As</i>				
Selectivity Index	0.080			0.089
	[0.014]**			[0.018]**
Educational and General Expenditures per FTE (Thousands of Dollars)		0.001		-0.002
		[0.001]		[0.001]
FTE Enrollment (Thousands of Students)			0.001	0.001
			[0.002]	[0.002]
Observations	28	28	28	28
R-squared	0.38	0.04	0.04	0.41
<i>State System SEL Bs</i>				
Selectivity Index	0.110			0.116
	[0.043]*			[0.044]*
General and Educational Expenditures per FTE (Thousands of Dollars)		0.001		0.001
		[0.007]		[0.006]
FTE Enrollment (in Thousands of Students)			-0.002	-0.004
			[0.004]	[0.004]
Observations	28	28	28	28
R-squared	0.19	0.00	0.02	0.23

Source: Flagships Database, State Systems Database, and Integrated Postsecondary Education Data System (IPEDS).

Notes: Robust standard errors appear in brackets. The dependent variable is the adjusted six-year graduation rate. Institutional characteristics are from the 2001 IPEDS data. Rutgers is excluded due to missing IPEDS data. Replacing educational and general expenditures with instructional expenditures yielded qualitatively similar results.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 10.1b
 Regressions of Adjusted Six-Year Graduation Rates on Institutional
 Characteristics, 1999 Entering Cohort

<i>Flagships and State System SEL As</i>			
Selectivity Index	0.085 [0.015]**		0.059 [0.012]**
Percentage of Freshmen in Campus Housing (One Unit = 10 Percentage Points)		0.039 [0.011]**	0.030 [0.008]**
Observations	28	28	28
<i>R</i> -squared	0.41	0.46	0.63
<i>State System SEL Bs</i>			
Selectivity Index	0.081 [0.043]		0.029 [0.035]
Percentage of Freshmen in Campus Housing (One Unit = 10 Percentage Points)		0.027 [0.007]**	0.025 [0.007]**
Observations	25	25	25
<i>R</i> -squared	0.12	0.36	0.37

Source: Flagships Database, State Systems Database, and College Board Annual Survey of Colleges.

Notes: Robust standard errors appear in brackets. The dependent variable is the adjusted six-year graduation rate. The percentage of the freshmen class in campus housing is from the College Board's Annual Survey of Colleges. The following institutions are dropped due to missing data: the University of Cincinnati, the University of North Carolina–Chapel Hill, Virginia Tech, and Cleveland State, Penn State, and Shawnee State Universities.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 10.1c
 Graduation Rates by Living in a Residence Hall in the First Semester,
 1999 Entering Cohort

<i>Flagships and State System SEL As</i>				
	<i>Six-Year Graduation Rates</i>		<i>Four-Year Graduation Rates</i>	
Lived in a Residence Hall (0/1)	0.117 [0.039]**	0.080 [0.021]**	0.091 [0.052]	0.046 [0.027]
Controls?	No	Yes	No	Yes
Observations	58,685	58,685	58,685	58,685
<i>State System SEL Bs</i>				
	<i>Six-Year Graduation Rates</i>		<i>Four-Year Graduation Rates</i>	
Lived in a Residence Hall (0/1)	0.070 [0.027]**	0.071 [0.019]**	0.095 [0.020]**	0.065 [0.009]**
Controls?	No	Yes	No	Yes
Observations	16,157	16,157	16,157	16,157

Source: Flagships Database and State Systems Database.

Notes: Robust standard errors adjusted for clustering within universities appear in brackets. Controls include high school GPA, SAT/ACT scores, race/ethnicity, gender, state residency status, and university attended. Due to missing data on whether students lived in a residence hall, the following universities are excluded: the University of California–Berkeley and –Los Angeles, the University of Maryland–Baltimore County, the University of Mary Washington, Miami University of Ohio, the University of Texas–Austin, and the Universities of Florida, Minnesota, Nebraska, Oregon, and Washington, as well as all state system SEL Bs in Maryland and Ohio.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 10.2

Graduation Rates, Public and Private Institutions, Raw and Adjusted (Compared to Public SEL I Flagships), 1999 Entering Cohort (Publics) and 1995 Entering Cohort (Privates)

	<i>Six-Year Graduation Rates</i>		<i>Four-Year Graduation Rates</i>	
	<i>Raw</i>	<i>Adjusted</i>	<i>Raw</i>	<i>Adjusted</i>
Private Ivy League Universities	0.070 [0.021]**	0.051 [0.019]**	0.206 [0.046]**	0.174 [0.043]**
Private Liberal Arts Colleges	-0.009 [0.023]	-0.022 [0.021]	0.145 [0.048]**	0.115 [0.045]*
Observations	38,014	38,014	38,014	38,014

Source: Flagships Database and Expanded College and Beyond Database.

Notes: Robust standard errors adjusted for clustering within universities appear in brackets. Adjusted differences control for SAT/ACT scores, race/ethnicity, and gender. Coefficients indicate the predicted difference (from a probit model) in graduation rates between the listed group and the reference group (SEL I flagships), holding control variables at their means.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 10.3

Graduation Rates, Virginia Public and Private Institutions, Raw and Adjusted (Compared to SEL A Public Universities), 1999 Entering Cohort

	<i>Six-Year Graduation Rates</i>		<i>Four-Year Graduation Rates</i>	
	<i>Raw</i>	<i>Adjusted</i>	<i>Raw</i>	<i>Adjusted</i>
SEL A Private Universities	0.012 [0.000]**	0.000 [0.008]	0.153 [0.000]**	0.127 [0.005]**
SEL B Public Universities	-0.274 [0.000]**	-0.152 [0.024]**	-0.326 [0.000]**	-0.159 [0.019]**
SEL B Private Universities	-0.283 [0.000]**	-0.153 [0.027]**	-0.192 [0.000]**	-0.035 [0.026]
Observations	20,257	20,257	20,257	20,257

Source: State Systems Database.

Notes: Robust standard errors adjusted for clustering within universities appear in brackets. Adjusted differences control for high school GPA, SAT/ACT scores, race/ethnicity, gender, state residency status, and family income quartile. Coefficients indicate the predicted difference (from a probit model) in graduation rates between the listed group and the reference group (SEL A public universities), holding control variables at their means.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 10.4

Six-Year Graduation Rates by Income and Starting at an Honors College, 1999 Entering Cohort

	<i>Non-Honors</i>	<i>Honors</i>
Second Quartile	0.016 [0.015]	-0.015 [0.021]
Third Quartile	0.051 [0.018]**	0.007 [0.010]
Top Quartile	0.098 [0.019]**	0.023 [0.007]**
Observations	33,785	4,996

Source: Flagships Database.

Notes: Robust standard errors adjusted for clustering within universities appear in brackets. Based on data from Ohio State and Stony Brook Universities, the University of California—Los Angeles, the University of Illinois at Urbana-Champaign, the University of North Carolina—Chapel Hill, the University of Texas—Austin, and the Universities of Iowa, Michigan, Nebraska, Oregon, and Virginia. Controls are included for high school GPA, SAT/ACT scores, state residency status, and university attended. Coefficients indicate the predicted difference (from a probit model) in graduation rates between the listed group and the reference group (students from families in the bottom income quartile), holding control variables at their means.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 10.5

Six-Year Graduation Rates by Income and Public versus Private Control, 1999 Entering Cohort (Publics) and 1995 Entering Cohort (Privates)

	<i>SEL I Flagships</i>	<i>Ivy League</i>	<i>Liberal Arts Colleges</i>
Second Quartile	0.027 [0.018]	0.009 [0.006]	0.004 [0.017]
Third Quartile	0.046 [0.022]*	0.018 [0.013]	0.012 [0.018]
Top Quartile	0.061 [0.021]**	0.029 [0.013]*	0.013 [0.019]
Observations	16,113	5,688	5,609

Source: Flagships Database and Expanded College and Beyond Database.

Notes: Robust standard errors adjusted for clustering within universities appear in brackets. Controls are included for SAT/ACT scores, race/ethnicity, gender, and university attended. Income quartile is based on self-reported information from the SAT survey. Coefficients indicate the predicted difference (from a probit model) in graduation rates between the listed group and the reference group (students from families in the bottom income quartile), holding control variables at their means.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 11.1

Differences in Six-Year Graduation Rates for Black Men by Selectivity Cluster (Compared to SEL I Flagships), 1999 Entering Cohort

<i>All Black Men</i>					
SEL IIs	-0.069 [0.031]*	-0.069 [0.031]*	-0.048 [0.030]	-0.033 [0.028]	0.001 [0.023]
SEL IIIs	-0.169 [0.034]**	-0.169 [0.034]**	-0.143 [0.032]**	-0.104 [0.030]**	-0.053 [0.031]
SEL Bs	-0.277 [0.045]**	-0.277 [0.045]**	-0.259 [0.042]**	-0.184 [0.036]**	-0.104 [0.037]**
State Residency?	No	Yes	Yes	Yes	Yes
Family Income?	No	No	Yes	Yes	Yes
SAT Scores?	No	No	No	Yes	Yes
High School GPA?	No	No	No	No	Yes
Observations	2,976	2,976	2,976	2,976	2,976
<i>Black Men with High School GPAs below 3.0</i>					
SEL IIs	-0.066 [0.043]	-0.047 [0.044]	-0.013 [0.050]	-0.004 [0.051]	-0.004 [0.051]
SEL IIIs	-0.090 [0.037]*	-0.082 [0.035]*	-0.052 [0.043]	-0.034 [0.046]	-0.033 [0.047]
SEL Bs	-0.178 [0.046]**	-0.151 [0.042]**	-0.128 [0.044]**	-0.093 [0.046]*	-0.092 [0.048]
State Residency?	No	Yes	Yes	Yes	Yes
Family Income?	No	No	Yes	Yes	Yes
SAT Scores?	No	No	No	Yes	Yes
High School GPA?	No	No	No	No	Yes
Observations	999	999	999	999	999

Source: Flagships Database and State Systems Database.

Notes: Robust standard errors adjusted for clustering by university appear in brackets. Controls include high school GPA, SAT/ACT scores, state residency, and income quartile. Coefficients indicate the predicted difference in graduation probability (from a probit model) between the listed group and the reference group (SEL I flagships), holding all control variables at their means.

* Significant at the .05 level.

** Significant at the .01 level.

APPENDIX TABLE 11.2

Differences in Six-Year Graduation Rates for Hispanics by Selectivity Cluster (Compared to SEL I Flagships), 1999 Entering Cohort

<i>All Hispanics</i>						
SEL IIs	-0.074 [0.030]*	-0.075 [0.030]*	-0.074 [0.029]*	-0.078 [0.027]**	-0.069 [0.026]**	-0.052 [0.025]*
SEL IIIs	-0.194 [0.034]**	-0.192 [0.034]**	-0.191 [0.035]**	-0.185 [0.034]**	-0.158 [0.035]**	-0.098 [0.030]**
SEL Bs	-0.324 [0.033]**	-0.326 [0.033]**	-0.333 [0.032]**	-0.335 [0.031]**	-0.284 [0.033]**	-0.199 [0.031]**
State Residency?	No	Yes	Yes	Yes	Yes	Yes
Gender?	No	No	Yes	Yes	Yes	Yes
Family Income?	No	No	No	Yes	Yes	Yes
SAT Scores?	No	No	No	No	Yes	Yes
High School GPA?	No	No	No	No	No	Yes
Observations	4,572	4,572	4,572	4,572	4,572	4,572
<i>Hispanics with High School GPAs below 3.0</i>						
SEL IIs	-0.105 [0.065]	-0.109 [0.069]	-0.096 [0.063]	-0.079 [0.066]	-0.071 [0.069]	-0.069 [0.081]
SEL IIIs	-0.121 [0.071]	-0.121 [0.069]	-0.113 [0.066]	-0.094 [0.071]	-0.077 [0.078]	-0.064 [0.087]
SEL Bs	-0.239 [0.071]**	-0.244 [0.073]**	-0.243 [0.067]**	-0.231 [0.070]**	-0.213 [0.081]**	-0.162 [0.092]
State Residency?	No	Yes	Yes	Yes	Yes	Yes
Gender?	No	No	Yes	Yes	Yes	Yes
Family Income?	No	No	No	Yes	Yes	Yes
SAT Scores?	No	No	No	No	Yes	Yes
High School GPA?	No	No	No	No	No	Yes
Observations	447	447	447	447	447	447

Source: Flagships Database and State Systems Database.

Notes: Robust standard errors adjusted for clustering by university appear in brackets. Controls include high school GPA, SAT/ACT scores, state residency, and income quartile. Coefficients indicate the predicted difference in graduation probability (from a probit model) between the listed group and the reference group (SEL I flagships), holding all control variables at their means.

* Significant at the .05 level.

** Significant at the .01 level.