
CHAPTER 1

Educational Attainment: Overall Trends, Disparities, and the Public Universities We Study

THE SUBJECT OF this book—educational attainment in the United States—could hardly be more timely. Academics, framers of public policy, and journalists are united in bemoaning the failure of the United States in recent years to continue building the human capital it needs to satisfy economic, social, and political needs. In their book *The Race Between Education and Technology*, Claudia Goldin and Lawrence Katz applaud America’s astonishingly steady and substantial educational progress during the first three quarters of the 20th century—and then are just as emphatic in calling attention to the dramatic falling off in the rate of increase in educational attainment since the mid-1970s.¹ The chairman of the Federal Reserve Board, Ben S. Bernanke, in remarks delivered at Harvard on Class Day 2008, told the assembled graduates that “the best way to improve economic opportunity and to reduce inequality is to increase the educational attainment and skills of American workers.”² The *New York Times* columnist David Brooks has referred to “the skills slowdown” as “the biggest issue facing the country.”³ In writing about how to increase growth in America, David Leonhardt, also at the *New York Times*, says simply: “Education—educating more people and educating them better—appears to be the best single bet that a society can make.”⁴

Bernanke was wise to couch his argument in terms of educational *attainment* (which we generally equate with earning a degree) rather than just enrollment or years of school completed, for the payoff to completing one’s studies is much higher than the payoff to having “just been there” another year—the so-called “sheepskin” effect.⁵ In our view, too much discussion has focused on initial access to educational opportunities (“getting started”) rather than on attainment (“finishing”). It is noteworthy that in his first speech to a joint session of Congress (and then in his budget message), President Barack Obama emphasized the importance of *graduating from college, not just enrolling*.⁶

In any case, as Bernanke and others have stressed, the key linkage is between the formation of human capital and productivity. In his Class Day remarks, Bernanke observed: “The productivity surge in the decades after World War II corresponded to a period in which educational attainment was increasing rapidly.” Technological change and the breaking down of barriers to the exchange of information and ideas across bound-

aries of every kind have unquestionably increased the value of brainpower and training in every country. As President Obama has said: “In a global economy where the most valuable skill you can sell is your knowledge, a good education is no longer just a pathway to opportunity—it is a prerequisite.”⁷ Leonhardt adds: “There really is no mystery about why education would be the lifeblood of economic growth. . . . [Education] helps a society leverage every other investment it makes, be it in medicine, transportation, or alternative energy.”⁸ Nor are economic gains the only reason to assert the importance of educational attainment. The ability of a democracy to function well depends on a high level of political engagement, which is also tied to the educational level of the citizenry. A high level of educational attainment fosters civic contributions of many kinds.⁹

Even though our emphasis on “finishing” is meant to be a useful corrective to the sometime tendency to focus simply on “starting,” we hasten to add that there are of course dimensions of college success beyond just graduating that must also be kept in mind. The kind and quality of the undergraduate education obtained are plainly important. It would be a serious mistake to treat all college degrees as the same or to put so much emphasis on earning a degree that other educational objectives are lost from sight. This is why some are skeptical of the weight given by the National Collegiate Athletic Association to graduation rates (whatever the subject studied and whatever the rigor of the graduation requirements) in assessing the academic performance of scholarship athletes. As in platform diving, differences in the “degree of difficulty” of various courses of study deserve to be acknowledged, and considerable weight should be given to academic achievement in assessing educational outcomes. For these reasons, we examine fields of study chosen by students and grades earned, as well as graduation rates. However, much as there is to be said for such finer-grained analyses, we believe it is valuable to place special emphasis on graduation rates as presumptively the single most important indicator of educational attainment—which is what we do in this book.

EDUCATIONAL ATTAINMENT IN THE UNITED STATES

These basic propositions explain why there is reason for serious concern about the slow-down in the rate of increase in the overall level of educational attainment in the United States. The facts are sobering. As Goldin and Katz report on the basis of an exhaustive study of historical records, the achievements of America in the first three quarters of what they call “the Human Capital Century” are impressive indeed. This country’s then unprecedented mass secondary schooling and the concurrent establishment of an extensive and remarkably flexible system of higher education combined to produce gains in educational attainment that were both

steady and spectacular (see Figure 1.1, which plots years of schooling by birth cohorts from 1876 to the present). Unfortunately, this truly amazing record of progress came to a halt about the time when members of the 1951 birth cohort (who were 24 years old in 1975) were attending college.¹⁰

We see this same “flattening” when we use data from the *Current Population Survey* to track the educational attainment of 25- to 29-year-olds from 1968 to 2007 (Figure 1.2). Although there was a modest increase in educational attainment in the 1990s, the curve is flat for the years thereafter. The failure of educational attainment to continue to increase steadily is the result of problems at all stages of education, starting with pre-school and then moving through primary and secondary levels of education and on into college (see the discussion in Chapter 2 of “losses” of students at each main stage of the educational process). Our focus on completion rates at the college level should certainly not be read as dismissing the need to make progress at earlier stages. In any case, it is noteworthy that over this 40-year period the completion rate (the fraction of those who started college who eventually earned a bachelor’s degree) changed hardly at all, while time-to-degree increased markedly.¹¹

This is not a pretty picture when looked at through the lens of America’s history of educational accomplishments during the first 75 years of the 20th century. It is an equally disturbing picture when juxtaposed with

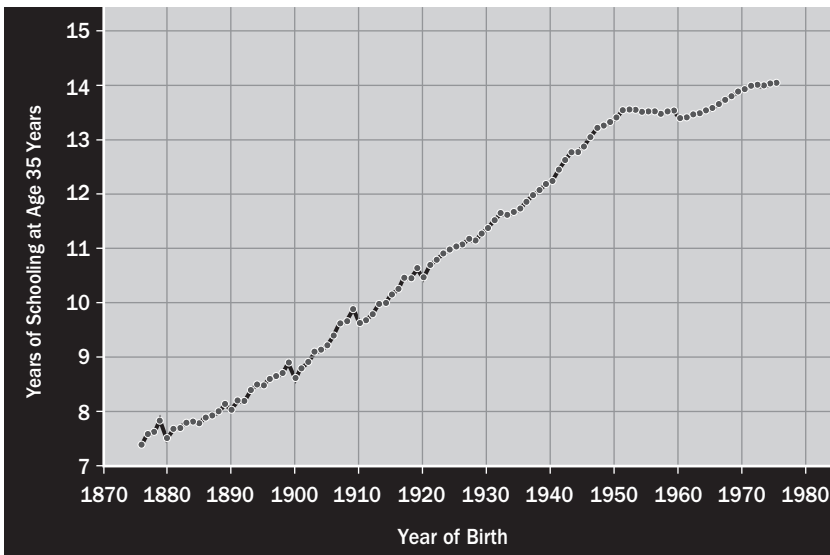


Figure 1.1. Years of Schooling of U.S. Native-Born Citizens by Birth Cohorts, 1876–1975

Source: Goldin and Katz, figure 1.4.

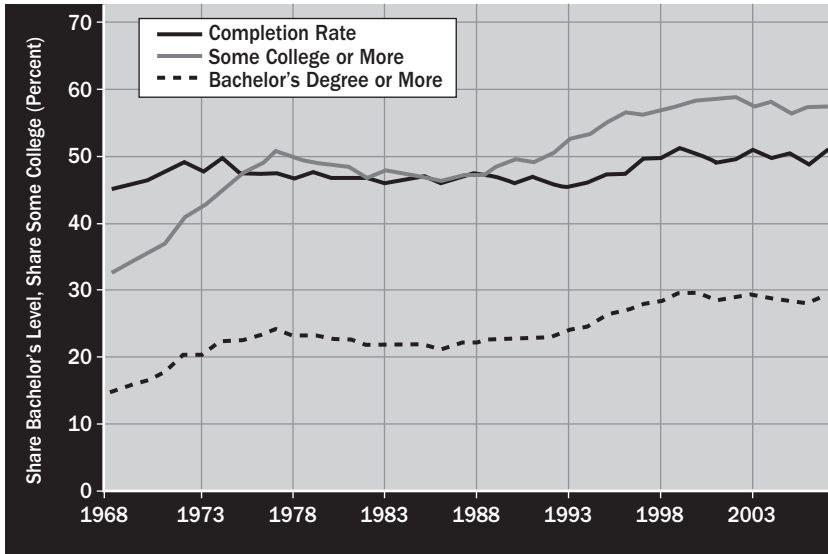


Figure 1.2. Educational Attainment of 25- to 29-Year-Olds, 1968–2007

Source: Current Population Survey.

the remarkable gains in educational attainment in other countries. As is increasingly recognized, the United States can no longer claim that it is “first-in-class” in terms of continuing progress in building human capital. The 2008 annual stock-taking document produced by the Organization for Economic Co-operation and Development (OECD) reported that the 2006 higher education attainment rate for 25- to 34-year-olds in the United States is nearly identical to that of 55- to 64-year-olds, a group 30 years their senior. In 2006, the United States ranked 10th among the members of the OECD in its tertiary attainment rate. This is a large drop from preceding years: the United States ranked 5th in 2001 and 3rd in 1998. Moreover, in the United States only 56 percent of entering students finished college, an outcome that placed this country second to the bottom of the rank-ordering of countries by completion rate.¹² In recognition of this reality, President Obama has set an ambitious goal for American higher education: “By 2020, America will once again have the highest proportion of college graduates in the world.”¹³ And the situation in the United States is even more worrying when the focus is on degrees in the natural sciences and engineering. According to a report published by the National Science Board, “The proportion of the college-age population that earned degrees in NS&E fields was substantially larger in more than 16 countries in Asia and Europe than in the United States in 2000.”

In that year, the United States ranked just below Italy and above only four other countries. Twenty-five years earlier, in 1975, the United States was tied with Finland for second place (below only Japan).¹⁴

A central question is why educational attainment in the United States has been on a plateau in recent years. In seeking to answer this question, a key analytical tool is the wage premiums earned by college graduates and high school graduates. Data painstakingly assembled by Goldin and Katz (presented in Figure 1.3) show that both of these premiums fell sharply between 1915 and 1950, moved somewhat erratically between 1950 and 1980, and then increased sharply from 1980 to 2005—with the wage premium for college graduates increasing much faster than the premium for high school graduates. By 2005, the wage premium for college graduates had returned to the high-water mark set in 1915.¹⁵

In looking inside these ratios, Goldin and Katz found that the growth rate of demand for more educated workers (relative to less educated workers) was fairly constant over the entire period from 1915 to 2005. It was the pronounced slow-down in the rate of growth in the supply of educated workers (especially native-born workers) that was primarily responsible for the marked increase in the college graduate wage premium. In recent years, growth in the supply of college-educated workers has been sluggish and has not kept up with increases in demand—especially increases in the demand for individuals with strong problem-solving skills

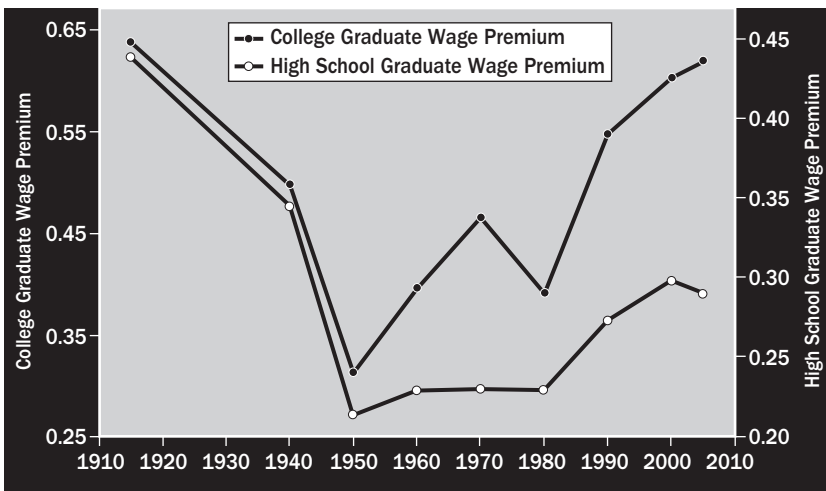


Figure 1.3. Wage Premiums of College Graduates and High School Graduates, 1915–2005

Source: Goldin and Katz, figure 8.1.

and degrees from the more selective undergraduate programs and leading professional schools.¹⁶ The real puzzle is why educational attainment has failed to respond to the powerful economic incentives represented by the high college graduate wage premium. We would have expected rising returns on investments in a college education to have elicited a solid increase in the number of students earning bachelor's degrees.¹⁷ But this has not happened.

To be sure, some commentators have suggested that the perception that there are superior economic returns to investments in higher education is mistaken; however, careful statistical work by several leading economists strongly suggests that these worries are misplaced. Indeed, research reported and reviewed by David Card (among others), suggests that returns for prospective college students who might be added "at the margin" are at least as high as the average for all students.¹⁸ As Goldin and Katz put it, there may be some "natural limit" to the share of high school graduates who can benefit from earning a college degree—the optimal graduation rate is surely not 100 percent—but there is no evidence that we are anywhere close to such a limit now.¹⁹

Thus, the sluggish response of educational attainment to economic incentives remains puzzling, and we are driven back to the need to understand the forces responsible for what appears to be a "supply-side" block. One possible explanation for the surprisingly stagnant state of overall educational attainment in the United States can be rejected out of hand: the problem is not low aspirations. Students of all family backgrounds have high (and rising) educational aspirations. The Education Longitudinal Study of 2002 shows that in 2002, 80 percent of 10th-graders expected to earn a bachelor's degree or higher—with 40 percent expecting to earn a graduate or professional degree. In 1980, just half as many 10th-graders had similarly high aspirations. Especially noteworthy is the evidence of rising aspirations among students of low socioeconomic status (SES): whereas in 1980, 22 percent of these 10th-graders aspired to a bachelor's degree or higher, in 2002, three times as many (66 percent) had such aspirations. In 2002, 77 percent of black 10th-graders aspired to earn a bachelor's degree or higher. The conclusion is simple: there are no longer pronounced aspiration gaps by race or SES.²⁰

The presence of high aspirations does not mean, however, that anything like all high-aspiring students know how to translate their aspirations into realities. On the contrary, there is much evidence of limited knowledge of how to prepare for college and how to enroll, which we will present in due course. More generally, problems of "preparedness" have their roots in family circumstances and educational deficits that are evident both in early childhood years and in high school. Subsequently, financial constraints, combined with an aversion to borrowing on the part

of some, can inhibit students from finishing college—or even from starting. Also at work are a combination of demographic trends and disparities in educational outcomes related to race and SES.²¹

Before saying more about these disparities and why we consider them so important, we need to fill in one more piece of the larger puzzle. For much of our recent history, the United States has relied heavily on “imports” of well-educated students from other countries to compensate for its own difficulties in graduating enough native-born candidates for advanced degrees and, in particular, for jobs in science and engineering. Census data reveal that in 2000, foreign-born holders of doctorates constituted approximately *half* of all doctorate-holders among employed engineers, scientists, and mathematicians.²² The percentage of science and engineering Ph.D. graduates who were foreign born increased from 23 percent in 1966 to 39 percent in 2000.²³

It would be a serious mistake to believe that the United States can continue to rely so heavily on this inflow of talent from overseas. Following 9/11, there was a marked fall-off in foreign enrollments, due in part to visa issues. Visa processing has now become more efficient, and some of the perception problems that inhibited foreign enrollment have lessened. Still, it is unclear what will happen to foreign enrollments, especially to foreign enrollments in graduate programs in science and engineering. A survey released by the Council of Graduate Schools (CGS) in August 2008 indicates that while the number of foreign students admitted to U.S. graduate schools increased in 2008, the rate of increase over the previous year declined for the second consecutive year. Data released by the CGS in November 2008 show that first-time enrollment also grew by just 3 percent.²⁴

An important consideration to bear in mind is that universities in other parts of the world, including both Europe and Asia, are making increasingly aggressive efforts to compete for top students from all over the world. India, China, and South Korea are examples of countries actively engaged in improving their own educational systems.²⁵ In the future, promising students from these countries will have better and better educational opportunities at home. China now takes in more students than it sends abroad; in 2007, its foreign enrollment ranked fifth in the world.²⁶ The moral of the story is simple: the United States is going to have to do a better job of “growing its own timber”—a phrase popular in South Africa, where the same issues are being debated. Of course, increasing educational attainment at the bachelor’s level is not the only—and probably not the most efficient—way of increasing the number of Americans who earn advanced degrees in science and engineering. Serious thought needs to be given to the incentives that influence choice of major among U.S. undergraduates and to the incentives used to encourage students to undertake—and complete—advanced degrees.

EDUCATIONAL DISPARITIES AND WHY THEY MATTER

In seeking to understand patterns of educational attainment so that we can address recent shortfalls in the rate of growth of human capital, a major complication—and a major source of concern—is the existence of large disparities in educational outcomes related to (1) race/ethnicity and gender, and (2) SES, which reflects both family income and parental education. In budget materials related to higher education which were released by the White House and which presented an overview of President Obama's 2010 fiscal budget, these disparities were acknowledged by noting that there is an "opportunity gap," as well as a shortfall in the overall number of college graduates.²⁷ We document these disparities in detail in Chapters 3 and 4 of this study. For present purposes, it will suffice to compare the national educational attainment rates (defined here as the percentage of eighth-graders who went on to earn a bachelor's degree by age 26) of students from the two groups just mentioned:²⁸

1. Thirty-six percent of white women earned a bachelor's degree by age 26 compared with 22 percent of black women and 13 percent of Hispanic women; just under 30 percent of white men earned a bachelor's degree compared with 11–12 percent of black and Hispanic men.
2. Sixty-eight percent of students from families in the top income quartile with at least one parent having received a college degree earned a bachelor's degree by age 26 compared with just 9 percent of those from families in the bottom income quartile with neither parent having received a college degree.

Why do these pronounced disparities (and others not highlighted here) matter so much? First, the deeply rooted differences in academic achievement that are associated with race and ethnicity, when considered alongside demographic trends, have major adverse implications for the country's overall level of educational attainment in the future. The most consequential demographic trend relates to Hispanic students. Between 2004–05 and 2014–15, the nation's public schools are projected to produce nearly 197,000 fewer white non-Hispanic high school graduates (a decline of 11 percent); over this same period, the public high schools will produce almost 207,000 more Hispanic graduates (an increase of 54 percent). If current differences in college graduation rates by race/ethnicity persist, this shift alone implies that there will be a decrease of roughly 5 percent in the nation's overall educational attainment rate (and the drop would be greater were it not for the partially offsetting effect of a projected increase in Asian high school graduates, who have an above-average completion rate).²⁹

In August 2008, the U.S. Census Bureau projected that by 2042, Americans who identify themselves as Hispanic, black, Asian, American Indian,

Native Hawaiian, and Pacific Islander will together outnumber non-Hispanic whites. Just four years earlier, officials had projected that this shift would occur in 2050. The *New York Times* reports: "For the first time, both the number and the proportion of non-Hispanic whites, who now account for 66 percent of the population, will decline, starting around 2030. By 2050, their share will dip to 46 percent."³⁰

The conclusion is simple: a failure to reduce current disparities in rates of educational attainment by race/ethnicity is bound to exacerbate the problem of a sluggish, at best, rate of increase in human capital formation. It will not do to concentrate efforts on improving outcomes of college-bound upper-class white students, who already have a much higher rate of educational attainment than do other students—if for no other reason than that there are not going to be enough of them.

Second, disparities in educational attainment lead to greater inequalities of all kinds, which in turn have multiple long-term effects. Consistent with the tenor of the findings of Goldin and Katz cited earlier, the Department of Education's 2008 *Condition of Education* report tells us that young adults with bachelor's degrees earned 28 percent more in 2006 than those with associate's degrees and 50 percent more than those with just high school diplomas.³¹ In recent years there have been numerous articles in the popular press citing dramatic differences in rates of increase in income between those at the top of the income distribution and everyone else. According to a 2004 Congressional Budget Office study, those in the top quintile were making 63 percent more than in 1979, after adjusting for inflation; comparable increases were 2 percent (bottom quintile), 11 percent (next quintile), 13 percent (middle quintile), and 23 percent (fourth quintile). In 1979, the top 1 percent received 9 percent of total income; in 2004, they received 16 percent. In commenting on these data, Roger Lowenstein emphasizes the strong link with educational attainment and describes the failure of rates of educational attainment to rise in the face of high returns as a "conundrum."³²

The consequences of failing to deal with these growing inequalities can be profound. As one commentator put it: "There is little question that it is bad for one's health to be poor." More generally, "research indicates that high inequality reverberates through societies on multiple levels, correlating with, if not causing, more crime, less happiness, poorer mental and physical health, less racial harmony, and less civic and political participation." There is evidence "that living in a society with wide disparities—in health, in wealth, in education—is worse for *all* the society's members." Apparently, "relative deprivation" is an important phenomenon, and there is evidence that levels of stress throughout a society tend to be a function of the degree of inequality.³³

Third, as the arguments in the University of Michigan affirmative action case demonstrate,³⁴ there is educational value to the presence in class-

rooms and on campuses of a diverse student population, with diversity measured along many dimensions (race/ethnicity, gender, SES, geography).

Fourth, equity and fairness concerns are, to our way of thinking, compelling. The long-term health of our country depends on the existence of social mobility and a widely shared confidence that students from racial minorities and poor families have a real opportunity to move ahead. The increasing inequalities in income and wealth that are so much in the news these days highlight the importance of ensuring that educational opportunities close rather than widen disparities in access to the most powerful as well as the most highly remunerated positions in society. In the Michigan affirmative action case, Justice Sandra Day O'Connor broke new ground when she moved beyond the diversity defense of affirmative action to opine that "the diffusion of knowledge and opportunity . . . must be accessible to all individuals regardless of race or ethnicity. . . . Effective participation by members of all racial and ethnic groups in the civic life of our Nation is essential if the dream of one Nation, indivisible, is to be realized."³⁵

**THE PUBLIC UNIVERSITIES IN OUR STUDY:
THEIR SALIENT CHARACTERISTICS AND "LOCATION"
WITHIN AMERICAN HIGHER EDUCATION**

It is against this sobering backdrop—in which present-day realities contrast so sharply with deeply held aspirations—that we now describe the main institutional "actors" in the story that we are about to tell. As important as the private sector of higher education is in America,³⁶ the struggle to improve educational attainment across the board and to reduce the marked disparities in outcomes that are so troubling will take place mainly within the public universities. In the vernacular, that is "where the action is" (or at least most of it). Approximately two-thirds of all full-time students pursuing bachelor's degrees at four-year colleges and universities attend public universities. As a group, public universities are, of course, subsidized by the states in which they are located, charge lower tuition to in-state than to out-of-state students, and enroll undergraduate students who are residents of the states in which the universities are located (about 80 percent, on average). Most state systems are stratified and include a wide range of public institutions—both research-intensive public universities (with extensive Ph.D. programs and professional schools in fields such as law, business, and medicine) and "comprehensive" colleges and universities that place more emphasis on undergraduate and master's-level programs.

In pursuing our strategy of focusing on the public sector in general, we first gathered data on the approximately 125,000 members of the 1999 entering cohort at 21 prestigious research-intensive flagship universities

(listed in Table 1.1).³⁷ These universities are all members of the Association of American Universities and are widely regarded as leaders in American higher education. They were chosen on the basis of a non-scientific but carefully considered effort to achieve both geographic diversity (the set of institutions being studied includes flagship universities from the West Coast, the Midwest, the South, and the Northeast), and a mix of other characteristics, including differences in racial composition and in degree of selectivity, as approximated by the average SAT/ACT score of enrolled students.³⁸

We then added data on the '99 entering cohorts at essentially all public universities in the four state systems of Maryland, North Carolina, Ohio, and Virginia (these 47 additional state system public universities are listed in Table 1.2 and described in more detail in Appendix Table 1.2).³⁹ The two main differences between the flagships and the state system universities—apart from the much greater geographic dispersion of the flagships, which reflects the different ways in which the two sets of universities were chosen—are in average entering enrollment and selectivity. The average flagship in our study enrolled slightly more than 4,100 first-time full-time freshmen in 1999 as compared with a median enrollment of just 1,400 at the 47 state system universities. The median average SAT/ACT score of the entering freshmen in the flagships was 170 points higher than the median average in the 47 state system universities.

As is evident from Tables 1.1 and 1.2, we divided the universities in our two databases into selectivity clusters based on the average SAT/ACT scores of their entering classes; we refer to these clusters as SEL I, SEL II, and SEL III in the case of the flagships and as SEL A and SEL B in the case of the state systems. Use of a selectivity categorization is not meant to imply that we endorse “the rankings game,” which we regard as foolish and hurtful to students trying to find the best fit between their capabilities and interests and the characteristics of institutions to which they choose to apply. There is no denying, however, that there are pronounced differences in outcomes, such as graduation rates, across selectivity clusters. Failure to acknowledge these differences would muddy the analysis of many important questions, such as the effects on outcomes of high school characteristics and differences in the predictive power of SAT/ACT scores and high school GPA. The use of selectivity clusters also allows us to study, on something approaching an other-things-equal basis, the strong relationship between institutional selectivity per se and outcomes such as graduation rates and time-to-degree. Near the end of this chapter we will present additional information on trends in selectivity among the flagships and will also comment more generally on the characteristics of these important universities.

As we now seek to “locate” our universities within the universe of four-year institutions, the first point to note is that the 68 public universities in our study (21 flagships plus other state system universities, including his-

TABLE 1.1
Flagship Universities by Selectivity Cluster

SEL I

University of California–Berkeley
 University of California–Los Angeles (UCLA)
 University of Maryland–College Park
 University of Michigan
 University of North Carolina–Chapel Hill
 University of Virginia

SEL II

Pennsylvania State University
 Rutgers, The State University of New Jersey
 University of Florida
 University of Illinois at Urbana-Champaign
 University of Texas–Austin
 University of Washington
 University of Wisconsin–Madison

SEL III

Iowa State University
 Ohio State University
 Purdue University
 Stony Brook University
 University of Iowa
 University of Minnesota–Twin Cities
 University of Nebraska–Lincoln
 University of Oregon

torically black colleges and universities, or HBCUs) educate a far from trivial share of all students at four-year colleges and universities in this country. Full-time freshmen at these universities make up almost a quarter of full-time freshmen at all four-year public universities (our estimate is 23 percent) and roughly 15 percent of full-time freshmen at all public and private four-year colleges and universities. Of course, these percentages drop appreciably if we choose as a reference point students attending all two-year or four-year colleges: the 15 percent figure falls to about 10 percent.

A next key question is how the characteristics of the public universities that we study compare with the characteristics of the entire set of public and private universities that make up the four-year sector of American higher education. Table 1.3 provides a basis for answering this question. In this table we show summary data for our 21 flagships and the 28 state system SEL Bs and comparable summary data for all four-year public universities and all four-year private colleges and universities.⁴⁰ We exclude the 8 state system SEL As shown in Table 1.2 because they are simi-

TABLE 1.2

State System Universities by Selectivity Cluster or HBCU Status

Maryland	Ohio
<i>SEL A</i>	<i>SEL A</i>
University of Maryland–Baltimore County	Miami University
<i>SEL B</i>	<i>SEL B</i>
Frostburg State University	Bowling Green State University
Salisbury University	Cleveland State University
Towson University	Kent State University
<i>HBCU</i>	Ohio University
Bowie State University	Shawnee State University
Coppin State University	University of Akron
University of Maryland–Eastern Shore	University of Cincinnati
	University of Toledo
	Wright State University
	Youngstown State University
North Carolina	<i>HBCU</i>
<i>SEL A</i>	Central State University
North Carolina State University	
University of North Carolina–Asheville	
<i>SEL B</i>	Virginia
Appalachian State University	<i>SEL A</i>
University of North Carolina–Charlotte	College of William and Mary
University of North Carolina–Greensboro	James Madison University
University of North Carolina–Pembroke	University of Mary Washington
University of North Carolina–Wilmington	Virginia Tech
Western Carolina University	<i>SEL B</i>
<i>HBCU</i>	Christopher Newport University
Elizabeth City State University	George Mason University
Fayetteville State University	Longwood University
North Carolina A&T University	Old Dominion University
North Carolina Central University	Radford University
Winston–Salem State University	University of Virginia’s College at Wise
	Virginia Commonwealth University
	Virginia Military Institute
	<i>HBCU</i>
	Norfolk State University
	Virginia State University

lar in so many respects to the flagships, and we also exclude the 11 state system HBCUs because they have few national counterparts. (In the chapters that follow, we describe the characteristics of these HBCUs within the context of their respective state systems.)

These comparisons are revealing in many ways. We see, first of all, that the flagships differ in almost all respects from both the state system SEL

Bs and all public and private four-year institutions. As we would have expected, the flagships have much larger undergraduate enrollments, higher SAT/ACT scores, lower admit rates, and higher average graduation rates. They also have more diverse student bodies (with white non-Hispanic students comprising only about three quarters of their student bodies), which we think results primarily from the fact that a number of the flagships are in heavily urban areas and in states such as California, with large Asian and Hispanic populations. (Appendix Tables 1.1 and 1.2 provide much more detailed data on the ethnic and racial compositions of the student bodies of the individual universities in our study.)

The more interesting comparisons are between our state system SEL Bs and the rest of the four-year colleges and universities in America. Using median first-year enrollment as one metric, we find that the SEL Bs are, on average, roughly 80 percent larger than the typical public university and almost seven times larger than the typical private college or university—a sector that includes many very small institutions. (To provide some indication of the dispersion around the medians, in Table 1.3 we also report interquartile ranges; the main lesson the ranges teach us is that there is considerably more variation among the private colleges and universities than among the public institutions and that, as one would expect, there is more variation among all four-year public institutions than there is among our state system SEL Bs.)

Much more striking than differences in median enrollment, and perhaps more surprising, is that the SEL Bs are very much like both all public and all private four-year colleges and universities in terms of selectivity. The average SAT/ACT scores and average admit rates (both measured as medians) are very, very similar across these sets of institutions—the average SAT/ACT scores differ by no more than 2 or 3 percent; the SEL Bs admit 77 percent of their applicants, whereas all publics admit 75 percent and all private institutions admit 78 percent. In racial diversity, too, the differences between the SEL Bs and the larger sets of universities are minimal. As one would expect, the SEL Bs and all four-year publics enroll more in-state students than do the private institutions. Finally, the average six-year graduation rate at the SEL Bs (51 percent) is reasonably close to the average for all publics (45 percent) and all private institutions (55 percent). The general conclusion we draw from these data is that, in terms of selectivity, diversity, and graduation rates, the state system SEL Bs in our study are tolerably representative of American higher education.

So, although we do not want to claim too much for the “representativeness” of the results that we report in this book (which certainly do not reflect anything purporting to be a “scientific” sampling effort), we are reassured to find that our population is both consequential in size and—putting the flagships off to one side—surprisingly similar in key characteristics to the rest of American higher education. The SEL B compar-

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TABLE 1.3
 “Location” of the Public Universities in Our Study within
 American Higher Education

	<i>Our Flagships</i>	<i>Our State System SEL Bs</i>	<i>All Four-Year Public Universities</i>	<i>All Four-Year Private Universities</i>
Number of Institutions	21	28	540	1,129
Total Full-Time	94,316	51,736	749,273	392,331
Freshman Enrollment				
Median Full-Time	4,131	1,922	1,059	280
Freshman Enrollment	(3,619–5,291)	(897–2,555)	(539–2,035)	(145–486)
Median SAT/ACT ^a	1195	1030	1018	1065
	(1125–1240)	(975–1058)	(970–1090)	(990–1140)
Median Admit Rate	64	77	75	78
(Percent)	(54–74)	(71–88)	(64–85)	(68–85)
Median Percentage White	76	83	80	83
	(64–81)	(77–89)	(62–89)	(68–91)
Median Percentage	79	90	90	63
In-State	(70–90)	(86–95)	(86–96)	(40–82)
Median Six-Year	77	51	45	55
Graduation Rate	(66–84)	(45–61)	(35–56)	(41–68)
(Percent)				

Source: IPEDS (Integrated Postsecondary Education Data System) and College Board Annual Survey of Colleges.

Notes: For full-time freshman enrollment, average SAT/ACT scores, admit rates, percentage of white students, percentage of in-state students, and six-year graduation rates we present interquartile ranges as well as medians (with the figures at the 25th and 75th percentiles shown below the medians).

^aMedian of the average SAT/ACT score for each institution.

isions also reinforce our sense that we were wise to include the four state systems in our study as a complement to the flagships.

THE FLAGSHIPS: TRENDS IN SELECTIVITY AND OTHER CHARACTERISTICS

In contrast to the SEL Bs, the flagships are far from “representative”; the students at these prestigious universities are, by any measure, a special group. They have had strong pre-collegiate preparation, and they enjoy access to educational resources far beyond what can be offered by many other colleges and universities, public and private. For both of these reasons, it is hardly surprising that graduation rates at the flagships are appreciably higher than the rates among students attending all four-year colleges and universities.

As many commentators have noted (see the discussion in Appendix A), the flagship universities have become much more selective over time. At three highly selective universities for which we have been able to assemble consistent data for the years 1974–2006—the University of California–Los Angeles (UCLA), the University of North Carolina (UNC)–Chapel Hill, and the University of Virginia—the fraction of entering students with A or A+ high school grades has risen from roughly 55 percent to about 90 percent over this 35-year period (Figure 1.4). At three somewhat less selective universities (Iowa State and Ohio State Universities and Virginia Tech), the fraction of entering students with A or A+ grades has risen at least as rapidly—from just over 20 percent to roughly 60 percent—at the same time that the fraction with high school grades in the C+ or lower range has fallen from just over 10 percent to nearly zero (Figure 1.5).⁴¹ In Chapter 12 we comment on the policy implications of this pronounced increase in selectivity.

There have been accompanying changes in the SES of students attending these universities as reflected, for example, in the highest level of education obtained by mothers of entering freshmen. In 1972, at the three less selective universities listed in the previous paragraph, more

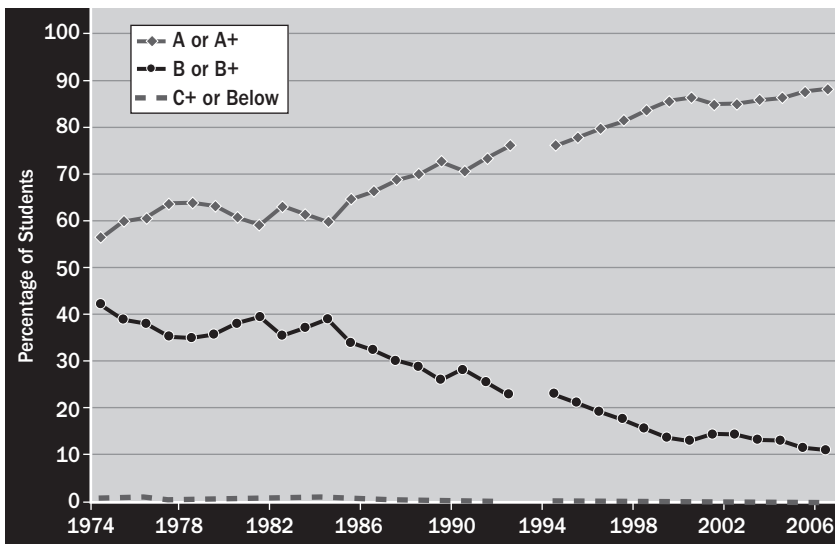


Figure 1.4. Average High School Grade Distribution of Incoming Freshmen at Highly Selective Universities

Source: Higher Education Research Institute (HERI) Freshman Survey.

Note: The universities included are UCLA, UNC–Chapel Hill, and the University of Virginia. These trends were obtained by taking an average of the grades at the three schools. Blanks represent missing data for at least one of the constituent universities for the corresponding year.

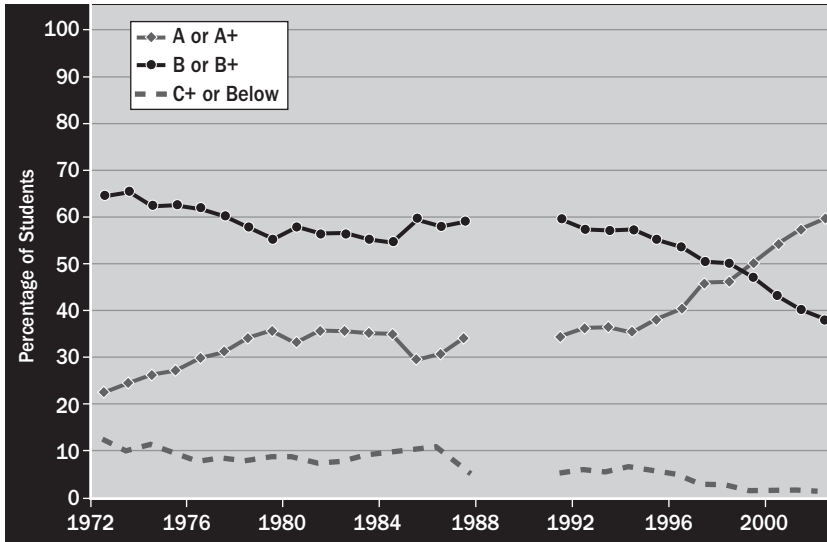


Figure 1.5. Average High School Grade Distribution of Incoming Freshmen at Less Selective Universities

Source: HERI Freshman Survey.

Note: The universities included are Iowa State and Ohio State Universities and Virginia Tech. These trends were obtained by taking an average of the grades at the three schools. Blanks represent missing data for at least one of the constituent universities for the corresponding year.

than 40 percent of these mothers had only a high school degree; by 2002 this percentage had fallen to 20 percent, and by then almost an equal number had a graduate degree. Of course, educational attainment of women has risen dramatically across the board, but not at this rate. There is also evidence that average family income has gone up markedly, much faster than the national average. Today more than 40 percent of the undergraduates at these universities come from families in the top quartile of the income distribution.⁴²

These widely recognized trends—both in the degree of selectivity and in the share of students who come from privileged backgrounds—have provoked much debate as to whether these institutions are becoming too “privatized” and are losing their traditional character, what some think of as their role as “people’s universities.” It is not for us to pronounce on this issue—which is in fact much more complicated than it is sometimes thought to be—but Eugene Tobin’s analysis of the evolution of the flagships in Appendix A reminds us of several salient points:

- The flagships are important to American higher education, and to America, for many reasons beyond the education they provide to tal-

ented undergraduates. They are major research universities that also have many of the country's leading graduate and professional programs. In addition, they contribute in many ways to the states in which they are located. There are natural—inevitable—tensions between the varied missions of these universities at the same time that they complement each other in many ways. One reason these universities are more selective than ever before is that many of the country's most promising undergraduates want to study in a university that has excellent faculty, a commitment to scholarship, and graduate education that is both important in its own right and necessary to recruit and hold outstanding faculty.

- As enrollment pressures have mounted, along with pressures to excel in research and graduate education, it is natural that many states have opted for greater specialization of function in their overall systems of higher education. The California Master Plan (discussed at length in Appendix A) is a good example of how it is possible to stratify systems of higher education—but the actual experience in California is a good warning that the results obtained (in terms, for instance, of the overall number of bachelor's degrees conferred) do not always match idealized notions of how carefully structured systems of higher education will in fact perform.
- The greater selectivity that we observe today is the result in large part of demographic trends, not conscious policy decisions. The number of prospective students with strong academic credentials has increased faster than places at the flagships, and the result is an entirely predictable increase in the competition for these places. Because family background correlates with academic preparation, the increasing concentration at these universities of students from privileged backgrounds is hardly surprising. But we should also recognize that student bodies at the flagships were never as “representative” of the populations of their states as some would have us believe. In earlier days, large fractions of those eligible to attend leading public universities came, as they do now, from the professional and upper-income families that saw to it that their children had the pre-collegiate preparation necessary to succeed at these universities.
- Finally, it is important to resist the temptation to imagine that there was a “golden age” in which students from every background were taught personally and brilliantly at major flagship universities as a matter of course. One of the most telling vignettes in the account of the evolution of the flagships in Appendix A is the complaint by undergraduates attending universities roughly 100 years ago, in the early part of the 20th century, that they were taught in large lecture courses and “left adrift unaided . . . in an extremely impersonal en-

vironment.” The more things change, the more they stay the same! And today, resource constraints at even the most prestigious flagships can prevent undergraduates from attending the courses they really want to attend, never mind having direct access to tenured faculty members; in these respects small, highly selective liberal arts colleges have an advantage, which is one reason that they have such high graduation rates.

These observations are intended only to set the stage for the discussion of educational attainment that is to follow by suggesting that in analyzing outcomes of today’s undergraduates attending flagship universities it is necessary to have in mind the range of functions these universities are meant to perform and the sometimes conflicting pressures that beat upon them.

We want to end this first chapter by reiterating that the purpose of the research reported in this book is not only to improve our understanding of patterns and relationships but also—as a high priority—to search for clues about ways to make America’s colleges and universities more successful in moving entering students on to graduation. Regrettably, if not surprisingly, our studies have not led to the discovery of any simple “quick fixes” or “magic bullets.” Many of the patterns we see are remarkably consistent across institutions and settings, and many of them result, we believe, from deep-seated features of American society that will not easily yield to efforts to bring about change. Much patience will be required.

Nevertheless, our work has helped us to identify important steps that colleges and universities, state governments, and the federal government can take to improve college outcomes, especially for disadvantaged students. We also believe that focusing sharply on levels of achievement and success in college may, in and of itself, encourage universities and policy makers to find new ways to make things better. As recent work in the hospital industry shows, simply directing attention to an entrenched problem like hospital-borne infections can stimulate remedial actions at the local level. Lasting improvements will surely require patience (reasonably long time horizons), determination, and willingness to be guided by evidence—as well as the capacity to harvest the low-hanging fruit as promptly as possible. But the goal of helping more Americans from all backgrounds complete college, in a timely way, is well worth the effort that will be required.