



Chapter 5

Building Stronger Postsecondary Institutions

The United States' postsecondary education system is, in many ways, the envy of the world. Relative to most other international systems, U.S. postsecondary institutions are more numerous, diverse, and decentralized, as well as more likely to offer opportunities for exploration, transfer, and reentry. Students are likely to benefit from having flexibility to find the program that fits them best. The high number of institutions relative to those of peer countries may help spur innovation among competing institutions to be responsive to the needs of students. These features help explain why the United States is the top destination for international college students: over 1 million international students were enrolled in U.S. colleges in 2020—more than triple the number in 1980—and now account for one-fifth of all cross-country student migration in postsecondary education (Bound et al. 2021; Institute of International Education 2020).

Nonetheless, as the demand for highly educated workers has increased over the past half century, earning a valuable postsecondary credential has remained a challenge for many Americans. The United States no longer leads the world in postsecondary attainment, and large gaps by income and race have widened over the past several decades. This has consequences both for individuals, who miss out on the personal benefits of postsecondary education, and for society, which forgoes the increased civic participation, lower reliance on public benefits, increased tax revenues, higher economic growth, and other benefits that such education brings. Though college continues to be a good investment on average, increased student debt burdens relative to a generation ago mean this investment includes risks that some

students can be left worse off if their education does not yield the labor market benefits they expect.

Federal and State support for postsecondary education has long included direct funding for institutions, but in recent decades the primary form of support has shifted to financial aid for students. These efforts have been essential to help offset rising tuition and fees, which before accounting for financial aid, have roughly tripled in real terms since 1980 and have increased even more at public four-year institutions (Ma and Pender 2022a). Yet policies aimed at institutions and the programs they offer—to build capacity, to support colleges in serving students well, and to hold them accountable when they do not—are a critical complement to policies lowering financial barriers to attendance. Federal policy can influence the quality of postsecondary options with both carrots, such as Federal support to help institutions improve student outcomes, and sticks, such as policies to hold institutions accountable for the economic value they provide. Where there are geographic barriers to access, institution-oriented policies can help facilitate the equitable expansion of high-value programs and deter the expansion of lower-value ones.

Before considering institution-oriented policies, this chapter first describes the landscape of U.S. postsecondary education, documenting the extraordinary variation across such institutions, and summarizing evidence that institutions and their programs are themselves a critical determinant of student success. The chapter next explains the rationale for Federal investment in postsecondary education, and places the U.S. model of postsecondary education finance in historical and international contexts. The decentralized “high tuition, high aid” model currently used in the United States has some advantages but also generates economic risks for students who fail to graduate or whose education does not pay off in the labor market. Imperfections in the market for postsecondary education limit the potential of the market alone to drive improvements. Such imperfections include geographic constraints,

informational and behavioral constraints, and production constraints that limit institutions' ability to react quickly to fluctuating demand. The chapter documents one source of production constraints: State appropriations for public postsecondary institutions tend to fall during economic recessions, precisely when demand for enrollment in such institutions tends to rise.

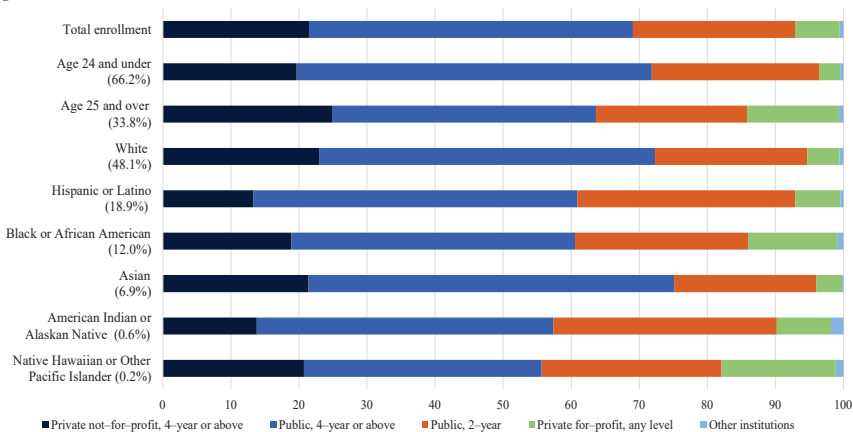
The rest of the chapter considers how Federal policy can help support postsecondary institutions, reviewing a range of options to improve or maintain the quality of such institutions, to hold institutions accountable for student outcomes, and to reduce geographic barriers to access. The institution-oriented policy efforts described in this chapter have the potential to improve the landscape of postsecondary options. Throughout the discussion, the chapter highlights actions that the Biden-Harris Administration has already undertaken to improve the postsecondary institutional landscape, with the ultimate goal of ensuring that all students have access to a college education of value.

The U.S. Postsecondary Institutional Landscape

The degree of heterogeneity in the institutional landscape is a distinctive feature of the U.S. postsecondary system. Colleges in the public, private nonprofit, and for-profit sectors offer a different mix of programs, enroll a different composition of students, and are financed in different ways. Four-year institutions offer bachelor's degrees in fields that can vary substantially in their connection to specific occupations. Community colleges offer a range of credentials, including academic associate degrees (e.g., for students who intend to transfer to a four-year program); occupational associate degrees; short-term certificates intended to help students access the labor market quickly; and, increasingly, bachelor's degrees. Historically Black Colleges and Universities and Tribal Colleges and Universities have an additional mission: to serve communities that have historically been excluded from postsecondary education. In addition, institutions vary in the extent to which their students graduate and succeed in the labor market. This institutional landscape is both a driver and consequence of how the United States supports higher education and has implications for how its quality can be improved.

Figure 5-1. Distribution of Enrollment Across Institution Types, by Student Characteristics

Percentage enrolled in each institution



Source: National Center for Education Statistics, Integrated Postsecondary Education Data System Fall Enrollment component, 2021 provisional data.
Note: The category "other institutions" encompasses public institutions and private not-for-profits of less than 2 years, as well as private not-for-profits of 2 years. Reported in parentheses under each category is the percentage of total fall enrollment in all institutions captured by the given population. Percentages do not add up to 100 due to rounding and the omission of students with two or more races, students of unknown race/ethnicity, and students who are nonresident aliens.

Institutions Serve a Diverse Student Population

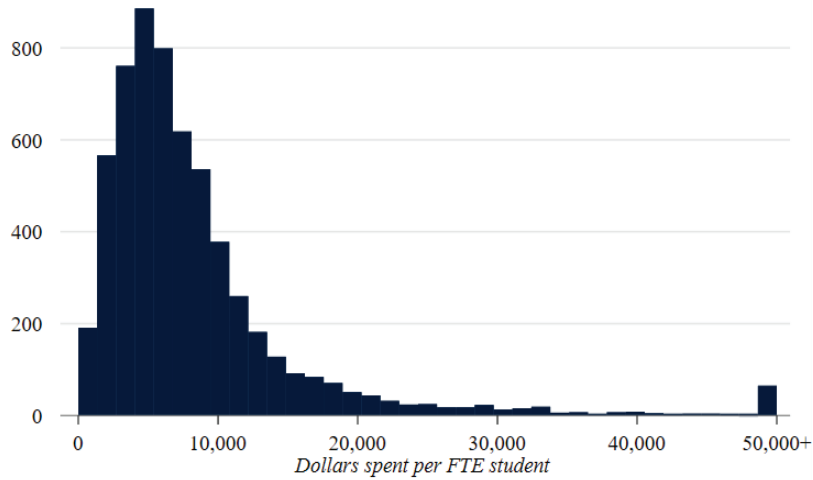
U.S. college students vary in age and residential status. Only about 13 percent of undergraduates both started college before age 20 and live on the campus of a residential four-year college (NCES 2022a, 2022b, 2022c). Nearly 30 percent of enrolled students started their programs at age 20 or above (NCES 2022a). Among enrolled students younger than 20, about 40 percent attend two-year (or less) institutions, and only about half the remaining students attending four-year institutions live on campus (NCES 2022d, 2022e). Over one-third of enrolled undergraduates are 25 or older, a proportion that rises to nearly 44 percent for community colleges and to nearly 62 percent for the for-profit sector (NCES 2022f).

Undergraduates are, on average, fairly diverse with respect to income and race, and institutions vary substantially in the extent to which they enroll different types of students. In any given year, nearly one-third of undergraduates receive Pell Grants, a proxy for a low family income (NCES 2020a). Institutions vary substantially in the extent to which they serve low-income students, with about 16 percent of campuses having fewer than one-fourth of students receiving Pell Grants and about 22 percent having more than three-fourths receiving them.¹ Overall, low-income students are relatively similarly represented across the two- and four-year sectors and are over-represented in the for-profit sector, where about 53 percent of undergraduate students receive Pell Grants (NCES 2020b, 2020c).

¹ CEA calculations, using data from the College Scorecard. These College Scorecard data were the most recent available publicly, as of September 2022, which for most measures reflect the 2020–21 academic year.

Figure 5-2. Variation in Per-Student Expenditures

Number of institutions



Sources: College Scorecard; CEA calculations.

Note: FTE = full-time equivalent.

Nearly two-fifths of undergraduates self-identify as Black, Hispanic, Asian, American Indian or Alaskan Native, or Native Hawaiian or Pacific Islander. Most such student groups are more heavily represented in community colleges and the for-profit sector. As figure 5-1 shows, students who self-identify as Black, Hispanic, American Indian or Alaskan Native, or Native Hawaiian or Pacific Islander are substantially more likely than white students to attend for-profit institutions. For-profit institutions also disproportionately attract those age 25 or above.

Institutions Vary in Their Prices and Spending on Students

Postsecondary institutions vary not only in the students they serve but also in the prices they charge and the amount they spend on student instruction. As table 5-1 shows, the average institution has an undergraduate sticker price of roughly \$13,000 in tuition and fees per year; has a total cost of attendance of roughly \$25,000 after housing, food, books, and other expenses are included; and has a net cost of nearly \$15,000 after grant aid has been accounted for. Such prices vary tremendously by sector. Private nonprofit and for-profit colleges have undergraduate net costs of over \$20,000 a year, while public four- and two-year institutions cost roughly \$14,000 and \$7,000 for undergraduates, respectively, after accounting for grants.

Institutions also vary widely in the amount of resources they have available and spend on student instruction—the clearest measure available

Table 5-1. College Prices and Expenditures by Sector

Measure	All Institutions	Private Not-for-Profit, 4-Year	Public, 4-Year	Public, 2-Year	Private For-Profit, Any Level
Tuition and fees	\$12,602	\$34,235	\$9,149	\$3,338	\$14,913
Total cost of attendance	\$25,235	\$49,401	\$22,529	\$13,170	\$26,204
Net cost of attendance	\$14,762	\$26,045	\$13,812	\$7,101	\$20,400
Instructional expenditures per FTE student	\$9,633	\$14,071	\$10,617	\$6,292	\$3,691

Sources: College Scorecard; CEA calculations.

Note: FTE = full-time equivalent. College prices and expenditures are per academic year, for full-time enrollment.

of an institution’s financial investment in learning.² Figure 5-2 shows that this resource distribution is highly skewed, with 70 percent of institutions spending less than \$10,000 per full-time-equivalent student each year and 9 percent spending more than \$50,000. Such spending can buy smaller class sizes, higher-quality instructors, better academic support services, and other resources that may contribute to student success. As table 5-1 shows, there is clear variation across sectors in these spending patterns. Across most sectors, higher prices tend to translate into higher spending on students. Private, nonprofit, four-year colleges spend about \$14,100 a year on instruction; public four-year colleges spend about \$10,600; and public two-year colleges spend about \$6,300. The exception to the pattern are for-profit colleges, where students pay relatively high net prices but receive the lowest instructional spending of any sector (about \$3,700).

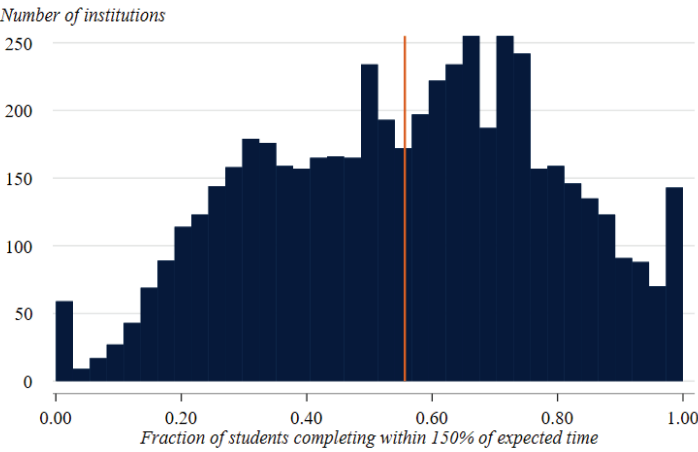
Institutions Vary in Their Student Outcomes

Student outcomes, such as degree completion rates, also vary substantially by postsecondary institution. A relatively high fraction of U.S. undergraduate students who start college do not complete their degrees (Bound, Lovenheim, and Turner 2010; Bowen, Chingos, and McPherson 2009). Though recent research suggests that graduation rates have increased somewhat since 1990, fewer than 60 percent of undergraduates seeking a bachelor’s degree complete such a degree within six years of entry (Denning et al. 2022). As panel A of figure 5-3 shows, the average college student attends an institution where about 55 percent of undergraduate students complete their degree within 150 percent of the time expected (i.e., three years for two-year colleges and six years for four-year colleges). This average masks substantial variation, as nearly one-tenth of colleges have undergraduate completion rates under 25 percent and over one-third have completion rates above 75 percent.

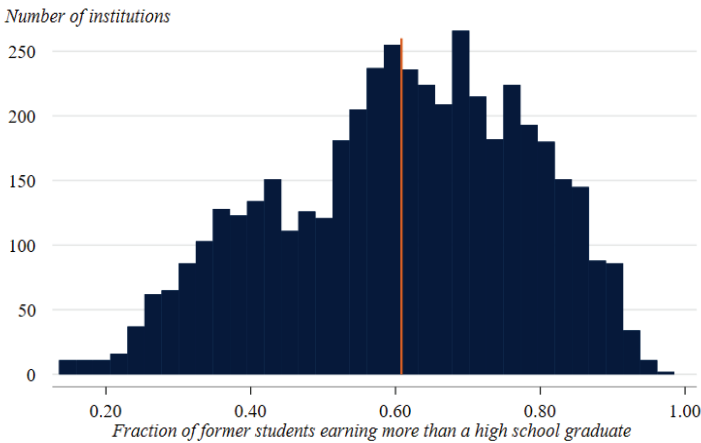
² The instructional spending measure, available in the Integrated Postsecondary Data System (<https://nces.ed.gov/ipeds/>), measures total spending across both undergraduates and graduate students, so care should be taken when comparing such figures with undergraduate costs of attendance.

Figure 5-3. Variation in Undergraduate Student Outcomes

A. Variation in Completion Rate



B. Variation in Students' Earnings



Sources: College Scorecard; CEA calculations.

Note: The orange line in Panel A denotes the average fraction of students completing their undergraduate education within 150% of the expected time. The orange line in Panel B denotes the average fraction of former students earning more than a high school graduate.

Not all noncompletion is problematic. The U.S. postsecondary system allows many students to explore college, even when they are uncertain about the experience. A recent pre-COVID-19-pandemic, large-scale survey of Americans who had attended college but had not completed their degree reveals a range of self-reported reasons for this noncompletion ([Gallup 2019](#)). Some students' reasons for leaving suggest that better institutional practices or financial aid policies might have helped them complete their degrees, while other reported reasons indicate that some students leave after learning that college was not a good fit for them. Such exploration can be

Table 5-2. Student Outcomes by Sector (percent)

Measure	All Institutions	Private Not-for-Profit, 4-Year	Public, 4-Year	Public, 2-Year	Private For-Profit, Any Level
Degree completion rate	50	63	56	29	47
Proportion of students out-earning typical high school graduate	70	77	75	59	59

Sources: College Scorecard; CEA calculations.

costly for students attending high-priced institutions. This suggests a policy role for balancing the benefits of exploration with the need to protect students from making poor investments of time and money.

Variation in postcollege earnings by institution is also striking. One such measure, available in the College Scorecard, is the percentage of a given college’s Federal-aid-receiving undergraduate students who, 10 years after entry, earn at least as much as a typical worker whose highest level of education completed is high school.³ Comparing earnings with those of workers who are high school graduates provides a rough proxy for whether a college’s enrollees have better economic outcomes than if they had not enrolled in college at all.

The average college student attends an institution where about 60 percent of undergraduate Federal aid recipients out-earn a typical high school graduate. Yet, as shown in panel B of figure 5-3, at 19 percent of colleges, fewer than half of such students out-earn high school graduates 10 years later. Relatedly, colleges also vary widely in the extent to which their students experience upward economic mobility, measured by the fraction of students entering from the bottom quintile of the income distribution who later reach the top quintile (Chetty et al. 2017). Degree completion rates and postcollege earnings indicate striking variation across college sectors, as shown in table 5-2. Four-year institutions tend to have higher completion rates and earnings than two-year institutions. Students at community colleges have similar earnings outcomes to students at for-profit colleges, even though community colleges are substantially less expensive for students to attend.⁴

Institutions Matter for Student Outcomes

The extent to which variation in student outcomes is driven by institutions themselves is challenging to measure. Some outcome differences are due

³ The College Scorecard (<https://collegescorecard.ed.gov/>) is a website created by the U.S. Department of Education that gives students, families, and other interested parties information about the cost and value of nearly all higher education institutions. The earnings measure discussed here comes from a national average of the earnings of all those age 25 to 34 who indicated that high school completion was their highest level of education, were working, and were not enrolled in school during the measurement year. This threshold is about \$31,000 in 2020 dollars.

⁴ The for-profit figures cited here cover all for-profit institutions.

to differences in students across institutions. A large and growing body of literature documents that some portion of undergraduate student outcome differences across institutions is causally attributable to the institutions themselves: colleges appear to vary widely in their effects on students. A given institution's effects do not appear to be inherent, but depend in part upon available resources and how those resources are spent; better-resourced institutions and those that spend more per student on instruction generally produce better outcomes, including higher graduation rates and labor market earnings (Lovenheim and Smith 2022). As the evidence suggests, students of all kinds appear to benefit from attending the college with the best track record available to them, with the worst colleges leaving the typical student worse off than they would have been if they had not attended college at all.

Within the four-year college sector, researchers have found that students are more likely to graduate and have higher earnings when they attend colleges with more resources, academically stronger peers, and better historical student outcomes such as graduation rates and earnings. Such patterns hold even when comparing otherwise similar students who enroll in different colleges (Long 2008; Smith 2013; Mountjoy and Hickman 2021; Cohodes and Goodman 2014). Evidence from States including Texas and California suggests that gaining access to well-resourced flagship institutions increases graduation rates and earnings, including for those whose access comes as a result of "Top Percent" guaranteed admissions policies (Hoekstra 2009; Andrews, Li, and Lovenheim 2016; Bleemer 2021; Black, Denning, and Rothstein 2020).

Public four-year colleges have been documented to have substantially positive effects on students. For example, research in a variety of States shows that students whose academic background gives them access to less selective public four-year institutions are more likely to graduate and have higher earnings than those lacking such access (Zimmerman 2014; Goodman, Hurwitz, and Smith 2017; Smith, Goodman, and Hurwitz 2020; Kozakowski 2023). Consistent with observable resource differences across sectors, enrollment in four-year colleges generally improves student outcomes even more for those choosing between two- and four-year options. Comparing otherwise similar students who differ only in their proximity to two- and four-year options suggests that four-year college enrollment increases the rate of degree completion and may increase earnings (Rouse 1995; Mountjoy 2022).

On average, community colleges have been shown to generate positive effects on students and substantially better outcomes than the for-profit colleges that enroll similar student populations (Cellini and Turner 2019; Armona and Cao 2022). Researchers have found that enrolling and completing an associate degree at a two-year college generally improves outcomes relative to not enrolling or completing one at all (Belfield and Bailey 2017;

Mountjoy 2022). Further, they document that, relative to those who start but do not complete their two-year degrees, graduates of community colleges see substantial increases in their annual income five to nine years after college entry (Jepsen, Troske, and Coomes 2014; Bahr et al. 2015; Liu, Belfield, and Trimble 2015; Bahr 2016; Bettinger and Soliz 2016; Xu, Jaggars, and Fletcher 2016; Dadgar and Trimble 2015; Belfield 2015). The return from a two-year degree is even higher in subsequent years after entry and during economic recessions (Minaya and Scott-Clayton 2022). Some high-demand community college programs, such as nursing, raise students' earnings so much that expanding the number of available slots in such programs would more than pay for itself via increased tax revenues returned to State and local governments (Grosz 2020).

For-profit colleges have been found to generate particularly poor outcomes for their enrollees. Advocates of for-profit colleges have argued that such poor outcomes are due to the disadvantages with which their students start (Cellini and Koedel 2017). Differences in student composition have not, however, been enough to explain the large differences in outcomes between for-profits and other institution types (Deming, Goldin, and Katz 2012; Scott-Clayton 2018a). Community colleges appear to improve earnings more than for-profit colleges, even when accounting for variations in student characteristics (Cellini and Turner 2019; Armona and Cao 2022). Numerous studies comparing the earnings of the same for-profit students before and after enrollment find that such students see little or no earnings increase relative to those who do not attend college or to those enrolled in public colleges (Cellini and Turner 2019; Cellini and Koedel 2017). Résumé audit studies similarly suggest that for-profit degree holders receive employer callbacks less often than otherwise-identical degree holders from public colleges and no more often than those with no college education at all (Darolia et al. 2015; Deming et al. 2016). Enrollment in for-profit colleges increases debt and worsens labor market outcomes relative to other two- and four-year options (Armona, Chakrabarti, and Lovenheim 2022). Nearly two-fifths of for-profit college chains have negative returns for Federal aid recipients compared with returns from simply gaining experience in the labor market (Armona and Cao 2022).

The Rationale for and Delivery of Public Postsecondary Investment

To assess strategies to promote access and improve quality in the postsecondary sector, it is useful to understand the economic rationale for public sector involvement, and to consider the possible forms such involvement can take.

The Economic Rationale for Public Sector Investment

A key motivation for promoting college is its value as an economic investment for both students and society. For example, though students express many reasons for pursuing postsecondary education, including personal exploration and growth, getting a better job tops the list (Fishman 2015; Stolzenberg et al. 2020). From a societal perspective, expanding educational access has been associated with economic growth, much like when the United States in the 20th century led the world in the transition to mass secondary—high school—education. This expansion also helped to dampen inequality (Goldin and Katz 2008).

However, in recent decades, as the demand for highly educated workers has continued to increase, the United States has faced significant challenges in the transition to broad-based postsecondary education and training (Goldin and Katz 2008; Neelakantan and Romero 2017). Although postsecondary enrollment has increased substantially since 1980, the pace has slowed since 2000 (Ma, Pender, and Welch 2019). The United States is no longer a global leader in college degree attainment for adults age 25 to 34 years, and the 43 percent completion rate among those entering associate degree programs in the United States is among the lowest of all countries belonging to the Organization for Economic Cooperation and Development (OECD) that reported their equivalent of this statistic (NCES 2021; OECD 2022). Failing to navigate the transition to broader postsecondary education would represent a missed opportunity, given the substantial private and societal benefits of college (described in box 5-1). Of particular concern is the large and growing gap in bachelor's degree attainment between high- and low-income families, which is wider for cohorts born in the 1980s than for those born in the 1960s (Chetty et al. 2020; Bailey and Dynarski 2011). Racial disparities in college attainment have also grown over a similar time span, particularly among women (Emmons and Ricketts 2017; Ma, Pender, and Welch 2019).

Finally, despite the substantial private and public benefits, many students cannot afford to attend a postsecondary institution without financial assistance. The problem is that the benefits of college accrue over the course of a lifetime, while the bill must be paid in advance. Typically, individuals solve this problem by borrowing to pay for an investment up front, such as when purchasing a car or home. However, private lenders typically do not provide loans unsecured by collateral (e.g., those for a car or a house that can be repossessed) because a college education cannot be returned or resold if the individual fails to make interest payments and defaults on the loan (Barr 2004). The existence of such “credit constraints” provides an important rationale for the public sector providing loans to students at subsidized interest rates.

Box 5-1. The Private and Public Benefits of College

The earnings premium for those with a college education is well documented (Barrow and Malamud 2015). Less well known is that the benefits of college accrue to a broad range of students at a broad range of schools. Students with relatively low grades and test scores who enroll in four-year institutions derive significant earnings benefits from college attendance (Zimmerman 2014; Ost, Pan, and Webber 2018; Smith, Goodman, and Hurwitz 2020), as do the 35 percent of students who enroll in open-access community colleges rather than not enrolling at all (Kane and Rouse 1995; Mountjoy 2022; NCES 2022g). Associate degrees—and even some shorter-course credentials in high-demand occupational fields—yield substantial returns in many fields, including for older students and displaced workers (Grosz 2020; Jacobson, LaLonde, and Sullivan 2005; Jepsen, Troske, and Coomes 2014).

Postsecondary education also serves the public good. College attainment leads to increased civic participation, lower rates of involvement in the criminal justice system and reliance on public benefits, increased tax revenues, higher economic growth, and improved health in the next generation (Dee 2003; Lochner and Moretti 2004; Lochner 2011; Oreopoulos and Salvanes 2011; Hout 2012; Ma, Pender, and Welch 2019; Aghion et al. 2009; Currie and Moretti 2003). Reducing racial disparities in college attainment is particularly urgent, given that underrepresentation in highly credentialed professions can adversely affect the treatment and outcomes of historically excluded groups. For example, recent evidence indicates that students benefit from exposure to instructors of the same race (Fairlie, Hoffman, and Oreopoulos 2014; Gershenson, Hansen, and Lindsay 2021; Gershenson et al. 2022; Lusher, Campbell, and Carrell 2018), and that Black patients benefit from access to Black physicians (Alsan, Garrick, and Graziani 2019; Greenwood et al. 2020). Finally, postsecondary education and training serve as a form of social insurance, increasing workers' resilience during economic shifts and mitigating the negative consequences of recessions (Hyman 2018; Barr and Turner 2015; Minaya and Scott-Clayton 2022; Barnes et al. 2021).

How Public Funds Are Delivered: Student Aid and Institutional Support

Public funding to promote college access and completion can be delivered directly to institutions, to support programming and keep prices below cost, or directly to students, who then use financial aid to help pay tuition and other costs at the institution of their choice. In primary and secondary

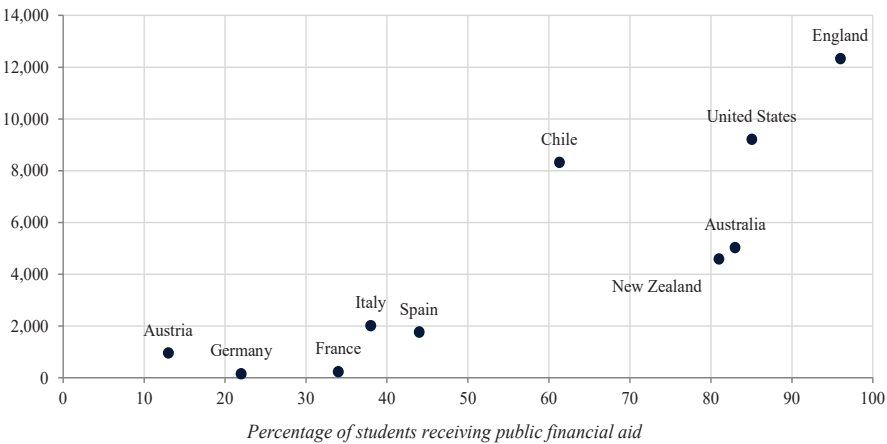
education, government support is delivered primarily through institutions, in the public provision of free schools, and with supplemental supports such as free meals delivered through those schools. Many countries follow this model, not only for primary and secondary education but also for postsecondary education, with direct institutional support for predominantly public institutions helping to keep tuition prices low ([Marcucci 2013](#)). Along these lines, at least 20 States currently offer statewide free community college programs ([Mishory 2018](#); [Education Commission of the States 2022](#)), and the Biden-Harris Administration has developed a framework for a nationwide free community college program ([White House 2021](#)).

The Federal Government's earliest investments in postsecondary education also focused primarily on expanding capacity and keeping prices low at public institutions, which even today enroll over three-quarters of U.S. undergraduates ([IPEDS 2020](#)). The foundations of many of today's State colleges and universities can be traced to direct institutional support—such as the Federal Morrill Land Grant Act of 1862, which granted each State 30,000 acres of public land to establish public postsecondary institutions; the Second Morrill Act of 1890, which directed Federal funds to newly designated Historically Black Colleges and Universities; and the subsequent significant push by States to establish and expand two-year colleges in the 1960s ([Cohen, Brawer, and Kisker 2013](#)). State and local direct appropriations for public institutions, which help keep tuition prices below the full cost of provision, remained the largest source of government support for postsecondary education in the United States through the end of the 20th century ([Dynarski, Page, and Scott-Clayton 2022](#)).

The Higher Education Act of 1965, which established the foundations of today's Federal student aid programs (including the precursor to Pell Grants), marked a significant shift from institution-focused to student-focused assistance ([Fountain 2017](#); [Leslie and Johnson 1974](#)). Delivering support via student aid may conserve public resources by targeting subsidies to those students who are most in need, support institutional quality by bringing in additional resources from those who can afford to pay, and promote competition and choice by enabling students to use their aid at the institutions they judge as highest value ([Barr 2004](#)). State and local direct appropriations for institutions have fallen from nearly two-thirds of support for undergraduates in 1990–91 to just under one-third in the academic year 2018–19 ([Dynarski, Page, and Scott-Clayton 2022](#)). Student aid is now the primary mode of support in the United States, providing \$174 billion in grants, loans, and other direct support for undergraduates in 2021–22, with Federal sources accounting for about half this total, and loans accounting for about half of Federal student aid ([Dynarski, Page, and Scott-Clayton 2022](#); [Ma and Pender 2022b](#)). The result, as shown in figure 5-4, is that only England exceeds the United States in the level of both tuition and student

Figure 5-4. Average Public Tuition and Fees and Percentage of Students Receiving Public Financial Aid—Bachelor’s Degree Programs, 2019–20

Average public tuition and fees (listed prices in U.S. dollars converted using purchasing power parity)



Source: Organization for Economic Cooperation and Development (2021, tables C5.1 and C5.2).

Note: Data refer to the academic year 2019-20 and are based on a special survey administered by the OECD in 2021.

aid (OECD 2021). The contemporary “high-tuition, high-aid” model of U.S. postsecondary finance is thus distinctive in both international and historical contexts.

In line with this high-tuition, high-aid model, inflation-adjusted published tuition and fees before accounting for financial aid (“sticker prices”) have since 1980 nearly tripled in the public two-year sector, more than tripled in the private not-for-profit four-year sector, and nearly quadrupled in the public four-year sector, though such prices have stabilized over the past decade (Ma and Pender 2022a, 2022b). At the same time, *net* prices in the United States—tuition and fees minus grants and scholarships—have increased much more slowly than published prices, and have actually remained flat or declined over the past decade (Ma and Pender 2022b). The Biden-Harris Administration has taken a number of steps to continue to improve college affordability and help student loan borrowers, including providing a \$900 increase to grant aid for low-income students through the Pell Grant program over the last two years, streamlining and improving student loan repayment, and pursuing debt relief through the HEROES Act.

The model of financing students rather than institutions has helped fuel a system of postsecondary education that is diverse and decentralized, with more opportunities for exploration, transfer, and reentry (Labaree 2017; Goldin and Katz 2008), because students decide where their subsidized dollars will be spent. In contrast, many other countries deliver funding primarily to public institutions that students can attend free (Marcucci 2013) but that

often offer fewer spots in a more constrained set of programs. The diversity and flexibility of the U.S. system may help explain why the United States is the top destination for international students (Institute of International Education 2020). In recent decades, some countries that formerly provided fully free public institutions have shifted to the U.S. model as a way to maintain affordability while expanding postsecondary capacity and improving quality (Marcucci 2013; Murphy, Scott-Clayton, and Wyness 2019).

Still, the U.S. model of postsecondary education finance is not without challenges. Over the longer term, the dramatic increases in sticker prices have made it more difficult for today's students and families to pay for college relative to a generation ago. In 2022–23, the maximum Pell Grant, the largest source of grant aid in the United States, only covered 30 percent of published tuition, fees, room, and board at the typical public, four-year institution, down from 50 percent in 1988–89 and nearly 80 percent in 1975 (Ma and Pender 2022b; Baum, Payea, and Steele 2009; Protopsaltis and Parrott 2017).

Despite the availability of aid, research shows that tuition prices still influence students' persistence and degree completion, even after initial enrollment (Acton 2021). Prospective students—particularly those who would be first in their families to attend college—may not even know that financial aid exists and thus may be dissuaded by the sticker price alone (Levine, Ma, and Russell 2022). Research has shown that the process of applying for financial aid is itself a barrier to access (Bettinger et al. 2012), and that students are more likely to apply when aid is guaranteed in advance (Dynarski et al. 2021). Further, research indicates many students are reluctant to borrow (Boatman, Evans, and Soliz 2017). This may reduce the effectiveness of loans relative to grants of the same size.

Further, the decision to invest in college entails risks—in particular, the risk that the earnings students gain will be less than the cost they pay for their education. The breadth, flexibility, and multiple entry and exit points in the U.S. system also mean more risks of making mistakes and falling off track (Labaree 2017; Goldin and Katz 2008; Scott-Clayton 2012). Fewer than two-thirds of students who enroll in college finish any degree within six years (National Student Clearinghouse Research Center 2022a). Even among those who graduate with at least a four-year degree, roughly one in five male college graduates and about one in seven female college graduates has earnings no higher than the typical worker with only a high school diploma (Ma, Pender, and Welch 2019).

Because many students rely on debt to finance a portion of their education, some students who attend college may end up worse off, even though the expected return is high on average. Nearly one-third of students who take on debt do not receive a degree (Miller 2017). More than one in four borrowers experience a student loan default within 12 years of college

Box 5-2. International Comparison of Income-Driven Student Loan Repayment

Like the United States, postsecondary education systems in Australia and England also combine high tuition with high financial support for students. In contrast to the United States, students in England and Australia can fully defer tuition payments until after college and then repay via income-driven repayment (IDR). Under IDR, student loan repayments are capped at a fixed percentage of income, mitigating the risk that college enrollment leads to incomes too low to repay such debts. Research from the United States finds that IDR enrollment reduces borrowers' risk of delinquency and default (Mueller and Yannelis 2019; Herbst 2023).

IDR plans vary substantially across these countries in two important ways. First, U.S. undergraduate loans, though capped below most students' cost of attendance, are available for a wider variety of programs, including short-term credentials and those at thousands of for-profit institutions (U.S. Department of Education 2023a; Ma and Pender 2022a). Both England and Australia allow undergraduates to borrow the full amount of public tuition but restrict the institutions eligible for IDR. England directs IDR primarily to public university students, and Australia originally restricted IDR to four-year colleges, only in 2009 expanding eligibility to vocational programs (Barr et al. 2019; Student Loans Company 2022). Second, IDR is the only loan repayment option in England and Australia, with automated enrollment and payments income-adjusted and collected automatically through the tax authority. In contrast, borrowers in the United States need to opt into IDR and annually update their own income (Barr et al. 2019). Only about one-third of U.S. student borrowers in 2022 were enrolled in such a plan (CEA calculations, based on Federal student loan portfolio data by repayment plan, from the U.S. Department of Education 2022a). The Biden-Harris Administration has proposed reforms of IDR to reduce monthly and lifetime payments, especially for low- and middle-income borrowers, and to eliminate barriers that prevent borrowers from accessing IDR.

entry, including nearly half of Black student loan borrowers (Scott-Clayton 2018b). One tool for mitigating repayment risk in a high-tuition, high-aid model are income-driven repayment plans—but as box 5-2 discusses, the implementation and use of these plans differ substantially by country.

Finally, the global experience suggests that countries expanding student aid to for-profit institutions face challenges in regulating quality to address poor student outcomes in this sector (Usher 2019; Salto 2019).

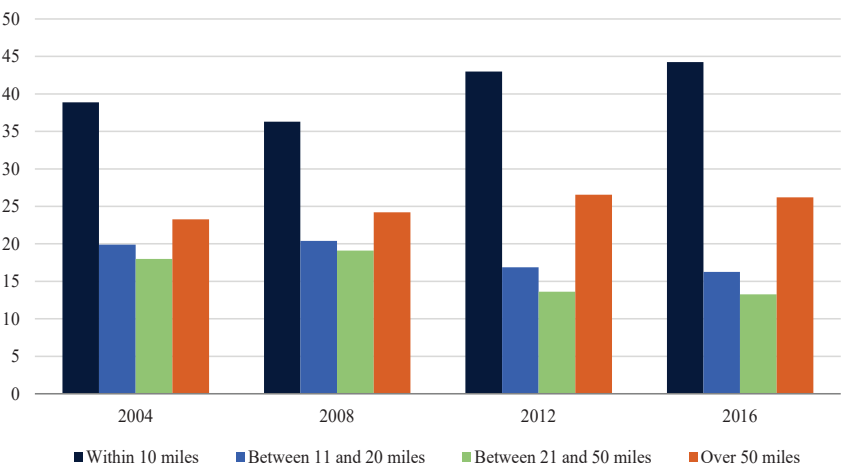
Although for-profit higher education is not unique to the United States, it is unusual in terms of both its size in the United States and its integration into the student aid system, including access not only to student loan dollars but also to nonrepayable grant aid (Kinser 2016; Levy 2019). For-profit colleges in the United States account for 12 percent of Federal student aid dollars and 30 percent of student loan defaults, even though they enroll only 8 percent of students (Century Foundation 2021).

The Imperfect Market for Postsecondary Institutions

In an idealized market, the United States’ approach of providing portable financial aid to support consumer choice might be sufficient to ensure that high-quality choices actually exist. At least in theory, this approach should promote institutional quality by weeding out low-quality institutions or prompting them to improve and encouraging better ones to expand (Barr 2004; Fountain 2017). The postsecondary education market, however, is too imperfect for institutional improvements to emerge simply from students voting with their feet (Leslie and Johnson 1974). Institutions may, for example, be able to attract students regardless of their program quality. Three main types of constraints—geographic constraints, informational and behavioral constraints, and constraints on colleges’ ability to expand quickly—diminish the power of market forces to promote productive innovation, improve quality, and drive down prices through student choice and

Figure 5-5. Distance Between Home and College, 2004–16

Percentage of undergraduates



Source: National Center for Education Statistics (National Postsecondary Student Aid Study, 2016 undergraduates).

competition alone. The resulting institutional landscape offers variety, but it is not always clear which aspects of this variety benefit students.

Geographic Constraints

The first main types of constraints, again, are geographic. First, as figure 5-5 shows, most students attend college close to home, limiting the scope for choice and competition. About 60 percent of U.S. undergraduates attend a college within 20 miles of their home, and the fraction attending within just 10 miles of home grew from nearly 39 percent in 2004 to 44 percent in 2016 (NCES 2022h). These proportions are substantially higher for students of color and low-income students (NCES 2022i, 2022j).

These geographic constraints make college markets “thin,” as many students do not have a substantial number of options to choose from if they want or need to stay close to home (Hillman 2016; Blagg and Chingos 2016). The median commuting zone has just two colleges of any type or level. About 23 percent of those age 18 to 44 years live in a commuting zone with at most one public four-year college; about 27 percent live in a commuting zone with at most one public two-year college. Students with no options nearby must incur the high cost of relocating or lengthy commuting if they wish to attend college. Those with limited choices nearby may enroll in a program that is a poor fit for their goals (Klasik, Blagg, and Pekor 2018). Online programs provide an alternative but many generate poor student outcomes, as further discussed below.

Informational and Behavioral Constraints

Even for students with options close to home, informational and behavioral constraints can complicate decisionmaking. The United States’ college landscape is particularly complex, with 63 percent more bachelor’s-degree-focused institutions per capita than Canada, 71 percent more than the United Kingdom, and 67 percent more than Australia (World Higher Education Database, n.d.). The American community college, serving multiple missions including both transfer and terminal associate degrees, is a distinctive type of institution that only recently has begun to develop in other countries (Redden 2010). The United States also has a large for-profit college sector, adding to an already large and varied set of options students face.

College is not a simple consumer good, but an “experience good” for which students may not have well-formed preferences in advance. The decision to enroll in college is made infrequently in one’s lifetime, limiting the opportunity to learn from previous decisions. Colleges differ along numerous dimensions, including both content and quality, which may be difficult to observe in advance. Benefits are uncertain and accrue over long time horizons, making it difficult for students to compare options. Even the

best-prepared students may oversimplify or avoid decisions when choices are complex, information is limited, and preferences are not well established (Hoxby and Avery 2013; Beshears et al. 2008; Lavecchia, Liu, and Oreopoulos 2016; Ross et al. 2013).

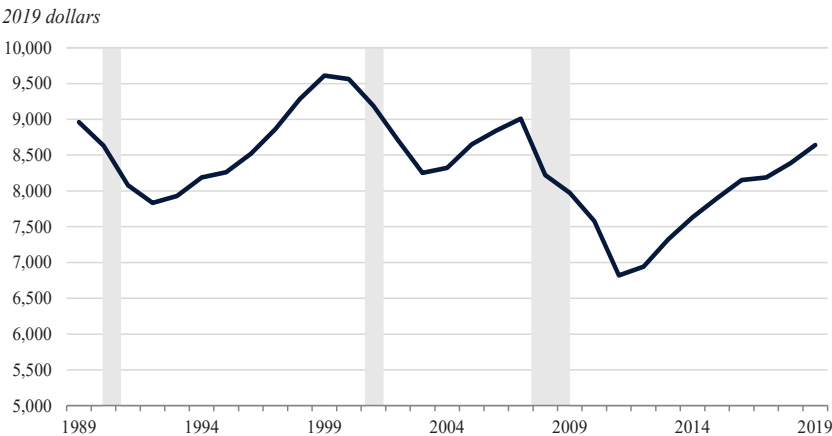
Comparing financial aid offers can be particularly opaque. A recent report from the Government Accountability Office (GAO) found that 41 percent of colleges in a nationally representative survey did not provide information on net prices in their financial aid offers, and an additional 50 percent understated net prices by omitting some costs or including loans that must be repaid (GAO 2022). This complexity also affects students after college as they attempt to navigate student loan repayments (Turner 2021).

Finally, many prospective college students are relatively young and inexperienced financial decisionmakers, which increases both their susceptibility to marketing campaigns and the likelihood of decision mistakes (Beshears et al. 2008; Agarwal et al. 2009). Indeed, reports have found that some for-profit colleges take advantage of this by outspending their public counterparts 20-to-1 on advertising (Cellini and Chaudhary 2020) and using dubious claims about future employment prospects to recruit students (McMillan-Cottom 2017; GAO 2010).

College Expansion Constraints

In a simpler market, increased demand for the best products can induce successful producers to expand and new producers to enter the market. The substantial fixed costs and labor-intensive model of traditional postsecondary

Figure 5-6. Per-Student State and Local Funding for Public Higher Education, 1989–2019



Source: College Board Trends in College Pricing 2021b, as compiled by Ma and Pender (2021).
Note: Shaded areas indicate recessions.

education, however, constrain institutions' ability to quickly respond to increased demand without diluting students' experience, as discussed below.

As figure 5-6 shows, per-student State and local funding is procyclical, falling during times of economic contraction. Demand for postsecondary education is, however, countercyclical, as students tend to seek skill training when employment opportunities are worse since the opportunity cost of enrollment is lower when jobs are scarce ([Barr and Turner 2015](#)). The combination of public funding's procyclicality and demand's countercyclicality means that per-student funding shrinks precisely when enrolling in a postsecondary program makes the most economic sense ([Ma and Pender 2022b](#); [Kane et al. 2005](#)). This pattern leads to both higher tuition and lower resources provided per student during recessions, which has been documented to harm students' outcomes ([Chakrabarti, Gorton, and Lovenheim 2020](#); [Bound, Lovenheim, and Turner 2010](#); [Bound and Turner 2007](#); [Deming and Walters 2017](#)).

Community college enrollments are particularly sensitive to economic conditions, partly because they are open-access institutions to which unemployed or underemployed adults often turn for midcareer training. Community college enrollments rise by about 1 to 3 percent overall for every increase of 1 percentage point in the local unemployment rate, with greater responsiveness among those age 25 and above ([Hillman and Orians 2013](#); [Betts and McFarland 1995](#)). The only exception to this pattern has been the weak labor market early in the COVID-19 pandemic, when community college enrollment declined in part because instruction, particularly in fields requiring hands-on training, was disrupted by pandemic conditions ([Schanzenbach and Turner 2022](#)).

At the same time, students are more likely to enroll in for-profit institutions when funding for local public institutions decreases ([Cellini 2009](#); [Goodman and Henriques Volz 2020](#)). Although causal research does not establish the mechanisms underlying this result, when resources per student fall, four-year colleges may not be able to expand enrollment to meet demand. Community colleges do not typically have enrollment caps, but when public institutions have fewer resources per student, students may have more difficulty registering for the courses they want at the times they want, or they may be discouraged by staffing constraints that affect their ability to navigate registration, financial aid, and other aspects of enrollment. In contrast, for-profit institutions can cut costs and expand more quickly than traditional institutions by offering more highly standardized curricula, a more limited range of programs, fewer in-person courses, and lower-paid instructors ([Deming, Goldin, and Katz 2012](#)). A large portion of for-profit programs are fully online, making them particularly attractive to students lacking alternatives close to home ([NCES 2019](#)). The heavy concentration of online programs in the for-profit sector may partly explain why

for-profit enrollment declined much less than community college enrollment in the first year of the pandemic, when demand for remote learning increased substantially ([National Student Clearinghouse 2022b](#)).

Institution-Focused Policies That Promote Access to Postsecondary Value

Research has shown that the quality of institutions matters for student outcomes. Thus, policies aimed at institutions—to build capacity, to support colleges in serving students well, and to hold them accountable when they do not—are critical to ensuring that all students have access to an education of value. Federal policy can influence the quality of postsecondary options by supporting evidence-informed strategies to expand supply and improve outcomes at public institutions, while holding all institutions accountable for the value they provide and protecting students from the worst options.

Supporting the Quality of Existing Colleges and Programs

As more attention has been given to increasing college completion—not just enrollment—the base of evidence has grown for promising programs and policies (e.g., see the recent review by [Dynarski et al. 2022](#)). This subsection considers the potential benefits of expanding specific institutional programs with a track record of success, as well as the potential benefits of more flexible institutional support.

Enhanced guidance and advising. Personalized guidance, coaching, and/or mentoring have been shown to help college students overcome both academic and nonacademic challenges. Several randomized-control studies find that such services can help students persist and complete their degrees at higher rates ([Dynarski et al. 2022](#)). [Bettinger and Baker \(2014\)](#) find that four-year college students randomly assigned to receive access to individualized student coaching from outside professionals were more likely to persist and graduate. [Oreopoulos and Petronijevic \(2018\)](#) find that one-to-one coaching by upper-year undergraduate mentors improved students’ academic performance, while less intense text and email “nudge” interventions did not. Randomized studies have found positive effects of related interventions for community college students as well ([Linkow et al. 2017, 2019](#); [Evans et al. 2020](#)).

Comprehensive programs. Comprehensive programs that provide multifaceted financial, academic, and nonacademic supports have shown particularly dramatic effects. Of these, the best known is the City University of New York’s (CUNY’s) Accelerated Study in Associate Program (ASAP). In addition to waiving tuition and fees, ASAP provides textbook vouchers, free transportation, a dedicated one-to-one adviser, and enhanced tutoring

and career counseling. Students are required to enroll full time. A randomized evaluation found that the program nearly doubled associate degree completion rates three years after entry (40 vs. 22 percent), with large effects on completion persisting after six years (Scrivener et al. 2015; Weiss et al. 2019). ASAP has since been successfully replicated in Ohio (Sommo et al. 2018; Miller et al. 2020), and CUNY is piloting a version of the program at several of its four-year campuses (CUNY, n.d.). The version implemented in Ohio, though less expensive per student than the original CUNY model, cost 42 percent more per student than business as usual—but because the program dramatically increased completion rates, it lowered the average cost per graduate (Miller et al. 2020). CUNY’s ASAP was estimated to raise degree completion rates enough to more than cover its costs, so that enrolling 1,000 more students was estimated to provide taxpayers with fiscal benefits of \$46 million in 2010 dollars (Levin and Garcia 2013).

Direct institutional support. All the programs described above require resources. Research indicates that per-student institutional resources are an important driver of college persistence and completion (Bound and Turner 2007; Bound, Lovenheim, and Turner 2012; Webber and Ehrenberg 2010; Cohodes and Goodman 2014; Deming and Walters 2017). This echoes findings that resources matter for student outcomes in the K-12 context, particularly for low-income students (Jackson, Johnson, and Persico 2015; Hyman 2017). How resources are spent matters but, because the optimal use of funds may vary from context to context, general funding support—with appropriate guardrails—may give institutions the flexibility they need to optimize. Box 5-3 describes some of the Biden-Harris Administration’s efforts on this front.

Various scholars have offered proposals for what a more regular program of Federal institutional support for postsecondary education could look like. Existing Federal support for K-12 schools provides one model: Federal grants have long been provided to districts, schools, and States through Title I of the Elementary and Secondary Education Act (Skinner and Cooper 2020). Hiler and Whistle (2018), for example, propose a version of Title I funding for postsecondary education that could be based on the number and proportion of Pell Grant recipients enrolled. Federal grants that match State spending—which have proven effective in increasing State spending on other programs, such as Medicaid (Kane et al. 2005)—could reduce the risk that Federal dollars simply crowd out State investment in public colleges (Deming 2017). Some scholars have suggested that aid be targeted to community colleges, the sector with the greatest need and potential (Goolsbee, Hubbard, and Ganz 2019).

Box 5-3. Policies Focused on Direct Institutional Support

The Biden-Harris Administration has made direct institutional support a priority. The College Completion Fund for Postsecondary Student Success (funded by the Consolidated Appropriations Act of 2022, and following similar proposals in the American Families Plan and the President’s Budget Request) in 2022 provided \$5 million in competitive grants to postsecondary institutions to support “data-driven and evidence-based reforms that encourage postsecondary retention, transfer, and completion” (U.S. Department of Education 2022b). These funds were targeted to institutions that disproportionately serve students of color and low-income students, with priority given to community colleges. Congress provided an additional \$45 million for the program for Fiscal Year 2023 (U.S. Department of Education 2023b).

During the COVID-19 pandemic, direct support for institutions was a key aspect of Federal support for postsecondary education. The American Rescue Plan Act of 2021 provided nearly \$40 billion in institutional support via the Higher Education Emergency Relief Fund (HEERF). HEERF, initially established by the Coronavirus Aid, Relief, and Economic Security (CARES) Act of 2020, required institutions to spend half the funds on emergency student aid and the other half on “any costs associated with significant changes to the delivery of instruction due to the coronavirus” (U.S. Department of Education 2020, 2022c). About 90 percent of HEERF-participating institutions reported the program helped them keep students enrolled who might have otherwise dropped out (U.S. Department of Education 2023c). Evidence on similar programs during the Great Recession suggests that they help public research institutions maintain or increase their expenditures on both research and instruction (Dinerstein et al. 2014). Many states have used funding from the American Rescue Plan to expand or strengthen colleges and job training programs, seeing these as core strategies to build back from the pandemic (U.S. Department of the Treasury 2022).

Institutional Accountability

Accountability policies are wide-ranging, and they include (1) strict accountability policies that cut off institutions from Federal or State aid completely if they fail to meet certain minimum standards; (2) performance-based funding, whereby financial assistance is at least partly conditioned on institutional performance; and (3) policies that increase transparency and rely on the market to self-regulate. Evidence regarding each option is discussed in turn.

Strict accountability. A variety of past and current Federal regulations suggest potentially promising results from holding postsecondary institutions accountable for program-level student outcomes as a condition of eligibility for Federal financial aid for students. For-profit colleges are most affected by such regulations, in part because of the legal authority granted to regulators under Federal law and partly because of their poor observed student outcomes (Cellini and Koedel 2017). Cutting off aid from programs that leave students unable to repay their loan debt is at least partly effective in discouraging enrollment in such programs (Darolia 2013). Cellini, Darolia, and Turner (2020) further show that when for-profit colleges experience large drops in annual enrollment due to policy sanctions, most such students shift to community colleges, whose loan default outcomes are substantially better. Kelchen and Liu (2022) demonstrate that having debt-to-earnings ratios in excess of prescribed limits made poor-performing colleges and programs more likely to close, even though the regulations were rescinded by the Trump Administration before any sanctions were actually applied. Box 5-4 describes these regulations further.

Performance-based funding. Currently, roughly 30 States have implemented policies that partly tie higher education appropriations to outcomes such as graduation rates. Known as “performance-based funding,” this strategy is an attempt to improve institutional accountability. A review of the evidence shows, however, little sign of such measures inducing institutional improvements in student outcomes such as degree completion (Ortagus et al. 2020). Researchers have also found that performance-based funding can incentivize behavior counterproductive to increasing the available quality of college opportunities, with some public, four-year institutions boosting their outcomes by decreasing admission rates and reducing enrollment of underrepresented students of color (Ortagus et al. 2020; Birdsall 2018). Some States have modified their plans to include additional incentives for improving measures related to equity, with potentially promising evidence that such equity-focused modifications can improve enrollments of low-income students and students of color (Gándara and Rutherford 2018).

Increasing the transparency of student outcomes. Increasing the transparency of student outcomes can potentially make college quality more salient, both to prospective students and to institutions themselves, increasing the competitive pressure to improve. Research indicates, for example, that improving students’ information on labor market outcomes can influence their major choice (Baker et al. 2018; Wiswall and Zafar 2015). In addition to the College Scorecard, several States have their own databases of earnings data, organized by institution or industry. For example, the Salary Surfer (salarysurfer.cccco.edu), a collection of earnings data from the California Community College System, provides average salary information two years before, two years after, and five years after graduation, by industry

Box 5-4. Gainful Employment and Other Accountability Regulations

Since its 1965 enactment, the Higher Education Act (HEA) has defined the types of institutions and programs that are eligible to participate in Federal financial aid programs. Under current law, educational programs must lead to a degree at a nonprofit or public institution or must prepare students for “gainful employment in a recognized occupation” in order to be eligible for financial aid under Title IV of the HEA (U.S. Department of Education 2022d). The “gainful employment” requirement was not, however, defined in regulations for the first few decades of the HEA. In 2014, the Obama-Biden Administration finalized regulations defining gainful employment as requiring aid-eligible certificate and degree programs to meet a specific debt-to-earnings ratio for graduates. The Department of Education estimated that 840,000 students’ programs would not meet this standard, nearly all at for-profit institutions (U.S. Department of Education 2014). The gainful employment regulation was rescinded under the Trump Administration. The Biden-Harris Administration is in the process of reinstating a new such rule to ensure that Federal funds are not directed to programs that do not lead to gainful employment (U.S. Department of Education 2022e).

The Administration has already taken other actions designed to increase the accountability of postsecondary institutions and programs to students and taxpayers. The Department of Education has solicited public comment on the development of an annual watch list identifying programs with the lowest financial value and announced plans to request improvement plans from the institutions that offer such programs. The Department of Education also reestablished the enforcement unit in the Office of Federal Student Aid to hold institutions accountable, and withdrew authorization from the accreditor ACICS, which oversaw for-profit institutions involved in some of the worst outcomes for students. The Administration also closed a long-standing loophole that encouraged for-profit institutions to aggressively target and recruit veterans and their families. Research indicates that such institutions lower veterans’ earnings (Barr et al. 2021) and use this additional revenue stream to raise tuition rather than improve quality (Baird et al. 2022). Recent regulations enacted by the Biden-Harris Administration will ensure that private for-profit colleges derive at least 10 percent of their revenue from non-Federal sources, including veterans’ benefits, as required under changes made by Congress to the 90/10 rule in the American Rescue Plan Act.

and subfield. The U.S. Census Bureau has released the Post-Secondary Employment Outcomes data product since 2017, providing earnings data by institution and degree program up to 10 years after graduation, and showing the flows of graduates from various degree programs into employment in various industries.

Evidence from the release of the College Scorecard and earlier efforts at transparency suggests, however, that transparency on its own may have a limited short-term impact on student application and behavior. Publishing annual lists of institutions with the highest levels or changes in costs for students did not appear to affect those institutions' prices or enrollments, at least in the short run (Baker 2020). For the first time, in 2015, the Scorecard made widely available average graduation rates and earnings of students enrolling at thousands of colleges nationwide. Research indicates that this release had limited effects on college search and application behavior, with effects concentrated among more advantaged students (Huntington-Klein 2016; Hurwitz and Smith 2017; Meyer and Rosinger 2019). The longer-term effects of the College Scorecard and other transparency efforts may, however, be more meaningful than the short-term effects, as information takes time to reach students, families, school counselors, and other decision-makers. More research is needed to isolate such longer-term effects of data transparency on college quality.

Addressing Geographic Barriers to Access

Additional policy efforts may be needed to more directly address geographic constraints on access. Though the COVID-19 pandemic has led to increased awareness of the feasibility of remote learning at scale, it has also shown its limitations. This subsection discusses the evidence on the effectiveness of online education as well as other, more promising alternatives to provide more students with access to high-quality college experiences on the campus of their local high school. For older returning students, box 5-5 provides additional information on local workforce training interventions that have demonstrated promise in improving outcomes.

Online programs. Some have suggested expanding online options to reduce geographic barriers to access, but research findings suggest caution about this approach. In some settings, such as four-year colleges, there are examples of students doing equally well across both online and in-person formats (Figlio, Rush, and Yin 2013; Bowen et al. 2014), as well as in blended learning approaches combining online and in-person components (Bowen et al. 2014; Alpert, Couch, and Harmon 2016). Other research finds, however, that courses taught through online formats often lead to worse learning outcomes than their in-person counterparts (Joyce et al. 2015; Alpert, Couch, and Harmon 2016; Krieg and Henson 2016). Research

Box 5-5. Supporting Workforce Training Quality

Community colleges are the primary providers of education and training targeted at labor market needs, with Pell Grants now the largest source of funding for workforce training for low-income Americans (Ma and Pender 2022b; Holzer 2008). Postsecondary institutions that provide such training may, however, be slow to respond to sectoral shifts and changes in employers' specific skill needs (Katz et al. 2022). The traditional academic schedule and program offerings may not always fit the needs of nontraditional students, such as workers displaced midcareer. Though displaced workers are eligible for Federal student aid, they may not be aware of their eligibility or how to use it (Barr and Turner 2018). Federal training resources specifically developed to serve such workers are funded at much lower levels—through the Workforce Investment and Opportunity Act—and with generally positive but somewhat mixed evidence of effectiveness (Rothstein et al. 2022; Holzer 2021).

In this context, sectoral employment and training programs have shown promise. These programs typically involve partnerships between employers or industry associations, training providers (often community colleges), workforce boards, and intermediary organizations such as unions and local nonprofits (Holzer 2015). These programs may improve alignment between training programs and workforce needs, and the wraparound services they often provide may increase students' likelihood of completion. Research on sectoral employment programs, many located at community colleges, concluded that such programs lead to substantial earnings gains for participants (Katz et al. 2022). Additional positive evidence comes from the Trade Adjustment Act Community College and Career Training (TAACCCT) Initiative, which provided \$1.9 billion in grants to postsecondary institutions to enhance their workforce training capacity in the wake of the Great Recession (U.S. Department of Labor 2022a). A meta-analysis of quasi-experimental studies of TAACCCT programs concluded that the investments had overall positive effects on program completion as well as labor market outcomes (Blume et al. 2019).

Registered Apprenticeships provide another promising pathway to well-paying jobs. Registered Apprenticeships are formally approved by the U.S. Department of Labor or a State Apprenticeship Agency and are vetted to ensure that they align with industry needs in high-demand fields (U.S. Department of Labor 2022b). In this “earn and learn” model, workers get paid while training under the supervision of a mentor, typically for two to four years, and simultaneously receive supplementary classroom instruction. One study found that, for every \$1.00 invested, employers receive \$1.44 in direct and indirect benefits in the years during and after training an apprentice (Kuehn et al. 2022). Research on the causal impact of such programs is limited, though descriptive research

indicates workers experience strong wage growth in the year after finishing the program (Walton, Gardiner, and Barnow 2022). The Biden-Harris Administration has expanded Registered Apprenticeships through additional funding and efforts like the launch of the Apprenticeship Ambassador Initiative ([White House 2022](#)).

during the COVID-19 pandemic found that college students performed worse in courses that shifted or later remained online ([Bird, Castleman, and Lohner 2022](#); [Kofoed et al. 2021](#)). Online coursework appears to work least well for less academically prepared students, in both the for-profit sector ([Bettinger et al. 2017](#); [Bird, Castleman, and Lohner 2022](#)) and the community college sector ([Xu and Jaggars 2013](#)). Many existing postsecondary options that are fully online do not appear to improve students' employment opportunities or earnings relative to no postsecondary education ([Deming et al. 2016](#); [Hoxby 2018](#)). Online delivery of coursework may not even be less costly than in-person education ([Hemelt and Stange 2020](#)). This evidence suggests that online education is unlikely to fully address geographic barriers to high-quality programs.

Leveraging local institutions. New, high-value college opportunities could also be created closer to home and earlier in students' lives. Local community colleges are increasingly offering bachelor's degrees, which may reduce the distance some students need to travel for such programs. As of 2022, about 15 percent of community colleges offered at least one bachelor's degree program ([Love 2022](#)). Evidence is not yet available regarding the impact of such programs. "Dual enrollment" similarly brings college coursework closer by allowing high school students to take college-level courses, often delivered at the high school itself to minimize travel ([Marken, Gray, and Lewis 2013](#)). Enrollment in such coursework has grown rapidly in the last two decades ([An and Taylor 2019](#)). The limited evidence suggests that dual enrollment improves postsecondary trajectories. For instance, early exposure to dual-credit advanced algebra coursework increases the rigor of high school mathematics coursework taken and raises four-year college enrollment rates ([Hemelt, Schwartz, and Dynarski 2020](#)).

Early college high schools are a more intensive version of dual enrollment, in which high schools form partnerships with local colleges to offer students the opportunity to earn an associate degree or equivalent amounts of college credit at little cost to their families ([Webb 2014](#)). Students admitted into early college high schools are more likely to earn college degrees and earn them faster than similar students denied admission ([Edmunds et al. 2020](#); [Song et al. 2021](#)). Expansion of dual enrollment and early college

opportunities should be done with equity considerations featured prominently. Dual enrollment students are more likely to be white, high income, and high achieving than the typical student, likely because higher-income schools are more likely to offer dual enrollment and higher-income students at a given high school are more likely to enroll in such coursework (An and Taylor 2019). Promoting equitable access will require proactive planning and outreach by policymakers and educators.

Conclusion

The diversity and flexibility of the United States' system of postsecondary education are among its greatest assets, and part of what makes it unique globally. These features also introduce complexity and risks for prospective students. In a simpler marketplace, choice and competition might be sufficient to promote quality improvements and to drive bad options out of business. But investing in postsecondary education is not like buying groceries or even a car. Most students are limited geographically, leaving them with a narrow set of options, and the choices they do have may be hard to fully evaluate and compare in advance. Further, public institutions are often constrained in their ability to meet demand, while less-constrained private, for-profit institutions have poor track records with respect to student outcomes. Students today rely more heavily on student loans to pay for college than did their counterparts a generation ago, increasing the risk of financial hardship for those who attend college but leave without gaining valuable skills.

An examination of institution-oriented policy options reveals three major themes. First, a variety of institutional programs—many of them pioneered by community colleges—have demonstrated great potential for improving student outcomes. Many of these promising programs require additional resources to expand, and the Federal Government can both invest directly in postsecondary institutions and encourage States to increase their own investments. Second, discouraging the proliferation of low-quality postsecondary options is important in limiting the potential for students to make enrollment choices with low or negative returns. Finally, policymakers should continue exploring ways to address geographic barriers to college access through programs such as dual enrollment, early college, and community college baccalaureate degrees.

Robust Federal and State efforts to improve the affordability of college have made progress in recent decades in expanding access to college. Yet, as this chapter has documented, making a good educational investment requires attention to both price and quality. Institution-oriented policies can help the U.S. postsecondary system build on its strengths, and ensure that all

students who aspire to college have access to options that are both affordable and of high quality.