

CBO

Federal Aid for Postsecondary Students



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Notes

Numbers in the text, tables, and figures may not add up to totals because of rounding.

Unless otherwise specified, all years referred to in this report are federal fiscal years, which run from October 1 to September 30 and are designated by the calendar year in which they end.

Unless otherwise specified, all spending amounts are reported in nominal (current year) dollars.

In this report, “higher education” and “postsecondary education” are used interchangeably and refer to instructional programs primarily for students who have completed high school or the equivalent. They include academic, vocational, and continuing professional education programs.



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Federal Aid for Postsecondary Students

Summary

The federal government supports postsecondary students through loan programs such as the William D. Ford Federal Direct Loan Program, grants such as those made by the Federal Pell Grant Program, and tax preferences such as the American Opportunity Tax Credit (AOTC). The amounts of support have varied in recent years, but in fiscal year 2017, the federal government financed roughly \$100 billion in student loans and provided directly to students and their families \$30 billion in need-based grants and \$30 billion in income tax preferences, according to estimates by the Congressional Budget Office and the staff of the Joint Committee on Taxation (JCT).

Higher education provides many benefits to students, including higher earnings, and to society, including increased tax receipts and reduced dependence on government assistance. But, in CBO's view, there is no consensus on whether the current suite of federal programs and tax credits, or the amount of money devoted to them, provides too much or too little financial support for students. In this report, CBO examines some reasons why the federal government offers financial support to students and how the current system helps alleviate some of the challenges students encounter. CBO also considers several potential approaches to changing federal support.

Why Does the Federal Government Offer Student Aid?

Several barriers may deter some students from obtaining education that would benefit them and society as a whole:

- **Students May Lack Access to Financing.** Private loans for higher education can be expensive or unavailable, even when the associated degree would be expected to substantially increase the student's income. That circumstance especially applies for students and families with a limited credit history or collateral.
- **Benefits Are Uncertain.** Higher education is a risky investment. Students may depart college without

completing a degree, leaving them with expenses to repay and little financial benefit from their schooling. In addition, whether or not they complete a degree, students cannot predict their future earnings with certainty. Those risks may deter some people from pursuing higher education.

- **Some Benefits Do Not Accrue to the Student.** One person's education may benefit others through higher taxes paid and lower rates of dependency, examples of what economists call positive externalities. But students may not incorporate those externalities in their decisions, so they may obtain less education than would be beneficial for society.

What Aid Does the Government Offer and What Is Its Impact?

The federal government offers loans, grants, and tax credits that address the economic barriers that students face.

Loans. Federal student loans provide financing to students and their families. The funds that loans provide probably encourage some students to acquire more or better education than they otherwise would. Yet many students still report that they cannot afford to enroll in college immediately after high school, suggesting that a lack of financing continues to impede some students' access to higher education. And though federal student loans increase some students' schooling options, the loans may increase students' financial uncertainty because they generally must be repaid regardless of the students' financial position after leaving school. To mitigate that uncertainty, the government offers repayment plans tied to eligible borrowers' future income.

Grants. Grants subsidize higher education for students from low-income families. As a result, students receiving grants act as if they incorporated into their decisions some of the benefits that their education may provide for society. By reducing the cost, grants also reduce the amount that students must finance and reduce their uncertainty about whether their income after leaving school will be too low to justify the costs of school. However,

grants may not result in students obtaining more or better education because students generally do not learn about their eligibility for or the size of their Pell grant until after they have applied to schools. Furthermore, the effective subsidy that the federal grants provide may be lessened if schools reduce their institutional grants to federal grant recipients. In addition, eligible students may find the application process cumbersome, which may discourage them from applying for a grant.

Tax Preferences. Tax preferences such as credits, deductions, and exclusions also subsidize education for students, including those whose family income is too high to qualify for federal grants. Like grants, tax preferences probably reduce the extent to which a lack of financing, uncertainty, and a failure to account for externalities present barriers to higher education. However, tax preferences probably have an even smaller effect on students' behavior than grants, because the preferences are delivered well after decisions about school are made.

What Are Some Approaches to Changing Student Aid?

Policymakers are considering a variety of changes to federal student aid programs, so to assist them, CBO examined approaches that would address the three barriers to higher education described above. The approaches entail trade-offs between their effects on enrollment rates, completion rates, and the financial risk to which students are exposed. The approaches would affect federal costs as well, although CBO has not provided specific budgetary estimates. In brief, the approaches would do these things:

- **Change How Much Financing Is Available.** Approaches such as raising or lowering the borrowing limits on direct student loans or selling subsidized insurance to private lenders would change the amount of credit available to students and the amount they invest in higher education. Although increasing loan limits would provide more financing, it would also increase the risk that some students borrow more money than they are able to repay. Reducing loan limits would restrict access to financing but decrease that risk. Selling subsidized insurance to private lenders would have a similar impact to raising the borrowing limits on direct loans.
- **Change the Uncertainty That Students Face.** Approaches such as tightening the academic standards required for students to be eligible for federal support, tying the availability of loans at a school to its graduation rate, or giving the private sector greater incentive to guide students to financially rewarding

programs could reduce the risk that some students would not be able to repay their loans. Alternatively, eliminating a program that forgives student debt after a certain amount of time would increase the risk that some students would not be able to repay their loans. However, that approach would reduce the cost to taxpayers.

- **Change Subsidies.** Approaches such as increasing the maximum Pell grant or providing additional grants to high-performing students from low-income families would induce students to act as if they incorporated more external benefits into their decisions about school. Those approaches would increase the fraction of students from low-income families who completed their degrees and would reduce the extent to which those students needed financing otherwise. Those kinds of increases in subsidies would also add costs to the federal budget. Changing subsidies by eliminating certain tax credits, which mostly go to middle-income students, would increase revenues for the federal government but slightly lessen the incentives for those students to obtain higher education.

The Motivations for Federal Student Aid

Economists often cite three financial impediments students face as motivations for federal support for postsecondary students. One, some students would be unable to finance higher education without federal aid. Two, some students would forgo the education because the prospective financial benefits, net of costs, are too uncertain. By mitigating that risk, federal support can encourage students to pursue higher education who otherwise would not do so. And three, some students may deem an education not worth the cost, even if society also stands to gain by that education. Federal subsidies in the form of grants or tax preferences can more closely align the incentives of students with the interests of society.

Private Financing Is Limited

Higher education is expensive, including costs related to tuition, computers, textbooks, and living expenses. Even if students are employed, they may earn less money while in school than they otherwise would because they have less time to work for pay. Students and their families can and do save for education, but fully funding education out of savings and current income may be difficult for some students. The result is that even students with family support may need loans to help pay for school. Private financing can help cover costs, but such financing is fairly limited, in part because many students have no

credit history and cannot provide collateral.¹ Existing private lenders restrict their loans to the best credit risks or do not provide student loans at all.²

The Returns on an Education Are Uncertain

On average, each additional year of education after high school increases students' subsequent earnings.³ However, the economic returns that any given student will reap from higher education are uncertain for several reasons. It is hard for students to predict whether they will complete a degree, and students who do not graduate do not receive the same boost to earnings as students who do complete a degree. Even students who earn a degree will not know exactly how much their education will boost their earnings.

Students May Not Complete a Degree. The returns from higher education are uncertain in part because many students do not graduate. Among students who first enrolled in a four-year college full time in 2009, about 40 percent had not graduated six years later.⁴ Furthermore, among all students, regardless of program, who enrolled in the 2003-2004 academic year, one-half had not attained a credential of any type within six years

(see Figure 1). Some of those students will ultimately complete their schooling, and some may not have intended to finish, but even so, those data suggest that many students have some uncertainty about whether or not they will finish a degree.

The possibility of not graduating presents a significant financial risk because the earnings of those who complete a degree are higher, on average, than the earnings of those who nearly complete a degree.⁵ Uncertainty about completing a degree is likely to be largest when students are considering whether to apply to a postsecondary school. Some of that uncertainty is resolved as students progress through their program.

Whether a student will complete a degree is affected by a number of factors:

- Students who did well in high school are more likely to complete a program and more likely to earn a bachelor's degree, as opposed to an associate's degree or certificate. More than 85 percent of students with a grade point average over 3.5 (on a 4-point scale) in high school completed an undergraduate credential of some kind, whereas fewer than 30 percent of those with a grade point average below 2.0 did so (see Table 1).
- Students who are the first in their family to go to college are less likely to complete a degree than students whose parents went to college.
- Students from low-income families are more likely than students from high-income families to drop out of school in response to adverse health events or family stressors such as divorce or the death of a parent.
- Older students—who often have more responsibilities outside of school—complete programs at lower rates than younger students.⁶

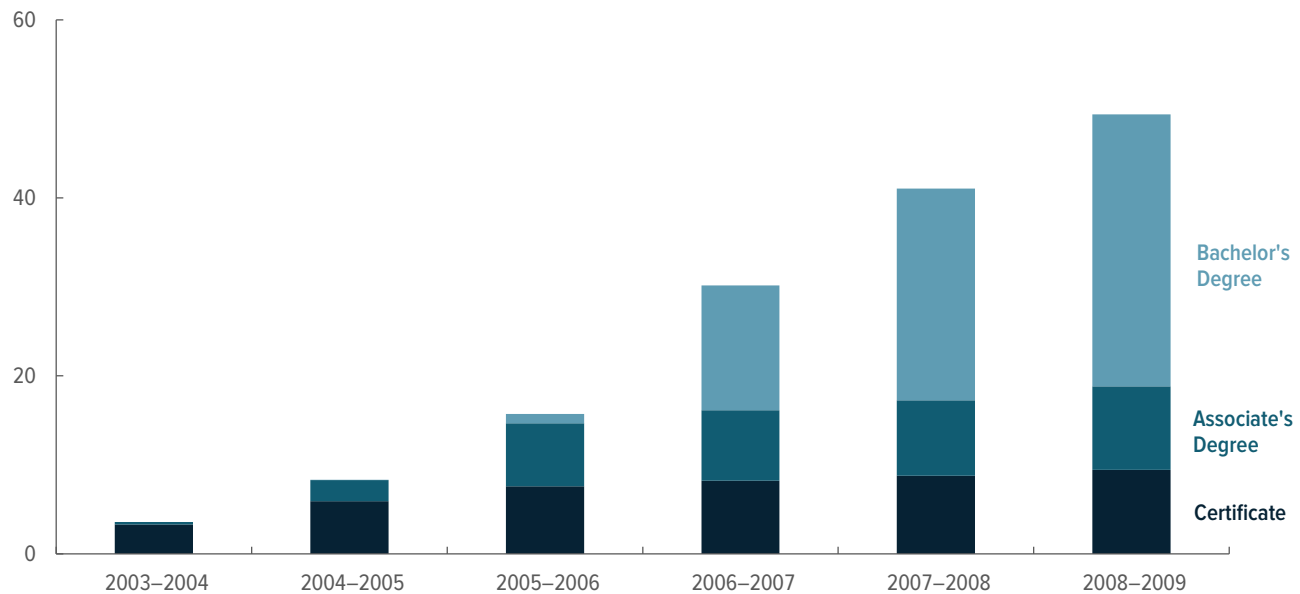
Graduation rates also vary among institutions. Completion rates at four-year private, nonprofit institutions that are selective are near 90 percent. However,

1. Before 2010, most student loans were funded in the private market through the Federal Family Education Loan Program. The federal government set the terms of loans in that program and guaranteed the repayment of the loan and interest. The Congress eliminated new lending in the program in 2010. The absence of federal guarantees since then has substantially reduced the availability of private financing for education.
2. Private loans for car or home purchases are secured by physical collateral that the lender can repossess if the borrower fails to repay. Loans made in the consumer credit market (such as credit extended through credit cards) are not typically secured by physical collateral. But those loans are usually for smaller amounts, for shorter durations, and at much higher interest rates than typically observed in the private student loan market.
3. For a general review of the financial returns on education, see David Card, "The Causal Effect of Education on Earnings," in Orley Ashenfelter and David Card, eds., *Handbook of Labor Economics*, vol. 3A (Elsevier, 1999), pp. 1801–1860. For a more recent review of the returns on higher education, see Philip Oreopoulos and Uros Petronijevic, "Making College Worth It: A Review of the Returns to Higher Education," *The Future of Children*, vol. 23, no. 1 (Spring 2013), pp. 41–65, <http://muse.jhu.edu/article/508220>.
4. Department of Education, National Center for Education Statistics, "Digest of Education Statistics: 2016," Tables 326.10 and 326.20, <https://go.usa.gov/xQpKF>. Those statistics miss some students who transferred and completed their program at other institutions, and they also do not include students who started part time and were significantly less likely than full-time students to complete their program.

5. For a discussion, see Christopher Jepsen, Kenneth Troske, and Paul Coomes, "The Labor-Market Returns to Community College Degrees, Diplomas, and Certificates," *Journal of Labor Economics*, vol. 32, no. 1 (January 2014), pp. 95–121, <http://doi.org/10.1086/671809>.
6. For a discussion of factors affecting completion, see Sara Goldrick-Rab, *Paying the Price* (University of Chicago Press, 2016).

Figure 1.

Percentage of Students Who Completed a Postsecondary Program After Their Initial Enrollment in the 2003–2004 Academic Year, by Year



Source: Congressional Budget Office, using data from the Department of Education.

the rates at which students complete degrees at two-year public colleges (which typically have an open-door admissions policy) tend to be much lower, around 20 percent.⁷ Much of the variability is probably because of the different levels of academic preparation among the students who attend the institutions. But the institutions themselves also are likely to play a role, partly because they vary in the level of support they provide to students.⁸

Future Earnings May Not Cover the Cost of a Degree.

Even among students who graduate, the returns from higher education are uncertain because future earnings are unpredictable (see Figure 2). That uncertainty arises from at least four sources:

- **Major.** Some majors will lead to higher returns than others. Students who receive an engineering degree,

for example, have higher earnings on average than students who earn a history degree.⁹ When students first enroll, they may be uncertain about what their major will be, and when they do choose a major, the decision may not be based on likely future earnings. Moreover, students may change majors. For example, among undergraduates who initially enrolled in an associate's or bachelor's degree program in the 2011–2012 academic year, about 30 percent who declared a major changed it within three years.¹⁰

- **Specialty.** Even the earnings of students who never change their major and who work in the same occupation that they intended to when they first enrolled are uncertain. Earnings vary considerably within

7. Department of Education, National Center for Education Statistics, “Digest of Education Statistics: 2016,” Tables 326.10 and 326.20, <https://go.usa.gov/xQpKF>.

8. See, for example, David J. Deming and Christopher R. Walters, “The Impact of State Budget Cuts on U.S. Postsecondary Attainment” (draft, Harvard University, February 2018), https://scholar.harvard.edu/files/ddeming/files/dw_feb2018.pdf (727 KB).

9. Anthony P. Carnevale, Ban Cheah, and Andrew R. Hanson, *The Economic Value of College Majors* (Georgetown University, 2015), <https://cew.georgetown.edu/cew-reports/valueofcollegemajors/>.

10. Department of Education, National Center for Education Statistics, *Data Point: Beginning College Students Who Change Their Majors Within 3 Years of Enrollment*, NCES 2018-434 (December 2017), <https://nces.ed.gov/pubs2018/2018434.pdf> (310 KB).

Table 1.

Educational Status of 2004 High School Graduates Eight Years Later, by GPA

Percentage

High School GPA	Highest Program Completed					Total
	Did Not Complete A Program	Certificate	Associate's Degree	Bachelor's Degree	Graduate Certificate or Degree	
2.00 or Less	71	15	7	6	0	100
2.01–3.00	53	12	12	20	3	100
3.01–3.50	30	9	9	42	10	100
3.51–4.00	14	3	6	54	24	100
All	41	10	9	31	9	100

Source: Congressional Budget Office, using data from Department of Education.

GPA = grade point average.

many occupations. For instance, a psychiatric nurse is typically paid more than a dialysis nurse.¹¹

- **Fluctuations in earnings.** The future earnings of students who choose a job that is expected to pay well are also uncertain. Earnings in any particular occupation vary over time as the supply of workers and demand for the occupation change. Macroeconomic circumstances also can affect earnings. Students who graduate in economic booms tend to have higher lifetime earnings than those who graduate in recessions.¹²
- **Family situation and health.** Earnings can be affected by a person's family situation and health, but those factors are difficult for students, or anyone, to predict.

If the financial returns from higher education, net of costs, were always positive, then uncertainty about the size of those returns would not deter many students. But the returns are not always positive. Students may spend or borrow a substantial amount of money for an education that does not ultimately improve their earnings. Students whose grades or family situation already make them less inclined to seek a degree may be particularly concerned about the possibility of negative returns. Thus, unpredictable earnings may deter some students

from schooling that, on average, would provide positive returns, net of costs, to both those students and society.

Subsidies for Education Can Benefit Society Beyond Their Effects on Students

As noted previously, some benefits of students' education accrue to taxpayers and to the economy. Because of that, subsidies, such as grants and tax preferences, can benefit society. Without subsidies, students may not incorporate the benefits to other people into their decisions and will tend to pursue less education than they would if they received subsidies.

One person's education can benefit other people in several ways. An educated worker may increase the productivity of other people, perhaps by contributing to the creation and implementation of new ideas that raise general productivity.¹³ In addition, higher education benefits taxpayers and the federal budget because people with more education earn more and, consequently, tend to pay more in taxes and to receive fewer means-tested benefits. Finally, exposure to higher education is likely to lead people to commit fewer crimes and to be more

11. See, for example, "31 Best Specialty Career Choices for Nurses," *Nurse Journal* (accessed March 19, 2018), <https://tinyurl.com/y7v855ud>.

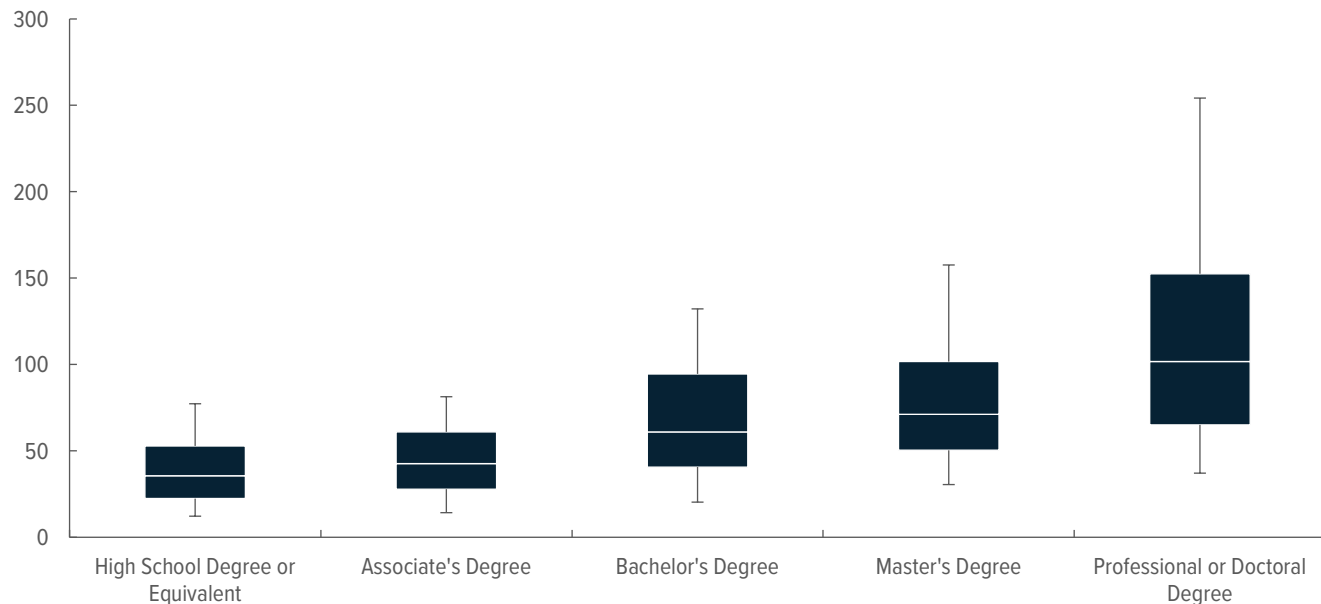
12. Lisa B. Kahn, "The Long-Term Labor Market Consequences of Graduating From College in a Bad Economy," *Labour Economics*, vol. 17, no. 2 (April 2010), pp. 303–316, <http://doi.org/10.1016/j.labec0.2009.09.002>.

13. One researcher found that firms in cities with a relatively large share of workers with a college degree are more productive than firms in other cities. See Enrico Moretti, "Workers' Education, Spillovers, and Productivity: Evidence From Plant-Level Production Functions," *American Economic Review*, vol. 94, no. 3 (June 2004), pp. 656–690, www.jstor.org/stable/3592947.

Figure 2.

Distribution of Annual Earnings in 2016 Among People Ages 35 to 44, by Highest Degree Attained

Thousands of 2017 Dollars



Source: Congressional Budget Office, using data from the Census Bureau.

The horizontal line in the middle of each shaded box indicates the median or 50th percentile for earnings; the top and bottom of the box mark the 75th and 25th percentiles, respectively; and the whiskers above and below the box mark the 90th and 10th percentiles, respectively.

The earnings distributions include people with negative earnings (due to business losses). People with no earnings are excluded.

civic-minded.¹⁴ However, those benefits may not figure in students' decisions.

Suppose, for example, that a college degree would cost a student \$100,000 and raise his or her lifetime earnings by \$90,000. Absent some other benefit, the student would not invest the time and money to acquire the college degree. But suppose that the student's degree would

provide \$30,000 in benefits to other people, in the form of higher earnings, reduced exposure to crime, and other benefits. The education would still not be in the financial interest of the student, but the schooling would now be in the best interest of society as a whole. A subsidy—in an amount between \$10,000 and \$30,000 in this case—might motivate the student to acquire the education and be in the best interest of society, although the ultimate effects on the economy and on the federal budget would depend on how that subsidy was financed.¹⁵

Federal Student Aid and Its Effects

The federal government provides support for higher education through loans, grants, and tax preferences (see Box 1). In 2017, the federal government originated \$94 billion in student loans. Grants (primarily Pell grants) to students from low-income families totaled an estimated

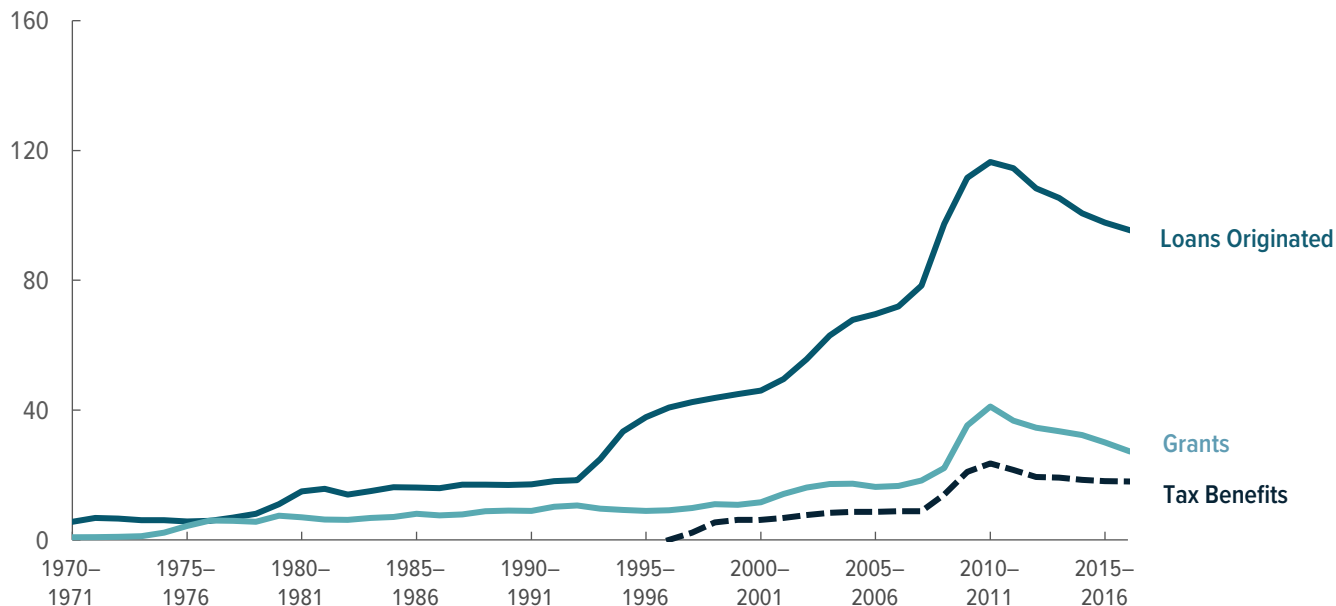
14. For evidence on the causal effect of education on crime, see Stephen Machin, Olivier Marie, and Sunčica Vujić, "The Crime Reducing Effect of Education," *The Economic Journal*, vol. 121, no. 552 (May 2011), pp. 463–484, <https://doi.org/10.1111/j.1468-0297.2011.02430.x>. For evidence on the causal effects of education on citizenship, see Kevin Milligan, Enrico Moretti, and Philip Oreopoulos, "Does Education Improve Citizenship? Evidence From the United States and the United Kingdom," *Journal of Public Economics*, vol. 88, no. 9 (August 2004), pp. 1667–1695, <http://doi.org/10.1016/j.jpubec0.2003.10.005>; and Thomas S. Dee, "Are There Civic Returns to Education?" *Journal of Public Economics*, vol. 88, no. 9 (August 2004), pp. 1697–1720, <http://doi.org/10.1016/j.jpubec0.2003.11.002>.

15. Congressional Budget Office, *The Macroeconomic and Budgetary Effects of Federal Investment* (June 2016), www.cbo.gov/publication/51628.

Figure 3.

Trends in Federal Aid for Postsecondary Students, by Academic Year

Billions of 2017 Dollars



Source: Congressional Budget Office, using data from the College Board.

Loans include Stafford loans, both subsidized and unsubsidized, and PLUS loans to both parents and graduate students. They do not include consolidation loans.

Grants include Pell grants, Federal Supplemental Educational Opportunity Grants, Leveraging Educational Assistance Partnership grants, Academic Competitiveness Grants, and National Science and Math Access to Retain Talent grants. They do not include GI Bill or Post 9/11 GI Bill grants.

Tax benefits include tax credits and an estimate of the value of tax deductions for postsecondary education expenses. Those benefits, shown in this figure, total \$18 billion in the 2016-2017 academic year. Tax preferences amounting to \$30 billion in fiscal year 2017, as reported by the staff of the Joint Committee on Taxation and shown elsewhere in this report, also include tax exemptions, exclusions, and the value of tax deductions for student loan interest. CBO did not have historical data on the total amount of those tax preferences; for instance historical data on tax exclusions are not reported by the Internal Revenue Service.

\$30 billion. Tax preferences (the main form of which are tax credits) amounted to \$30 billion, according to JCT.

Federal aid to students has grown in recent decades (see Figure 3). However, state and local governments reduced their higher education spending per student between the 2000–2001 and 2011–2012 academic years, and average tuition has risen in real terms since the early 1980s.¹⁶ Those trends have tended to offset the effect that increases in federal aid would otherwise have had on the cost of education for students.

Loans, grants, and tax preferences address students' financial barriers to higher education in different ways. Federal direct loans provide students with access to financing, although they also exacerbate financial risk because loans generally must be repaid whether or not the schooling boosts students' later earnings. Certain loan repayment plans are structured to address some of that financial risk. Federal subsidies through grants and tax preferences encourage students to acquire education and also reduce their need for loans, along with the attendant risk.

Enrollment rates and graduation rates have also increased in recent decades (see Box 2 on page 11). The increased demand for higher education is largely due to the increase in the average financial returns on a college degree, but increased federal support may also be partly

16. Jennifer Ma and others, *Trends in College Pricing 2017*, Figure 12B (College Board, 2017), <https://trends.collegeboard.org/college-pricing>, and Department of Education, National Center for Education Statistics, "Digest of Education Statistics: 2016," Table 330.10, <https://go.usa.gov/xQpKF>.

Box 1.

Types of Federal Student Aid

The federal government provides support for higher education through loans, grants, and tax preferences. A variety of eligibility requirements, limits to aid, and other terms affect how they operate.

Loans

The federal direct loan program offers three kinds of loans: subsidized Stafford, unsubsidized Stafford, and PLUS loans (originally Parent Loans for Undergraduate Students).¹ Subsidized Stafford loans are made only to undergraduate students and do not accumulate interest when the borrower is in school or during other deferment periods. Subsidized loans are available only to students with unmet financial need. Unsubsidized Stafford loans are made to both undergraduate and graduate students and accrue interest at all times. PLUS loans are made to graduate students and to parents of dependent undergraduates. PLUS loans accrue interest at all times and have higher fees and interest rates than Stafford loans.

The amount a student can borrow depends on whether he or she is an undergraduate or graduate student and on whether he or she is considered a dependent student by the Department of Education. Federal loans to undergraduate students have lower limits than loans to graduate students. Neither can exceed the cost of attendance (tuition plus living expenses) minus grants. The total amount dependent students may borrow in subsidized and unsubsidized loans varies by year of school, reaching \$7,500 per year for juniors and seniors, with a maximum of \$31,000 overall. Students who meet certain criteria, including those who are age 24 or older, married, or working on a postbaccalaureate degree, are considered independent. For them, the maximum loan ranges from \$9,500 to \$12,500, depending on the year of school, with an undergraduate career maximum of \$57,500. Graduate students and parents of undergraduates can borrow much more than undergraduate students. Graduate students can borrow a maximum of \$20,500 per year in unsubsidized student loans. Those students and parents of dependent students can borrow up to the full cost of attendance through the PLUS loan program, minus any grants and other loans the student has received.

There is no underwriting for Stafford loans and little underwriting for PLUS loans; the amount a student may borrow does not

depend on his or her academic record, program of study, or other factors that might affect the student's ability to repay the borrowed amount. The risk the federal government assumes because of its limited underwriting is partially offset by the collection tools (such as garnishing earnings and Social Security checks) that are available to the federal government but not to private lenders.

In general, students must be enrolled in a certificate or degree program at an accredited college, university, or vocational school to get a loan. A school will lose its eligibility to participate in the federal aid programs if, for three consecutive years, more than 30 percent of its students default on their loans within three years of leaving school. For-profit schools and vocational certificate programs have additional requirements based on comparisons of the student loan debt and earnings after leaving school of their recent graduates (or students who did not complete the program).²

Broadly speaking, there are two ways in which people pay back their student loans. Many borrowers pay a fixed amount every month for 10 years, though borrowers can defer payments while in school or in the military. Another option—which has become more widely used over the past several years—is an income-driven repayment (IDR) plan. Such plans allow borrowers to make smaller payments when their income is low relative to their loan balance. Borrowers who make the minimum payment amounts required by IDR plans will generally pay more in interest over the course of the loan than those who make larger payments. However, IDR plans also forgive any remaining balances after a certain period, generally 20 or 25 years of payments, and those employed in public service jobs can have their loans forgiven after as few as 10 years of payments.

Grants

Pell grants are designed to go to students in low-income families, and grant amounts are based on a student's family income and dependency status, not on a student's academic ability or future job prospects. Grants do not have to be repaid. For

1. For more information on the student loan programs, see Congressional Budget Office, *Options to Change Interest Rates and Other Terms on Student Loans* (June 2013), www.cbo.gov/publication/44318.

2. Those standards are called gainful employment regulations, and their status is in flux as a result of court challenges and renewed rulemaking by the Department of Education. For a description, see Department of Education, *Fact Sheet: Department of Education Announces Release of New Program-Level Gainful Employment Earnings Data* (November 2016), <https://go.usa.gov/xnHtn> (PDF, 428 KB).

Box 1.

Continued

Types of Federal Student Aid

the 2017–2018 academic year, the maximum Pell grant is just under \$6,000, less than the full cost of attendance for most students. Pell grants are available only to undergraduates and are roughly evenly split between dependent and independent students.³

Like federal loans, grants can be used at accredited colleges, universities, and vocational schools, including those that primarily offer online programs. Students must make “satisfactory academic progress,” as defined by their school within a framework prescribed by the Department of Education, to remain eligible to receive grants. Students may not receive more than the equivalent of six full academic years of Pell grants.⁴

Tax Preferences

Tax preferences—consisting of tax credits for educational expenses, tax exclusions for tax-preferred savings accounts and for employer-paid tuition, and certain deductions and exemptions—provide a subsidy for education by reducing the federal income tax liability of students and their families. Some tax preferences are restricted to taxpayers with low or moderate income. Like grants and loans, tax preferences do not depend on a student’s academic ability or program.

Credits. Tax credits allow some spending to be deducted directly from taxpayers’ tax liability. In some cases, tax credits are refundable, allowing taxpayers to receive some of the credit even if they do not have any income tax to offset; as a result, those taxpayers receive money from the government. The two tax credits for higher education are the American Opportunity Tax Credit (AOTC) and the Lifetime Learning Credit (LLC). The AOTC is more generous and provides up to \$2,500 each year per student for expenses incurred during each of a student’s first four years of higher education; some of that credit is refundable, and it is phased out at higher incomes. The LLC provides up to \$2,000 per tax return for

postsecondary expenses. Like the AOTC, the LLC cannot be claimed by people with income above certain limits. Unlike the AOTC, it is nonrefundable and can be claimed for an unlimited number of years. A taxpayer may claim an AOTC for each eligible student for whom he or she pays qualified educational expenses but may claim only one LLC on a tax return in a given year.

Exclusions. Tax exclusions allow some forms of income to be excluded from federal income tax calculations. Those forms of income include student income from scholarships and fellowships and, separately, investment income from certain savings accounts dedicated to funding higher education. For instance, taxpayers can make after-tax contributions to college savings plans such as qualified tuition plans (also known as 529 plans), in which investment income is excluded from taxation when used for qualified postsecondary expenses. And under section 127 of the tax code, \$5,250 of employer-funded education assistance for employees can be excluded from income taxation. Employers can pay directly for their employees’ schooling expenses without the workers’ incurring income and payroll taxes.

Deductions and Exemptions. Up to \$2,500 in interest payments for student loans can be deducted from income on federal tax returns. Parents may also claim exemptions for children between the ages of 19 and 23 if they are full-time students, which lowers taxes for families with students in that age range.

Other tax preferences—such as the deductibility of charitable gifts to nonprofit postsecondary institutions—do not provide benefits to students and their families directly but subsidize educational institutions. Although those tax expenditures are closely associated with higher education, the extent to which the benefits ultimately result in lower costs of attendance for students is unclear.⁵

3. Department of Education, *Federal Pell Grant Program 2015–2016 End of Year Report*, Table 19, <https://go.usa.gov/xQKHQ>.

4. Department of Education, Office of Federal Student Aid, “Calculating Pell Grant Lifetime Eligibility Used” (accessed April 16, 2018), <https://go.usa.gov/xnHtU>.

5. Tax preferences are generally referred to as tax expenditures because, like government spending programs, they provide financial assistance for particular activities as well as to certain entities or groups of people.

responsible. The effects of loans, grants, and tax preferences on enrollment and graduation rates vary. Some programs appear to increase those rates, whereas other programs possibly have no effect at all.

Federal aid programs typically affect students and their families differently depending on the family's income. Although each program can benefit students from across the income distribution, grants generally support low-income families, tax credits tend to benefit middle-income taxpayers, and tax exclusions tend to benefit those with higher income.¹⁷

Loans

Federal student loans constitute the largest federal source of funds for postsecondary education. They encourage some students to acquire more education than they would with private financing alone, and they sometimes include repayment options for managing the risk of taking on the resulting debt.

Borrowing and Budgetary Effects. A significant share of students fund some portion of their postsecondary education with loans. That share has increased over time. Federal student loans were used by 37 percent of undergraduate students and 40 percent of graduate students in the 2015–2016 academic year. In contrast, the share of all undergraduates who borrowed to pay for their education in the 1989–1990 academic year was 19 percent.¹⁸

The largest student loan balances are typically owed by students who have spent a number of years in graduate school. In the 2015–2016 academic year, undergraduate students had borrowed a total of about \$19,000, on average, to pay for a postsecondary education, whereas graduate students had borrowed an average of \$63,000 (including what they had borrowed for their undergraduate education). The average amount borrowed in a single year among undergraduates who borrowed in 2015–2016 ranged from \$7,100 for freshman to \$9,200 for seniors (see Table 2). Federal student loans go to families throughout the income distribution. Unsubsidized

student loans are available to students regardless of income and subsidized loans are made to undergraduate students whose families have unmet financial need.¹⁹

Whether student loans result in savings or costs to the federal budget can depend on which of two approaches is used to estimate the budgetary effects. For the purpose of estimating the budgetary baseline and the effects of proposed policies, CBO is required by law to use the procedures prescribed by the Federal Credit Reform Act of 1990 (FCRA). However, the budget resolution for fiscal year 2018 requires that any CBO cost estimate of a student loan provision also include an estimate formed on a fair-value basis.²⁰ Under that approach, estimates of budgetary effects are based on how the private market would value loans. CBO estimates that the direct loan program will generate about \$34 billion in savings on a FCRA basis and about \$211 billion in costs on a fair-value basis over the 2018–2028 period.²¹

Effects on Enrollment and Graduation. It is difficult to estimate the direct effect of the federal loan program on

17. For more information, see Congressional Budget Office, *Distribution of Federal Support for Students Pursuing Higher Education in 2016* (June 2018), www.cbo.gov/publication/53732.

18. Department of Education, National Center for Education Statistics, *Trends in Undergraduate Borrowing: Federal Student Loans in 1989–90, 1992–93, and 1995–96*, NCES 2000-151 (March 2000), <https://go.usa.gov/xUqP5>.

19. Unmet financial need is the cost of attendance minus the sum of expected family contributions (as determined by the Department of Education), federal grants, and institutional grants.

20. Budget resolution for fiscal year 2018, H. Con. Res. 71, 115th Cong. (2017) (adopted). The fair-value approach incorporates the cost of market risk for the government when issuing student loans. Under FCRA, the cost of direct loans is estimated by discounting the expected cash flows at Treasury rates. The FCRA method aligns with the Treasury's cost of borrowing but implicitly excludes the cost of market risk—the component of risk that remains even after a portfolio has been diversified as much as possible. In the case of student loans, the risk arises because borrowers tend to default at higher rates when the economy is weak and unemployment rises. Investors value income from investments such as student loans more when the economy is weak and incomes are relatively low. As a result, investors would assign a higher cost to a given loss that occurs during an economic downturn than to the same size loss in good economic conditions. The cost of market risk captures those aggregate assessments of the value of losses in bad times relative to good times. Investors in assets that have market risk expect, as a reward for the risk that they bear, to earn a rate of return that is higher than the Treasury rate and hence would discount the projected cash flows at a rate higher than the Treasury rate.

21. Congressional Budget Office, “Details About Baseline Projections for Selected Programs—Student Loan Programs” (April 2018), www.cbo.gov/publication/51310. The figures provided in this report exclude administrative costs.

Box 2.**Changes in Enrollment and Completion Rates**

There has been an increase in the percentage of high school students obtaining at least some higher education. For example, among high school graduates who were 30 years of age in 2017, 72 percent had attended at least some college, an increase of 15 percentage points from the early 1990s. Of those who had attended college, 57 percent had obtained at least a bachelor's degree, whereas 47 percent had done so in the early 1990s.¹ Some of the students who do not obtain a bachelor's degree finish shorter programs leading to an associate's degree or a certificate in a vocational field.

Some students do not complete their program or do not complete it in a timely fashion. For example, among students who initially enrolled in a four-year college full time in 2009, only 59 percent had graduated six years later. Among students who initially enrolled full time in a two-year college in 2012, just 29 percent graduated within three years (or completed a shorter program within 150 percent of the normal time for that program).² Students who do not complete a program in a

timely manner benefit less from their education than those who do, in part because they pay more tuition and other expenses and forgo earnings for a longer period. However, higher education may be worthwhile for students even if the result is not a degree or certificate.³

There are many possible reasons that students may take extra time to finish a program or fail to complete it at all. Some students may leave school for financial reasons or because they were poorly prepared for the program in which they enrolled. Schools may lack the resources to help students successfully navigate the opportunities and challenges at their institutions.⁴

1. CBO's calculations are based on the Census Bureau's March Current Population Surveys from 1992 through 2017.

2. Department of Education, National Center for Education Statistics, "Digest of Education Statistics: 2016," Tables 326.10 and 326.20,

<https://go.usa.gov/xQpKF>. Those statistics miss some students who transferred and completed their program at other institutions, and they also do not include students who started part time and were significantly less likely than full-time students to complete their program.

3. Charles Manski, "Schooling as Experimentation: A Reappraisal of the Postsecondary Dropout Phenomenon," *Economics of Education Review*, vol. 8, no. 4 (1989), pp. 305–312, [https://doi.org/10.1016/0272-7757\(89\)90016-2](https://doi.org/10.1016/0272-7757(89)90016-2).

4. David J. Deming and Christopher R. Walters, "The Impact of State Budget Cuts on U.S. Postsecondary Attainment" (draft, Harvard University, February 2018), https://scholar.harvard.edu/files/ddeming/files/dw_feb2018.pdf (727 KB).

enrollment.²² A few studies have indirectly done so by examining the relationship between family income and enrollment rates. Studies using older data suggest that more student loans would not increase overall educational attainment. One study based on data from the early 1980s concluded that the amount of a family's income did not strongly affect college enrollment among students with similar high school achievement, suggesting that a lack of credit was not an impediment to enrollment for most students at that time.²³ Another study

concluded that if access to student loans was increased, then current students would take out more loans but few new students would enroll.²⁴ However, studies using more recent data suggest that more student loans may in fact boost enrollment. One study concluded that family income had a more significant effect on enrollment in the 1990s than it had in the 1980s. That finding suggests that borrowing constraints have become more important, perhaps because the average price of college has increased.²⁵

22. For an assessment of the evidence on the importance of borrowing constraints, see Lance Lochner and Alexander Monge-Naranjo, *Student Loans and Repayment: Theory, Evidence, and Policy*, Working Paper 20849 (National Bureau of Economic Research, January 2015), www.nber.org/papers/w20849.

23. Stephen V. Cameron and James J. Heckman, "Life Cycle Schooling and Dynamic Selection Bias: Models and Evidence for Five Cohorts of American Males," *Journal of Political Economy*, vol. 106, no. 2 (April 1998), pp. 262–333, <http://doi.org/10.1086/250010>.

24. Michael P. Keane and Kenneth I. Wolpin, "The Effect of Parental Transfers and Borrowing Constraints on Educational Attainment," *International Economic Review*, vol. 42, no. 4 (November 2001), pp. 1051–1103, <http://doi.org/10.1111/1468-2354.00146>.

25. Philippe Belley and Lance Lochner, "The Changing Role of Family Income and Ability in Determining Educational Achievement," *Journal of Human Capital*, vol. 1, no. 1 (Winter 2007), pp. 37–89, <http://doi.org/10.1086/524674>.

Table 2.

Federal Lending to Undergraduates in the 2015–2016 Academic Year

	Class Level ^a				All ^b
	Freshman	Sophomore	Junior	Senior	
Total Number of Students (Millions)	7.5	5.6	2.5	3.7	19.5
Number of Students Who Took Loans (Millions)	2.0	1.8	1.3	1.9	7.1
Share of Students Who Took Loans (Percentage)	27.2	32.9	51.7	51.9	36.5
Average Amount Borrowed (Dollars)	7,100	7,800	9,500	9,200	8,300
Total Loan Amount (Billions)	14.4	14.5	12.2	17.6	59.5

Source: Congressional Budget Office, using data from the Department of Education's National Postsecondary Student Aid Study, 2015–2016.

a. Class levels are based on credit hours, not years spent in college. Freshmen have 0–29 credit hours; sophomores have 30–59 hours; juniors have 60–89 hours; and seniors have 90 or more hours.

b. Figures include students whose undergraduate class level was not designated.

It is also difficult to determine the effect of the federal loan program on graduation. One study suggested that though family income boosted enrollment, those enrolled would be no more likely to complete their degree.²⁶ However, another study using data from the late 1990s estimated that if students were allowed to borrow more—up to the full cost of schooling—then graduation rates would increase 8 percent.²⁷

Income-Driven Repayment Plans and Their Effects.

Federal direct loans increase financial risk to the student because they must be repaid, but income-driven repayment (IDR) plans lower that risk. In IDR plans, monthly payments are calculated each year as a share of the borrower's discretionary income and are usually capped at a standard repayment amount. In some IDR plans, remaining balances may be forgiven after a number of years of payments. The relationship between earnings and payments induces some borrowers to work and earn less than they otherwise would.

IDR plans allow borrowers to reduce their repayments when their income is temporarily low, and that flexibility provides a measure of insurance to borrowers whose future earnings at some point might be lower than they expected. However, the relief that IDR plans provide

through flexible payments is short-lived because the principal remains and unpaid interest accrues.

IDR plans also allow forgiveness of outstanding loan balances after 20 or 25 years, which provides a measure of insurance against income that is low for extended periods. Because the debt relief is permanent, forgiveness is costly to the government.

Those ways in which IDR plans provide insurance for students may encourage students to acquire an education that is financially risky for them but productive for society as a whole by transferring some risk to taxpayers. However, the plans may also encourage students to spend more on education that is less socially productive, and they may reduce the incentive for borrowers to seek high-paying jobs after they leave school.

An increasing share of student loan balances are in IDR plans. That share was 46 percent in late 2017, up from 28 percent in 2014. Borrowers who have chosen to repay their loans with an IDR plan come from throughout the income distribution. However, borrowers with low income are likelier than those with higher income to choose an IDR plan for repayment. That is because IDR plans, in which the repayment is based on earnings, are generally less attractive to borrowers with relatively high incomes. However, the plans may appeal to borrowers with high incomes and very large loan balances.

The budgetary effects of any IDR plan depend on the type of borrower who chooses to enroll. The more the

26. Ibid.

27. Matthew T. Johnson, "Borrowing Constraints, College Enrollment, and Delayed Entry," *Journal of Labor Economics*, vol. 31, no. 4 (October 2013), pp. 669–725, www.jstor.org/stable/10.1086/669964.

plan attracts borrowers with high debt and low expected income, the greater the budgetary costs.²⁸

There is little evidence on the effect of IDR plans on enrollment or graduation, as IDRs have not been widely used until recently, making such analyses difficult.

Grants

The federal government awarded Pell grants to 39 percent of undergraduates in the 2015–2016 academic year.²⁹ Federal expenditures on Pell grants have grown substantially over the years, from about \$11 billion in the 2000–2001 academic year to a peak of \$39 billion in the 2010–2011 academic year (both figures in 2017 dollars). Expenditures have declined since then, reaching \$29 billion in fiscal year 2017, along with the number of Pell grant recipients and the average grant amount (in constant dollars). The declines are largely due to the decline in postsecondary enrollment since the 2010–2011 academic year.³⁰ Other grants provided by the federal government for low-income students totaled about \$1 billion in that year.

Pell grants reduce the cost of schooling for students with low income. Research suggests that the grants have modest effects on the rates at which students—except for older, nontraditional students—enroll in postsecondary education or complete their degree.³¹ One reason for the modest effects of Pell grants may be that students

do not learn about the amount of their grant until after they have decided to apply to college. Another reason might be that the application process is cumbersome and discouraging for many families. The effect of Pell grants on enrollment may also be reduced if colleges shift institutional grants away from students who are eligible for Pell grants.

Pell grants may be less effective than state grants at getting young adults to start and complete college because the state programs are more widely publicized and understood within the eligible student communities. One study found that the D.C. Tuition Assistance Grant Program significantly increased enrollment rates among students eligible for the grants.³² A study of need-based aid in Florida found that receipt of a \$1,300 grant increased completion rates by 5 percentage points, primarily among students at public universities.³³ Another study found that a state merit-based grant (ranging from \$1,000 to \$3,000) increased completion rates by 3 percentage points.³⁴ Yet another study found that state awards of full tuition (valued between \$1,500 and \$9,700) increased completion rates by 7 to 10 percentage points.³⁵

28. For a discussion of the incentives and related issues, see Government Accountability Office, *Federal Student Loans: Education Needs to Improve Its Income-Driven Repayment Plan Budget Estimates*, GAO-17-22 (November 15, 2016), www.gao.gov/products/GAO-17-22.

29. Department of Education, *Federal Pell Grant Program Data Books, 2015–2016* (accessed March 1, 2018), <https://www2.ed.gov/finaid/prof/resources/data/pell-data.html>; and Department of Education, National Center for Education Statistics, *2015-16 National Postsecondary Student Aid Study (NPSAS:16): Student Financial Aid Estimates for 2015-16*, NCES 2018-466 (January 2018), <https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2018466>.

30. For more information about the Pell Grant program, see Congressional Budget Office, *The Pell Grant Program: Recent Growth and Policy Options* (September 2013), pp. 24–25, www.cbo.gov/publication/444448.

31. For a recent discussion of the relevant academic literature, see Lindsay C. Page and Judith Scott-Clayton, “Improving College Access in the United States: Barriers and Policy Responses,” *Economics of Education Review*, vol. 51 (April 2016), pp. 4–22, <https://tinyurl.com/yaz7rtfd>.

32. Thomas J. Kane, “Evaluating the Impact of the D.C. Tuition Assistance Grant Program,” *Journal of Human Resources*, vol. 62, no. 3 (Summer 2003), pp. 555–582, <http://jhr.uwpress.org/content/XLII/3/555.short>.

33. Benjamin L. Castleman and Bridget Terry Long, “Looking Beyond Enrollment: The Causal Effect of Need-Based Grants on College Access, Persistence, and Graduation,” *Journal of Labor Economics*, vol. 34, no. 4 (October 2016), <http://doi.org/10.1086/686643>.

34. Susan Dynarski, “Building the Stock of College-Educated Labor,” *Journal of Human Resources*, vol. 43, no. 3 (Summer 2008), pp. 576–610, <http://doi.org/10.3368/jhr.43.3.576>.

35. Eric Bettinger and others, *The Long Run Impacts of Merit Aid: Evidence From California's Cal Grant*, Working Paper 22347 (National Bureau of Economic Research, June 2016), www.nber.org/papers/w22347.

Tax Preferences

Income tax preferences represented \$30 billion in 2017, according to JCT.³⁶ There are three types of tax preferences for education-related expenses: credits, exclusions, and deductions and exemptions. Tax credits for education-related expenses offset tax liabilities on a dollar-for-dollar basis. Tax exclusions for education exclude certain types of income, such as employer-provided education benefits, from taxation. Tax deductions and exemptions reduce taxable income, thereby reducing tax liabilities in proportion to the taxpayer's marginal tax rate.

There has been a substantial amount of research on the effect of tax credits on enrollment and graduation rates. By comparison, relatively little research is available on the effects of exclusions or deductions and exemptions.

Tax Credits. Tax credits for educational expenses (the main form of tax preference) amounted to about \$19 billion in 2017, JCT estimates.³⁷ The families that benefit from education tax credits do not typically have low income. However, families with very high income cannot benefit from them either.

Tax credits appear to have little effect on enrollment.³⁸ One reason they have little impact may be that tax credits appear on family tax returns many months after enrollment decisions have been made. In addition, most tax credits are claimed by students from middle-income families, most of whom would enroll in college with or without the tax credits.

In contrast to their effect on enrollment rates, tax credits for higher education may raise college graduation rates. One study of federal tax credits (and deductions) found

36. An estimate of a tax expenditure typically reflects the value of a tax preference considered in isolation; it is based on people's behavior with the tax expenditure in place and on the assumption that all other provisions of the tax code are unchanged. However, the total amount of tax expenditures does not represent the increase in revenues that would occur if all tax expenditures were eliminated.

37. The tax credits examined here consist of the AOTC, the Hope Tax Credit (which was the predecessor to the AOTC), and the Lifetime Learning Credit.

38. For a recent discussion of the relevant academic literature, see Lindsay C. Page and Judith Scott-Clayton, "Improving College Access in the United States: Barriers and Policy Responses," *Economics of Education Review*, vol. 51 (April 2016), pp. 4–22, <https://tinyurl.com/yaz7rtfd>.

that every \$1,000 of tax benefits increased graduation rates by 3 percentage points, with a larger impact on those attending private institutions.³⁹ Tax credits may have a bigger effect on completion rates than on enrollment rates because students learn about the value of tax credits as they progress through school.

Tax Exclusions. Tax exclusions related to education totaled \$5 billion in 2017. In particular, the exclusion for scholarship and fellowship income amounted to \$2.8 billion. Another tax exclusion for education-related expenses is in section 127 of the tax code. It excludes employer-provided education benefits from taxation. That exclusion accounted for \$1.3 billion in income tax benefits in fiscal year 2017.⁴⁰ Two other exclusions, qualified tuition plans (also called 529 plans) and Coverdell Education Savings Accounts, represented \$0.6 billion and \$0.1 billion, respectively, in tax benefits that year.⁴¹

Because marginal tax rates are higher for higher-income families, the tax benefit per dollar of exclusion is greater for those families as well.⁴² The benefits of tax exclusions tend to flow to middle- and upper-income families. Those families are more likely to have tuition benefits from an employer and to save for their children's college expenses than are low-income families.

Tax Deductions and Exemptions. A tax deduction for interest payments for student loans totaled \$2 billion in 2017. Unlike many deductions, that one can be used even by taxpayers who do not itemize deductions. A tax exemption (similar to a deduction) for parents of

39. Mahmoud A.A. Elsayed, "The Impact of Education Tax Benefits on College Completion," *Economics of Education Review*, vol. 53 (August 2016), pp. 16–30, <http://doi.org/10.1016/j.econedurev.2016.05.005>. The tax credits considered in that study include the Hope Tax Credit and the Lifetime Learning Credit.

40. That estimate does not include the effect on payroll taxes. The effect on payroll taxes arises because, in CBO's judgment, employers will reduce other forms of compensation to offset the costs of the education benefits. To the extent that wages and salaries decline as a consequence, payroll taxes will also fall. In addition, provisions that reduce payroll tax receipts generally lessen future spending for Social Security benefits because those benefits are based on earnings subject to Social Security taxes.

41. Joint Committee on Taxation, *Estimates of Federal Tax Expenditures for Fiscal Years 2017–2021*, JCX-34-18 (May 25, 2018), www.jct.gov/publications.html?func=startdown&cid=5095.

42. Congressional Budget Office, *Distribution of Federal Support for Students Pursuing Higher Education in 2016* (June 2018), www.cbo.gov/publication/53732.

students ages 19 to 23 totaled about \$3 billion in 2017, JCT estimates.⁴³ Tax deductions for tuition and fees (which no longer exist) may have increased graduation rates of those who had enrolled in college.⁴⁴ In contrast, there is no evidence to suggest that tax deductions for interest payments or exemptions for parents of students affect enrollment or graduation rates.

Approaches to Changing Federal Aid for Postsecondary Students

Policies that provide federal support for higher education under current law are generally intended to provide financing, reduce the uncertainty that students face, or reduce students' costs. However, in CBO's view, there is no consensus on whether the current suite of federal policies provides too little, too much, or just the right amount of support. At the same time, those policies have a number of other consequences, including potentially negative side effects such as creating incentives for schools to enroll unprepared students and encouraging students to take on more debt than necessary.

Policymakers are considering a variety of changes to the programs and tax preferences that provide federal support. The approaches included in this report are derived from many sources and have a range of effects. Some expand and some limit federal support relative to policies under current law, and others change how federal support is targeted. The primary goals of some of the approaches considered are to lower the cost of higher education to the student and limit the other consequences of policies under current law.

CBO examined three sets of approaches to modifying federal support for postsecondary students:

- Change how much financing is made available for higher education,

- Change programs that affect the uncertainty about the financial returns on higher education, and
- Change subsidies for higher education.

In addition, in light of concerns about the effectiveness of federal assistance and the complicated process for obtaining it, CBO also examined approaches that could simplify the programs to help students use them (see Box 3).

The approaches outlined below involve trade-offs between enrollment rates, completion rates, and the financial risk to which students are exposed (see Table 3). Depending on how they were implemented, the approaches might affect federal costs as well, although CBO has not provided budgetary estimates for the approaches in this report.

Differences among students mean that no approach will affect all students the same way. Students have a wide variety of backgrounds and experience and face disparate challenges to successfully completing their higher education. For instance, a substantial share of postsecondary students follow the traditional path of entering college directly from high school and graduating in four years—but many students mix school and work, transfer between schools and programs and take longer than normal to graduate, if they graduate at all. In addition, a significant fraction of postsecondary students are older students who may be enrolling after completing military service or being laid off.

Differences among schools also have implications for the effectiveness of the approaches. Historically, almost all postsecondary students went to schools of three types: private, nonprofit four-year colleges and graduate schools; public four-year colleges and graduate schools; and public two-year colleges. Also, most instruction was provided in person on centralized campuses. However, in the 2015-2016 academic year, about 10 percent of enrollment was at private for-profit colleges and graduate schools.⁴⁵ In addition, across all types of schools, a growing share of education occurs partly or totally online.

43. Taxpayers can also claim full-time students ages 19 to 23 as qualifying children for the earned income tax credit. For information about the budgetary effects of those claims, see Congressional Budget Office, *Distribution of Federal Support for Students Pursuing Higher Education in 2016* (June 2018), www.cbo.gov/publication/53732. That information has not been reported separately by the JCT in its regular report about tax expenditures.

44. For a discussion of the effects of certain tax deductions for education, see Mahmoud A.A. Elsayed, "The Impact of Education Tax Benefits on College Completion," *Economics of Education Review*, vol. 53 (August 2016), pp. 16–30, <http://doi.org/10.1016/j.econedurev.2016.05.005>.

45. CBO's calculation makes use of the Department of Education, National Center for Education Studies, IPEDS [Integrated Postsecondary Education Data System] Trend Generator, available at <https://nces.ed.gov/ipeds/trendgenerator/>.

Box 3.

Approaches to Simplifying Federal Aid for Students

Federal aid is more likely to be used effectively when students and their families understand its benefits and the application process is simple. The approaches outlined below would simplify the federal financial aid application, federal student loans, loan repayment plans, education tax credits, or tax-advantaged college savings plans.

The Application

Students must complete the Free Application for Federal Student Aid (FAFSA) to find out if they are eligible to receive Pell grants or need-based aid from schools and, if they wish to borrow, whether they are eligible for a subsidized loan. The form is relatively simple for independent students, requiring only information from a few lines on their federal tax return. The form is somewhat more complicated for dependent students in families with low income, requiring some information from both their federal tax return and their parents' tax return. Some students may also have to provide information about income and assets not reported on federal tax returns.

Policymakers could simplify the FAFSA by requiring only information that could be transferred from federal tax returns. That approach would probably increase the number of students who completed the FAFSA, who received Pell grants, and who took out federal student loans.¹ As a result, the number of students attending college and completing degrees would probably increase. If policymakers desired, they could modify other parameters of the programs (such as the maximum Pell grant award) to leave total costs unchanged.²

Simplifying the FAFSA in that way would probably change the set of students eligible for assistance. In particular, it could make some students from families with high assets but low income newly eligible for support. However, studies suggest that a relatively small number of people fall into that category.³

1. Eric P. Bettinger and others, "The Role of Application Assistance and Information in College Decisions: Results From the H&R Block FAFSA Experiment," *Quarterly Journal of Economics*, vol. 127, no. 3 (August 2012), pp. 1205–1242, <https://doi.org/10.1093/qje/qjs017>.

2. Congressional Budget Office, *The Pell Grant Program: Recent Growth and Policy Options* (September 2013), pp. 24–25, www.cbo.gov/publication/44448.

3. Susan Dynarski, Judith Scott-Clayton, and Mark Wiederspan, "Simplifying Tax Incentives and Aid for College: Progress and Prospects," in Jeffrey R. Brown, ed., *Tax Policy and the Economy*, vol. 27 (University of Chicago Press, 2013), pp. 161–202, <http://papers.nber.org/books/brow12-1>.

Simplifying the FAFSA might only be effective if schools and states relied on the simplified application in their financial aid decisions.⁴ If states and schools continued to require information that is not available on federal tax returns, then making the FAFSA simpler would do little to simplify the overall process of applying for aid.

Loans

Another approach would be to simplify student loans by combining the existing loan programs into a single program. The new program could have terms that are more generous than current PLUS loans and less generous than current subsidized loans, for example.

An advantage of a single loan program is that it would make it easier for students to understand the total cost of the loans they take out. That in turn might encourage students to borrow and fund their education more efficiently.

A disadvantage of a single loan program is that it could shift support for higher education that currently goes to students from low-income families (through the subsidized loan program) toward all students regardless of their financial need. If policymakers wanted to offset the loss of subsidy to low- and lower-middle income borrowers, they could change other programs: for example, they could adjust the Pell grant program to increase the size of those grants.

Repayment Plans

The income-driven repayment (IDR) plans currently available to student loan borrowers share certain features: Required payments depend on income; interest continues to accrue during periods of income-limited payments; and remaining balances are forgiven after a fixed number of years.⁵ The plans vary, however, in their eligibility and repayment requirements, and, as a result of that complexity, some borrowers may not choose the plan that best suits their circumstances.⁶

4. Susan Dynarski and Judith Scott-Clayton, "Revisiting FAFSA Simplification: Expanding Access to the IRS Data Retrieval Tool," Education Policy Initiative Brief #1 (University of Michigan Gerald R. Ford School of Public Policy, May 2015), <https://tinyurl.com/ydzc92zb> (PDF, 353 KB).

5. For a description of the various plans, see Department of Education, Office of Federal Student Aid, "Income-Driven Plans" (accessed April 12, 2018), <https://tinyurl.com/q8u77e2>.

6. For a discussion of borrowers' difficulties with IDR plans, see Government Accountability Office, *Federal Student Loans: Education Could Do More to*

Box 3.

Continued

Approaches to Simplifying Federal Aid for Students

Policyholders could consolidate IDR plans into a single plan for which payroll deductions would be the default form of repayment. Social Security, Medicare, and other tax obligations are already handled as payroll deductions in the United States. As with existing IDR plans, borrowers who earned more could be required to make larger loan payments and repay their loans more quickly than those who earned less.

That approach would automatically link repayments to payroll earnings, the most important component of most borrowers' income. It would also eliminate the requirement that payments be linked to the borrower's income in the previous year, thus reducing administrative burdens. In addition, the approach would result in payments that automatically change in response to changes in earnings.

However, the approach would weaken the connection between repayments and family income, particularly spousal earnings. Furthermore, by tying repayments to current earnings, the approach could encourage some borrowers to become self-employed, to work in untaxed work arrangements, or to not work at all. (Those latter effects could be mitigated if borrowers were required to make a minimum payment regardless of their earnings.)

Tax Credits

The American Opportunity Tax Credit (AOTC) and the Lifetime Learning Credit (LLC) both lower the cost of education, but their eligibility criteria and the expenses they cover differ.⁷ Many students do not choose the tax preference that will be best for them financially.⁸ That is partly because of the difficulty of determining which credit best suits their circumstances.

Help Ensure Borrowers Are Aware of Repayment and Forgiveness Options, GAO-15-663 (August 25, 2015), www.gao.gov/products/GAO-15-663.

7. For additional discussion of these tax credits, see Congressional Budget Office, *Options for Reducing the Deficit: 2017 to 2026* (December 2016), pp. 161–162, www.cbo.gov/publication/52142.

8. Eric P. Bettinger and others, "The Role of Application Assistance and Information in College Decisions: Results From the H&R Block FAFSA Experiment," *Quarterly Journal of Economics*, vol. 127, no. 3 (July 2012), pp. 1205–1242, <https://doi.org/10.1093/qje/qjs017>. According to 2009 data, 14 percent of filers did not claim a tax credit for which they were eligible, and the average unclaimed credit was worth \$466. See Government Accountability Office, *Improved Tax Information Could Help Families Pay for College*, GAO-12-560 (May 18, 2012), www.gao.gov/products/GAO-12-560.

Policyholders could reduce complexity by combining the two credits into a single tax preference.

However, consolidating tax credits might reduce the effectiveness of those credits for certain groups of people. The AOTC, the more generous of the two credits, supports undergraduate students who have not earned a bachelor's degree, whereas the LLC supports older students who are renewing or learning certain skills, including those who have a bachelor's degree. Designing a single credit that did both as effectively could be difficult.

Savings Plans

The tax code allows students, parents, and other parties to save for college through multiple tax-advantaged savings plans, including both Coverdell savings plans and qualified tuition plans (QTPs, also known as 529 plans). This approach would consolidate those plans into a single plan.

Consolidation might encourage students and their families to save more for college. Although there is little direct evidence about the effect of consolidation on college saving, the experience from other aspects of the educational finance system, particularly the FAFSA, suggests that a consolidated savings plan might induce students and their families to save more. Those added savings would give students the option of choosing more costly schools and reduce the number of students without the funds to complete their degree or certificate.

Some of the features available under current law might be lost if the plans were consolidated. For example, the tax treatment of contributions to and withdrawals from QTP plans does not depend on taxpayer income, whereas the ability to contribute to Coverdell plans is phased out as income rises. If an approach were to truly simplify savers' choices, then policy-makers would need to choose which of those features they wanted to preserve.

Table 3.

Effects of Possible Approaches to Changing Federal Student Aid

Approach	Likely Effect on Students		
	Enrollment Rate	Completion Rate	Financial Risk
Change How Much Financing Is Available			
Increase limits on Stafford loans	☐ ☐ +	☐ ☐ +	☐ ☐ +
Lower limits on PLUS loans	- ☐ ☐	- ☐ ☐	- ☐ ☐
Provide federally subsidized insurance to private lenders	☐ ☐ +	☐ ☐ +	☐ ☐ +
Change Students' Financial Uncertainty			
Tighten academic standards	- ☐ ☐	☐ ☐ +	- ☐ ☐
Tie schools' participation in federal aid programs to their graduation rates	- ☐ ☐	☐ ☐ +	- ☐ ☐
Promote income-share agreements	☐ ☐ +	☐ ☐ +	- ☐ ☐
Expand employer-provided education benefits	☐ ☐ +	☐ ☐ +	- ☐ ☐
Eliminate loan forgiveness	- ☐ ☐	☐ ☐	☐ ☐ +
Change Subsidies			
Increase the maximum Pell grant	☐ ☐ +	☐ ☐ +	- ☐ ☐
Provide supplemental grants to certain students	☐ ☐ +	☐ ☐ +	- ☐ ☐
Eliminate the AOTC and LLC	- ☐ ☐	- ☐ ☐	☐ ☐ +

Source: Congressional Budget Office.

Students' enrollment rate, completion rate, and the amount of financial risk they bear could **increase** +, **decrease** -, or **remain the same** ☐ under the approaches. Where two effects are indicated for a particular approach, either effect could occur.

AOTC = American Opportunity Tax Credit; LLC = Lifetime Learning Credit.

No matter what the approach, some students' lack of academic preparation may limit the effectiveness of federal student aid. Many students at all types of colleges take remedial courses for one or two semesters before starting college-level courses.⁴⁶ Some researchers believe that a lack of preparedness is more important than a lack of financial resources in limiting enrollment in and completion of higher education, and as a result, they stress

the importance of improving outcomes for students from preschool through high school.⁴⁷

Change How Much Financing Is Available

CBO examined three different ways policymakers could change the financing that is available to students. First, policymakers could allow students to borrow more than

46. Department of Education, National Center for Education Statistics, *Remedial Coursetaking at U.S. Public 2- and 4-Year Institutions: Scope, Experience, and Outcomes*, NCES 2016-405 (September 2016), <https://go.usa.gov/xnepQ>.

47. See, for example, Stephen V. Cameron and James J. Heckman, "The Dynamics of Educational Attainment for Black, Hispanic, and White Males," *Journal of Political Economy*, vol. 109, no. 3 (June 2001), pp. 455-499, <http://doi.org/10.1086/321014>; and "Life Cycle Schooling and Dynamic Selection Bias: Models and Evidence for Five Cohorts of American Males," *Journal of Political Economy*, vol. 106, no. 2 (April 1998), pp. 262-333, <http://doi.org/10.1086/250010>.

the current limits on certain loans, increasing federal support for higher education. Second, they could decide to lower the limits on other loans, reducing federal support while also reducing financial risk for borrowers. Third, they could encourage more private loans for postsecondary school by providing subsidized insurance to private lenders, reducing the federal role in education and increasing the number of borrowing choices available to some students.

If students were able to borrow more money, some would invest more in higher education. However, borrowing to pay for education is risky because some education may not end up paying for itself. Reducing the amount that students could borrow would prevent some of them (along with their families) from paying more for education than is warranted by their likely earnings. Yet those limits might also preclude some students from obtaining schooling that, though expensive, would provide benefits to them and to society.

Increase Limits on Stafford Loans. Increasing Stafford loan limits by allowing students to borrow either the full cost of tuition and fees or the full cost of attendance (tuition plus living expenses) minus grants would enable more students to get an education. Stafford loan limits currently depend on a student's year in college and on whether the student is considered independent of his or her parents.⁴⁸ For undergraduates, annual limits for Stafford loans vary from \$5,500 for first-year students who are dependent to \$12,500 for students in their third or later year who are independent. (See Box 1 on page 8 for information on Stafford loans.) Increasing borrowing limits may allow more students to enroll in higher education and would affect some students' choice of school and program—enabling some to choose a four-year instead of a two-year college, attend a private rather than a public school, or attend a program full time instead of part time. Increasing limits may also affect the extent to which the students must work while in school.

48. Dependent students are generally students who are unmarried and under the age of 24. Some unmarried undergraduate students under age 24 may be classified as independent if, for example, they are veterans, active service members, orphans, or homeless. For a definition of independent and dependent students, see Department of Education, Office of Federal Student Aid, "Dependency Status" (accessed April 11, 2018), <https://go.usa.gov/xUqVn>.

Raising the Stafford loan limits might also have some adverse consequences. Larger loans would increase the risk that students' earnings would not cover loan repayments, limiting their ability to buy homes, start families, and save for retirement.⁴⁹ Raising loan limits might also affect what colleges charge, thereby undoing some of the benefits.⁵⁰ In addition, some colleges might reduce grants for low-income students, which would offset some of the benefits of larger loans.

Lower Limits on PLUS Loans. The federal government could lower the amount that can be borrowed by graduate students and the parents of dependent undergraduates under the PLUS program. Graduate students can borrow a maximum of \$20,500 per year in Stafford loans. On top of that, they can borrow the difference between \$20,500 and the cost of attendance net of grants in PLUS loans, although PLUS loans have higher origination fees and interest rates than Stafford loans. Parents can also borrow up to the full cost of attendance in PLUS loans. (See Box 1 on page 8 for information on PLUS loans.)

On the one hand, lowering PLUS loan limits for graduate students would reduce the risk to taxpayers that substantial loan amounts would be forgiven because students enrolled in income driven repayment plans (IDRs) or worked in the public sector. And reducing PLUS loan limits for parents of dependent undergraduates would reduce the amount of debt owed by parents as they approach retirement. The lower limits could also

49. See, for example, Alvaro Mezza, Kamila Sommer, and Shane Sherlund, *Student Loans and Homeownership Trends*, FEDS Notes (Board of Governors of the Federal Reserve System, October 2014), <https://go.usa.gov/xnMT7>.

50. The evidence for that potential effect is mixed. Some studies have found little relationship between federal aid, including loans, and college tuition. See, for example, Bridget Terry Long, "The Impact of Federal Tax Credits for Higher Education Expenses," in Caroline M. Hoxby, ed., *College Choices: The Economics of Where to Go, When to Go, and How to Pay for It* (University of Chicago Press and National Bureau of Economic Research, 2004), pp. 101–168. Other studies have found evidence that some federal aid is captured by schools in the form of higher tuition or reduced institutional aid. See, for example, Lesley Turner, *The Economic Incidence of Federal Student Grant Aid* (draft, University of Maryland, 2017), <https://tinyurl.com/y9th39h3> (PDF, 688 KB); and Stephanie Riegg Cellini and Claudia Goldin, "Does Federal Student Aid Raise Tuition? New Evidence on For-Profit Colleges," *American Economic Journal: Economic Policy*, vol. 6, no. 4 (November 2014), pp. 174–206, www.aeaweb.org/articles?id=10.1257/p01.6.4.174.

potentially put pressure on educational institutions to lower costs and to deliver their services more efficiently.

On the other hand, lowering limits on PLUS loans would keep some students from completing a degree or pursuing more expensive educational options that might have significantly boosted their earnings. Some students would go to less expensive schools than they would have chosen to attend if they had greater access to financing.

Provide Federally Subsidized Insurance to Private Lenders. The federal government could increase the amount of credit available to student borrowers by subsidizing insurance for loans made by private lenders. If the federal government sold insurance to cover some of the risk of loans to private lenders, those lenders would probably make more student loans.⁵¹ For example, the government could guarantee that, after paying some premium, private lenders would receive at least 80 percent of the scheduled monthly loan payment. That approach would be similar to the guaranteed student loan program that ended in 2010.⁵²

Interest rates would vary among students taking private loans under such an approach, as private rates depend on the borrower's credit score and other factors. Some students would be able to borrow at lower interest rates from private lenders than from the federal government. The repayment period would probably be shorter. And borrowers would probably have fewer options to defer payments with a private loan, making their investment more risky than if they had financed their schooling with a federal loan that had an IDR option.

Subsidizing private student loans might have two benefits. One, it could increase funding, which could expand students' educational choices. Two, as long as the government did not fully insure the private lenders' losses,

private lenders would more closely examine prospective borrowers' ability to repay their loans than the federal government does. That underwriting would probably reduce the number of students who enrolled but did not graduate.

Subsidizing private student loans could have disadvantages as well. Private lenders might restrict their lending to target certain types of students—for example, medical, law, and business students; students at high-quality schools; or students who would have been offered private loans without the inducement of government-subsidized insurance.

In addition, underwriting for private student loans has focused primarily on borrowers' and cosigners' assets and credit history. If that pattern continued, private underwriting might poorly reflect borrowers' future earnings, thus doing little to mitigate the effects of uncertainty about future earnings.⁵³

Finally, private lenders tend to reduce credit during an economic downturn or a financial crisis, precisely when more people wish to go to school. During the recession that began in December 2007, for example, private lenders reduced credit because they had difficulty raising capital. At the peak of the private student loan market in the 2006–2007 academic year, private loans accounted for 25 percent of all student loans; that share fell to 7 percent in the 2009–2010 academic year.

Change Students' Financial Uncertainty

Other policy approaches would change the uncertainty that students face about the ultimate returns on their investment in higher education. The first four approaches considered here would reduce uncertainty; the fifth approach would increase uncertainty but would limit other consequences of a program that provides federal support for higher education under current law. The first would tighten academic standards for recipients of aid, which would promote academic success among a more prepared student body. The second would increase incentives for schools to ensure students graduate. The third and fourth approaches would provide the private sector with greater incentives to steer students into education that was more likely to provide a good financial return. The fifth

51. Private student loans currently account for a relatively small share of student loans overall: They were about 10 percent of the loans originated during the 2015–2016 academic year. See Sandy Baum and others, *Trends in Student Aid, 2017* (College Board, 2017), Table 1, <https://trends.collegeboard.org/student-aid>.

52. Under the Federal Family Education Loan program, student loans were funded with private capital, but lenders were required to offer the same terms to all borrowers. The federal government guaranteed that lenders would receive 98 percent of principal and interest payments. In addition, the government guaranteed interest income linked to a variable market rate and provided a significant add-on to that rate to cover servicing and other costs.

53. Andrew P. Kelly and Kevin J. James, *Looking Backward or Looking Forward? Exploring the Private Student Loan Market* (American Enterprise Institute, June 2016), <https://tinyurl.com/ybgeapoj>.

approach would eliminate the ability of borrowers to discharge their debt prior to repaying it in full, and thus eliminate an incentive to work less. Nonetheless, that approach would increase uncertainty.

Tighten Academic Standards. The federal government could tighten standards that require students to make satisfactory academic progress in order to receive aid. That would discourage poorly prepared students from investing in higher education, which would make it more likely that the future earnings of students would cover the cost of a degree. Academically ill-prepared students are more likely to choose majors and programs that will not yield adequate financial returns. In the aftermath of the 2008 recession, for example, ill-prepared students were more likely to choose for-profit schools and, to a lesser extent, two-year colleges. In addition, the education acquired at for-profit schools increased earnings less than did the education acquired at nonprofit schools, and students who attended for-profit schools were likelier to default on their loans.⁵⁴ To the extent that ill-prepared students fund their schooling with loans, encouraging them to invest in higher education exposes both students and taxpayers to risk.

Tighter academic standards would reduce the risk that students who receive federal aid will not graduate. For instance, stricter standards might motivate students to work harder at school and to finish a degree more quickly. Some studies have found that low-income students completed more credits when they received cash grants conditioned on meeting performance standards.⁵⁵ Another benefit of tightening academic standards is that students who did not make satisfactory progress might drop out more quickly, which would leave them financially better off than if they dropped out later with more debt.

However, there are negative aspects to tightening academic standards. More stringent requirements might

push students away from challenging academic programs. Furthermore, whereas some students would improve their performance in order to continue to receive federal aid, other students would lose federal support and drop out as a result. Thus, this approach could cause some students to drop out even when staying in school would have been to their ultimate benefit. For those reasons, tightening academic standards would have disparate effects on students' lifetime income.

Tie Schools' Participation in Federal Aid Programs to Their Graduation Rates. The federal government could tie schools' participation in the student loan and Pell grant programs to the rate at which their students graduate.⁵⁶ Currently, schools' ability to participate in grant and loan programs is tied to the rate at which their students make payments on their loans after graduation. The government also imposes additional requirements on for-profit schools and certain nondegree programs based on comparisons of their graduates' loan debt and income following school.

Tying federal assistance more closely to completion rates could motivate schools to both help their current students graduate and be more selective in their admissions. As a result, the rate at which students default on their loans would probably decline.

Changing schools' incentives in that way has potential downsides for students and society. Community colleges and other schools that have open-door policies are currently less concerned with graduation rates than with providing opportunities for students who have poor academic records. Tying federal assistance to completion rates may result in fewer opportunities for ill-prepared students.

Changing schools' incentives might elicit other responses from them as well. In K-12 education, schools that are evaluated on students' standardized test scores may "teach to the test" at the expense of broader educational

54. Adam Looney and Constantine Yannelis, "A Crisis in Student Loans? How Changes in the Characteristics of Borrowers and in the Institutions They Attended Contributed to Rising Loan Default," *Brookings Papers on Economic Activity* (Fall 2015), <https://tinyurl.com/ybr2u6pz>.

55. See, for example, Judith Scott-Clayton, "On Money and Motivation: A Quasi-Experimental Analysis of Financial Incentives for College Achievement," *Journal of Human Resources*, vol. 46, no. 3 (June 2011), pp. 614–646, <http://jhr.uwpress.org/content/46/3/614.refs>

56. For a review of state-level policies that tie schools' funding to various performance measures, see National Conference of State Legislatures, "Performance-Based Funding for Higher Education" (July 31, 2015), <https://tinyurl.com/ladrkm5>.

goals.⁵⁷ In a similar way, encouraging schools to raise graduation rates may cause the schools to undermine other aspects of the educational experience, perhaps by weakening their graduation standards or by encouraging students to take less difficult majors. That effect would be stronger at schools that serve nontraditional students and that are on the cusp of not meeting standards for graduation rates.

Institutions might also respond to accountability standards in ways that meet the requirements of the policy but that mask true performance. For example, after the government instituted a rule that tied schools' participation in the direct loan program to the fraction of students who defaulted within two years after leaving school, some schools may have encouraged their students to apply for forbearance, thereby delaying borrowers' obligation to begin repaying their loans and pushing the possibility of default outside the two-year window.⁵⁸ As a result, legislation has recently replaced that metric with the current rule, which is pegged to defaults within a three-year window.

Promote Income Share Agreements. There is a small private market for income share agreements (ISAs), in which members of the public invest in a student's school-related expenses in return for a fixed share of the student's subsequent earnings.⁵⁹ An investor in an ISA might give a student \$10,000 in return for 1 percent of that student's future earnings. Students enrolled in lucrative fields of study would probably need to promise a smaller share of future earnings. ISAs have been used

on a small scale at Purdue University and were proposed but not implemented in Oregon.⁶⁰

ISAs shift some of the risk of low future earnings from students to investors because repayments are a constant share of future earnings. In that way, ISAs are similar to IDR plans, but the two differ in other ways. First, ISA investors may encourage students to take a lucrative job to increase the return on their investment. The federal government plays no such role in its IDR plans. Second, ISAs would inform students about the likely financial returns on prospective educational programs because the share of future earnings that students would have to promise would probably vary.

Policymakers could promote the use of ISAs by clarifying legal issues that cloud their use. First, can ISA providers garnish wages? Second, how are payments from students to investors taxed?⁶¹ And third, what legal restrictions, if any, would be placed on the repayment percentages and duration of ISA contracts? Generally speaking, the answers to those questions would affect whether investors were willing to enter into such agreements and the share of earnings that students paid in return.

Although ISAs represent a possible source of additional financing for students, their increased use could change the budgetary cost of the direct loan program. The volume of borrowing through the direct loan program would fall. However, if private investors disproportionately provided funds to those students with the best earning prospects, the remaining students participating in the federal loan program would tend to be those with worse prospects for future earnings. That would increase the share of federal loans that would not be repaid in full.

57. See, for example, David J. Deming and David Figlio, "Accountability in U.S. Education: Applying Lessons From K-12 Experience to Higher Education," *Journal of Economic Perspectives*, vol. 30, no. 3 (Summer 2016), pp. 33–56, <http://doi.org/10.1257/jep.30.3.33>.

58. Government Accountability Office, *Federal Student Loans: Actions Needed to Improve Oversight of Schools' Default Rates*, GAO-18-163 (April 26, 2018), www.gao.gov/products/GAO-18-163.

59. Jon Marcus, *Students' Futures as Investments: The Promise and Challenges of Income-Share Agreements* (American Enterprise Institute, March 2016), <https://tinyurl.com/jcwzuz45>.

60. Australia also has a countrywide system of higher education financing that has some of the properties of both IDR and ISA programs. For a discussion of the Australian system, see Steven M. Holliday and Ergun Gide, "Funding Higher Education in Australia: A Comprehensive Analysis of Income Share Agreement as an Alternative to Income Contingent Loans," *International Journal of Learning, Teaching and Educational Research*, vol. 15, no. 1 (January 2016), pp. 1–13, www.ijlter.org/index.php/ijlter/article/view/536.

61. Miguel Palacios, Tonio DeSorrento, and Andrew P. Kelly, *Investing in Value, Sharing Risk: Financing Higher Education Through Income Share Agreements* (American Enterprise Institute, February 2014), <https://tinyurl.com/y8fxpjgg>.

Furthermore, ISAs would change the work incentives of people who financed their education with them. Because required repayments would most likely increase with earnings in an ISA, this approach would act as a disincentive for students to seek high-paying jobs after graduation.

Expand Employer-Provided Education Benefits. Section 127 of the tax code allows employers to provide each employee with up to \$5,250 in nontaxable education benefits annually, typically in the form of tuition reimbursement.⁶² CBO estimates that roughly 6 percent of undergraduate students and 14 percent of graduate students in degree programs received such benefits in the 2011–2012 academic year (the latest year for which data are available), and the average benefit (including taxable benefits) among those receiving some assistance was \$5,300. Employers use those benefits, in part, to improve their employees' productivity and to reduce turnover.⁶³ This approach would increase the limit on nontaxable benefits.

Increasing the limit on section 127 benefits might induce some employees to obtain more education. Moreover, the education approved by employers would be more likely than education funded directly by students to improve students' productivity at their current job. That is because employers are motivated to pay only for courses likely to raise employees' productivity. However, expanding section 127 benefits might increase investment in skills that are not particularly transferable among employers.

Eliminate Loan Forgiveness. Borrowers in IDR plans who make qualifying payments can have their remaining balances forgiven after 20 or 25 years. In addition, borrowers working for the government or certain public service employers can have their remaining loan balances forgiven after 10 years of qualifying payments. This approach would eliminate those forms of loan forgiveness.

One advantage of this approach is that eliminating loan forgiveness would remove a disincentive to work that exists for some borrowers. Because forgiveness is not linked to the reason a borrower's income is low, it may reduce some of the incentive that borrowers have to earn more.

Another advantage of eliminating loan forgiveness is that it would reduce an incentive for students to borrow more than they would have otherwise. Because the amount that may be forgiven has no upper limit, under current law students may have less incentive to consider the added cost of a longer or more expensive postsecondary program.

An additional advantage of eliminating loan forgiveness for public service in particular is that doing so would remove the differences in compensation (including loan forgiveness) that arise between employees with student loans and those without.⁶⁴ Student loan borrowers who receive loan forgiveness effectively receive more compensation for their public service work than other employees who did not receive loan forgiveness. If the goal was to increase pay in public service jobs, it would be more efficient to subsidize all public service workers. Alternatively, if the goal was to reduce borrowers' debt burden, it would be more efficient to forgive loans for a broader swath of borrowers.

The current programs that include loan forgiveness reduce the risk of loans for students who use IDR plans and for those who are likely to have public service employment options, such as law school graduates who could work as public defenders, as they can always discharge their debt after making payments for a specified number of years. A disadvantage of this approach is that eliminating such forgiveness would take away that protection. The elimination of public service loan forgiveness might also dissuade some people from working in the public sector, possibly reducing the supply of workers for those types of jobs from what it otherwise would be.

Change Subsidies

Grants and tax credits seek to align the incentives of society and prospective postsecondary students. By reducing the cost to the student of a postsecondary education, the policies may induce students to act as if they

62. 26 U.S.C. §127(a)(2) (2012).

63. See, for example, Colleen F. Manchester, "General Human Capital and Employee Mobility: How Tuition Reimbursement Increases Retention Through Sorting and Participation," *Industrial and Labor Relations Review*, vol. 65, no. 4 (October 2012), pp. 951–974, <http://doi.org/10.1177/001979391206500408>.

64. This approach is discussed in Office of Management and Budget, *Budget of the U.S. Government, Fiscal Year 2019* (February 2018), p. 41, <https://go.usa.gov/xQ9mZ>.

incorporated the benefits their education confers on the rest of society into their own decisions. CBO considered two approaches that would expand such federal support by increasing grants to students. In addition, CBO considered one approach that would limit such support, eliminating two tax provisions that are less targeted to those most in need of assistance.

Increase the Maximum Pell Grant. Increasing the maximum Pell grant would increase the number of grant recipients and the size of the grant received by any given recipient. If higher education confers benefits to society that are larger than the current Pell grant awards, then increasing the maximum amount would more closely align the social and private benefits of education. In contrast, if Pell grant amounts already exceed the benefits to society, then increasing the maximum amount would reduce the alignment between the social and private benefits of education.

A limitation of this approach is that, in general, Pell grants alter the incentives only for students from low-income families. The program does little to alter incentives for students or would-be students from higher-income families. The education of those higher-income students might also confer benefits to society that are not included in the students' decision-making.

Provide Supplemental Grants to Certain Students. In 2006, lawmakers authorized Academic Competitiveness Grants (ACGs) and National Science and Mathematics Access to Retain Talent (SMART) grants. ACGs were supplemental awards of up to \$750 or \$1,300 per year for freshmen or sophomores, respectively, who were eligible for Pell grants and who had completed a rigorous high school academic program. SMART grants of as much as \$4,000 per academic year were available to juniors and seniors in bachelor's degree programs in mathematics, certain fields of science, and certain foreign languages.⁶⁵ Appropriations were provided for the ACGs

and SMART grants for fiscal years 2006 through 2010. Reinstating such grants, which focus on low-income students who are well prepared academically and who are studying in select fields, might direct subsidies to students who would not otherwise attend college. However, such a program would be complicated and difficult to administer.

Eliminate the American Opportunity Tax Credit and Lifetime Learning Credit (LLC). Policymakers could eliminate the AOTC and the LLC. An argument in favor of this option is that many low-income families do not have sufficient income tax liability to claim all—or in some cases, any—of the education-related tax benefits. Thus, the AOTC and LLC do not benefit those most in need of assistance.

A second rationale in favor of eliminating tax credits concerns the administration of education benefits through the income tax system. Such benefits are poorly timed because families must pay tuition and fees before they can claim the benefits on their tax returns. In contrast, federal spending programs such as the Pell grant program are designed to provide assistance when the money is needed—at the time of enrollment. Further, providing education assistance through various credits, exclusions, and spending programs, each with slightly different eligibility rules and benefit amounts, makes it difficult for families to determine the amount of assistance they will receive.

A drawback of this approach is that some households would receive less assistance than under current law unless other federal outlays, such as Pell grants, were simultaneously increased. In particular, the approach would increase the financial burden on middle-income families that do not qualify for Pell grants. Another drawback is that some families may find it easier to claim benefits on their tax returns than to fill out additional forms for assistance.

65. Department of Education, Office of Postsecondary Education, *Academic Competitiveness and National SMART Grants* (March 22, 2010), <http://go.usa.gov/jj2H>.



About This Document

This report was prepared at the request of the Chairman of the Senate Committee on Health, Education, Labor, and Pensions. In keeping with the Congressional Budget Office's mandate to provide objective, impartial analysis, this report makes no recommendations.

Nabeel Alsalam and William Carrington prepared the report with guidance from Molly Dahl, Chad Shirley, and Joseph Kile. Jordan Berne and David Wylie assisted with the report, and Nadia Karamcheva provided useful calculations. Useful comments were provided by Sheila Dacey, Sebastien Gay, Janet Holtzblatt, Justin Humphrey, Leah Koestner, Shannon Mok, and Joshua Shakin of CBO and by Jason Levine (formerly of CBO). Eric Hanushek of Stanford University, Bridget Terry Long of Harvard University, and Sarah Turner of the University of Virginia also provided comments. (The assistance of external reviewers implies no responsibility for the final product, which rests solely with CBO.)

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A handwritten signature in black ink, appearing to read "Keith Hall".

Keith Hall
Director
June 2018