

# UNDERSTANDING HIGHER EDUCATION FINANCE: SOURCES OF POSTSECONDARY FUNDING AND IMPLICATIONS FOR LOW-INCOME STUDENTS

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## OVERVIEW

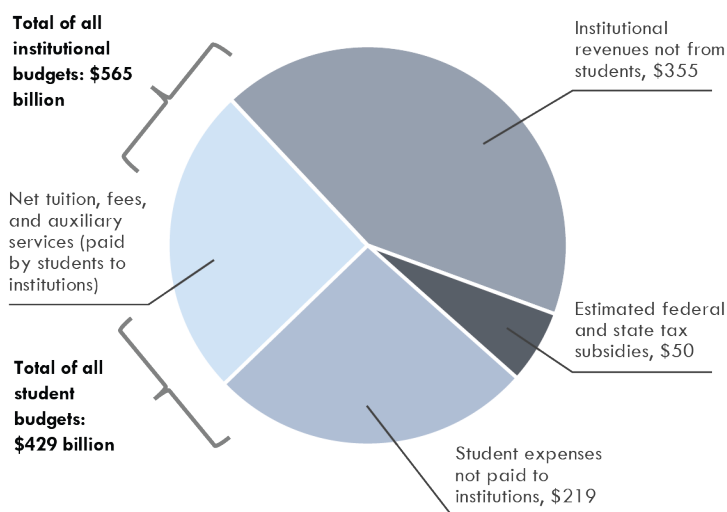
Every year, the United States invests more than \$800 billion in postsecondary education, if the budgets of postsecondary institutions and students and the cost of federal and state tax credits are all included. Yet the total extent of the investment is rarely discussed. Many reports cover pieces of the puzzle. Those concerned with affordability, such as The College Board's *Trends in Student Pricing*, provide good estimates of students' costs but focus less on institutional finance. Research focused on institutional finance, on the other hand, including the summary tables in the annual *Digest of Education Statistics*, account for most institutional revenue but leave out students' non-tuition costs. State and federal subsidies through the tax code are often left out altogether.

This brief brings institutional and student finance together, including estimates of tax subsidies, in a single overview to present as complete as possible a picture of the total investment in higher education. It draws on the Integrated Postsecondary Education Data System (IPEDS) for institutional revenues, *Trends in Student Aid* and the *National Postsecondary Student Aid Survey* (NPSAS) for student finance, U.S. Treasury reports for federal tax expenditures, and the U.S. Census for state tax expenditures.

The overview has two objectives. First, by illustrating the whole range of postsecondary revenue sources, it attempts to show who is funding postsecondary education and the full range of institutional strategies those sources support and encourage. Postsecondary education cannot and should not be reduced to a simple business proposition. But neither can it ignore that it is, among other things, a business. Every institution—nonprofit, for-profit, or public—must find ways to generate revenue to cover its costs. In that sense, it is important to know who are the “customers” making choices about how and where to allocate resources. Without understanding all the resources in play, it may be harder to anticipate consequences of budget or policy decisions that focus on just one dimension of the whole.

The brief's second objective is to describe what each type of funding means for low-income students in particular, and how that funding source might directly or indirectly affect their opportunity to enroll in and complete postsecondary education. Some investments are very closely related—federal Pell Grants, for example. Others appear distant—say, revenues from university teaching hospitals. But both Pell Grants and teaching hospital revenue form part of the financial environment and the incentive structure for institutions and students, and both are important to the business model of colleges that enroll large numbers of students.

### Estimate of Combined Budgets for Postsecondary Education = \$834 billion in 2013-14



# ATTRIBUTES OF POSTSECONDARY FUNDING SOURCES

Each revenue source below is categorized in the following dimensions. The methodology for each calculation is outlined in more detail in an appendix.

1. **National significance.** This is based on the aggregate size of the revenue source across public and private institutions. (This is based on averages, so a small funding source might be highly significant to a particular institution or state, but contribute little at a national scale.)

High: >\$20 billion (white)

Medium: \$1-20 billion (light gray)

Low: <\$1 billion (dark gray)

2. **Student focus.** This criterion is based on whether funding tends to favor lower- or higher-income students or the institutions that enroll them. It is based on the ratio of funding per lower-income student to funding per higher-income student.

Lower-income: funding/FTE for lower-income students >120% of higher-income (white)

None: funding/FTE for lower-income students 80%-120% of higher-income (light gray)

Higher-income: funding/FTE for lower-income students <80% of higher-income (dark gray)

3. **Enrollment link.** This is based on what happens in the short term to the funding source when students enroll.

Increase: goes up with student enrollment (white)

None: no consistent link to enrollment (light gray)

Decrease: goes down with student enrollment (dark gray)

4. **Completion link.** This is based on what happens in the short term to the funding source when students complete.

Increase: goes up with degree completion (white)

None: no consistent link (light gray)

Decrease: goes down with degree completion (dark gray)

5. **Recession link.** This is based on what usually happens to the amount of funding nationally during recessions, when student demand usually increases but private wealth and income levels decline.

Positive: likely to increase during recessions (white)

None: no predictable direction during recessions (light gray)

Negative: likely to decrease during recessions (dark gray)

6. **Flexibility.** This is based on the extent of the limitations on the use of the funds for either the student or institution. The basis for this classification is noted in the narrative for each funding source.

High: few restrictions on potential uses of the funds (white)

Medium: some discretion on uses of the funds (light gray)

Low: many restrictions on uses of the funds (dark gray)

7. **Sector focus.** This criterion indicates which types of institutions are most dependent on this funding source.

## COMBINING INSTITUTIONAL AND STUDENT BUDGETS

To arrive at the total combined budget, the chart on page 1 avoids most double-counting by focusing on immediate sources of revenue. That is, who is the “customer” in a given transaction? So, for example, tuition and fee revenue is counted in the institutional budget (students determine which institutions receive it) and Pell Grants are counted in the student budget (the federal government determines which students receive them). To avoid double counting when adding the two budgets together, an amount equal to institutions’ tuition, fee, and auxiliary revenue has to be subtracted from the student section of the pie chart. In the following sections, however, some dollars will be counted twice, because revenue from students is discussed in the institutional section, and the sources of funding students rely on to pay institutions are discussed in the student section.

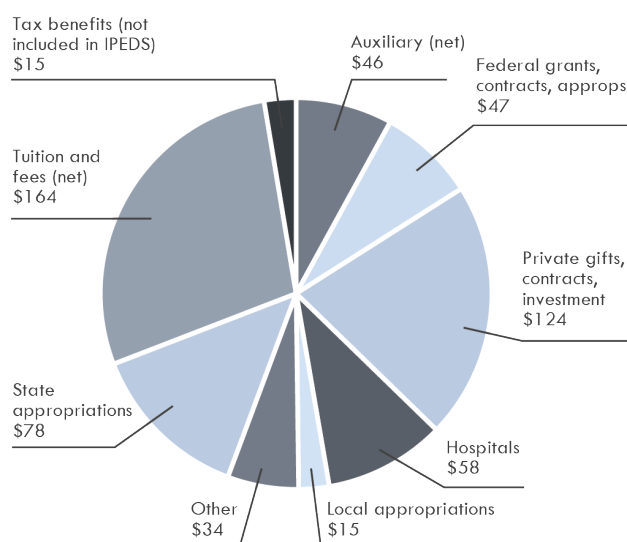
## INSTITUTIONAL REVENUE SOURCES

Postsecondary institutions' direct revenue amounted to approximately \$565 billion in 2013-14, with another \$15 billion in federal and state tax subsidies for charitable contributions and bond interest. Only \$210 billion of that amount was paid by or on behalf of students for tuition, fees, and auxiliary services (food service, housing, parking, etc.).

The rest came from federal, state, and local governments and private sources in the form of appropriations, gifts, grants, investment returns, and payments for services. While many colleges rely primarily on just one or two revenue sources—such as tuition and state appropriations—others had much more diverse operations and forms of income. In any state or large city, most of these revenue sources would play a role at one or more institutions.

In addition to total numbers, this report also includes estimates of institutional funding per student for low-income (Pell eligible) and higher-income (non-Pell eligible) students. These are measures not of direct support for students, but of differences in funding sources for the types of institutions low-income and higher-income students attend. The methodology for weighting by Pell status is outlined in the appendix.

**Institutional Revenue Sources, 2013-14 (Billions)**



### TUITION AND FEES

Significance:	<b>High</b>	<p style="text-align: center;"><b>\$ per Student</b></p> <p style="text-align: center;">Lower-income      Higher-income</p>
Student focus:	None	
Enrollment link:	<b>Positive</b>	
Completion link:	Negative	
Recession link:	<b>Positive</b>	
Flexibility:	<b>High</b>	
Sector focus:	All Sectors	

Accounting for approximately **\$164 billion** of postsecondary institutions' income, tuition, and fees are the largest revenue source for most institutions. This number reflects what students pay to institutions and excludes institutional financial

aid or discounts. For-profit colleges serving low-income students rely almost entirely on tuition, as do selective nonprofit institutions serving mostly higher-income students. (Very few students attend institutions where endowment and investment income make much of a difference in net tuition.) Public colleges vary widely in their level of tuition dependence, but it is almost always a significant revenue source even if not the biggest one.

Institutional tuition and fee revenue generally increases with growth in admissions and student persistence, making it a good source of revenue for college access and retention initiatives, but declines (at least on a per-student basis) with improvements in time-to-degree or acceptance of transfer credit or credit-by-

exam. In these cases, what may be in the best interest of students academically could come in conflict with what is in the best interest of institutions financially.

For institutions, tuition provides a strong incentive and resource base for enrollment but a disincentive in terms of completion. It works the opposite way for students. The cost of tuition can prevent some students from enrolling but can also provide an incentive to complete quickly for those who can.

In recent years, aggregate tuition revenue has grown during recessions along with increased enrollment, as students with fewer employment opportunities tend to enroll in college at higher rates and stay longer once there. Given the declines in personal income that come with recessions, the increased tuition revenue would probably not be possible without the availability of student aid, as more students qualify for income-based grant and loan programs to help them pay for college.

Of all the institutional revenue categories, tuition and fees also have the fewest constraints on how they are spent. What rules there are may be self-imposed by institutions or by state public higher education systems. Such flexibility is an important reason colleges may prioritize tuition revenue over other sources.

## HIGH TUITION VS. LOW TUITION

Tuition-dependent institutions have no limit on their capacity other than those imposed by the market or by themselves. To the extent students are willing and able to pay the full cost of their education, colleges can grow. (And to the extent paying students cannot be found, institutions will be forced to reduce spending proportionately.) Competition and levels of student resources are the primary constraints. To raise tuition revenue, institutions can attempt to increase unit prices (usually charged per credit hour) for their existing pipeline, recruit students with higher capacity to pay (e.g. higher-income, out-of-state, international), or increase the number of credit hours or time enrolled for each student.

## TUITION VS. FEES

There is no national standard for what counts as “tuition” and what counts as a “fee,” which sometimes creates confusion when simply talking casually about “tuition.” Common fees include charges for health services, student activities, athletics, transportation, “technology,” or student unions, but such detailed charges are not universal. Many colleges bundle everything into a single “tuition” price and a few define every student charge as a “fee.” National comparisons like *Trends in Student Pricing* typically use the terminology like “tuition and required fees” to cover everything a student is required to pay to enroll in classes. Within states, however, the terminology can be misleading if, for example, a state scholarship program promises to cover students’ full “tuition” but only mentions the other required fees in the fine print.

State regulations and political considerations can create incentives to make pricing more complex if it is easier for institutions to create a new required fee than to raise tuition to cover the same cost. Where specific fees exist, they are typically limited in how the revenue can be spent (technology fees would have to be spent on technology, for example), but they reduce the costs that must be covered out of the “tuition” component of student charges.

## FLAT VS. PER-CREDIT PRICING

While there are plenty of reports covering comparisons of tuition and trends over time, not enough attention has been paid to how tuition is charged. The two main variants are flat pricing (also called “block” or “plateau”) and per-credit (also called “linear”) pricing. In flat pricing systems, students pay a

single fee to take as many courses as they wish within a range. The range is typically 12-18 credit hours, equivalent to between four and six courses, but varies widely around the country. With per-credit pricing, students pay a fixed amount per credit hour for every course they take.

Nationally, approximately a third of students are enrolled in institutions with flat pricing.<sup>1</sup> Flat rate pricing is prevalent for students at selective private and public flagship universities. Per credit pricing is the norm for 90% of community college students and 75% of students at for-profit colleges, as well as most students at open-access public four-year colleges. Some of the variation is by state (e.g., Florida is all per-credit, and West Virginia is all flat-rate), but it typically varies within individual states. Some institutions also have a hybrid system of linear and flat rates, charging some fees per credit and others per semester.

The structure of tuition is critical for institutions' business models. Colleges with per-credit pricing will generate more revenue if students increase their course loads, while those with flat-rate pricing will not. On the other hand, students at flat-rate institutions will have fewer barriers to increasing their course loads than those who would have to pay more to do so. In either case, the structure of an institution's tuition is an important factor in assessing the likely impact of initiatives designed to accelerate student progress.

## TUITION AND TIME-TO-DEGREE

One consequence of a tuition-dependent postsecondary education system is that it provides a funding mechanism to make postsecondary pathways longer (which may sometimes be appropriate) but not to make them shorter (which may also be appropriate). All else being equal, short-term degree or certificate programs will produce less revenue per student than longer ones. Facilitating transfer-in of credit, competency-based education, or credit-by-exam may be helpful for students but can also threaten institutions' business models. The fact that prices are usually expressed in annual or per-credit terms also produces misleading comparisons that do not reflect the total price from start to finish.

## AUXILIARY ENTERPRISES

Significance:	<b>High</b>	<p style="text-align: center;"><b>\$ per Student</b></p> <p style="text-align: center;">Lower-income      Higher-income</p>
Student focus:	Higher-income	
Enrollment link:	<b>Positive</b>	
Completion link:	Negative	
Recession link:	None	
Flexibility:	Medium	
Sector focus:	Pub and Priv 4-yr	

At \$46 billion, revenue from auxiliary enterprises—including student housing, food service, parking, bookstores, etc.—is the other form of funding paid by students (or on their behalf) to institutions. Like tuition, it is

closely related to enrollment, as the more students an institution enrolls, the more customers it has for its related businesses. But auxiliary revenues are concentrated in institutions serving higher-income students, who are more likely to live on campus and participate in meal plans, among other things.

Revenue from auxiliary revenues can be a scalable source of income for growing institutions. A new residence hall or parking lot will often pay for itself. The quality and effectiveness of auxiliary services may also influence student success. Living on campus, for example, may contribute to a student's odds of completion, and the more time students spend on campus the more opportunities there are for institutions to provide effective support services.

<sup>1</sup> Based on the author's analysis of tuition structures for over 1,000 institutions nationally.



While most auxiliary revenues go to pay for the services provided, many institutions make an internal “profit” from these services that can be transferred and allocated at the discretion of college leaders (Turner, 2012). Such a profit is often part of agreements with vendors providing the services on campus. Institutions have great discretion in how that profit is allocated, since it is free of both donor-imposed restrictions and any state regulations that might apply to tuition revenue or appropriations.

On the other hand, the cost of auxiliary services on campus—books, housing, food, parking—can also create barriers if they are tailored more for affluent consumer tastes than for their utility to low-income students.

## STATE APPROPRIATIONS

States are no longer the primary funders of public higher education, as decades of declining support have led to much greater reliance on student tuition income and federal subsidies. Yet at \$78 billion annually, state appropriations still account for a major share of total higher education revenue. Even in states with comparatively low levels of support, appropriations contribute more than any other “donor” to most public institutions.

Appropriations to institutions keep resident tuition rates several thousand dollars below the cost of education, which is why tuition goes up when appropriations are cut, and why private colleges and out-of-state rates are so much more expensive.

On average, nationally, colleges with large numbers of low-income students get no more help from the state than those with higher-income students, making appropriations more of a universal subsidy than a targeted one. In some states, public colleges with the most affluent students get more help from the state on a per-student basis. If policymakers are not careful, this form of public subsidy can become one that widens opportunity gaps rather than reduces them.

## NEED- VS. MERIT-BASED APPROPRIATIONS

While states and policymakers staked out positions on whether financial aid should be need- or merit-based, the debate ignores the way a much larger share of state investment is allocated. A state that generously subsidizes highly selective institutions has, in effect, created a large merit aid program, since only students who meet the entrance criteria will get the subsidy. A state that subsidizes community colleges or open-access four-year institutions that enroll large proportions of low-income students has helped those students even if it does not have a need-based aid program. The fact that appropriations overall are not reducing the funding gap between lower- and higher-income students suggests that, on average, appropriations subsidies are not currently targeted based on the needs of institutions’ different populations.

## ALLOCATION METHODS FOR STATE APPROPRIATIONS

States vary in how they allocate funds among institutions. Most common are enrollment-based formulas, “cost-to-continue” budgets that pay for a proportion of colleges’ estimated instructional costs, and *ad hoc* approaches that make across-the-board adjustments based on available revenue each year.

Enrollment-based formulas are used in many systems and states but are less universal than they used to be. One study found only 14 states consistently using formulas, while another 17 applied them only to parts of the budget (SRI International, 2012).

Where enrollment formulas are in place and not artificially capped, they provide incentives similar to tuition, in that increased enrollment produces increased revenue, so initiatives that produce more enrollment have a source of financial support to expand. As with tuition, however, enrollment formulas also produce less revenue for students who finish with fewer credit hours, so initiatives that focus on transfer or acceleration may reduce an institution's share of appropriations.

Regardless of how states allocate budgets each year, they are all subject to swings in the economy. Appropriations decline consistently during recessions, and the depth of a state's cuts is closely related to the depth of its economic decline. That correlation means it is hard to count on state appropriations as a sustainable form of revenue for services supporting low-income students, who tend to enroll in greater numbers during recessions.

After tuition dollars, appropriations are generally among the most flexible revenue sources, although that can vary significantly by state. In some states, much of the appropriation might be pre-committed based on statewide collective bargaining agreements, mandatory employee benefit contributions, or specific legislative set-asides. In others, few or no strings would be attached at the state or system level.

### OUTCOMES-BASED FUNDING

Performance or outcomes-based formulas have been adopted in many states. If outcomes funding involves significant amounts of funding focused specifically on low-income students and completion, it has the potential to change the business model for institutions by focusing resources where there are no alternative sources. Tennessee, for example, allocates 85% of state appropriations primarily on student progress and degree completion, with an 80% additional weight for low-income students. Too often, however, performance funding has fallen far short of its potential by involving too little money, using too many of the wrong measures, or by using measures that duplicate existing incentives (Snyder, 2015).

### CAPITAL APPROPRIATIONS

Most states have a separate process for funding construction projects, which can be one of the more highly political components of the budget. They may allocate based on a list of priorities or fund specific projects in response to local needs or political pressures. States also provide guarantees for bond-financed projects, allowing colleges and universities to borrow at favorable rates. Interest on these bonds is usually exempt from federal and state taxes.

## LOCAL APPROPRIATIONS

Significance:	Medium	<p style="text-align: center;"><b>\$ per Student</b></p> <p style="text-align: center;">Lower-income      Higher-income</p>
Student focus:	Higher-income	
Enrollment link:	Mixed	
Completion link:	Mixed	
Recession link:	Positive	
Flexibility:	High	
Sector focus:	Pub 2-yr	

Local government appropriations are often grouped with state appropriations in breakdowns of college finance but have quite different characteristics. At \$15 billion, they are not as significant a share of the

funding pie nationally, and most states do not use local funding for higher education at all. But in states that do have local funding, it is almost always specifically for community colleges and can be their biggest source of revenue.

Unlike state appropriations, local appropriations do not necessarily decline during recessions since they are funded by property taxes, which fluctuate less than income or sales tax revenue. They are also often raised by special community college tax districts that do not have competing demands (such as Medicaid or K-12 education) on the funds. Where local appropriations are available for community college operating budgets, they are likely to be a better and more sustainable source of long-term funding than state appropriations.

The problem with relying on local appropriations to support low-income students, however, is that communities with higher proportions of low-income students have also have a smaller tax base. Some states have mechanisms to use the state's contribution to equalize these imbalances, but many do not. So while local appropriations may be a good way for wealthier residents in areas with big income gaps to subsidize educational opportunities locally, they can also magnify rather than reduce geographic gaps.

## PRIVATE GIFTS AND CONTRACTS, INVESTMENT INCOME

Significance:	High	<p style="text-align: center;"><b>\$ per Student</b></p> <p style="text-align: center;">Lower-income      Higher-income</p>
Student focus:	Higher-income	
Enrollment link:	None	
Completion link:	None	
Recession link:	Negative	
Flexibility:	High	
Sector focus:	Priv 4-yr	


At \$124 billion, external private funding and investment income is second only to tuition in overall magnitude. The numbers fluctuate significantly year to year depending on the economy and financial

markets. But these funds are much more concentrated in a small percentage of institutions. Private funds donated to institutions or generated by investments are a major source of revenue for a handful of mostly private institutions enrolling small numbers of low-income students. Most low- and middle-income students attend institutions where this type of revenue is minimal at best.

Some private-source income may be restricted for a specific purpose, such as capital expenditures, scholarships, or faculty endowments, but much of it is unrestricted. Colleges and their foundations also have discretion in how they prioritize their fundraising for restricted purposes—whether, for example, to emphasize new buildings or financial aid.

Specific private investments have the potential to be especially useful if they are well targeted and fill gaps in student and institutional budgets. But overall, the large amount of private funding nationally and its concentration in a few institutions is a major factor in overall inequality in higher education finance. Colleges that do not have substantial private funding must compete for students, faculty, and administrators with colleges that do, putting institutions serving large numbers of low-income students at a significant competitive disadvantage.

## FEDERAL GRANTS, CONTRACTS, AND APPROPRIATIONS

Significance:	<b>High</b>	<b>\$ per Student</b>  	
Student focus:	Higher-income		
Enrollment link:	None		
Completion link:	None		
Recession link:	None		
Flexibility:	Medium		
Sector focus:	Pub and Priv 4-yr		

The federal government is the major sponsor of academic science and engineering research, which accounts for most of the federal grant and contract revenue at institutions. (Federal appropriations are grouped in this category but

are limited to a handful of institutions that have historically been supported directly, such as the military academies and Gallaudet University.) At \$46.5 billion, most federal contract and grant funding goes to major public and private research universities. These institutions serve disproportionately fewer low-income students compared to those that do not receive much federal research support.

### RESEARCH AND DEVELOPMENT GRANTS AND CONTRACTS

Colleges do not break down the specific source of their federal grants and contracts in their financial statements, but the total federal support for scientific R&D in FY 2014 was approximately \$38 billion, of which \$20 billion came from the Department of Health and Human Services, primarily for medical research. The National Science Foundation and the Department of Defense each contributed approximately \$5 billion (National Science Foundation, FY 2014). A few federal grants to institutions are specifically intended to address disadvantaged students or institutions. But the majority support research at selective universities and, in general, the more research funding an institution receives from the federal government, the lower the proportion of low-income students it enrolls.

Federal research funding to institutions is not intended to support or incentivize undergraduate instruction, but indirectly it builds science and engineering capacity at universities, and that capacity may translate into more exposure and opportunities in STEM fields for undergraduates as well as for graduates. Many of the same faculty whose salaries are paid partly through federally sponsored research teach undergraduate courses as well. Colleges also receive an “indirect cost” allowance—which in practice amounts to an average of approximately 31% of the direct expenses of a research grant—to contribute to the overall operating cost of the institution (Ledford, 2014).

### DEPARTMENT OF LABOR

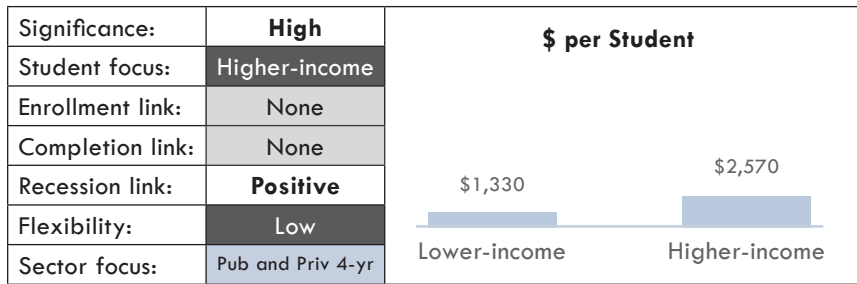
In addition to R&D, other categories of federal grant and contract funding include workforce training programs at the Department of Labor, which budgeted \$3.1 billion in FY 2014 in this category, some but not all of which went to postsecondary students and institutions. Another \$464 million was allocated for community college programs in FY 2014 as part of the Trade Adjustment Act but was not part of a recurring program.

## DEPARTMENT OF EDUCATION

The Department of Education budget included approximately \$838 million in 2013-14 funding for programs specifically focused on outreach to disadvantaged students (“TRIO” programs) and another \$575 million in institutional development grants, much of which goes to institutions serving large numbers of minority and low-income students. The budget also included \$1.1 billion for career and technical education, and \$564 million for adult basic education, some of which would have gone to postsecondary institutions.

There is considerable debate about the effectiveness of these investments, but they have powerful on-campus constituencies since the funding goes directly to institutions and often pays for the salaries and benefits of student support staff. As a proportion of the overall federal postsecondary education budget, however, whether compared to the scale of financial aid programs or to federal grants for research, it is a very limited source of support and has no mechanism to encourage or support growth.

## HOSPITAL REVENUE



At \$59 billion, hospital revenue is a major funding source concentrated at universities with teaching hospitals. At some institutions, hospital revenue can exceed income from all other sources combined, making the

academic enterprise more of an adjunct to the hospital rather than the other way around (at least in a financial sense). Medical education and patient care can be a major strategic focus for campus leaders, boards of trustees, and even state higher education boards, limiting their ability to focus on undergraduate students and instructional outcomes.

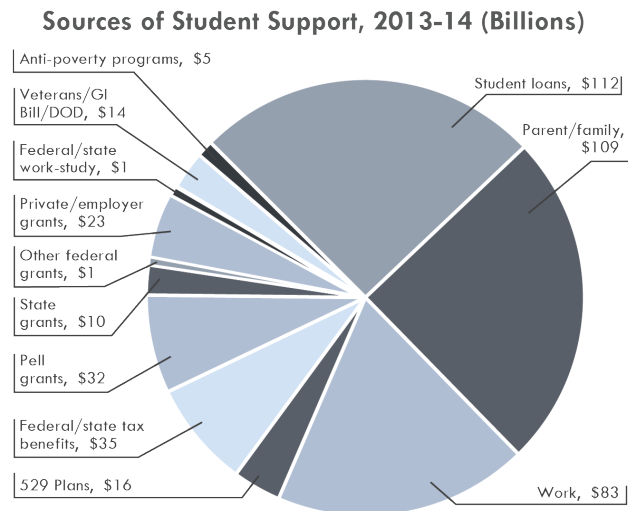
A large fraction of university hospital income comes from federal sources such as Medicaid and Medicare reimbursements, another financial link between postsecondary finance and the federal budget. University teaching hospitals tend to serve disproportionately high numbers of low-income patients at the same time as the institutions they belong to serve relatively few low-income students. While hospital revenue generally goes to supporting patient care, there can also be direct cross-subsidies from hospital budgets to other parts of the institution, and the costs of facilities and personnel may be split between medical and nonmedical components of the budget. In the last two recessions, total hospital revenue increased, likely because of increased participation in and reimbursement for Medicaid care.

Of all major revenue sources, hospital income is the least likely to have a direct impact on undergraduate education for low-income students. Indirectly, however, the presence of teaching hospitals within an institution may influence the size, availability, and quality of undergraduate programs in health-related professions or programs that feed into those professions. And in terms of indirect effects on the missions of postsecondary institutions and the strategic focus of campus leaders, medical education and teaching hospitals carry significant weight.

## REVENUE SOURCES FOR STUDENTS

Students are the other side of higher education finance. In addition to the net tuition paid to institutions (\$164 billion), the estimated non-tuition budget for the 27 million students in 2013-14 was \$265 billion, for a total of \$429 billion in student costs.<sup>2</sup> More than half of this amount falls outside of institutional budgets and is not always considered as part of the cost of postsecondary education. Yet without support for non-tuition costs, students would not be able to enroll at all, and institutions would lose the tuition revenue they depend upon.

Some sources of revenue for students are easier to quantify than others. Clear data are available for financial aid programs. Other components, however, like contributions from parents or family, or benefits from federal anti-poverty programs, are estimates based on self-reported survey data and are much less precise or reliable. There is also likely some overlap, as parents' or family contributions may or may not include parent PLUS loans, tax credits, or 529 plan funds. The data presented here should be interpreted as approximations of the relative size and importance of these revenue sources and not as a precise balance sheet.



### PELL GRANTS

Significance:	High	<p style="text-align: center;"><b>\$ per Student</b></p> <p style="text-align: center;">\$4,420      \$-</p> <p style="text-align: center;">Lower-income      Higher-income</p>
Student focus:	Lower-income	
Enrollment link:	Positive	
Completion link:	Negative	
Recession link:	Positive	
Flexibility:	Medium	
Sector focus:	All Sectors	

At \$34 billion in 2013-14, federal Pell Grants are the largest source of need-based financial aid for low-income college students. For most Pell recipients, it is their primary source of grant aid, accounting for more than

three-quarters of their total grants, and for half of Pell recipients it is their only source of grant aid (NPSAS 2012).

The amount of a student's Pell Grant is based on income, family size, and how many courses a student takes. The maximum award in 2013-14 was \$5,635, which could be used for tuition and fees or, at colleges that charge less than that amount (primarily community colleges), for non-tuition expenses as well. Approximately 96% of all recipients had family incomes less than \$60,000, and those qualifying for the

<sup>2</sup> This estimate is based on the average student budget, which includes books, supplies, room and board, etc. Room and board are not strictly part of the cost of college, since people have to pay those expenses whether or not they enroll. But students' time is not free, and the "opportunity cost" of that time for a low-wage individual results in an estimate similar to the easier-to-explain total used here.

maximum award typically earned \$40,000 or less. Since Pell participation is used as a proxy for low-income students in this brief, the proportion of Pell funding going to higher-income students is zero.

Indirectly, Pell Grants are a foundational source of support for most community colleges and for-profit colleges, where most recipients enroll and where students have few other sources of support.

Pell Grants are linked to students' enrollment intensity but are capped at 12 hours per semester. A student taking 9 credit hours would receive only 75% of their maximum award, but a student taking 15 hours receives the same award as a student taking 12 hours. The standard average fall/spring course load for students attempting to complete a bachelor's degree in four years or an associate's degree in two years is 15 hours, so while Pell Grants are a major source of student and institutional support for enrollment, that support is limited to 80% of a standard full-time courseload. Students and the institutions that enroll them will maximize the total amount of Pell Grants received if students enroll 12 hours per term for six years (the maximum allowed). A student with the same level of financial need who enrolls in more hours or completes more quickly will receive less total support.

Since the 1990s, Pell Grants have been a shock absorber for students and institutions during times of recession. Across multiple administrations, the federal government has consistently sought to increase the amount appropriated for Pell Grants during economic downturns, providing a buffer as personal income and state budgets shrink and tuition tends to increase (Bettinger & Williams, 2015).

### PRIVATE STUDENT GRANTS

Significance:	Medium	<p style="text-align: center;"><b>\$ per Student</b></p> <p style="text-align: center;">\$460                      \$620</p> <p style="text-align: center;">Lower-income              Higher-income</p>
Student focus:	Higher-income	
Enrollment link:	Positive	
Completion link:	n/a	
Recession link:	n/a	
Flexibility:	n/a	
Sector focus:	All Sectors	

At \$16.4 billion annually, private source grants to students collectively amount to approximately half the size of the Pell Grant program, but are greater than the total of all state-funded financial aid programs. This would include

all aid awarded to students by private donors other than institutions themselves or their foundations. Examples would include everything from large-scale programs, such as the United Negro College Fund (UNCF) or the National Merit Scholarships (NMS), to single scholarships awarded by a local newspaper or Rotary Club. Funds provided by employers are in a separate category.

The conditions attached to these grants are as varied as their sources. They are all linked to enrollment in college, however, and total amounts nationally have remained stable even during recessions.

Some programs have need or income limits (e.g., most UNCF scholarships) while others do not (e.g., NMS). On average, students not eligible for Pell Grants receive more in private source grants than those who are Pell eligible, and funding goes largely to students at private nonprofit institutions, followed by those at public four-year colleges.

For private institutions, there are fewer state or federal regulations attached to this category of funding, but there is a nearly infinite number of conditions that must be satisfied for individual scholarship programs, making it difficult to predict or model when considering large-scale higher education reforms.

Private scholarships can be an important source of pilot programs and innovations that are scaled up with other revenue sources. Much of the important research in financial aid using randomized controlled trials has been funded by private foundations. Three states have adopted statewide early commitment scholarship programs for low-income students modeled after privately-funded local programs. And Tennessee’s current initiative to ensure tuition-free community college is built on privately-funded local programs around the state.

The biggest barrier to maximizing the impact of private grants on a national scale is the coordination of resources. If every program is designed for low-income valedictorians, those students will end up with far more than they need while others who do not qualify will get nothing.

### STATE FINANCIAL AID GRANTS

Significance:	Medium	<p style="text-align: center;"><b>\$ per Student</b></p> <p style="text-align: center;">\$1,170                      \$390</p> <p style="text-align: center;">Lower-income                      Higher-income</p>	
Student focus:	Lower-income		
Enrollment link:	Positive		
Completion link:	Negative		
Recession link:	None		
Flexibility:	Medium		
Sector focus:	Pub 4-yr		

At approximately \$10 billion in 2013-14, state-grant students are a small fraction of what states provide in appropriations to institutions but are often the most visible and often most contentious investment. Approximately

75% of state aid is at least partly need-based, like California’s Cal Grants, while 25% is based on merit or other non-need criteria, like the lottery-funded programs in many southern states (National Association of State Student Grant and Aid Programs, 2015). Because of the focus on need, Pell-eligible students nationally receive approximately three times more state aid on average than non-Pell students. Advocates of need-based aid rightfully point out the inefficiency of the state-based non-need programs. But it is important to put the \$2.4 billion awarded through such programs in perspective, given the much larger public and private investments going to higher-income students through spending on selective institutions and through the tax code.

Most state need-based aid programs have student requirements similar to those of Pell Grants, although the income levels may be somewhat higher or lower (Brookings Institute, 2012). Students’ institutional options vary, with in-state public four-year colleges being the most common focus of the programs, while community colleges and private colleges may or may not be included. Students are almost always required to attend college in-state. The programs are usually limited in the total number of years or semesters. Like Pell Grants, however, most cap the maximum award at 12 hours per term. (Minnesota, Illinois, and Washington are notable exceptions, with higher limits on the number of hours supported.)

Unlike appropriations to institutions, state aid program funding has not, on average, declined during recessions. Nor, however, has it increased to keep up with recession-induced demand and spikes in tuition rates.



## HELP FROM PARENTS

Significance:	Medium	<p style="text-align: center;"><b>\$ per Student</b></p> <p style="text-align: center;">\$1,170                      \$390</p> <p style="text-align: center;">Lower-income                      Higher-income</p>
Student focus:	<b>Lower-income</b>	
Enrollment link:	<b>Positive</b>	
Completion link:	Negative	
Recession link:	None	
Flexibility:	Medium	
Sector focus:	Pub 4-yr	

At an estimated \$99 billion in 2013-14, parental contributions to students' cost of education are indispensable to the current higher education business model. The presence of such a large reserve of private

resources, heavily weighted in favor of high-income students and families, affects the competitive environment and incentives for all postsecondary institutions. Given the importance that parents attach to their own children's education, there may be virtually no limit to what the highest-income families are willing to pay. Since institutional spending is itself used as a proxy for quality in popular college rankings like *U.S. News & World Reports*, there is a risk of an inflationary feedback loop as colleges compete for the wealthiest students. Such a trend among even a relative handful of institutions can have a domino effect on other institutions in terms of the competitive pressure it places on faculty and staff compensation and student recruitment.

It may be surprising that even low-income students receive substantial contributions from their parents. But since the survey on which these numbers are based does not include students who could not afford to enroll in the first place, the fact that there is such a large average parental contribution may be a warning sign. Students from families that could not come up with a contribution may not be in college at all.

The potential advantages of a large private role in funding postsecondary education, at least in principle, include the incentives for institutions to compete on price or quality. The public policy role in that context is to provide consumer protections that prevent students and families from being cheated and that ensure fair terms of competition.

As state support for higher education declines, students with access to private funds become more attractive for public institutions, which can offer lower prices than many private colleges while still charging more tuition than lower-income students could afford. Even institutions that choose not to focus on recruiting higher-income students may suffer if their competitors do so and leave them with a larger proportion of low-income students to serve.

Given the wide variety of arrangements that could exist between students and parents, it is difficult to tell the extent to which parental support is conditional upon either college enrollment or progress toward completion.

Since need-based financial aid eligibility tends to increase during recessions, it seems reasonable to infer that parents' capacity for support declines during economic downturns, although it is hard to know for certain since the NPSAS survey is not conducted every year.

## TRANSFERS FROM 529 PLANS

Significance:	Medium	<p style="text-align: center;"><b>\$ per Student</b></p> <p style="text-align: center;">\$260                      \$1,100</p> <p style="text-align: center;">Lower-income              Higher-income</p>
Student focus:	Higher-income	
Enrollment link:	Positive	
Completion link:	None	
Recession link:	Mixed	
Flexibility:	High	
Sector focus:	Pub and Priv 4-yr	

While numbers for total amounts that students and parents save for college are hard to come by, one major category of savings is tax-favored 529 Plans. In 2013-14, \$15.8 billion from these plans was used to pay for

higher education expenses. Some of this amount overlaps with the estimated contribution from parents, while part may be in students' own names or that of other relatives or third parties. These accounts include both prepaid tuition plans that allow students to lock in tuition rates early and investment accounts that allow people to put money into a range of investment options.

There are no income limits for 529 plans, so they are popular with higher-income students and families who can afford to save and can benefit from the tax exemptions or credits available. The proceeds are only tax-exempt if used for postsecondary education, creating an incentive for postsecondary enrollment.

The prepaid tuition plan form of 529 plans would tend to increase in value during recessions, when tuition rates typically go up, while the investment accounts might suffer from declines in the stock market and be worth less. But they are more limited in where they can be used and are concentrated in a few states (like Florida), unlike more widely-available investment plans.

Students can use the proceeds for both direct (tuition) costs and non-tuition expenses. The plan can also be transferred from one beneficiary to another if the original beneficiary decides not to attend college.

## HELP FROM FAMILY AND FRIENDS

Significance:	Medium	<p style="text-align: center;"><b>\$ per Student</b></p> <p style="text-align: center;">\$330                      \$690</p> <p style="text-align: center;">Lower-income              Higher-income</p>
Student focus:	Higher-income	
Enrollment link:	n/a	
Completion link:	n/a	
Recession link:	Negative	
Flexibility:	n/a	
Sector focus:	Priv 4-yr	

At an estimated \$10 billion, help from family (other than parents) and friends is comparable in scope to state financial aid grants. It is like parental funding in that it is a private resource supporting largely higher-income students

at private colleges. Unlike parents' resources, however, students' networks of family and friends would not be apparent on financial aid applications, so their financial capacity would not affect eligibility for other aid programs. In principle, a Pell-eligible student could have a wealthy aunt willing to pay the full cost of college, although the self-reported NPSAS data suggest that higher-income students tend to be the ones with larger contributions from their extended networks.

## VETERANS/G.I. BILL/DEPARTMENT OF DEFENSE

Significance:	Medium	<p style="text-align: center;"><b>\$ per Student</b></p> <p style="text-align: center;">Lower-income      Higher-income</p>
Student focus:	None	
Enrollment link:	<b>Positive</b>	
Completion link:	Negative	
Recession link:	n/a	
Flexibility:	<b>High</b>	
Sector focus:	For Profit	

After Pell Grants, the largest source of federal grant aid includes benefits provided to active duty and former members of the military through the post-9/11 G.I. Bill and other programs. These amounted to \$13.5 billion in

2013-14.

The largest program, the post-9/11 G.I. Bill, provides generous benefits including up to \$21,000 annually for tuition and fees plus a housing allowance and relocation assistance. It is limited to 36 months, but most participants are enrolled in shorter-term programs. Under some conditions, it can also be transferred to another family member.

There are participants in all higher education sectors, but for-profit institutions enroll a disproportionate share. Unlike Pell Grants, G.I. benefits are sufficient to cover the full tuition charges at most for-profit institutions. For-profit colleges that want to be eligible for federal financial aid also have to show that no more than 90% of their income comes from federal aid programs. But since G.I. benefits are not counted in that amount, if they can attract enough veterans, they can essentially evade the intent of that requirement and be entirely federally funded. According to the Department of Education, 183 colleges would have been out of compliance with the 90% rule in 2013-14 if veterans' benefits were counted (U.S. Department of Education, 2016).

While not the largest source of postsecondary finance, this funding stream shows how different revenue streams can sometimes work at cross-purposes. In this case, the lack of controls on use of veterans' benefits undermines the intent of the 90% regulation, which was intended to ensure that enough privately-sourced funds are at stake to provide the competitive benefits of a free market.

One issue with veterans' funding is that the high limit on benefits disadvantages lower-cost state institutions. A community college's nursing program might involve \$18,000 in instructional costs, but have tuition of only \$4,000, with the remaining amount subsidized by the state or local government. The college would only get \$4,000 in tuition for a participating veteran and no reimbursement for the subsidy. On the other hand, a for-profit college might charge \$21,000 in tuition for the same program, also costing \$18,000 to deliver, and receive the full cost plus \$3,000 profit. The for-profit college has large incentives to enroll veterans while the community college has strong disincentives and no mechanism to scale up capacity.

## STUDENT LOANS

Significance:	<b>High</b>	<p style="text-align: center;"><b>\$ per Student</b></p> <p style="text-align: center;">Lower-income      Higher-income</p>
Student focus:	None	
Enrollment link:	Mixed	
Completion link:	Mixed	
Recession link:	<b>Positive</b>	
Flexibility:	<b>High</b>	
Sector focus:	All Sectors	

Both students and institutions have become dependent on student loans as a core source of funding for postsecondary education. In 2013-14, student budgets included at least \$112 billion in loans.

More than 90% of these were from federal loan programs, including: \$27 billion in subsidized low-interest loans for undergraduates (the government pays the interest while students remain enrolled); \$56 billion in unsubsidized low-interest loans for both graduate students and undergraduates (also low-interest, but the interest accrues while students are enrolled); and \$10 billion in higher-interest Parent PLUS loans, \$8 billion in higher-interest graduate “PLUS” loans, and \$1 billion in Perkins loans, which are now being phased out.

In addition, students borrowed \$9 billion in privately-sourced loans and less than a billion in state-supported loans. This does not include other debt students or families may have taken out through credit cards, mortgages, or personal loans that were used directly or indirectly to fund higher education expenses.

Overall, both lower- and higher-income students make extensive use of loans, but higher-income students are more likely to need the loans to pay for higher-cost institutions, while low-income students are taking on similar amounts of debt just to attend college at all. Lower-income students draw disproportionately from the direct subsidized and unsubsidized federal programs, while higher-income students borrow a greater share from the Parent PLUS and privately sourced loans.

Loans create a complex set of incentives for students and can be both a support for and barrier to enrollment and completion. In the short term, they support college enrollment and/or make it possible for students to pay for more expensive institutions. The downside—repayment—is deferred into the future. If borrowers are concerned about debt, reliance on loans may discourage students from enrolling but provide an incentive for timely completion for those who do enroll.

Some have argued that increased availability of financial aid, especially loans, has fueled price increases in college (Lucca, Nadauld, & Shen, 2015). To the extent it is increasing the purchasing power of higher-income families and promoting more costly choices, the argument probably has some truth to it. On the other hand, loans may be a useful financing mechanism during recessions, when prices are most likely to go up. While states cannot borrow to cover short-term deficits, students and families can, delaying repayment until both the individual student’s income and the overall economy are in better shape.

Yet for the purposes of fostering economic mobility, while loans are better than nothing in terms of providing access, they reduce the net financial gains students get from their education.

In the short-term, student loans are a source of federal funding for students and, indirectly, for institutions. But in the long-term, they do not shift the burden of payment away from students. There is considerable debate about the share that will ultimately be borne by taxpayers, and the estimates vary depending on accounting assumptions. The most recent Congressional Budget Office estimate, for example, is that the federal government will end up spending approximately 10 cents for every dollar loaned (Congressional Budget Office, 2017). In 2014, only approximately 29% of outstanding student loans were current with declining balances (Baum, 2016). Another 11% were in default status and 34% were current but with increasing balances.

Institutions’ financial fortunes can be highly dependent on student loan policy as well, both because of the amounts of money they receive and because loan default rates are used to sanction institutions where too many students are not repaying what they borrow. Those with high default rates can lose their eligibility for both for federal loans and Pell Grants. While this has led to occasional institutional sanctions, mostly among for-profit colleges, it has also led to many community colleges choosing not to offer student loans at all (The Institute for College Access and Success, 2014).

## EMPLOYMENT INCOME

Significance:	<b>High</b>	<p style="text-align: center;"><b>\$ per Student</b></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Income Group</th> <th>Earnings (\$)</th> </tr> </thead> <tbody> <tr> <td>Lower-income</td> <td>4,680</td> </tr> <tr> <td>Higher-income</td> <td>4,350</td> </tr> </tbody> </table>		Income Group	Earnings (\$)	Lower-income	4,680	Higher-income	4,350
Income Group	Earnings (\$)								
Lower-income	4,680								
Higher-income	4,350								
Student focus:	None								
Enrollment link:	Negative								
Completion link:	<b>Positive</b>								
Recession link:	Negative								
Flexibility:	<b>High</b>								
Sector focus:	Pub 2-yr and for-profit								

Employment earnings are the last piece of the student budget pie. Based on data from the 2011-12 NPSAS survey, the employment earnings of enrolled students amounted to approximately \$83 billion from employers

and a little more than \$1 billion from federal and state subsidies for work-study programs. Students who do not have enough other sources of public or private support and who are unwilling or unable to finance their education through debt have no choice but to use full- or part-time employment to make up the difference.

Unlike other student funding sources in this brief, employment income declines with student enrollment. Part-time students earn more than the full-time students shown in the chart.<sup>3</sup> One way to read this data point is that in order to enroll full-time in the current system, students have to have enough other resources available that they need only approximately \$5,000 in work income on average. Part-time students have roughly double the average earnings of full-time students, but with the clear tradeoff of a longer time to degree completion.

Employment income, in other words, provides a strong disincentive for college enrollment in the short-term, as students give up what they could have earned by working instead of taking classes. In the long-term, however, it is a positive incentive for degree completion, since the sooner students finish the sooner they can enter or return to the workforce and increase their income again.

The fact that low-income students often have to work is sometimes treated as an unchangeable condition rather than as a product of individual and public policy decisions. Students choose to work rather than borrow; government agencies choose not to provide enough financial support to allow students to attend full-time. A certain amount of employment seems to be consistent with participation in college—even middle and upper-middle income students tend to work part-time while enrolled. The employment conditions for low-income students are also highly variable from one place to another as well as over time.

## WORK-STUDY

Work study (\$1 billion) as a form of financial aid is a popular idea but is only a trivial component of students' overall employment income or financial aid support. In work-study programs, the federal or state government partially subsidizes students in jobs that are supposed to develop skills related to their education. Evidence of the impact on student outcomes is mixed (Scott-Clayton & Minaya, 2014).

<sup>3</sup> From an economist's point of view, the student's contribution to the cost would not be the earnings shown here but the "opportunity cost," the earnings the student gave up by enrolling full time. If instead of spending time on education, the 17.6 million full-time equivalent students in 2013-14 worked 40 hours a week for three-fourths of the year at the median hourly wage for 16-24 year-olds, they would make approximately \$231 billion. That happens to be quite close to the total average non-tuition budget estimated through NPSAS, so the overall size of U.S. higher education investment is roughly the same either way.

## TAX BENEFITS

The tax code is a major source of subsidies for postsecondary education, but they are often left out of analyses of affordability or institutional finance. Approximately two thirds of tax subsidies focus on students while a third go directly or indirectly to institutions. With one exception, most individual tax benefits are relatively minor, but at an estimated collective value of approximately \$50 billion, they are an important source of support and one that generally does not favor low-income students or the institutions they attend.

Recent reports by the Pew Charitable Trusts have drawn more attention to the full extent of tax benefits supporting higher education, including those coming out of state budgets (Pew Charitable Trusts, 2017), and some of the larger ones are consistently noted in reports such as *Trends in Student Aid*.

These numbers involve many imperfect assumptions and produce only a very rough estimate of how progressive or regressive each tax provision might be, but the goal is simply to make sure that this category of higher education subsidy is included in the overview since it is usually left out.

### AMERICAN OPPORTUNITY TAX CREDIT

Significance:	Medium	<p style="text-align: center;"><b>\$ per Student</b></p> <p style="text-align: center;">\$930                      \$640</p> <p style="text-align: center;">Lower-income                      Higher-income</p>
Student focus:	<b>Lower-income</b>	
Enrollment link:	<b>Positive</b>	
Completion link:	Mixed	
Recession link:	n/a	
Flexibility:	Medium	
Sector focus:	All Sectors	

The largest single tax expenditure is the American Opportunity Tax Credit (AOTC), which amounted to more than \$15 billion in 2013-14 in subsidies for parents' and students' higher education expenditures. The

AOTC is not a deduction but a much more generous credit. It reduces taxes owed by up to \$2,500 per year for up to four years. The income limit to receive the AOTC is \$90,000 for single filers and \$180,000 for married couples, so it is available for middle and upper-middle income families but not those in the highest tax brackets. It can only be applied to out-of-pocket expenses like tuition, fees, books, and supplies but not to living costs.

Unlike other tax benefits, the AOTC can benefit lower-income students since it is partially refundable (\$1,000 of the total amount) and is a dollar-for-dollar credit and not a deduction that is worth more to higher-income filers. On the other hand, the money is not available until many months after the expenses have been incurred, limiting its value for those who cannot afford to pay up front. And the rules for AOTC and Pell Grants often force students to choose one or the other rather than get the maximum value of both.

For students and families who do not qualify for Pell Grants, the AOTC is the subsidy specifically designed to help the middle class. Yet states and institutions do not always take it into account and as a result may overestimate the middle-class gap in college affordability. In Ohio and Minnesota, for example, state aid programs calculate students' total need and reduce it by what they are eligible to receive in Pell Grants. But they do not take into account the higher levels of AOTC that students just above the cutoff for Pell will receive. In these instances, the AOTC ends up duplicating state efforts to address the same gap.

The AOTC is conditional on paid enrollment in higher education and has a four-year limit that provides some incentive for completion at bachelor's degree institutions. At all but the least expensive institutions, students can qualify for the full amount each year without having to enroll full time.

### **OTHER TAX BENEFITS FOR STUDENTS**

Other major tax benefits include the dependent exemption for full-time students age 19+ (\$6.3 billion), the exclusion of 529 plan earnings (\$2.1 billion), the deductibility of student loan interest (\$2 billion), the exclusion of scholarship/fellowship income (\$3.5 billion), the exclusion of GI benefits (\$1.3 billion), and the Lifetime Learning Credit (\$1.7 billion). With the exception of the Lifetime Learning Credit, these all disproportionately benefit higher-income students and taxpayers and would generally be passed along in state income taxes as reductions to taxable income. The lowest-income beneficiaries get no additional federal benefit since their marginal tax rate is 0%, while for those with incomes over \$400,000 the tax benefit is worth nearly 40% of the amount excluded from income.

The net effect of these exemptions is to increase the amount of after-tax discretionary income wealthier taxpayers can afford to spend on higher education while having little impact on affordability for those in the bottom income ranges. At the same time, the fact that these costs are hidden in the tax code contributes to the misperception that low-income students benefit from overly-generous government subsidies while middle class students get no help.

### **TAX BENEFITS FOR INSTITUTIONS**

While most higher education tax benefits go to students, institutional funding benefits from charitable gift deductibility and the exclusion of interest on state/local and some nonprofit bonds. Institutions may also benefit from state and local sales and property tax exclusions not included in this overview. Especially in the case of the charitable gift exclusion, the foregone tax revenues amount to a public match for private funds going disproportionately to institutions serving fewer low-income students. For-profit institutions would generally not benefit from these subsidies as they would from most of the tax benefits going to students.

## IMPLICATIONS OF REVENUE SOURCES

Looking at the full scope of postsecondary finance can help policymakers, institution leaders, and donors better understand the current business model of postsecondary education and better predict how changes in policies, budgets, or underlying economic conditions might affect institutional strategies or student choices. A few of the specific implications for different groups of readers include:

### GENERAL IMPLICATIONS

- The sheer scope of economic activity driven by postsecondary institutions and students will surprise many readers. Even without the multiplier effects promoted in different economic impact studies, the postsecondary sector represents a major share of most states' economies.
- While students, teachers, and classrooms are the focus of most public policy discussions, news coverage, and casual conversation, most of the money changing hands is tied to something else. In addition to instruction, institutions are selling everything from bagels to CAT scans, while students are spending money on textbooks, apartments, and subway passes.
- Academic and financial incentives overlap—but not entirely. A system designed to maximize results for students would likely look very different from one designed to maximize revenue for institutions.

### FEDERAL POLICYMAKERS

- Federal policy and budget decisions largely establish the rules for competition and cooperation in the business of postsecondary education. From tax expenditures to sponsored research to student loans, veterans' benefits, and Pell Grants, much more of the overall budget depends on the federal government than on state, local, or private funds.
- There are many opportunities for better coordination of federal expenditures and policies. Currently, different types of federal expenditures often work at cross-purposes.
- The federal subsidies that disproportionately benefit low-income students (e.g., Pell Grants) get a lot more scrutiny than those that disproportionately benefit middle- and high-income students (e.g., research university subsidies, tax credits, and deductions).

### STATE AND LOCAL POLICYMAKERS

- The share of the overall postsecondary budget controlled by state and local government is relatively small, and the proportion of that devoted to financial aid is even smaller.
- In order to have an impact on state and local policy priorities, governments need to be strategic about their investments, focusing on what private and federal dollars are less likely to pay for.
- Many good ideas for postsecondary reform that would help students are difficult to finance or to advance beyond a pilot phase since there is no source of funding that scales up as the reform spreads.
- Well-designed and generously funded state need-based financial aid programs may be the most strategic investment states can make, providing strong incentives and scalable resources for both students and institutions.
- State and federal tax codes provide substantial subsidies, often to middle- and higher-income students, that are often unrecognized in public policy discussions.

### PRIVATE DONORS

- As currently practiced, much of postsecondary education philanthropy may be widening socioeconomic gaps rather than reducing them. The more low-income students an institution has, the less it is likely to receive in gifts or investment income.
- Donors should understand how their contribution fits into institutions' or students' larger strategies and needs. Smaller donors should choose institutions, organizations, or individual students whose priorities for spending are the same as the donor's. Larger donors may want to think differently about both the recipients and the terms of their gifts if they understand how the funds fit within the full set of resources available to institutions.



## **INSTITUTIONAL LEADERS**

- Institutional leaders (and not just the financial aid office staff) should understand their students' current and potential sources of support so they can anticipate trends and align institutional policies accordingly.
- Institutions should help students, especially low-income students, take better advantage of available tax benefits and should take higher-income students' tax benefits into account in making institutional need-based aid allocations
- Leaders should work with state policymakers to develop funding mechanisms that provide sustainable and scalable sources of support for initiatives and reforms that help students enroll and complete.
- College presidents and education foundations should work together to shift postsecondary fundraising and capital campaigns to support institutions that serve low-income students and to prioritize need-based financial aid within institutional campaigns.

## MATRIX OF STRATEGIES AND REVENUE SOURCES

The matrix below summarizes some of the ways that different revenue sources relate to specific institutional strategies or student choices. When considering the potential effects of a change to an institutional practice or a student aid program, it is important to know the extent to which resources would follow that change.

### Institutional Funding Source

*What is likely to happen to institutions' total amount of support from this source if they...*

	Help reduce students' time-to-degree (e.g. transfer-in, credit-by-exam, shorter degree programs)	Help reduce students' time-to-degree (e.g. transfer-in, credit-by-exam, shorter degree programs)	Increase retention (e.g. advising, student services)	Reduce net prices (e.g. institutional aid, emergency grants)
<b>Tuition and fees</b>				
Linear tuition		Incentive for institution		
Flat tuition		Incentive for student		
Auxiliary enterprises				
<b>State/local appropriations</b>				
Outcomes-based				
Enrollment-based				
Other (e.g. ad hoc, base plus, etc.)	Other state/local funding mechanisms depend on compliance, staffing levels, lobbying, etc.			
Other institutional revenue sources (grants, contracts, gifts, investment income)	Institutions with significant revenue from other sources may have competing or unrelated incentives.			

### Student Funding Sources

*What is likely to happen to students' total amount of support from this source if they...*

	Reduce time-to-degree	Take more courses per term	Persist over multiple terms/years	Choose lower-price institutions
Tax benefits				
Federal Pell Grants		Capped at 12 hours/term		
Federal Student Loans				
Federal Programs for Veterans and Military				
Federal Workforce Training Funds	Focused on short-term			
State student grant programs		Most capped at 12 hours		Depends on institutional eligibility
Employment income (while enrolled)				
Non-education public benefits (while enrolled)	Benefits sometimes restrict enrollment.			

Legend:	Most likely to increase	Most likely to decrease	Depends or no relationship
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# METHODOLOGY

## INSTITUTIONAL REVENUE SOURCES

Institutional revenues are from the Integrated Postsecondary Education Data System 2014 Finance file, which reflects amounts reported on institutions' audited financial statements. Public and private colleges have slightly different accounting standards and reporting systems, so some categories are combined where they could not be consistently separated for all sectors.

To calculate the amounts per lower-income and higher-income student, institutions' funding per FTE for each revenue source was weighted in proportion to its enrollment of Pell-eligible or non-Pell-eligible students and the totals divided by the total number of students in each group. In the example below, the weighted average funding is shown for a hypothetical state with one research university and one community college. In this example, low-income students, on average, attend an institution with much lower appropriations per FTE than do higher income students.

### STUDENT WEIGHTING OF INSTITUTIONAL REVENUE SOURCES

#### Example of Weighting Calculation for Institutional Revenues

##### 1) Calculate funding per FTE for individual institutions and find proportion of undergraduates that is Pell-eligible

	FTE Enrollment	% Pell-eligible enrollment	State appropriations	Appropriations per FTE
Research University	20,000	10%	\$200,000,000	\$10,000
Community College	10,000	50%	\$50,000,000	\$5,000
All Students	30,000		\$250,000,000	\$8,333

##### 2) Calculate weighted shares of FTE and appropriations

###### a. Lower-income (FTE and appropriations in proportion to Pell-eligible enrollment)

	Share of FTE		Share of appropriations	Weighted appropriations / FTE
Research University	2,000		\$20,000,000	
Community College	5,000		\$25,000,000	
All Students	7,000		\$45,000,000	\$6,429

###### b. Higher-income (FTE and appropriations weighted by non-Pell enrollment)

Research University	18,000		\$180,000,000	
Community College	5,000		\$25,000,000	
All Students	23,000		\$205,000,000	\$8,913

Note that this is not a calculation of funding going directly to these groups of students but of the financial characteristics of the institutions that lower- and higher-income students attend. So the average low-income student in this hypothetical example attends an institution that gets \$6,400 per FTE in state appropriations, and the average higher-income student attends an institution where state appropriations are \$8,913 per FTE.

### TUITION AND FEES; AUXILIARY ENTERPRISES

This includes all external revenue paid by or on behalf of students for tuition, fees, and auxiliaries such as housing and food service.

It includes the portion of external grants, loans, etc., used to pay the institution but does not include institutional financial aid or discounts. External aid applied to institutional charges is part of the institution's business model and can be used to support the operation of the institution in the same way as if it were funding from parents or students. Internal financial aid is a discount offered to students and does not represent net revenue for the institution.

#### STATE AND LOCAL APPROPRIATIONS; GRANTS AND CONTRACTS

All state and local funding for institutions is captured in this category. Pass-through financial aid to students is excluded where it is reported separately, although some may be included in appropriations. Most states categorize their core funding for institutions as appropriations, but Colorado distributes institutional funding as a grant.

#### PRIVATE GIFTS, CONTRACTS, AND INVESTMENT INCOME

These are grouped to allow institutions with different reporting standards to be included together and because they reflect a similar orientation to the private sector for funding not specifically tied to student enrollment. Pass-through financial aid is not included here where it is reported as such and falls into the tuition and private student grant categories instead.

#### FEDERAL APPROPRIATIONS; GRANTS AND CONTRACTS

All federal grants and contracts are included here except for pass-through funding such as Pell Grants, which are applied proportionally to tuition and auxiliary revenues.

#### HOSPITAL REVENUES

These are included as reported in IPEDS.

### **STUDENT REVENUE SOURCES**

#### NATIONAL TOTALS

Total amounts for most student revenue sources, unless noted otherwise, are taken from The College Board's *Trends in Student Aid* and are in 2014 dollars.

#### PER-STUDENT CALCULATIONS

Per-student amounts for lower- and higher-income students were calculated, unless noted otherwise, using the PowerStats application to access the 2012 National Postsecondary Student Aid Survey. Averages were based on the budgets for full-time students, since the intent is to show differences in funding distribution rather than differences in attendance patterns.

## PARENT CONTRIBUTIONS AND CONTRIBUTIONS FROM FAMILY AND FRIENDS

These are self-reported numbers based on ranges in NPSAS (e.g., \$0, \$1-\$250, \$251-\$500, etc.). To estimate averages, each response was assumed to be at the midpoint of the range. At best, this is only an approximation of the order of magnitude of the contributions to student budgets from these sources.

The total amounts for these were estimated by multiplying averages calculated from NPSAS by the total number of students in 2013-14.

## FEDERAL ANTI-POVERTY PROGRAMS

NPSAS only provides percentages of students receiving benefits from these programs, so each positive response was assumed to receive the average benefit amount for the program. Average benefits were based on annual reports of numbers of participants and amounts spent for each individual program (e.g., food stamps, TANF).

## 529 PLANS

Total amounts distributed from 529 plans are based on December 2014 data from College Savings Plan Network at [www.collegesavings.org](http://www.collegesavings.org).

## TAX SUBSIDIES

### FEDERAL TOTALS

For this brief, data on the aggregate size of each tax benefit are taken from the Treasury Department's annual report on tax expenditures (U.S. Treasury, 2015).

### STATE TOTALS

In the case of deductions, a state amount is estimated based on the proportion of total state income tax revenue to federal income taxes (19%) in 2014. The total value of state deductions and exemptions calculated this way amounts to approximately \$2.5 billion. In the nine states included in the Pew Charitable Trust's report on higher education tax benefits, higher education deductions and exemptions accounted for an average of 0.77% of state personal income tax revenue (Pew Charitable Trusts, 2017). Applied to all states with an income tax, that percentage would produce approximately \$2.5 billion.

### PER-STUDENT AMOUNTS

For tax expenditures focused on students, the allocation between lower-income and higher-income students is based on IRS tax tables and the proportion of total deductions or credits taken by tax filers with incomes above or below \$50,000, and the same distribution is assumed for the state component. The estimated total amount of the tax benefit for those with incomes below \$50,000 is divided by the total number of Pell-eligible students nationally, and the amount of tax benefit above \$50,000 is divided by the number of non-Pell-eligible students.

For tax expenditures focused on institutions, the distribution of the tax benefit is assumed to match that of the underlying revenue source. The cost of making charitable contributions deductible is distributed along with the private gift and investment income, and the cost of the bond interest exemption is distributed in a similar way to auxiliary revenues, since many higher education bonds are for residence halls, parking garages, and other facilities that produce revenue in that category.

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In bringing these funding sources together, this analysis relies on the research and insight of others who have worked to understand and explain different aspects of higher education finance. Every one of the fifteen experts and colleagues interviewed for the project contributed a critical idea or piece of information through our conversation, their written publications, or both. Especially fundamental to key components of this analysis are the work of Jane Wellman and Donna Desrochers, who developed a framework for analyzing institutional finance through the Delta Cost Project; Sandy Baum, whose recent book on student debt and insight into federal financial aid policy, along with the key references she developed and co-authored, *Trends in College Pricing* and *Trends in Student Aid*, inform much of the data and analysis on the student side of this overview; and Phil Oliff and the team at the Pew Charitable Trusts' Fiscal Federalism Initiative, whose recent work on state and federal higher education budgeting higher education is especially helpful on the issue of federal and state tax expenditures. I have also drawn from my own earlier work on projects sponsored by Lumina Foundation for Education and the TIAA-Institute.





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